

**ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTOR AUDIT REPORT**

For

**THE POWER COMPANY LIMITED,
ELECTRICITY INVERCARGILL LIMITED,
OTAGONET JOINT VENTURE,
ELECTRICITY SOUTHLAND LIMITED
(MANAGED BY POWERNET)**

Prepared by: Allan Borcoski Borcoski Energy Services Limited

Date audit commenced: 28 July 2021

Date audit report completed: 9 September 2021

Audit report due date: 15-Sep-21

TABLE OF CONTENTS

Executive	4
Audit 5	
Non-compliances	5
1. Administrative.....	8
1.1. Exemptions from Obligations to Comply With Code (Section 11)	8
1.2. Structure of Organisation	9
1.3. Persons involved in this audit	10
1.4. Use of contractors (Clause 11.2A)	10
1.5. Supplier list	10
1.6. Hardware and Software	10
1.7. Breaches or Breach Allegations.....	11
1.8. ICP and NSP Data.....	11
1.9. Authorisation Received.....	14
1.10. Scope of Audit	14
1.11. of previous audit	15
2. Operational Infrastructure.....	19
2.1. Requirement to provide complete and accurate information (Clause 11.2(1) and 10.6(1))	19
2.2. Requirement to correct errors (Clause 11.2(2) and 10.6(2)).....	20
3. Creation of ICPs.....	22
3.1. Distributors must create ICPs (Clause 11.4)	22
3.2. Participants may request distributors to create ICPs (Clause 11.5(3))	23
3.3. Provision of ICP Information to the registry manager (Clause 11.7)	23
3.4. Timeliness of Provision of ICP Information to the registry manager (Clause 7(2) of Schedule 11.1)	24
3.5. Timeliness of Provision of Initial Electrical Connection Date (Clause 7(2A) of Schedule 11.1)	25
3.6. Connection of ICP that is not an NSP (Clause 11.17)	26
3.7. Connection of ICP that is not an NSP (Clause 10.31)	27
3.8. Temporary electrical connection of ICP that is not an NSP (Clause 10.31A).....	28
3.9. Connection of NSP that is not point of connection to grid (Clause 10.30)	29
3.10. Temporary electrical connection of NSP that is not point of connection to grid (Clause 10.30(A))	30
3.11. Definition of ICP identifier (Clause 1(1) Schedule 11.1)	30
3.12. Loss category (Clause 6 Schedule 11.1)	31
3.13. Management of “new” status (Clause 13 Schedule 11.1).....	31
3.14. Monitoring of “new” & “ready” statuses (Clause 15 Schedule 11.1).....	32
3.15. Embedded generation loss category (Clause 7(6) Schedule 11.1).....	33
4. Maintenance of registry information.....	35
4.1. Changes to registry information (Clause 8 Schedule 11.1)	35
4.2. Notice of NSP for each ICP (Clauses 7(1),(4) and (5) Schedule 11.1)	38
4.3. Customer queries about ICP (Clause 11.31).....	38
4.4. ICP location address (Clause 2 Schedule 11.1)	39
4.5. Electrically disconnecting an ICP (Clause 3 Schedule 11.1)	40
4.6. Distributors to Provide ICP Information to the Registry manager (Clause 7(1) Schedule 11.1).....	40

4.7. Provision of information to registry after the trading of electricity at the ICP commences (Clause 7(3) Schedule 11.1).....	43
4.8. GPS coordinates (Clause 7(8) and (9) Schedule 11.1)	44
4.9. Management of “ready” status (Clause 14 Schedule 11.1)	44
4.10. Management of “distributor” status (Clause 16 Schedule 11.1).....	45
4.11. Management of “decommissioned” status (Clause 20 Schedule 11.1).....	46
4.12. Maintenance of price category codes (Clause 23 Schedule 11.1).....	46
5. Creation and maintenance of loss factors.....	48
5.1. Updating table of loss category codes (Clause 21 Schedule 11.1).....	48
5.2. Updating loss factors (Clause 22 Schedule 11.1).....	48
6. Creation and maintenance of NSPs (including decommissioning of NSPs and transfer of ICPs).....	49
6.1. Creation and decommissioning of NSPs (Clause 11.8 and Clause 25 Schedule 11.1)	49
6.2. Provision of NSP information (Clause 26(1) and (2) Schedule 11.1)	49
6.3. Notice of balancing areas (Clause 24(1) and Clause 26(3) Schedule 11.1)	50
6.4. Notice of supporting embedded network NSP information (Clause 26(4) Schedule 11.1).....	51
6.5. Maintenance of balancing area information (Clause 24(2) and (3) Schedule 11.1) ..	51
6.6. Notice when an ICP becomes an NSP (Clause 27 Schedule 11.1)	52
6.7. Notification of transfer of ICPs (Clause 1 to 4 Schedule 11.2).....	52
6.8. Responsibility for metering information for NSP that is not a POC to the grid (Clause 10.25(1) and 10.25(3))	53
6.9. Responsibility for metering information when creating an NSP that is not a POC to the grid (Clause 10.25(2))	54
6.10. Obligations concerning change in network owner (Clause 29 Schedule 11.1)	55
6.11. Change of MEP for embedded network gate meter (Clause 10.22(1)(b)).....	55
6.12. Confirmation of consent for transfer of ICPs (Clauses 5 and 8 Schedule 11.2)	56
6.13. Transfer of ICPs for embedded network (Clause 6 Schedule 11.2).....	56
7. Maintenance of shared unmetered load	57
7.1. Notification of shared unmetered load ICP list (Clause 11.14(2) and (4)).....	57
7.2. Changes to shared unmetered load (Clause 11.14(5))	57
8. Calculation of loss factors.....	58
8.1. Creation of loss factors (Clause 11.2)	58
Conclusion	59
Participant response.....	59

EXECUTIVE

This distributor audit was performed at the request of PowerNet as required by clause 11.10 of Part 11, to assure compliance with the Electricity Industry Participation Code 2010. PowerNet is a management company which manages the electricity network assets of:

- The Power Company Limited – TPCO
- Electricity Invercargill Limited – ELIN
- OtagoNet Joint Venture – OTPO
- Electricity Southland Limited (Trading name Lakeland Network) – LLNW

The relevant rules audited are as required by the Distributor Auditor Guidelines V7.0, issued by the Electricity Authority.

There was a noticeable improvement in compliance results during this audit period compared to the previous audit. The new ICP management system PowerNet Connect appears to have contributed to this improvement. An area mentioned by staff to be a constant challenge however is receiving timely information from the field. Some attention in this area would be beneficial in future.

The address data cleaning project that took place during the audit period unfortunately created some unintended consequences with respect to registry address information, such as the generation of duplicate addresses. PowerNet staff are well aware of the issues and remedial action has been implemented. It is suggested that in future appropriate analysis is carried out prior to any bulk data changes that may affect Registry information.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. Table 1 of the Guidelines for Distribution Participant audit provides some guidance on this matter. The Future Risk Rating score for each Distribution Network is:

- | | |
|--|----|
| • The Power Company Limited – TPCO | 10 |
| • Electricity Invercargill Limited – ELIN | 8 |
| • OtagoNet Joint Venture – OTPO | 10 |
| • Electricity Southland Limited (Trading name Lakeland Network) – LLNW | 8 |

The average Future Risk Rating score for the four distribution Networks is 9 which results in an indicative audit frequency of 18 months. We concur with this result.

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

The audit period was 1 July 2020 to 10 July 2021

AUDIT

NON-COMPLIANCES

TPCO

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Requirement to provide complete and accurate information	2.1	<i>Clause 11.2(1) and 10.6(1)</i>	A relatively small quantity of information in the Registry was inaccurate	Moderate	Low	2	Identified
Timeliness of Provision of Initial Electrical Connection Date	3.5	<i>Clause 7(2A) of Schedule 11.1</i>	1.55% of IECD input to Registry late	Moderate	Low	2	Identified
Changes to registry information	4.1	<i>Clause 8 Schedule 11.1</i>	Registry information not updated within 3 business days across all Networks.	Moderate	Low	2	Identified
ICP Location Address	4.4	<i>Clause 2 Schedule 11.1</i>	A number of duplicate addresses created as an unintended consequence of address data cleansing	Moderate	Low	2	Identified
Distributors to Provide ICP Information to the Registry	4.6	<i>Clause 7(1) Schedule 11.1</i>	<p>Incorrect Installation type in the Registry X 4</p> <p>Missing Distributed Generation Capacity in Registry X 4</p> <p>Missing Distributed Generation Fuel Type in Registry X 4</p>	Moderate	Low	2	Identified
Future Risk Rating						10	

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

ELIN

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Requirement to provide complete and accurate information	2.1	<i>Clause 11.2(1) and 10.6(1)</i>	A relatively small quantity of information in the Registry was inaccurate.	Moderate	Low	2	Identified
Timeliness of Provision of Initial Electrical Connection Date	3.5	<i>Clause 7(2A) of Schedule 11.1</i>	3.13% of IECD input to Registry late	Moderate	Low	2	Identified
Changes to registry information	4.1	<i>Clause 8 Schedule 11.1</i>	Registry information not updated within 3 business days	Moderate	Low	2	Identified
ICP Location Address	4.4	<i>Clause 2 Schedule 11.1</i>	A number of duplicate addresses created as an unintended consequence of address data cleansing	Moderate	Low	2	Identified
Future Risk Rating						8	

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

OTPO

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Requirement to provide complete and	2.1	<i>Clause 11.2(1)</i>	A relatively small quantity of information	Moderate	Low	2	Identified

accurate information		<i>and 10.6(1)</i>	in the Registry was inaccurate				
Timeliness of Provision of Initial Electrical Connection Date	3.5		10% of IECD input to Registry late	Moderate	Low	2	Identified
Changes to registry information	4.1	<i>Clause 8 Schedule 11.1</i>	Registry information not updated within 3 business days	Moderate	Low	2	Identified
ICP Location Address	4.4	<i>Clause 2 Schedule 11.1</i>	A number of duplicate addresses created as an unintended consequence of address data cleansing	Moderate	Low	2	Identified
Distributors to Provide ICP Information to the Registry	4.6	<i>Clause 7(1) Schedule 11.1</i>	<p>Incorrect Installation type in the Registry X3</p> <p>Missing Distributed Generation Capacity in Registry X3</p> <p>Missing Distributed Generation Fuel Type in Registry X 3</p>	Moderate	Low	2	Identified
Future Risk Rating						10	

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

LLNW

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Requirement to provide complete and accurate information	2.1	Clause 11.2(1) and 10.6(1)	A relatively small quantity of information in the Registry was inaccurate.	Moderate	Low	2	Identified
Timeliness of Provision of Initial Electrical Connection Date	3.5		0.47% of IECD input to Registry late	Moderate	Low	2	Identified
Changes to registry information	4.1	Clause 8 Schedule 11.1	Registry information not updated within 3 business days	Moderate	Low	2	Identified
ICP Location Address	4.4	Clause 2 Schedule 11.1	A number of duplicate addresses created as an unintended consequence of address data cleansing	Moderate	Low	2	Identified
Future Risk Rating						8	

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

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.

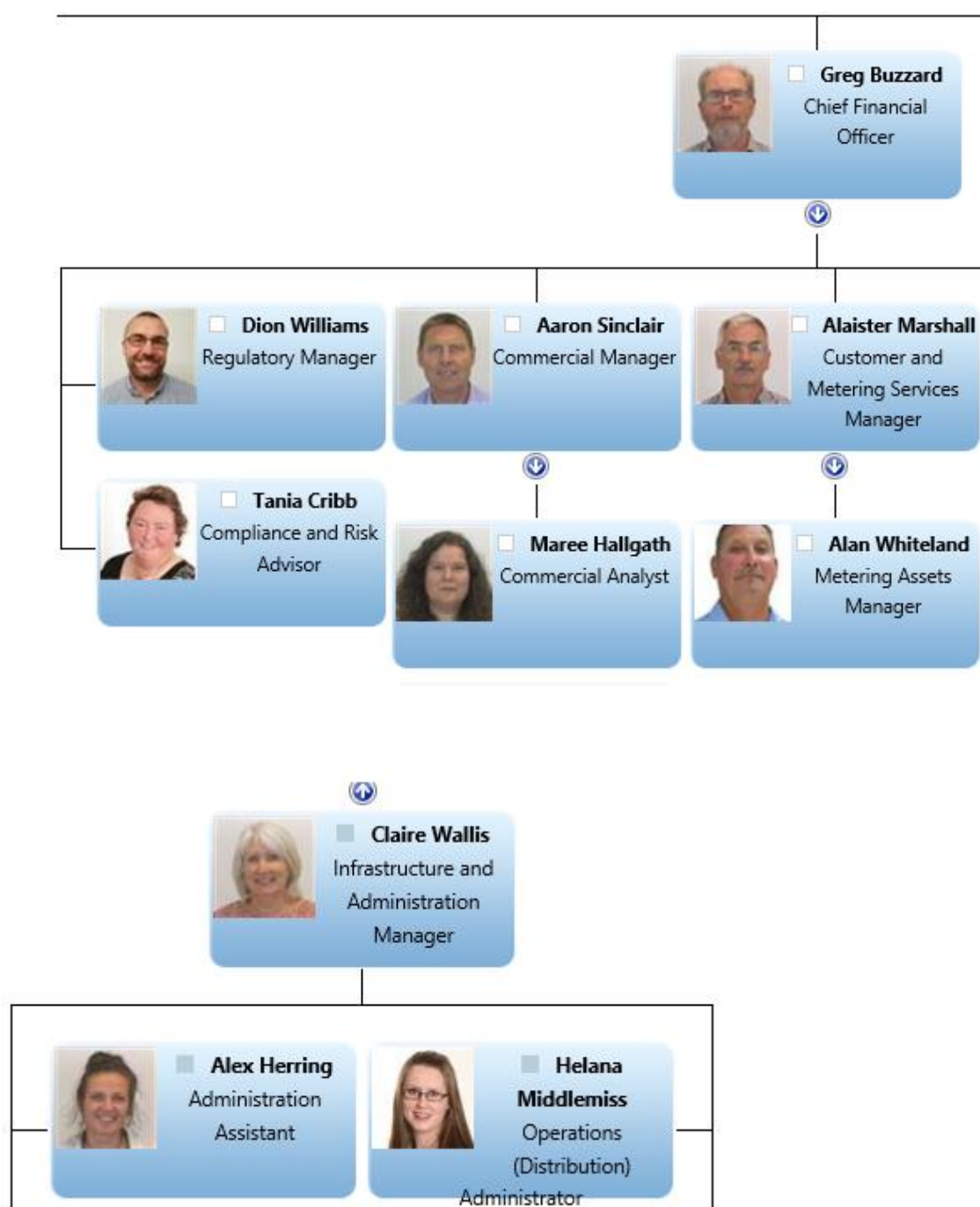
Audit commentary

There is one exemption in place, Exemption Number 167 The Power Company Ltd.

This exempts TPCO from fitting metering to the interconnection point with ELIN that provides an emergency back-up supply to Southland Hospital.

The exemption expires 31 March 2023

1.2. Structure of Organisation



1.3. Persons involved in this audit

Name	Title	Company
Alaister Marshall	Customer and Metering Services Manager	PowerNet
Helana Middlemiss	Operations (Distribution) Administrator	PowerNet
Aaron Sinclair	Commercial Manager	PowerNet
Matthew Ting	Network Asset Engineer	PowerNet
Allan Borcoski	Electricity Authority Approved Auditor	Borcoski Energy Services Ltd

1.4. Use of contractors (Clause 11.2A)

Code reference

Clause 11.2A

Code related audit information

A participant who uses a contractor

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

Audit observation

PowerNet 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 developers Ace Computer Consultants and Digital Stock Ltd.

1.5. Supplier list

- Ace Computer Consultants
- Digital Stock Ltd

1.6. Hardware and Software

The key infrastructure required for the audited processes comprises of:

- Microsoft SQL Server 2014
- MS Access 2016 – used for the Legacy ICP System
- PowerNet Connect runs on a virtual server running Microsoft Windows Server 2019 Version 1809 with IIS version 10.0.17763.1

- The virtual server runs on VMware ESX server v6.5 on a LENOVO Think System SR650 server, connected to a v5030 SAN

Connect Training / UAT database that can also be used for testing database mods

Breaches or Breach Allegations

No breaches and alleged breaches were recorded in the period covered by this audit.

1.7. ICP and NSP Data

TPCO

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of ICPs
TPCO	BLF0111	Bluff	INV0331	TPCO	SOUTLDTPCOG	I	01/05/08	0
TPCO	EDN0331	Edendale			SOUTLDTPCOG	G	01/03/16	2157
TPCO	ELL0111	Elles Rd	INV0331	TPCO	SOUTLDTPCOG	I	01/05/08	0
TPCO	GOR0331	Gore			SOUTLDTPCOG	G	01/03/16	11279
TPCO	INV0331	Invercargill			SOUTLDTPCOG	G	01/05/08	11017
TPCO	LEV0331	Leven St	INV0331	TPCO	SOUTLDTPCOG	I	01/05/08	0
TPCO	NMA0331	Nth Makarewa			SOUTLDTPCOG	G	01/05/08	17996
TPCO	OCB0111	CB46	INV0331	TPCO	SOUTLDTPCOG	I	01/05/08	0
TPCO	STD0111	Stead St	INV0331	TPCO	SOUTLDTPCOG	I	01/05/08	0

Status	Number of ICPs 21/07/21	Number of ICPs 19/08/20	Number of ICPs 05/08/19
New (999,0)	1	0	1
Ready (0,0)	101	105	84
Active (2,0)	36774	36,489	36,229
Distributor (888,0)	1	1	1
Inactive – new connection in progress (1,12)	94	51	58
Inactive – electrically disconnected vacant property (1,4)	1348	1355	1381
Inactive – electrically disconnected remotely by AMI meter (1,7)	106	85	57
Inactive – electrically disconnected at pole fuse (1,8)	21	14	17

Inactive – electrically disconnected due to meter disconnected (1,9)	9	10	7
Inactive – electrically disconnected at meter box fuse (1,10)	2	0	1
Inactive – electrically disconnected at meter box switch (1,11)	0	0	0
Inactive – electrically disconnected ready for decommissioning (1,6)	10	22	21
Inactive – reconciled elsewhere (1,5)	1	1	1
Decommissioned (3)	3981	3819	3721

ELIN

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of ICPs
ELIN	BLF0111	Bluff	INV0331	ELIN	INVGILLELING	I	01/05/08	0
ELIN	ELL0111	Elles rd	INV0331		INVGILLELING	I	01/05/08	0
ELIN	INV0331	Invercargill		ELIN	INVGILLELING	G	01/05/08	19389
ELIN	LEVO331	Leven St	INV0331	ELIN	INVGILLELING	I	01/05/08	0
ELIN	OCB0111	IVC-CB13	INV0331	ELIN	INVGILLELING	I	01/05/08	0
ELIN	STD0111	Stead St	INV0331	ELIN	INVGILLELING	I	01/05/08	0

Status	Number of ICPs 21/07/21	Number of ICPs 19/08/20	Number of ICPs 05/08/19
New (999,0)	0	0	1
Ready (0,0)	38	8	20
Active (2,0)	17485	17405	17416
Distributor (888,0)	1	1	0
Inactive – new connection in progress (1,12)	19	18	15
Inactive – electrically disconnected vacant property (1,4)	265	298	321
Inactive – electrically disconnected remotely by AMI meter (1,7)	46	66	47
Inactive – electrically disconnected at pole fuse (1,8)	6	7	8
Inactive – electrically disconnected due to meter disconnected (1,9)	4	3	1
Inactive – electrically disconnected at meter box fuse (1,10)	3	2	3
Inactive – electrically disconnected at meter box switch (1,11)	0	0	1
Inactive – electrically disconnected ready for decommissioning (1,6)	1	4	4

Inactive – reconciled elsewhere (1,5)	0	0	0
Decommissioned (3)	1530	1454	1350

OTPO

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of ICPs
OTPO	BAL0331	Balclutha			BALCTHAOTPOG	G	01/01/12	11135
OTPO	HWB0331	Halfway Bush			PALMSBYOTPOG	G	07/11/14	3652
OTPO	NSY0331	Naseby			PALMSBYOTPOG	G	01/05/08	2987

Status	Number of ICPs 21/07/21	Number of ICPs 19/08/20	Number of ICPs 05/08/19
New (999,0)	0	0	0
Ready (0,0)	31	27	23
Active (2,0)	15343	15189	15103
Distributor (888,0)	0	0	0
Inactive – new connection in progress (1,12)	44	30	22
Inactive – electrically disconnected vacant property (1,4)	670	678	661
Inactive – electrically disconnected remotely by AMI meter (1,7)	45	44	39
Inactive – electrically disconnected at pole fuse (1,8)	11	9	7
Inactive – electrically disconnected due to meter disconnected (1,9)	10	6	5
Inactive – electrically disconnected at meter box fuse (1,10)	0	0	0
Inactive – electrically disconnected at meter box switch (1,11)	2	2	0
Inactive – electrically disconnected ready for decommissioning (1,6)	10	25	43
Inactive – reconciled elsewhere (1,5)	2	0	0
Decommissioned (3)	1965	1902	1860

LLNW

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of ICPs
LLNW	CLVL0111		CML0331	DUNE	CLV011LLNWE	E	17/05/21	7
LLNW	FKN0331	Frankton			LAKELNDLLNWG	G	01/10/08	2904
LLNW	NLK0111	Outlet Rd Wanaka	CML0331	DUNE	NLK0111LLNWE	E	12/07/17	433
LLNW	WTR0111		CML0331	DUNE	WTR011LLNWE	E	20/05/21	1

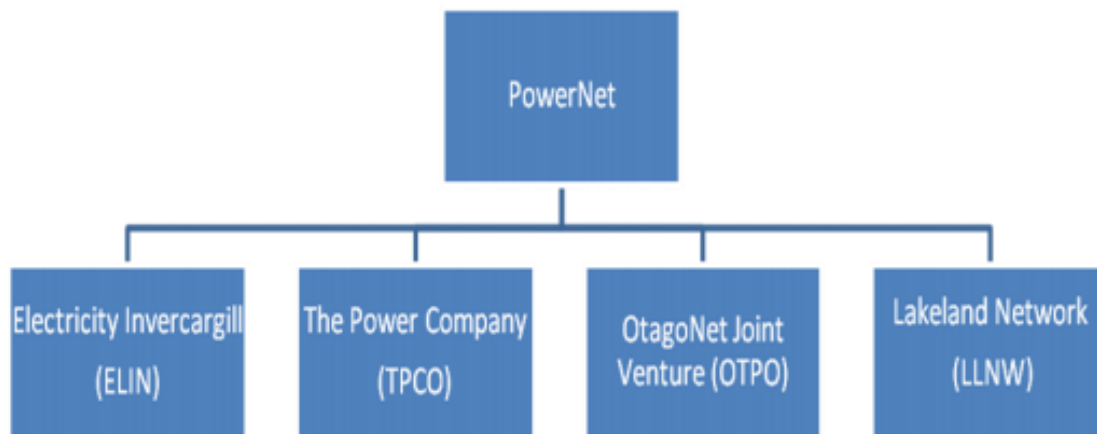
Status	Number of ICPs 21/07/21	Number of ICPs 19/08/20	Number of ICPs 05/08/19
New (999,0)	0	0	1
Ready (0,0)	32	53	15
Active (2,0)	3032	2399	2025
Distributor (888,0)	0	0	0
Inactive – new connection in progress (1,12)	105	79	45
Inactive – electrically disconnected vacant property (1,4)	37	23	7
Inactive – electrically disconnected remotely by AMI meter (1,7)	6	8	2
Inactive – electrically disconnected at pole fuse (1,8)	0	0	0
Inactive – electrically disconnected due to meter disconnected (1,9)	3	3	4
Inactive – electrically disconnected at meter box fuse (1,10)	0	1	0
Inactive – electrically disconnected at meter box switch (1,11)	0	0	0
Inactive – electrically disconnected ready for decommissioning (1,6)	2	9	9
Inactive – reconciled elsewhere (1,5)	0	0	0
Decommissioned (3)	131	106	89

1.8. Authorisation Received

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

1.9. Scope of Audit

This audit was performed at the request of PowerNet as required by clause 11.10 of Part 11 to assure compliance with the Electricity Industry Participation Code 2010. PowerNet Limited is a joint venture company that manages the electricity reticulation networks of Electricity Invercargill Limited, The Power Company Limited, OtagoNet Joint Venture and Electricity Southland Limited (Lakeland Network.)



This audit covers the following processes under clause 11.10(4) of Part 11 performed by PowerNet on behalf of the networks listed above:

- (a) -The creation of ICP identifiers for ICPs
- (b) -The provision of ICP information to the registry and the maintenance of that information
- (c) - The creation and maintenance of loss factors

The audit was carried out on the PowerNet premises at 251 Racecourse Road in Invercargill, on the 28-29 July 2021.

1.10. of previous audit

The previous audit was conducted in August 2020 by Allan Borcoski Borcoski Energy Services Ltd. The following non-compliances were found:

TPCO

Subject	Section	Clause	Non Compliance	Comment
Requirement to provide complete information	2.1	11.1(1)	A relatively small quantity of information in the Registry was inaccurate, they were spread broadly across the code requirements	Still exists

Timeliness of information provided to the registry	3.4	7(2) of Schedule 11.1	1 x ICP was initially Electrically Connected to the Network prior to the ICP information being input to the Registry.	Cleared
Timeliness of provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	TPCO - 7.8% of IECD input to Registry late	Still exists
Connection of ICP that is not an NSP	3.6	11.7	TPCO – 1 x new ICP was connected without a Trader recorded in the Registry as taking responsibility for the ICP	Cleared
Monitoring of “new” and “ready” statuses	3.14	15 of Schedule 11.1	TPCO – 6 x ICPs in READY status in the Registry for two years or more:	Cleared
Changes to the registry information	4.1	8 of Schedule 11.1	Registry information not updated within 3 business days across all networks	Still exists
Distributor to provide information to the registry	4.6	7 (1) of Schedule 11.1	Incorrect Installation type in the Registry X 4 Missing Distributed Generation Capacity in Registry X 4 Missing Distributed Generation Fuel Type in Registry X 4	Still exists

ELIN

Subject	Section	Clause	Non Compliance	Comment
Requirement to provide complete information	2.1	11.1(1)	A relatively small quantity of information in the Registry was inaccurate, they were spread broadly across the code requirements	Still exists
Timeliness of provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	2.2% of IECD input to Registry late	Still exists
Monitoring of “new” and “ready” statuses	3.14	15 of Schedule 11.1	2.2% of IECD input to Registry late	cleared
Changes to the registry information	4.1	8 of Schedule 11.1	2 x ICPs in READY status in the Registry for two years or more:	Still exists
Distributor to provide information to the registry	4.6	7 (1) of Schedule 11.1	Missing IECD information in Registry X 5 Incorrect Installation type in Registry X1 Missing Distributed Generation Capacity in Registry X1	Cleared

			Missing Distributed Generation Fuel Type in Registry X1	
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OTPO

Subject	Section	Clause	Non Compliance	Comment
Requirement to provide complete information	2.1	11.1(1)	A relatively small quantity of information in the Registry was inaccurate, they were spread broadly across the code requirements	Still exists
Timeliness of provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	18.7% of IECD input to Registry late	Still exists
Changes to registry information	4.1	<i>Clause 8 Schedule 11.1</i>	Registry information not updated within 3 business days	Still exists
Distributor to provide information to the registry	4.6	7 (1) of Schedule 11.1	Missing IECD information in the Registry X 4 Incorrect Installation type in the Registry X3 Missing Distributed Generation Capacity in Registry X2 Missing Distributed Generation Fuel Type in Registry X 2	Still exists

LLNW

Subject	Section	Clause	Non Compliance	Comment
Requirement to provide complete information	2.1	11.1(1)	A relatively small quantity of information in the Registry was inaccurate. It was spread broadly across the code requirements	Still exists
Timeliness of provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	4.6% of IECD input to Registry late	Still exists
Connection of ICP that is not an NSP	3.6	11.7	2 x new ICPs were connected without a Trader recorded in the Registry as taking responsibility for the ICPs	Cleared
Changes to the registry information	4.1	8 of Schedule 11.1	Registry information not updated within 3 business days	Still exists
Distributor to provide information to the registry	4.6	7 (1) of Schedule 11.1	Missing IECD information in the Registry X5	Still exists

2. OPERATIONAL INFRASTRUCTURE

2.1. Requirement to provide complete and accurate information (Clause 11.2(1) and 10.6(1))

Code reference

Clause 11.2(1) and 10.6(1)

Code related audit information

A participant must take all practicable steps to ensure that information that the participant is required to provide to any person under Parts 10 or 11 is:

- a) complete and accurate*
- b) not misleading or deceptive*
- c) not likely to mislead or deceive.*

Audit observation

The Audit Compliance Reports, LIS and EDA files for the audit period and registry were checked. It was discussed with PowerNet staff what processes were in place to ensure correct information is in their systems (PowerNet Connect) and provided to the registry.

Audit commentary

Within the previous audit period new software called PowerNet Connect was developed and implemented. During this audit period the software has been consolidated and ongoing enhancements implemented. PowerNet Connect delivers distributor functions such as creation of ICPs, maintenance of Registry information and the creation and maintenance of NSP. Changes to any data in PowerNet Connect will be sent automatically, overnight, to the registry. The changes can also be sent manually.

Despite the efforts to maintain accurate information PowerNet are reliant on timely information from third parties and data entry is largely manual, so errors are understandable from time to time. Trader requests to backdate changes also impact heavily on timeliness of information upload to the Registry.

Section	Registry Discrepancy
3.5	IECD Input to Registry later than 10 business days <ul style="list-style-type: none">TPCO x 7ELIN x 3OTPO x 20LLNW x 3
4.1	Registry information not updated within 3 business days by all PowerNet Distribution Networks ELIN, TPCO, LLNW, OTPO
4.4	A number of duplicate addresses created as an unintended consequence of address data cleansing. All networks
4.6	Incorrect installation type (Distributed Generation) <ul style="list-style-type: none">TPCO x 4OTPO x 3 Distributed Generation – no Capacity in Registry <ul style="list-style-type: none">TPCO x 4

	<ul style="list-style-type: none"> OTPO x 3 <p>Distributed Generation – no Fuel Type in Registry</p> <ul style="list-style-type: none"> TPCO x 4 OTPO x 3
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Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
<p>Audit Ref: 2.1</p> <p>With:</p> <p><i>Clause 11.2(1) and 10.6(1)</i></p> <p>From: 01-Jul-20</p> <p>To: 10-Jul-21</p>	<p>A relatively small quantity of information in the Registry was inaccurate, they were spread broadly across all PowerNet Distribution Networks ELIN, TPCO, LLNW, OTPO.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Three times previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are recorded as moderate, since the new ICP management implemented during the previous audit period, some improvement has been demonstrated this audit period. The audit Risk Rating is assigned as low due to the relatively low number of ICPs involved.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
All data inaccuracies are corrected as they are discovered		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
In general errors are unknown until they are highlighted. At that point corrective action is taken		Ongoing	

2.2. Requirement to correct errors (Clause 11.2(2) and 10.6(2))

Code reference

Clause 11.2(2) and 10.6(2)

Code related audit information

If the participant becomes aware that in providing information under this Part, the participant has not complied with that obligation, the participant must, as soon as practicable, provide such further information as is necessary to ensure that the participant does comply.

Audit observation

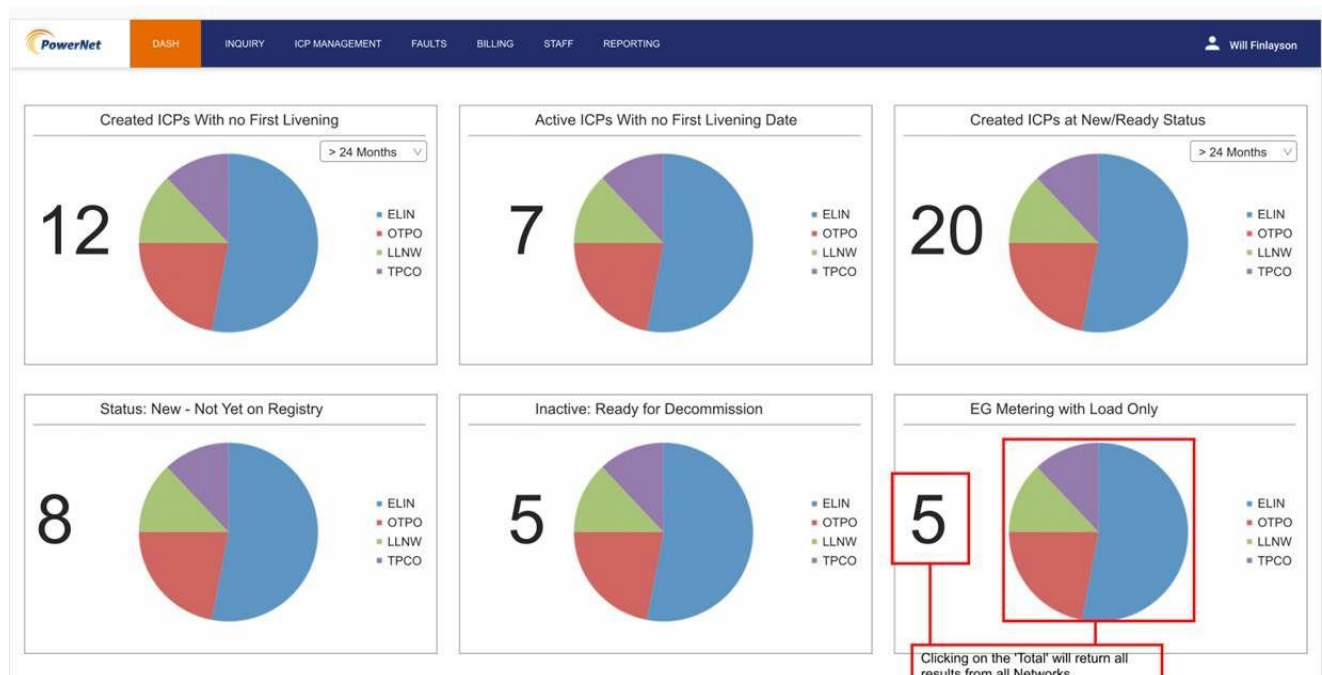
The Audit Compliance Reports for the audit period, the LIS and EDA files were checked. It was discussed with PowerNet staff what processes were in place to identify incorrect information in their systems and the registry, and the process to correct that data as soon as practicable.

Audit commentary

PowerNet aim to maintain accurate registry information and alignment with PowerNet Connect and the new processes have appear to have shown some improved results during this audit period.

PowerNet Connect has a range of exception reports and a dashboard view to more closely monitor key information enabling investigation leading to timely error correction. Some of the new exception reports are:

- Capacity changes pending
- Distributed Generation Approved Not Yet Connected
- New ICP Created Not yet on the Registry
- ICPs with status INACTIVE DE-ENERGISED READY FOR DECOMMISSIONING
- ICPs made ACTIVE with no first livening date



Previous audits have well documented a high volume of price code changes outside of required timeframes. The reason has been identified as Trader requests to move ICPs to/from the low user Price Code, and the Trader requests to backdate Price Code changes. In line with previous audits Price Code changes have not been treated as data corrections.

Audit outcome

Compliant

3. CREATION OF ICPS

3.1. Distributors must create ICPs (Clause 11.4)

Code reference

Clause 11.4

Code related audit information

The distributor must create an ICP identifier in accordance with Clause 1 of Schedule 11.1 for each ICP on the distributor's network. This includes an ICP identifier for the point of connection at which an embedded network connects to the distributor's network.

Audit observation

The Audit Compliance Reports, LIS and EDA reports were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

PowerNet uses PowerNet Connect to create ICPs for connections on all of its networks. The ICP identifiers created by PowerNet Connect were compliant.

Customers apply to PowerNet for a new connection using an online Installation Connection Application form. New connection applications are assessed to ensure the proposed connection meets PowerNet requirements. Any customer charges associated with the new connection are calculated and a quote is provided to the customer for acceptance. When the customer notifies PowerNet they have accepted the quote the application is approved and an ICP identifier is created in PowerNet Connect.

The installation owner or their representative is provided with the ICP identifier. An email is also sent to the trader nominated by the customer. Once an acceptance email is received from the trader and logged in PowerNet Connect the ICP identifier is uploaded to the registry. The Registry is populated with the new ICP in the overnight update.

PowerNet has agreements with Contact Energy and TrustPower, whereby for all new connections where a customer nominates them as a proposed trader the ICPs are automatically accepted by those traders.

The process is well documented and appears to be followed as no discrepancies were identified in the sample.

Network	ICPs Connected During Audit Period
TPCO	453
ELIN	96
OTPO	198
LLNW	644
	Total 1391

Note

Audit outcome

Compliant

3.2. Participants may request distributors to create ICPs (Clause 11.5(3))

Code reference

Clause 11.5(3)

Code related audit information

The distributor, within 3 business days of receiving a request for the creation of an ICP identifier for an ICP, must either create a new ICP identifier or advise the participant of the reasons it is unable to comply with the request.

Audit observation

The Audit Compliance Reports, LIS and EDA reports were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

Customers or their agents apply directly to PowerNet for a new ICP connection to any of the networks. Participants do not apply for or request ICPs on any of the PowerNet networks, however PowerNet are aware of this code requirement. It was noted that PowerNet uploaded new ICPs into the registry within 3 working days (usually the same day) of receiving acceptance of new connection ICPs from Traders.

Audit outcome

Compliant

3.3. Provision of ICP Information to the registry manager (Clause 11.7)

Code reference

Clause 11.7

Code related audit information

The distributor must provide information about ICPs on its network in accordance with Schedule 11.1.

Audit observation

The Audit Compliance Reports, LIS and EDA reports were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

New connection application information is captured in PowerNet Connect. Once technical issues are evaluated and the customer agrees to all charges relating to the application it is approved. Then an ICP identifier is created in PowerNet Connect and provided to the installation owner or their representative. An email is also sent to the trader nominated by the customer. PowerNet has agreements with Contact Energy and TrustPower, whereby for all new connections where a customer nominates them as a proposed trader the ICPs are automatically accepted by those traders.

Once the trader's acceptance of the ICP is in hand it is logged in PowerNet Connect and the ICP identifier and associated information is provided to the Registry in an overnight upload. The upload process includes functionality to ensure mandatory fields are populated before the information is uploaded to the registry.

Audit outcome

Compliant

3.4. Timeliness of Provision of ICP Information to the registry manager (Clause 7(2) of Schedule 11.1)

Code reference

Clause 7(2) of Schedule 11.1

Code related audit information

The distributor must provide information specified in Clauses 7(1)(a) to 7(1)(o) of Schedule 11.1 as soon as practicable and prior to electricity being traded at the ICP.

Audit observation

The Audit Compliance Reports, LIS, EDA reports and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

It was observed that ICP information was uploaded to the registry soon after the Trader acceptance of a new ICP connection was received. ICPs were set to the ready status. PowerNet has agreements with Contact Energy and TrustPower for all new connections where a customer nominates them as a proposed trader the ICPs are automatically accepted by those traders.

The Audit Compliance report identified the following ICPs however further scrutiny found reasonable justification for compliance:

ICP	Audit Compliance Report	Mitigation
0000173753TPBD0	Made Active by Retailer 04/08/20 but made Ready by TPCO 21/08/20 backdated to 03/06/2020	This is an unmetered fibre cabinet livened 02/07/20 by the telco's inspector but documentation was delayed coming in from the field. TPCO updated the Registry 21/08/2020 with ICP and relevant data as soon as they became aware. The Retailer made the ICP Active 23/09/20 backdated to 02/07/2020.
0001740775TG38E	Made Active by retailer 15/06/21 effective 20/05/21. Made Ready by OTPO 10/06/21 backdated to 20/05/21.	Large customer on chargeable kVA capacity line Pricing. OTPO agreed capacity charges with customer and updated Registry with Pricing 10/06/21 effective 20/05/21. Made ICP Ready with same dates. Initial ICP setup data input to Registry 05/05/21
0098051395LN4F0	Made Active by Retailer 29/01/21 backdated 27/01/21. Made ready by	Initial ICP setup data input to Registry 17/12/20. System error setup Status

	LLNW 28/01/21 backdated to 16/12/21	incorrectly at original Registry upload. Error identified and then corrected 28/01/21.
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This was non-compliant at last audit.

Audit outcome

Compliant

3.5. Timeliness of Provision of Initial Electrical Connection Date (Clause 7(2A) of Schedule 11.1)

Code reference

Clause 7(2A) of Schedule 11.1

Code related audit information

The distributor must provide the information specified in subclause (1)(p) to the registry manager no later than 10 business days after the date on which the ICP is initially electrically connected.

Audit observation

The Audit Compliance Reports, LIS, EDA reports and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

Network	ICPs Connected During Audit Period	IECD Input to Registry later than 10 business days	Comment
TPCO	453	7 (1.55%)	Range 12- 57 days
ELIN	96	3 (3.13%)	Range 14 - 30 days
OTPO	198	20 (10%)	Range 11 - 93 days
LLNW	644	3 (0.47%)	Range 23 - 139 days
Total	1391	33 (2.37%)	

There was a noticeable improvement in this area compared to last audit (7.4% Total). Late information from the field appears to still be a key reason for late updates. PowerNet staff believe the exception monitoring dashboard in PowerNet Connect has contributed to this improvement.

It was noted that the Audit Compliance Report picked up ICPs that had been established pre 2013, disconnected vacant for some years and then made active in recent years (not necessarily within the audit period). These ICPs were not considered with respect to this clause.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
Audit Ref: 3.5 With: <i>Clause 7(2A) of Schedule 11.1</i> From: 01-Jul-20 To: 10-Jul-21	TPCO - 1.55% of IECD input to Registry late ELIN - 3.13% of IECD input to Registry late OTPO - 10% of IECD input to Registry late LLNW – 0.47% of IECD input to Registry late Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate. Evidence shows the new ICP connection management system and processes implemented have demonstrated improved results they are inconsistent across networks. The audit Risk Rating is assigned as low due to minimal impact on settlement outcomes.		
Actions taken to resolve the issue		Completion date	Remedial action status
Daily monitoring of PowerNet Connect dashboard identifies ICPs which have become Active, but no IECD has been loaded. This prompts updating of Registry and investigation into missing information from the field.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Investigating occurrences as outlined above leads to education and reinforcement with field operators on requirements to return documentation.		Ongoing	

3.6. Connection of ICP that is not an NSP (Clause 11.17)

Code reference

Clause 11.17

Code related audit information

A distributor must, when connecting an ICP that is not an NSP, follow the connection process set out in Clause 10.31.

The distributor must not connect an ICP (except for an ICP across which unmetered load is shared) unless a trader is recorded in the registry as accepting responsibility for the ICP.

In respect of ICPs across which unmetered load is shared, the distributor must not connect an ICP unless a trader is recorded in the registry as accepting responsibility for the shared unmetered load, and all traders that are responsible for an ICP on the shared unmetered load have been advised.

Audit observation

The Audit Compliance Reports, LIS, EDA reports and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

New connection information is captured in PowerNet Connect and once the customer's application is approved. An ICP identifier is created in PowerNet Connect and information provided to the installation owner or their representative. An email is also sent to the trader nominated by the customer. Once an acceptance email is received from the trader and logged in PowerNet Connect the ICP identifier and associated information is provided to the Registry in an overnight upload. PowerNet has agreements with Contact Energy and TrustPower, whereby for all new connections where a customer nominates them as a proposed trader the ICPs are automatically accepted by those traders. The date the trader took responsibility for the ICP recorded in the **Trader Authority Date** field in PowerNet Connect.

The sampling demonstrated that ICPs had Traders recorded in PowerNet Connect prior to IECD.

PowerNet staff believe that PowerNet Connect has contributed to the improvement in this area.

This was non-compliant at last audit.

Audit outcome

Compliant

3.7. Connection of ICP that is not an NSP (Clause 10.31)

Code reference

Clause 10.31

Code related audit information

A distributor must not connect an ICP that is not an NSP unless requested to do so by the trader trading at the ICP, or if there is only shared unmetered load at the ICP and each trader has been advised.

Audit observation

The Audit Compliance Reports, LIS, EDA reports and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

New connection information is captured in PowerNet Connect and once the customer's application is approved. An ICP identifier is created in PowerNet Connect and information

provided to the installation owner or their representative. An email is also sent to the trader nominated by the customer, this email also asks the Trader to approve the connection of the ICP when it is ready to do so. Once an acceptance email is received from the trader and logged in PowerNet Connect the ICP identifier and associated information is provided to the Registry in an overnight upload. The upload process includes functionality to ensure mandatory fields are populated before the information is uploaded to the registry. PowerNet has agreements with Contact Energy and TrustPower, whereby for all new connections where a customer nominates them as a proposed trader the ICPs are automatically accepted by those traders.

The Trader ICP acceptance email also including the Trader request to connect is one of the process enhancements implemented during the audit period alongside the implementation of PowerNet Connect. The trader request to connect is inherent in the date the trader took responsibility for the ICP recorded in the **Trader Authority Date** field in PowerNet Connect.

Nominated Trader	Proposed Trader	Project Number
TRUS - TrustPower	TRUS - TrustPower	356642
First Liveness Date	Trader Authority Date	Creation Date
03/06/2020	08/04/2020	03/04/2020

Audit outcome

Compliant

3.8. Temporary electrical connection of ICP that is not an NSP (Clause 10.31A)

Code reference

Clause 10.31A

Code related audit information

A distributor may only temporarily electrically connect an ICP that is not an NSP if requested by an MEP for a purpose set out in clause 10.31A(2), and the MEP:

- *has been authorised to make the request by the trader responsible for the ICP; and*
- *the MEP has an arrangement with that trader to provide metering services.*

If the ICP is only shared unmetered load, the distributor must advise the traders of the intention to temporarily connect the ICP unless:

advising all traders would impose a material cost on the distributor, and

in the distributor's reasonable opinion the advice would not result in any material benefit to any of the traders.

Audit observation

The new connection process documents were reviewed and discussed with PowerNet staff.

Audit commentary

PowerNet staff state there have not been any requests to temporarily electrically connect any installation during this audit period.

PowerNet staff are aware of the code requirements in this area.

Audit outcome

Compliant

3.9. Connection of NSP that is not point of connection to grid (Clause 10.30)

Code reference

Clause 10.30

Code related audit information

A distributor must not connect an NSP on its network that is not a point of connection to the grid unless requested to do so by the reconciliation participant responsible for ensuring there is a metering installation for the point of connection.

The distributor must, within 5 business days of connecting the NSP that is not a point of connection to the grid, advise the reconciliation manager of the following in the prescribed form:

- *the NSP that has been connected*
- *the date of the connection*
- *the participant identifier of the MEP for each metering installation for the NSP*
- *the certification expiry date of each metering installation for the NSP.*

Audit observation

The Audit Compliance Reports, LIS, EDA reports and the Registry were checked for the audit period. The Registry NSP table was reviewed, and the clause discussed with PowerNet staff.

Audit commentary

Two new NSP were created on the LLNW network during the audit period. They are embedded networks operated by PowerNet details are below.

Distributor	NSP POC	Parent POC	Network type	Start Date	MEP
LLNW	CLVL0111	CML0331	E	17/05/2021	PNET
LLNW	WTR0111	CML0331	E	20/05/2021	PNET

PowerNet staff stated the Registry was updated within 5 business days of connecting the NSPs.

Audit outcome

Compliant

3.10. Temporary electrical connection of NSP that is not point of connection to grid (Clause 10.30(A))

Code reference

Clause 10.30(A)

Code related audit information

A distributor may only temporarily electrically connect an NSP that is not a point of connection to the grid if requested by an MEP for a purpose set out in clause 10.30A(3), and the MEP:

- *has been authorised to make the request by the reconciliation participant responsible for the NSP; and*
- *the MEP has an arrangement with that reconciliation participant to provide metering services.*

Audit observation

The clause was discussed with PowerNet staff.

Audit commentary

PowerNet staff state there have not been any requests to temporarily electrically connect any NSP that is not a point of connection to the grid during this audit period.

PowerNet staff are aware of the code requirements in this area.

Audit outcome

Compliant

3.11. Definition of ICP identifier (Clause 1(1) Schedule 11.1)

Code reference

Clause 1(1) Schedule 11.1

Code related audit information

Each ICP created by the distributor in accordance with Clause 11.4 must have a unique identifier, called the “ICP identifier”, determined in accordance with the following format:

yyyyyyyyyyxxccc where:

- *yyyyyyyyyy is a numerical sequence provided by the distributor*
- *xx is a code that ensures the ICP is unique (assigned by the Authority to the issuing distributor)*
- *ccc is a checksum generated according to the algorithm provided by the Authority.*

Audit observation

The Audit Compliance Reports, LIS, EDA reports and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

ICP identifiers for the PowerNet Networks are produced by PowerNet Connect. Using a structure of road number and connection location along the road, a unique installation number is created by the operator, which is then combined with one of the distributor codes in the following table, to create each ICP associated with that distribution network.

Network	Distributor code
TPCO – The Power Company	TP
ELIN – Electricity Invercargill	NV
OTPO – Otago Net JV	TG
LLNW - Lakeland	LN

It was verified that Power Connect creates correctly formatted ICPs and uploads them to the Registry.

Audit outcome

Compliant

3.12. Loss category (Clause 6 Schedule 11.1)

Code reference

Clause 6 Schedule 11.1

Code related audit information

Each ICP must have a single loss category that is referenced to identify the associated loss factors.

Audit observation

The LIS report and the Registry were checked for the audit period. The new connection process documents were reviewed. A random sample of 20 new ICP connection records proportioned by network were also checked and discussed with PowerNet staff.

Audit commentary

All Network ICPs with the status of READY, ACTIVE, and INACTIVE have a single loss category code assigned. The loss category code is assigned to an ICP when it is first uploaded to the registry.

Audit outcome

Compliant

3.13. Management of “new” status (Clause 13 Schedule 11.1)

Code reference

Clause 13 Schedule 11.1

Code related audit information

The ICP status of “New” must be managed by the distributor to indicate:

- *the associated electrical installations are in the construction phase (Clause 13(a) of Schedule 11.1)*
- *the ICP is not ready for activation (Clause 13(b) of Schedule 11.1).*

Audit observation

The LIS, EDA reports and the Registry were checked for the audit period. The new connection process documents were reviewed. A random sample of 20 new ICP connection records proportioned by network were also checked and discussed with PowerNet staff.

Audit commentary

PowerNet staff state that the NEW status is not used by PowerNet on any of the networks they are responsible for. All ICPs are uploaded into the Registry as READY.

Audit outcome

Compliant

3.14. Monitoring of “new” & “ready” statuses (Clause 15 Schedule 11.1)

Code reference

Clause 15 Schedule 11.1

Code related audit information

If an ICP has had the status of “New” or has had the status of “Ready” for 24 months or more:

- the distributor must ask the trader who intends to trade at the ICP whether the ICP should continue to have that status (Clause 15(2)(a) of Schedule 11.1)*
- the distributor must decommission the ICP if the trader advises that the ICP should not continue to have that status (Clause 15(2)(b) of Schedule 11.1).*

Audit observation

The Audit Compliance Reports, LIS, EDA reports and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

There were no ICPs in the Registry with NEW status for two years or more for any of the Distributor Networks PowerNet are responsible for.

Distributor Network	READY 2021	READY 2020	READY 2019	READY 2018
TPCO	0	6	7	6
ELIN	0	2	2	0
OTPO	0	0	2	2
LLNW	0	0	1	0

An improvement on the past audit. PowerNet staff advise they have been actively contacting customers and checking if ICPs are still required for any that have appeared on the monitoring

dashboard. As a result of these checks where appropriate this situation is also referred to the trader.

This was non-compliant at last audit.

Audit outcome

Compliant

3.15. Embedded generation loss category (Clause 7(6) Schedule 11.1)

Code reference

Clause 7(6) Schedule 11.1

Code related audit information

If the ICP connects the distributor's network to an embedded generating station that has a capacity of 10 MW or more (clause 7(1)(f) of Schedule 11.1):

- *The loss category code must be unique; and*
- *The distributor must provide the following to the reconciliation manager:*
 - o *the unique loss category code assigned to the ICP*
 - o *the ICP identifier of the ICP*
 - o *the NSP identifier of the NSP to which the ICP is connected*
 - o *the plant name of the embedded generating station.*

Audit observation

The LIS, EDA reports and the Registry were checked for the audit period. The Registry NSP table was reviewed, and the clause discussed with PowerNet staff.

Audit commentary

TPCO – ICP 0000315340TPEFC White Hill wind farm has a capacity of 58M with a Loss Factor Code **PNL42**

OtagoNet JV – ICP 0002751984TGB5D Paerau-Patearoa Power Station has a capacity of 12.25MW with Loss a Factor Code **2751984**

It is confirmed that each ICP has an individual loss category code.

Audit outcome

Compliant

3.16. Electrical connection of a point of connection (Clause 10.33A)

Code reference

Clause 10.33A(4)

Code related audit information

No participant may electrically connect a point of connection or authorise the electrical connection of a point of connection, other than a reconciliation participant.

Audit observation

The Audit Compliance Reports, LIS, EDA reports and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet

staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

An email is sent to the trader nominated by the customer, this email also asks the Trader to approve the connection of the ICP when it is ready to do so. Once an acceptance email is received from the trader and logged in PowerNet Connect the ICP identifier and associated information is provided to the Registry in an overnight upload.

The Trader ICP acceptance email also including the Trader request to connect is one of the process enhancements implemented during the audit period alongside the implementation of PowerNet Connect. The trader request to connect is inherent in the date the trader took responsibility for the ICP recorded in the **Trader Authority Date** field in PowerNet Connect.

It was noted that PowerNet Staff do not electrically connect new ICP connections to the network. Traders issue instructions directly to MEP metering technicians that hold PowerNet warrants to electrically connect ICPs on the Distribution Networks PowerNet are responsible for. PowerNet provides authorisation to electrically connect each ICP via approval of the connection application form, which is provided to the metering technician by the customer applicant or their agent (usually the customer electrician) who must have this on site at initial electrical connection.

Audit outcome

Compliant

4. MAINTENANCE OF REGISTRY INFORMATION

4.1. Changes to registry information (Clause 8 Schedule 11.1)

Code reference

Clause 8 Schedule 11.1

Code related audit information

If information held by the registry that relates to an ICP for which the distributor is responsible changes, the distributor must give written notice to the registry manager of that change.

Notification must be given by the distributor within 3 business days after the change takes effect, unless the change is to the NSP identifier of the NSP to which the ICP is usually connected (other than a change that is the result of the commissioning or decommissioning of an NSP).

In those cases, notification must be given no later than 8 business days after the change takes effect.

If the change to the NSP identifier is for more than 10 business days, the notification must be provided no later than the 13th business day and be backdated to the date the change took effect.

In the case of decommissioning an ICP, notification must be given by the later of 3 business days after the registry manager has advised the distributor that the ICP is ready to be decommissioned, or 3 business days after the distributor has decommissioned the ICP.

Audit observation

The EDA files were analysed, and the Audit Compliance Reports were checked for the audit period and the clause discussed with PowerNet staff.

Audit commentary

The tables below outline the EDA file analysis for this clause for the audit period:

TPCO

Activity	Total number of updates		No of updates later than 3BD		Date range of updates [BD]	
	20221	2020	2021	2020	2021	2020
Address	NA	719	10	66 (9.18%)	Up to 313	Up to 4443
Network	NA	3,752	70	1,544 (41.15%)	Up to 390	Up to 4558
Pricing	NA	40,638	996	29,659 (73.0%)	Up to 264	Up to 202

ELIN

Activity	Total number of updates		No of updates later than 3BD		Date range of updates [BD]	
	2021	2020	2021	2020	2021	2020
Address	NA	244	0	6 (2.46%)	NA	Up to 4382
Network	NA	197	41	14 (7.11%)	Up to 273	Up to 31
Pricing	NA	20,683	652	13,936 (67.38%)	Up to 294	Up to 54

OTPO

Activity	Total number of updates		No of updates later than 3BD		Date range of updates [BD]	
	2021	2020	2021	2020	2021	2020
Address	NA	234	1	7 (3%)	Up to 12	Up to 60
Network	NA	3,951	20	51 (1.29%)	Up to 213	Up to 149
Pricing	NA	6,528	519	940 (14.40%)	Up to 264	Up to 95

LLNW

Activity	Total number of updates		No of updates later than 3BD		Date range of updates [BD]	
	2021	2020	2021	2020	2021	2020
Address	NA	642	1	105 (16.36%)	Up to 14	Up to 499
Network	NA	1, 081	23	212 (19.6%)	Up to 28	Up to 1340
Pricing	NA	1,310	17	851 (64.96%)	Up to 215	Up to 89

PowerNet staff advised that an address data cleaning project took place during the audit period for TPCO, ELIN and OTPO ICPs to support a new outage notification system rolled out to retailers. This touched all ICPs in these Networks data set and appears to have distorted address compliance reporting for this audit period. Accordingly this report (2021) will only show absolute quantities reported by the Audit Compliance report. The data outliers created by the data cleaning activity have been removed using the criteria that if the event date was outside the last audit period then don't count it.

PowerNet staff confirmed high volumes of pricing changes during the audit period continue to be driven by Traders requesting backdated changes to and from low user pricing in monthly batches. PowerNet policy is to backdate no more than two months. PowerNet implements the changes within the same billing month as the request to minimise the financial impacts.

PowerNet has a process in place to monitor weekly logs from System Control to identify NSP changes in order to satisfy clause 8 (4) of Schedule 11.1. Whilst no actual NSP change discrepancies were identified a small number of data entry of errors of NSPs against new ICP connections were identified and corrected during the audit period.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
Audit Ref: 4.1 With: <i>Clause 8 Schedule 11.1</i> From: 01-Jul-20 To: 10-Jul-20	Registry information not updated within 3 business days by all PowerNet Distribution Networks ELIN, TPCO, LLNW, OTPO Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate, the new ICP management system appears to be operating as expected although appears inconsistent across networks. The audit Risk Rating is assigned as low due to minimal impact on settlement outcomes.		
Actions taken to resolve the issue		Completion date	Remedial action status
At last audit it was found PowerNet Connect was behaving in a way that led operators to unnecessarily backdate updates by presenting them with a default of the last used Event Date. The software was modified to default to present date which is appropriate for most routine updates. The reports show these backdates ceased after this had been implemented.		Dec 20	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

As has been mentioned in the Audit commentary, a bulk address data cleansing exercise inadvertently, and wrongly, applied an historic Event Date to many data corrections. This was a one-off situation, and the error has been noted, no recurrence is expected.	Ongoing	
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4.2. Notice of NSP for each ICP (Clauses 7(1),(4) and (5) Schedule 11.1)

Code reference

Clauses 7(1), 7(4) and 7(5) Schedule 11.1

Code related audit information

Under Clause 7(1)(b) of Schedule 11.1, the distributor must provide to the registry manager the NSP identifier of the NSP to which the ICP is usually connected.

If the distributor cannot identify the NSP that an ICP is connected to, the distributor must nominate the NSP that the distributor thinks is most likely to be connected to the ICP, taking into account the flow of electricity within its network, and the ICP is deemed to be connected to the nominated NSP.

Audit observation

The LIS reports and the Registry were checked for the audit period. The Registry and NSP table were checked, and the clause was also discussed with PowerNet staff.

Audit commentary

NSP identifiers are uploaded into the Registry when ICPs are initially loaded into the Registry as READY. PowerNet Connect has a network model integrated within it where NSP- transformer- ICP are linked together. If the NSP - transformer relationship changes then all ICPs linked to the transformer are identified so a registry update to the new NSP can be performed.

Audit outcome

Compliant

4.3. Customer queries about ICP (Clause 11.31)

Code reference

Clause 11.31

Code related audit information

The distributor must advise a customer (or any person authorised by the customer) or embedded generator of the customer or embedded generator's ICP identifier within 3 business days after receiving a request for that information.

Audit observation

The clause was discussed with PowerNet staff.

Audit commentary

It was stated by PowerNet staff that requests from a customer for advice around existing ICP connections are actioned immediately, usually while the customer is on the phone or at the office.

Audit outcome

Compliant

4.4. ICP location address (Clause 2 Schedule 11.1)

Code reference

Clause 2 Schedule 11.1

Code related audit information

Each ICP identifier must have a location address that allows the ICP to be readily located.

Audit observation

The LIS files, EDA and the Registry were checked for the audit period. The Registry NSP table was checked and, the clause was also discussed with PowerNet staff.

Audit commentary

PowerNet Connect has functionality that ensures assigned addresses are valid and easily located. ICPs creation first involves setting up a project in Maximo (PowerNet Asset Management system) which includes the address which needs to be verified to produce a project number. The project number and address are input into PowerNet Connect where the address is validated against existing addresses in PowerNet Connect. If the address is already used the ICP creation will not progress. Addresses for new ICPs meet code requirements. Review of the LIS files indicates there is sufficient information in the Registry for most historical ICPs to be readily located.

PowerNet staff advised that an address data cleaning project took place during the audit period for TPCO, ELIN and OTPO ICPs to support a new outage notification system rolled out to retailers. This touched ICPs in all the networks data set and appears to have distorted some address compliance reporting for this audit period. This was being addressed at audit.

Unfortunately, the address clean-up project appears to have unintentionally changed some existing registry address fields such as unit number and property name data. This appears to have resulted in the creation some duplicate addresses.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description
Audit Ref: 4.4 With: <i>Clause 2 Schedule 11.1</i> From: 01-Jul-20 To: 10-Jul-21	A number of duplicate addresses created as an unintended consequence of address data cleansing. Across all PowerNet Distribution Networks ELIN, TPCO, LLNW, OTPO. All networks Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate. The reason for this non-compliance is recognised and remedial action is being implemented. The audit Risk Rating is assigned as low due to minimal impact on settlement outcomes.		
Actions taken to resolve the issue		Completion date	Remedial action status
All duplicate addresses will be reviewed, and appropriate corrective action taken.		By next audit	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Any future bulk changes of data will involve extra vigilance to ensure new issues are being created.		Ongoing	

4.5. Electrically disconnecting an ICP (Clause 3 Schedule 11.1)

Code reference

Clause 3 Schedule 11.1

Code related audit information

Each ICP created after 7 October 2002 must be able to be electrically disconnected without electrically disconnecting another ICP, except for ICPs that are the point of connection between a network and an embedded network, or ICPs that represent the consumption calculated by the difference between the total consumption for the embedded network and all other ICPs on the embedded network.

Audit observation

This clause was discussed with PowerNet staff.

Audit commentary

PowerNet staff state there are no known ICPs that could not be electrically disconnected without electrically disconnecting another ICP.

Audit outcome

Compliant

4.6. Distributors to Provide ICP Information to the Registry manager (Clause 7(1) Schedule 11.1)

Code reference

Clause 7(1) Schedule 11.1

Code related audit information

For each ICP on the distributor's network, the distributor must provide the following information to the registry manager:

- *the location address of the ICP identifier (Clause 7(1)(a) of Schedule 11.1)*

- the NSP identifier of the NSP to which the ICP is usually connected (Clause 7(1)(b) of Schedule 11.1)
- the installation type code assigned to the ICP (Clause 7(1)(c) of Schedule 11.1)
- the reconciliation type code assigned to the ICP (Clause 7(1)(d) of Schedule 11.1)
- the loss category code and loss factors for each loss category code assigned to the ICP (Clause 7(1)(e) of Schedule 11.1)
- if the ICP connects the distributor's network to an embedded generating station that has a capacity of 10MW or more (Clause 7(1)(f) of Schedule 11.1):
 - a) the unique loss category code assigned to the ICP
 - b) the ICP identifier of the ICP
 - c) the NSP identifier of the NSP to which the ICP is connected
 - d) the plant name of the embedded generating station
- the price category code assigned to the ICP, which may be a placeholder price category code only if the distributor is unable to assign the actual price category code because the capacity or volume information required to assign the actual price category code cannot be determined before electricity is traded at the ICP (Clause 7(1)(g) of Schedule 11.1)
- if the price category code requires a value for the capacity of the ICP, the chargeable capacity of the ICP as follows (Clause 7(1)(h) of Schedule 11.1):
 - a) a placeholder chargeable capacity if the distributor is unable to determine the actual chargeable capacity
 - b) a blank chargeable capacity if the capacity value can be determined for a billing period from metering information collected for that billing period
 - c) if there is more than one capacity value at the ICP, and at least one, but not all, of those capacity values can be determined for a billing period from the metering information collected for that billing period-
 - (i) no capacity value recorded in the registry field for the chargeable capacity; and
 - (ii) either the term "POA" or all other capacity values, recorded in the registry field in which the distributor installation details are also recorded
 - d) if there is more than one capacity value at the ICP, and none of those capacity values can be determined for a billing period from the metering information collected for that billing period-
 - (i) the annual capacity value recorded in the registry field for the chargeable capacity; and
 - (ii) either the term "POA" or all other capacity values, recorded in the registry field in which the distributor installation details are also recorded
 - e) the actual chargeable capacity of the ICP in any other case
- the distributor installation details for the ICP determined by the price category code assigned to the ICP (if any), which may be placeholder distributor installation details only if the distributor is unable to assign the actual distributor installation details because the capacity or volume information required to assign the actual distributor installation details cannot be determined before electricity is traded at the ICP (Clause 7(1)(i) of Schedule 11.1)
- the participant identifier of the first trader who has entered into an arrangement to sell or purchase electricity at the ICP (only if the information is provided by the first trader) (Clause 7(1)(j) of Schedule 11.1)
- the status of the ICP (Clause 7(1)(k) of Schedule 11.1)
- designation of the ICP as "Dedicated" if the ICP is located in a balancing area that has more than 1 NSP located within it, and the ICP will be supplied only from the NSP

advised under Clause 7(1)(b) of Schedule 11.1, or the ICP is a point of connection between a network and an embedded network (Clause 7(1)(l) of Schedule 11.1)

- *if unmetered load, other than distributed unmetered load, is associated with the ICP, the type and capacity in kW of unmetered load (Clause 7(1)(m) of Schedule 11.1)*
- *if shared unmetered load is associated with the ICP, a list of the ICP identifiers of the ICPs that are associated with the unmetered load (Clause 7(1)(n) of Schedule 11.1)*
- *if the ICP is capable of generating into the distributors network (Clause 7(1)(o) of Schedule 11.1):*
 - a) *the nameplate capacity of the generator; and*
 - b) *the fuel type*
- *the initial electrical connection date of the ICP (Clause 7(1)(p) of Schedule 11.1).*

Audit observation

The Audit Compliance Reports, LIS, files and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

The table below outlines the LIS files and Audit compliance reports analysis for this clause for this audit period:

	No IECD in Registry But Active	Dist Generation Incorrect Installation Type	Dist Generation No Capacity in registry	Dist Generation No Fuel Type in registry
TPCO	0	4	4	4
ELIN	0	0	0	0
OTPO	0	3	3	3
LLNW	0	0	0	0

Some improvement from last audit.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
Audit Ref: 4.6 With: <i>Clause 7(1)</i> <i>Schedule 11.1</i> From: 01-Jul-20 To: 10-Jul-21	Incorrect Installation type in the Registry for TPCO (x4), OTPO (x3) Missing Distributed Generation information type in the Registry capacity and fuel type for TPCO (x4), OTPO (x3) Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate because new system appears to be operating as anticipated. Further compliance improvement should be expected as system knowledge develops. The audit Risk Rating is assigned as low due to a small number of ICPs with minimal impact on settlement outcomes.		
Actions taken to resolve the issue		Completion date	Remedial action status
Work has begun to correct identified errors.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Work is ongoing correcting data anomalies which exist. All tools available are used to assist identify areas for attention.		Ongoing	

4.7. Provision of information to registry after the trading of electricity at the ICP commences (Clause 7(3) Schedule 11.1)

Code reference

Clause 7(3) Schedule 11.1

Code related audit information

The distributor must provide the following information to the registry manager no later than 10 business days after the trading of electricity at the ICP commences:

- *the actual price category code assigned to the ICP (Clause 7(3)(a) of Schedule 11.1)*
- *the actual chargeable capacity of the ICP determined by the price category code assigned to the ICP (if any) (Clause 7(3)(b) of Schedule 11.1)*
- *the actual distributor installation details of the ICP determined by the price category code assigned to the ICP (if any) (Clause 7(3)(c) of Schedule 11.1).*

Audit observation

The Audit Compliance Reports, LIS, EDA files and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

New connection information is captured in PowerNet Connect and once the customer's application is approved. An ICP identifier is created in PowerNet Connect and information provided to the installation owner or their representative. An email is also sent to the trader nominated by the customer. Once an acceptance email is received from the trader and logged in PowerNet Connect the ICP identifier and associated information is provided to the Registry in an overnight upload. The upload process includes functionality to ensure mandatory fields are populated before the information is uploaded to the registry. The Trader ICP acceptance email also includes the Trader request to connect. The trader request to connect is inherent in the date the trader took responsibility for the ICP recorded in the **Trader Authority Date** field in PowerNet Connect.

ICPs are set to the ready status in the Registry at initial creation.

Audit outcome

Compliant

4.8. GPS coordinates (Clause 7(8) and (9) Schedule 11.1)

Code reference

Clause 7(8) and (9) Schedule 11.1

Code related audit information

If a distributor populates the GPS coordinates (optional), it must meet the NZTM2000 standard in a format specified by the Authority.

Audit observation

The LIS files 21 July 2020 and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

No GPS coordinates are loaded into the registry for any network managed by PowerNet

Audit outcome

Compliant

4.9. Management of "ready" status (Clause 14 Schedule 11.1)

Code reference

Clause 14 Schedule 11.1

Code related audit information

The ICP status of "Ready" must be managed by the distributor and indicates that:

- *the associated electrical installations are ready for connecting to the electricity supply (Clause 14(1)(a) of Schedule 11.1); or*
- *the ICP is ready for activation by a trader (Clause 14(1)(b) of Schedule 11.1)*

Before an ICP is given the "Ready" status in accordance with Clause 14(1) of Schedule 11.1, the distributor must:

- *identify the trader that has taken responsibility for the ICP (Clause 14(2)(a) of Schedule 11.1)*
- *ensure the ICP has a single price category (Clause 14(2)(b) of Schedule 11.1).*

Audit observation

The Audit Compliance Reports, LIS, EDA files and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff. A random sample of 20 new ICP connection records proportioned by network were also checked.

Audit commentary

New connection information is captured in PowerNet Connect and once the customer's application is approved. An ICP identifier is created in PowerNet Connect and information provided to the installation owner or their representative. An email is also sent to the trader nominated by the customer. Once an acceptance email is received from the trader and logged in PowerNet Connect the ICP identifier and associated information is provided to the Registry in an overnight upload. The upload process includes functionality to ensure mandatory fields such as price category, are populated before the information is uploaded to the registry. The Trader ICP acceptance email also includes the Trader request to connect. The trader request to connect is inherent in the date the trader took responsibility for the ICP recorded in the **Trader Authority Date** field in PowerNet Connect. It was noted that PowerNet has blanket acceptance arrangements with Contact Energy and Trustpower.

ICPs are set to the ready status in the Registry at initial creation.

Audit outcome

Compliant

4.10. Management of "distributor" status (Clause 16 Schedule 11.1)

Code reference

Clause 16 Schedule 11.1

Code related audit information

The ICP status of "distributor" must be managed by the distributor and indicates that the ICP record represents a shared unmetered load installation or the point of connection between an embedded network and its parent network.

Audit observation

The Audit Compliance Reports and LIS files and the Registry were checked for the audit period. The new connection process documents were reviewed and discussed with PowerNet staff.

Audit commentary

PowerNet manages two DISTRIBUTOR Status ICPs: 0004031015TP9AA an embedded network known as Aurora on the TPCO network, and 0000900392NVB03 an embedded network known as KMart on the ELIN network.

Audit outcome

Compliant

4.11. Management of “decommissioned” status (Clause 20 Schedule 11.1)

Code reference

Clause 20 Schedule 11.1

Code related audit information

The ICP status of “decommissioned” must be managed by the distributor and indicates that the ICP is permanently removed from future switching and reconciliation processes (Clause 20(1) of Schedule 11.1).

Decommissioning only occurs when:

- *electrical installations associated with the ICP are physically removed (Clause 20(2)(a) of Schedule 11.1); or*
- *there is a change in the allocation of electrical loads between ICPs with the effect of making the ICP obsolete (Clause 20(2)(b) of Schedule 11.1); or*
- *in the case of a distributor only ICP for an embedded network, the embedded network no longer exists (Clause 20(2)(c) of Schedule 11.1).*

Audit observation

The Audit Compliance Reports and EDA files and the Registry were checked for the audit period. The decommission process documents were reviewed and discussed with PowerNet staff. A random sample of 24 decommissioned ICP records proportioned by network were also checked.

Audit commentary

This clause was non-compliant in the last audit.

PowerNet will only process the decommission of an ICP when a request is initiated directly from a property owner/customer, or a retailer on behalf of the property owner/customer is received. PowerNet send an authority to remove connection form to the property owner/customer, once the signed form has been returned to PowerNet it is logged in PowerNet Connect. The Trader is notified by email that a permanent disconnection of an ICP is taking place and the job is raised to complete the work including final meter readings and retrieval as required. On completion of the permanent disconnection of the ICP from the network the completed paperwork is returned to PowerNet the same day, PowerNet Connect is updated and the Trader notified including final meter readings as required. The Trader is asked to update the Registry status of the ICP to INACTIVE READY FOR DECOMMISSIONING. PowerNet monitor the Registry (reminding the Trader if necessary) and when the status has been changed update the ICP status to DECOMMISSIONED in PowerNet Connect which updates the Registry with an overnight file update.

Audit outcome

Compliant

4.12. Maintenance of price category codes (Clause 23 Schedule 11.1)

Code reference

Clause 23 Schedule 11.1

Code related audit information

The distributor must keep up to date the table in the registry of the price category codes that may be assigned to ICPs on each distributor's network by entering in the table any new price category codes.

Each entry must specify the date on which each price category code takes effect, which must not be earlier than 2 months after the date the code is entered in the table.

A price category code takes effect on the specified date.

Audit observation

The Price Category table in the Registry was examined for all networks managed by PowerNet. This was discussed with PowerNet staff.

Audit commentary

There were no new Price Categories recorded in the Registry during the audit period.

Audit outcome

Compliant

5. CREATION AND MAINTENANCE OF LOSS FACTORS

5.1. Updating table of loss category codes (Clause 21 Schedule 11.1)

Code reference

Clause 21 Schedule 11.1

Code related audit information

The distributor must keep the registry up to date with the loss category codes that may be assigned to ICPs on the distributor's network.

The distributor must specify the date on which each loss category code takes effect.

A loss category code takes effect on the specified date.

Audit observation

The Loss Category Code table in the Registry were examined for all networks managed by PowerNet. This was discussed with PowerNet staff.

Audit commentary

There were no new Loss Category Codes added to the Registry tables for any of the PowerNet networks during this audit period.

Audit outcome

Compliant

5.2. Updating loss factors (Clause 22 Schedule 11.1)

Code reference

Clause 22 Schedule 11.1

Code related audit information

Each loss category code must have a maximum of 2 loss factors per calendar month. Each loss factor must cover a range of trading periods within that month so that all trading periods have a single applicable loss factor.

If the distributor wishes to replace an existing loss factor on the table in the registry, the distributor must enter the replaced loss factor on the table in the registry.

Audit observation

The Loss Category Codes table in the Registry were examined for all networks managed by PowerNet. This was discussed with PowerNet staff.

Audit commentary

PowerNet updated the Loss Factors on the TPCO and ELIN Distribution Networks during the audit period.

The Loss Factor changes as observed on the Registry met code requirements.

Audit outcome

Compliant

6. CREATION AND MAINTENANCE OF NSPS (INCLUDING DECOMMISSIONING OF NSPS AND TRANSFER OF ICPS)

6.1. Creation and decommissioning of NSPs (Clause 11.8 and Clause 25 Schedule 11.1)

Code reference

Clause 11.8 and Clause 25 Schedule 11.1

Code related audit information

If the distributor is creating or decommissioning an NSP that is an interconnection point between 2 local networks, the distributor must give written notice to the reconciliation manager of the creation or decommissioning.

If the embedded network owner is creating or decommissioning an NSP that is an interconnection point between 2 embedded networks, the embedded network owner must give written notice to the reconciliation manager of the creation or decommissioning.

If the distributor is creating or decommissioning an NSP that is a point of connection between an embedded network and another network, the distributor must give written notice to the reconciliation manager of the creation or decommissioning.

If the distributor wishes to change the record in the registry of an ICP that is not recorded as being usually connected to an NSP in the distributor's network, so that the ICP is recorded as being usually connected to an NSP in the distributor's network (a "transfer"), the distributor must:

- *give written notice to the reconciliation manager*
- *give written notice to the Authority*
- *give written notice to each affected reconciliation participant*
- *comply with Schedule 11.2.*

Audit observation

The NSP mapping table in the registry was reviewed and this was discussed with PowerNet staff.

Audit commentary

PowerNet staff confirmed that PowerNet did create 2 NSPs during the audit period as follows:

Distributor	NSP POC	Parent POC	Parent Network	Balancing Area	Network type	Start date
LLNW	CLVL0111	CML0331	DUNE	CLV011LLNWE	E	17/05/21
LLNW	WTR0111	CML0331	DUNE	WTR011LLNWE	E	20/05/21

PowerNet staff stated all code requirements were met in the creation of these NSPs.

Audit outcome

Compliant

6.2. Provision of NSP information (Clause 26(1) and (2) Schedule 11.1)

Code reference

Clause 26(1) and (2) Schedule 11.1

Code related audit information

If the distributor wishes to create an NSP or transfer an ICP as described above, the distributor must request that the reconciliation manager create a unique NSP identifier for the relevant NSP.

The request must be made at least 10 business days before the NSP is electrically connected, in respect of an NSP that is an interconnection point between 2 local networks. In all other cases, the request must be made at least 1 month before the NSP is electrically connected or the ICP is transferred.

Audit observation

The NSP mapping table in the registry was reviewed and this was discussed with PowerNet staff.

Audit commentary

PowerNet staff confirmed that PowerNet did ask the Reconciliation manager to create the following unique NSP identifiers during the audit period.

Distributor	NSP POC	Parent POC	Parent Network	Balancing Area	Network type	Start date
LLNW	CLVL0111	CML0331	DUNE	CLV011LLNWE	E	17/05/21
LLNW	WTR0111	CML0331	DUNE	WTR011LLNWE	E	20/05/21

PowerNet staff stated all code requirements were met in the creation of these NSPs.

Audit outcome

Compliant

6.3. Notice of balancing areas (Clause 24(1) and Clause 26(3) Schedule 11.1)

Code reference

Clause 24(1) and Clause 26(3) Schedule 11.1

Code related audit information

If a participant has notified the creation of an NSP on the distributor's network, the distributor must give written notice to the reconciliation manager of the following:

- if the NSP is to be located in a new balancing area, all relevant details necessary for the new balancing area to be created and notification that the NSP to be created is to be assigned to the new balancing area*
- in all other cases, notification of the balancing area in which the NSP is located.*

Audit observation

The NSP mapping table in the registry was reviewed and this was discussed with PowerNet staff.

Audit commentary

PowerNet staff confirmed that PowerNet did create 2 NSPs and associated balancing areas during the audit period as follows:

Distributor	NSP POC	Parent POC	Parent Network	Balancing Area	Network type	Start date
LLNW	CLVL0111	CML0331	DUNE	CLV011LLNWE	E	17/05/21
LLNW	WTR0111	CML0331	DUNE	WTR011LLNWE	E	20/05/21

PowerNet staff stated all code requirements were met in the creation of these NSPs.

Audit outcome

Compliant

6.4. Notice of supporting embedded network NSP information (Clause 26(4) Schedule 11.1)

Code reference

Clause 26(4) Schedule 11.1

Code related audit information

If a participant notifies the creation of an NSP, or the transfer of an ICP to an NSP that is a point of connection between a network and an embedded network owned by the distributor, the distributor must give notice to the reconciliation manager at least 1 month before the creation or transfer of:

- *the network on which the NSP will be located after the creation or transfer (Clause 26(4)(a))*
- *the ICP identifier for the ICP that connects the network and the embedded network (Clause 26(4)(b))*
- *the date on which the creation or transfer will take effect (Clause 26(4)(c)).*

Audit observation

The NSP mapping table in the registry was reviewed and this was discussed with PowerNet staff.

Audit commentary

PowerNet staff confirmed that PowerNet did create 2 NSPs and associated balancing areas during the audit period as follows:

Distributor	NSP POC	Parent POC	Parent Network	Balancing Area	Network type	Start date
LLNW	CLVL0111	CML0331	DUNE	CLV011LLNWE	E	17/05/21
LLNW	WTR0111	CML0331	DUNE	WTR011LLNWE	E	20/05/21

PowerNet staff stated all code requirements were met in the creation of these NSPs.

Audit outcome

Compliant

6.5. Maintenance of balancing area information (Clause 24(2) and (3) Schedule 11.1)

Code reference

Clause 24(2) and (3) Schedule 11.1

Code related audit information

The distributor must give written notice to the reconciliation manager of any change to balancing areas associated with an NSP supplying the distributor's network. The notification must specify the date and trading period from which the change takes effect, and be given no later than 3 business days after the change takes effect.

Audit observation

The NSP mapping table in the registry was reviewed and this was discussed with PowerNet staff.

Audit commentary

PowerNet staff confirmed that PowerNet did create 2 NSPs and associated balancing areas during the audit period as follows:

Distributor	NSP POC	Parent POC	Parent Network	Balancing Area	Network type	Start date
LLNW	CLVL0111	CML0331	DUNE	CLV011LLNWE	E	17/05/21
LLNW	WTR0111	CML0331	DUNE	WTR011LLNWE	E	20/05/21

PowerNet staff stated all code requirements were met in the creation of these NSPs.

Audit outcome

Compliant

6.6. Notice when an ICP becomes an NSP (Clause 27 Schedule 11.1)

Code reference

Clause 27 Schedule 11.1

Code related audit information

If a transfer of an ICP results in an ICP becoming an NSP at which an embedded network connects to a network, or in an ICP becoming an NSP that is an interconnection point, in respect of the distributor's network, the distributor must give written notice to any trader trading at the ICP of the transfer at least 1 month before the transfer.

Audit observation

This was discussed with PowerNet staff.

Audit commentary

PowerNet staff stated that PowerNet during the audit period did not transfer an ICP which resulted in an ICP becoming an NSP at which an embedded network connected to a network or an ICP became an NSP that is an interconnection point.

PowerNet staff advise they are aware of the code requirements.

Audit outcome

Compliant

6.7. Notification of transfer of ICPs (Clause 1 to 4 Schedule 11.2)

Code reference

Clause 1 to 4 Schedule 11.2

Code related audit information

If the distributor wishes to transfer an ICP, the distributor must give written notice to the Authority in the prescribed form, no later than 3 business days before the transfer takes effect.

Audit observation

This was discussed with PowerNet staff.

Audit commentary

PowerNet staff stated that PowerNet did not transfer any ICPs during the audit period.

PowerNet staff advise they are aware of the code requirements.

Audit outcome

Compliant

6.8. Responsibility for metering information for NSP that is not a POC to the grid (Clause 10.25(1) and 10.25(3))

Code reference

Clause 10.25(1) and 10.25(3)

Code related audit information

A network owner must, for each NSP that is not a point of connection to the grid for which it is responsible, ensure that:

- *there is 1 or more metering installations (Clause 10.25(1)(a)); and*
- *the electricity is conveyed and quantified in accordance with the Code (Clause 10.25(1)(b))*

For each NSP covered in 10.25(1) the network owner must, no later than 20 business days after a metering installation at the NSP is recertified advise the reconciliation manager of:

- *the reconciliation participant for the NSP*
- *the participant identifier of the metering equipment provider for the metering installation*
- *the certification expiry date of the metering installation*

Audit observation

This was discussed with PowerNet staff.

Audit commentary

There are 6 interconnections between the two networks TPCO and ELIN, they are recorded in the registry as network type I as follows:

1. STD0111 TPCO - STD0111ELIN
2. ELL0111 TPCO - ELL0111ELIN
3. OCB0111 TPCO - OCB0111ELIN
4. BLF0111 TPCO - BLF0111ELIN
5. LEV0331TPCO - LEV0331ELIN
6. SOU0331 TPCO - SOU0331 ELIN

Interconnections between the two networks are all metered except the interconnection ELL0111 TPCO/ELL0111 ELIN, which is the back-up supply (emergency) to Southland Hospital. The exemption #167 was granted on 11 April 2013 and expires 31 March 2023.

PowerNet staff confirmed that PowerNet did create 2 NSPs and associated balancing areas during the audit period as follows:

Distributor	NSP POC	Parent POC	Parent Network	Balancing Area	Network type	Start date
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LLNW	CLVL0111	CML0331	DUNE	CLV011LLNWE	E	17/05/21
LLNW	WTR0111	CML0331	DUNE	WTR011LLNWE	E	20/05/21

The MEP for the metered interconnections and NSPs is PowerNet (PWNT), ATH used is AccuCal.

PowerNet staff stated all code requirements were met in the creation of these NSPs.

Audit outcome

Compliant

6.9. Responsibility for metering information when creating an NSP that is not a POC to the grid (Clause 10.25(2))

Code reference

Clause 10.25(2)

Code related audit information

If the network owner proposes the creation of a new NSP which is not a point of connection to the grid it must:

- *assume responsibility for being the metering equipment provider (Clause 10.25(2)(a)(i)); or*
- *contract with a metering equipment provider to be the MEP (Clause 10.25(2)(a)(ii)); and*
- *no later than 20 business days after identifying the MEP advise the reconciliation manager in the prescribed form of:*
 - a) the reconciliation participant for the NSP (Clause 10.25(2)(b)(i)); and*
 - b) the MEP for the NSP (Clause 10.25(2)(b)(ii)); and*
 - c) no later than 20 business days after the data of certification of each metering installation, advise the reconciliation participant for the NSP of the certification expiry date (Clause 10.25(2)(c)).*

Audit observation

The NSP mapping table in the registry was reviewed and this was discussed with PowerNet staff.

Audit commentary

PowerNet staff confirmed that PowerNet did create 2 NSPs and associated balancing areas during the audit period as follows:

Distributor	NSP POC	Parent POC	Parent Network	Balancing Area	Network type	Start date
LLNW	CLVL0111	CML0331	DUNE	CLV011LLNWE	E	17/05/21
LLNW	WTR0111	CML0331	DUNE	WTR011LLNWE	E	20/05/21

The MEP for the metered NSPs is PowerNet (PWNT), ATH used is AccuCal.

PowerNet staff stated all code requirements were met in the creation of these NSPs.

Audit outcome

Compliant

6.10. Obligations concerning change in network owner (Clause 29 Schedule 11.1)

Code reference

Clause 29 Schedule 11.1

Code related audit information

If a network owner acquires all or part of a network, the network owner must give written notice to:

- *the previous network owner (Clause 29(1)(a) of Schedule 11.1)*
- *the reconciliation manager (Clause 29(1)(b) of Schedule 11.1)*
- *the Authority (Clause 29(1)(c) of Schedule 11.1)*
- *every reconciliation participant who trades at an ICP connected to the acquired network or part of the network acquired (Clause 29(1)(d) of Schedule 11.1).*

At least 1 month notification is required before the acquisition (Clause 29(2) of Schedule 11.1).

The notification must specify the ICPs to be amended to reflect the acquisition and the effective date of the acquisition (Clause 29(3) of Schedule 11.1).

Audit observation

This was discussed with PowerNet staff.

Audit commentary

PowerNet staff stated that PowerNet did not acquire all or part of any network during the audit period.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

6.11. Change of MEP for embedded network gate meter (Clause 10.22(1)(b))

Code reference

Clause 10.22(1)(b)

Code related audit information

If the MEP for an ICP which is also an NSP changes the participant responsible for the provision of the metering installation under Clause 10.25, the participant must advise the reconciliation manager and the gaining MEP.

Audit observation

This was discussed with PowerNet staff. The LIS report for the audit period and the Registry were checked.

Audit commentary

PowerNet staff stated that PowerNet did not change MEP for any of the interconnections or NSPs during the audit period.

PowerNet staff advise they are aware of the code requirements

Audit outcome

Compliant

6.12. Confirmation of consent for transfer of ICPs (Clauses 5 and 8 Schedule 11.2)

Code reference

Clauses 5 and 8 Schedule 11.2

Code related audit information

The distributor must give the Authority confirmation that it has received written consent to the proposed transfer from:

- *the distributor whose network is associated with the NSP to which the ICP is recorded as being connected immediately before the notification (unless the notification relates to the creation of an embedded network) (Clause 5(a) of Schedule 11.2)*
- *every trader trading at an ICP being supplied from the NSP to which the notification relates (Clause 5(b) of Schedule 11.2).*

The notification must include any information requested by the Authority (Clause 8 of Schedule 11.2).

Audit observation

This was discussed with PowerNet staff. The LIS report for the audit period and the Registry were checked.

Audit commentary

PowerNet staff stated that PowerNet did not Transfer any ICPs during the audit period.

Audit outcome

Compliant

6.13. Transfer of ICPs for embedded network (Clause 6 Schedule 11.2)

Code reference

Clause 6 Schedule 11.2

Code related audit information

If the notification relates to an embedded network, it must relate to every ICP on the embedded network.

Audit observation

This was discussed with PowerNet staff. The LIS report for the audit period and the Registry were checked.

Audit commentary

PowerNet staff stated that PowerNet did not transfer any ICPs during the audit period.

Audit outcome

Compliant

7. MAINTENANCE OF SHARED UNMETERED LOAD

7.1. Notification of shared unmetered load ICP list (Clause 11.14(2) and (4))

Code reference

Clause 11.14(2) and (4)

Code related audit information

The distributor must give written notice to the registry manager and each trader responsible for the ICPs across which the unmetered load is shared of the ICP identifiers of those ICPs.

A distributor who receives notification from a trader relating to a change under Clause 11.14(3) must give written notice to the registry manager and each trader responsible for any of the ICPs across which the unmetered load is shared of the addition or omission of the ICP.

Audit observation

The LIS file and the Registry were checked for the audit period. This was also discussed with PowerNet staff.

Audit commentary

PowerNet policy is not to allow shared unmetered load to be connected on any of the Distribution Networks it is responsible for.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

7.2. Changes to shared unmetered load (Clause 11.14(5))

Code reference

Clause 11.14(5)

Code related audit information

If the distributor becomes aware of a change to the capacity of a shared unmetered load ICP or if a shared unmetered load ICP is decommissioned, it must give written notice to all traders affected by that change or decommissioning as soon as practicable after the change or decommissioning.

Audit observation

The LIS file and the Registry were checked for the audit period. This was discussed with PowerNet staff.

Audit commentary

PowerNet policy is not to allow shared unmetered load to be connected on any of the Distribution Networks it is responsible for.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

8. CALCULATION OF LOSS FACTORS

8.1. Creation of loss factors (Clause 11.2)

Code reference

Clause 11.2

Code related audit information

A participant must take all practicable steps to ensure that information that the participant is required to provide to any person under Part 11 is:

- a) complete and accurate*
- b) not misleading or deceptive*
- c) not likely to mislead or deceive.*

Audit observation

This was discussed with PowerNet staff, and the Asset management Plans, Information Disclosure documents and Loss Factor information on the PowerNet website was reviewed.

Audit commentary

Network Loss Factors for the Distribution networks PowerNet is responsible for are published on the PowerNet website.

PowerNet has published a Loss Factor Calculation Procedure on its website. The document clearly describes PowerNet's philosophy and methodology for calculating Network Loss Factors. PowerNet uses PSS Adept software to calculate the technical loss for its networks.

For major customers the loss factors are reviewed periodically as they may have a noticeable impact on losses.

A review of the general customer loss factors was completed in late 2020 for all networks for which PowerNet is responsible. Following this review PowerNet decided a minor adjustment would be made to the Electricity Invercargill Ltd and The Power Company Limited Loss Factors from 1 May 2021.

Audit outcome

Compliant

CONCLUSION

PARTICIPANT RESPONSE

As always PowerNet welcome the scrutiny of this audit, as we continue to strive for the highest level of compliance. We always look for positive actions to take internally from the shortcomings discovered.

We continue to develop internal tools to assist our own monitoring of our ongoing activity. We will also run the Registry reports for our own routine checks of data aside from at audit time.

