ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTOR AUDIT REPORT

VERITEK

For

POWERCO LIMITED

NZBN: 9429037332174

Prepared by: Tara Gannon

Date audit commenced: 15 February 2023

Date audit report completed: 8 March 2023

Audit report due date: 10 April 2023

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This distributor audit was conducted at the request of **Powerco Ltd (Powerco)** to encompass the Electricity Industry Participation Code requirement for an audit, in accordance with clause 11.10 of part 11. The audit was conducted in accordance with the Guideline for Distributor Audits V7.2, which was produced by the Electricity Authority.

Powerco have a high level of compliance. Historic data accuracy issues continue to be a focus, and the volumes of ICPs with incorrect or incomplete addresses, and private unmetered streetlights without an ICP have decreased during the audit period.

Previous audit recommendations have been adopted and Powerco is refining its reporting on ICPs at "inactive - ready for decommissioning" status which it has not received a decommissioning request for, so that these can be followed up. Powerco have also improved their processes to connect new streetlight connections to ensure that trader acceptance is always obtained.

The majority of data accuracy issues identified during this audit were caused by CWMS' inability to record event dates for network events. Network events contain NSP, dedicated NSP, unmetered load information, distributed generation, and initial electrical connection date information as well as direct billed information which is not normally used by Powerco. The values in these fields can change independently, a common example would be an ICP is created at "ready" status with no initial electrical connection date and installation type L in 2020, it is connected and has an initial electrical connection date added in 2021, and then has distributed generation capacity, installation type B and fuel type updated in 2022.

This can make the update registry update process complex where a backdated change to a network field is required. Powerco must ensure that all of the network event attributes are correct for each event date. When a network update is sent from CWMS and cannot be processed on the date that the event occurred, the user needs to 1) log into the registry and manually correct the event date after it is sent to the registry and 2) check that all network event attributes are correct from the event date until the day of the next event date (if any) and make manual corrections as needed. The small number of data accuracy issues identified given this difficult process and the number of updates required is a credit to the Powerco team.

Where current ICP attributes differ from the registry they are likely to be identified and corrected through Powerco's validation processes, but where an older event is affected it may not be identified though Powerco's validation. Allowing correct date ranging and selection of event dates within Powerco's system will increase both the accuracy and timeliness of registry updates, because fewer backdated corrections will be required.

This audit found 11 non-compliances and makes two recommendations. The majority of these non-compliances relate to late updates for corrections to data. This will always create non-compliance for not being able to meet the timeliness requirements but more importantly ensures that where possible Powerco is providing complete and accurate information.

The audit frequency table indicates that the next audit is due in 12 months. I recommend that the next audit is due in 18 months, after considering:

- Powerco's comments,
- that the level of compliance is high and has continued to improve, and
- that eight of the ten non-compliances have a strong control rating indicating that the non-compliances found are exceptions and processes in place are robust and mitigate risk where possible.

The matters raised are set out in the table below.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Requirement to correct errors	2.2	11.2(2) and 10.6(2)	629 active ICPs have duplicate addresses. 727 active ICPs have addresses which do not have a street number or property name.	Strong	Low	1	Identified
Distributor must create ICPs	3.1	11.4	Some private lights in the Manawatu District Council, Matamata Piako District Council, New Plymouth District Council and Palmerston North City Council regions do not have their load recorded against an ICP.	Strong	Low	1	Identified
Participants may request distributors to create ICPs	3.2	11.5(3)	Powerco received a request to create a new standard unmetered load ICP on 13 October 2021, but the ICP was not created until 22 November 2021 and Powerco did not advise the trader why the ICP could not be created within three business days.	Strong	Low	1	Identified
Provision of ICP Information to the registry manager	3.3	11.17	Five ICPs had missing initial electrical connection dates and were corrected during the audit.	Strong	Low	1	Cleared
Timeliness of Provision of ICP Information to the registry manager	3.4	7(2) of Schedule 11.1	13 ICPs did not have the ready status populated prior to being electrically connected. Two ICPs did not have a proposed trader, network information (excluding the proposed trader), and address information populated prior to being electrically connected. Four ICPs did not have pricing populated prior to being electrically connected.	Strong	Low	1	Identified
Timeliness of Provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	223 ICPs did not have initial electrical connection dates populated within ten business days of being electrically connected.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Connection of ICP that is not an NSP	3.6	Clause 11.17	A proposed trader was not recorded on the registry prior to commencement of trading for one ICP created and electrically connected during the audit period, and one ICP created prior to the audit period.	Strong	Low	1	Identified
Changes to registry information	4.1	Clause 8 of Schedule 11.1	68 late address updates. 1,620 late distributed generation updates. 3,422 late network updates (excluding the 1,620 late distributed generation updates). Two late NSP changes. 247 late updates to decommissioned status.	Moderate	Low	2	Identified
Notice of NSP for each ICP	4.2	7(1),(4) and (5) Schedule 11.1	Two ICPs had incorrect NSPs and were corrected during the audit.	Strong	Low	1	Cleared
ICP location address	4.4	Clause 2 of Schedule 11.1	629 active ICPs have duplicate addresses. 727 active ICPs have addresses which do not have a street number or property name. Three ICPs with incorrect address information were identified and corrected during the audit.	Strong	Low	1	Identified
Distributors to Provide ICP Information to the Registry manager	4.6	Clause 7(1) of Schedule 11.1	One ICP had incorrect distributed generation information and was corrected during the audit. Two ICPs had some incorrect unmetered load details and were corrected during the audit. Two ICPs had incorrect NSPs and were corrected during the audit. At least two ICPs had incorrect initial electrical connection dates and were corrected during the audit. Five ICPs had missing initial electrical connection dates and were corrected during the audit. One ICP had an incorrect network event date and was corrected during the audit.	Strong	Low	1	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Future Risk Rating						13	

Future risk rating	0-1	2-5	6-8	9-20	21-29	30+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

RECOMMENDATIONS

Subject	Section	Recommendation
Confirmation of unmetered load details	4.6	Confirm the unmetered load details for these ICPs where the trader daily unmetered kWh and distributor unmetered load details are inconsistent, and update the registry as necessary for: 1000544328PCC4B, 0000557920UN07D, 0000557952UN5A5, 0000634792UN84D, 1000595713PC497, and 1000597535PC10A.
Confirmation of IECDs	4.6	Confirm the IECDs for 1000598960PC121 (IECD and active date 18 July 2022, meter certification 5 August 2022) and 1000600957PCD63 (IECD and active date 14 October 2021, meter certification 10 November 2021) and update CWMS and the registry as necessary.

ISSUES

Subject	Section	Issue	Description
		Nil	

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

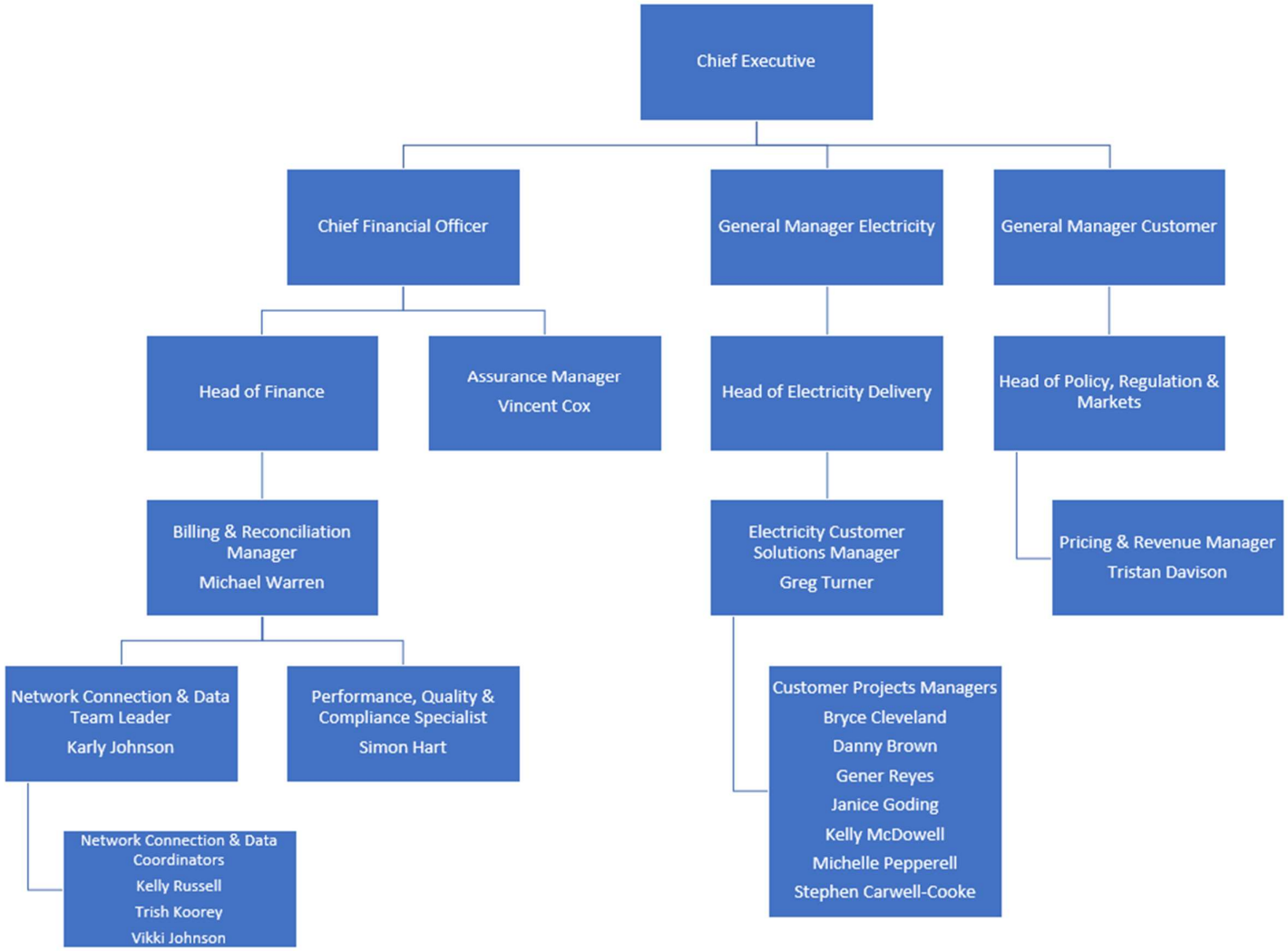
Audit observation

The Electricity Authority website was checked to determine whether Powerco has any Code exemptions in place.

Audit commentary

Review of exemptions on the Electricity Authority website confirmed that there are no exemptions in place for Powerco.

1.2. Structure of Organisation



1.3. Persons involved in this audit

Auditors:

Name	Company	Role
Tara Gannon	Veritek Limited	Auditor

Powerco personnel assisting in this audit were:

Name	**Title**
Greg Turner	Customer Works Manager Western Region
Karly Johnson	Network Connections and Data Team Leader
Michael Warren	Billing and Reconciliation manager
Michelle Pepperell	Outage Coordinator
Simon Hart	Performance, Quality and Compliance Coordinator
Vikki Johnson	Network Connections & Data Analyst
Kelly Russell	Network Connection and Billing Analyst
Trish Koorey	Network Connection & Data Coordinator
Vincent Cox	Internal Audit Manager

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 contractor's 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

Powerco provided the list below of sub-contractors authorised to perform electrical connection activities on their networks.

Audit commentary

Taranaki

- Linepower (formerly a division of A J Greaves Electrical Limited, now owned by Northpower)
- Electrix
- Obertech Limited
- Downer Taranaki/Manawatu
- NPE-Tech Ltd Taranaki
- Wells Instruments Ltd
- ElectroNet Services

Whanganui

- Electrix
- Strong Electrical
- Alf Downs Ltd
- Downer Whanganui
- Scanpower Limited
- C&J Contracting (2011) Ltd
- ElectroNet Services

Manawatu

- Electrix
- Alf Downs Limited
- Scanpower Limited
- Downer Taranaki/Manawatu
- NPE-Ltd Taranaki
- C&J Contracting (2011) Ltd
- Max Tarr Ltd
- Couchmans Electrical
- ElectroNet Services

Wairarapa

- Power Related Services
- Poltech Power Works Ltd
- Downer Masterton
- Scanpower Power Limited
- C&J Contracting Ltd (2011)
- ElectroNet Services

Tauranga/Western Bay of Plenty

- Northpower Papamoa
- McKay Limited
- Downer Tauranga
- NPE-Tech Ltd Tauranga
- Electrical Inspection Limited
- Elite Electrical Inspections
- Horizon Services Limited
- Kaimai Electrical Inspections Limited
- Double D Electrical & Inspections
- Guild & Spence Electrical Limited
- Energy Services Tauranga Ltd

Waikato and Coromandel

- Northpower Hamilton
- Northpower Matamata
- Downer Thames
- NPE-Tech Ltd Tauranga
- Metering Solutions
- Coromandel Inspections
- McKay Ltd
- Kaimai Electrical Inspections Limited
- Double D Electrical & Inspections
- Sefton Electrical Limited

1.5. Supplier list

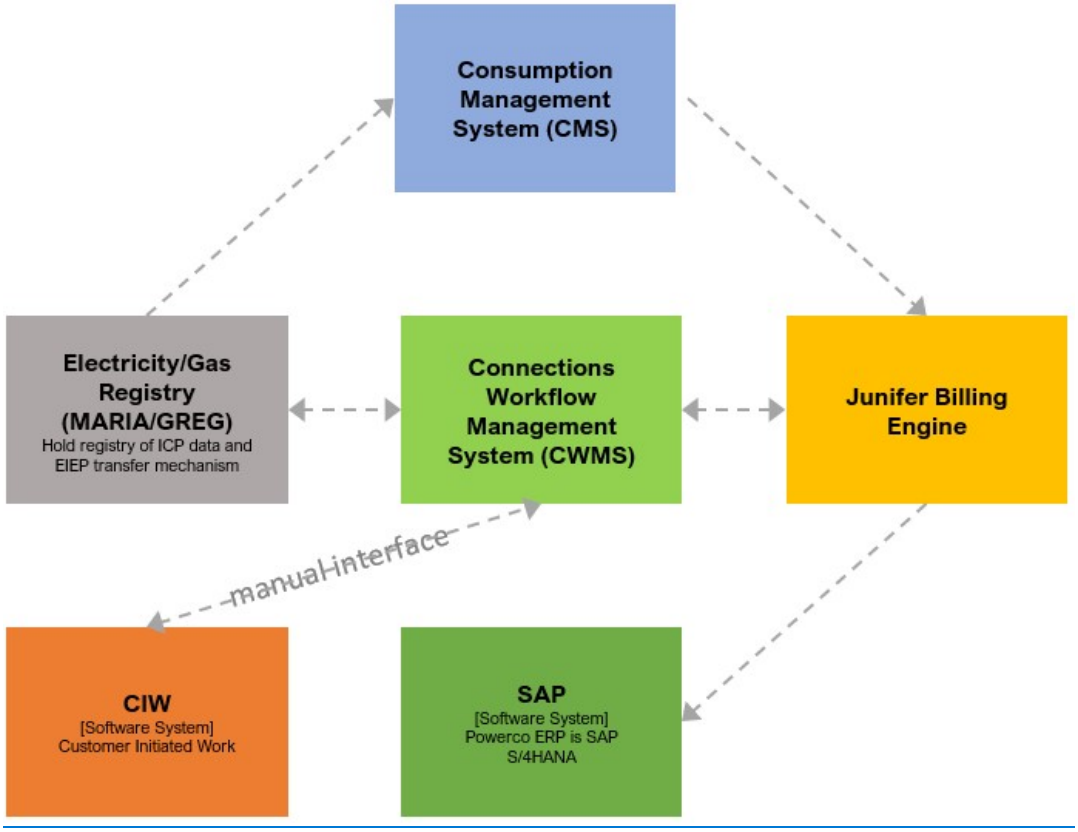
Powerco has provided the list of sub-contractors authorised to perform livening activities on their network in **section 1.4**.

1.6. Hardware and Software

Powerco uses the following systems to meet its code obligations:

- **Customer Initiated Works (CIW)** which is an online submission portal which retailers and contractors can access directly.
- **Customer Workflow Management System (CWMS)** is used to manage ICP information; and send and receive registry data.

This is set out in the diagram below:



Back-ups are carried out on a daily, weekly, and monthly basis for all systems, and access is restricted using logins and passwords.

Powerco has replaced its financial and asset management systems with SAP. The planned phase two of the SAP project which is expected to encompass other processes including registry management; is on hold for the foreseeable future. A material change audit will be required prior to implementation of phase two.

1.7. Breaches or Breach Allegations

Powerco has not had any breach allegations related to the scope of this audit recorded by the Electricity Authority during the audit period.

1.8. ICP and NSP Data

Powerco owns and manages electricity networks in the following regions: Coromandel, Tauranga/Western Bay of Plenty, Hauraki Plains, North-East Waikato, South Waikato, Taranaki, Whanganui, Rangitikei, Manawatu and Wairarapa.

Powerco NSPs

The table below lists the relevant NSPs and their associated balancing areas. NSP ARI1102POCOGN was created during the audit period with a start date of 20/03/2023.

Dist.	NSP POC	Description	Parent POC	Parent Ntwk	Balancing Area	Network type	Start date	No of ICPs
POCO	ARI1102	ARAPUNI			ARI1101POCOG	G	20/03/2023	-
POCO	BPE0331	BUNNYTHORPE			BA4WESTPOCOG	G	1/05/2008	34,522
POCO	BRK0331	BRUNSWICK			BA3WESTPOCOG	G	1/08/2016	12,703
POCO	CST0331	CARRINGTON ST			BA1WESTPOCOG	G	1/05/2008	29,235
POCO	GYT0331	GREYTOWN			BA6WESTPOCOG	G	1/05/2008	7,569
POCO	HIN0331	HINUERA			BA5EASTPOCOG	G	1/05/2008	11,697
POCO	HUI0331	HUIRANGI			BA1WESTPOCOG	G	1/12/2008	10,399
POCO	HWA0331	HAWERA			BA2WESTPOCOG	G	1/05/2008	9,394
POCO	KIN0112	KINLEITH			KIN0112POCOG	G	20/05/2013	1
POCO	KIN0331	KINLEITH			BA2EASTPOCOG	G	1/05/2008	6,718
POCO	KMO0331	Kaitemako			BA1EASTPOCOG	G	1/04/2009	13,461
POCO	KPU0661	KOPU			BA3EASTPOCOG	G	1/05/2008	26,033
POCO	LTN0331	LINTON			BA4WESTPOCOG	G	1/05/2008	18,555
POCO	MGM0331	MANGAMAIRE			BA5WESTPOCOG	G	1/05/2008	4348
POCO	MST0331	MASTERTON			BA6WESTPOCOG	G	1/05/2008	19,155
POCO	MTM0331	MT. MAUNGANUI			BA1EASTPOCOG	G	1/05/2008	22,769
POCO	MTN0331	MARTON			BA3WESTPOCOG	G	1/05/2008	6,362
POCO	MTR0331	MATAROA			BA3WESTPOCOG	G	1/05/2008	2,784
POCO	OKN0111	OHAKUNE			BA3WESTPOCOG	G	1/05/2008	1,220
POCO	OPK0331	OPUNAKE			BA2WESTPOCOG	G	1/05/2008	3,083
POCO	PAO1101	PIAKO 110KV			BA5EASTPOCOG	G	24/07/2012	6,528
POCO	SFD0331	STRATFORD			BA1WESTPOCOG	G	1/01/2015	8,494
POCO	TGA0111	TAURANGA			BA1EASTPOCOG	G	1/05/2008	9,997
POCO	TGA0331	TAURANGA			BA1EASTPOCOG	G	1/05/2008	31,898
POCO	TMI0331	TE MATAI			BA1EASTPOCOG	G	1/05/2008	13,413
POCO	WGN0331	WANGANUI			BA3WESTPOCOG	G	1/08/2016	9,985
POCO	WHU0331	WAIHOU			BA5EASTPOCOG	G	1/05/2008	6,827
POCO	WKO0331	WAIKINO			BA4EASTPOCOG	G	1/05/2008	16,924

Dist.	NSP POC	Description	Parent POC	Parent Ntwk	Balancing Area	Network type	Start date	No of ICPs
POCO	ARI1102	ARAPUNI			ARI1101POCOG	G	20/03/2023	-
POCO	WVY0111	WAVERLEY			BA3WESTPOCOG	G	1/05/2008	1,364

Networks embedded under Powerco NSPs

There are 13 networks embedded into the Powerco Network. Five networks were created during this audit period, and no networks were decommissioned. Powerco is not the distributor for any of the embedded networks.

Dist.	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date
AMPC	BSC0011	BAYFAIR SHOPPING CENTRE	MTM0331	POCO	BSC0011AMPCE	E	1/04/2017
TUIH	GRE0111	TUIHANA	MTM0331	POCO	PAPAMOATUIHE	E	1/12/2008
KIPT	KPP0011	KIWI PLAZA	BPE0331	POCO	KPP0011KIPTE	E	1/05/2008
TENC	TCT0011	TAURANGA CROSSING TAURIKURA DR	TGA0111	POCO	TCT0011TENCE	E	20/07/2016
SMRT	TFQ0011	100 TAUPO QUAY WANGANUI	WGN0331	POCO	TFQ0011SMRTE	E	1/07/2017
TENC	TGD0011	GODDARDS SHOPPING CENTRE	TGA0331	POCO	TGD0011TENCE	E	1/06/2019
TENC	TMM0111	80b BURWOOD RD MATAMATA	HIN0331	POCO	TMM0111TENCE	E	08/07/2019
TENC	TSB0011	66 THE SQUARE PALMERSTON NORTH	BPE0331	POCO	TSB0011TENCE	E	1/03/2019
New embedded networks created during the audit period							
Dist.	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date
TENC	TCM0011	306 CAMERON ROAD	TGA0111	POCO	TCM0011TENCE	E	1/09/2022
TENC	TNP0011	CENTRE CITY GILL ST NEW PLYMOUTH	CST0331	POCO	TNP0011TENCE	E	1/02/2022
TENC	TPP0011	7 GRAVATT ROAD PAPAMOA	MTM0331	POCO	TPP0011TENCE	E	1/09/2021
TENC	TTF0011	FARMERS-TAURANGA RETAIL	TGA0331	POCO	TTF0011TENCE	E	20/07/2021
TENC	TTF0012	38 ELIZABETH STREET TAURANGA	TGA0331	POCO	TTF0012TENCE	E	1/10/2021

Powerco ICP status

A summary of Powerco's ICPs by status is shown in the table below:

Status	2022	2021	2020	2019	2018	2017	2016
Distributor (888)	68	66	66	67	64	64	65
New (999)	6	9	23	66	104	95	87
Ready (000)	139	210	146	124	131	170	109
Active (2,0)	345,438	339,759	335,254	330,881	327,617	324,102	319,558
Inactive - new connection in progress (1,12)	752	699	464	287	350	389	316
Inactive – electrically disconnected vacant property (1,4)	7,345	7,433	7,360	7,284	7,306	7,454	7,755
Inactive – electrically disconnected remotely by AMI meter (1,7)	1,280	1,129	871	953	818	752	2
Inactive – electrically disconnected at pole fuse (1,8)	95	91	68	76	55	47	11
Inactive – electrically disconnected due to meter disconnected (1,9)	128	124	113	104	93	39	14
Inactive – electrically disconnected at meter box fuse (1,10)	47	47	46	51	36	8	0
Inactive – electrically disconnected at meter box switch (1,11)	24	17	22	18	18	9	0
Inactive – electrically disconnected ready for decommissioning (1,6)	2,284	2,335	2,357	2,709	2,718	3,211	4,724
Inactive – reconciled elsewhere (1,5)	10	2	8	4	3	0	0
Decommissioned (3)	29,731	27,759	26,960	25,470	24,454	23,107	20,482

1.9. Authorisation Received

A letter of authorisation was provided.

1.10. Scope of Audit

This distributor audit was conducted at the request of Powerco to encompass the Electricity Industry Participation Code requirement for an audit, in accordance with clause 11.10 of part 11. The audit was conducted in accordance with the Guideline for Distributor Audits V7.2, which was produced by the Electricity Authority.

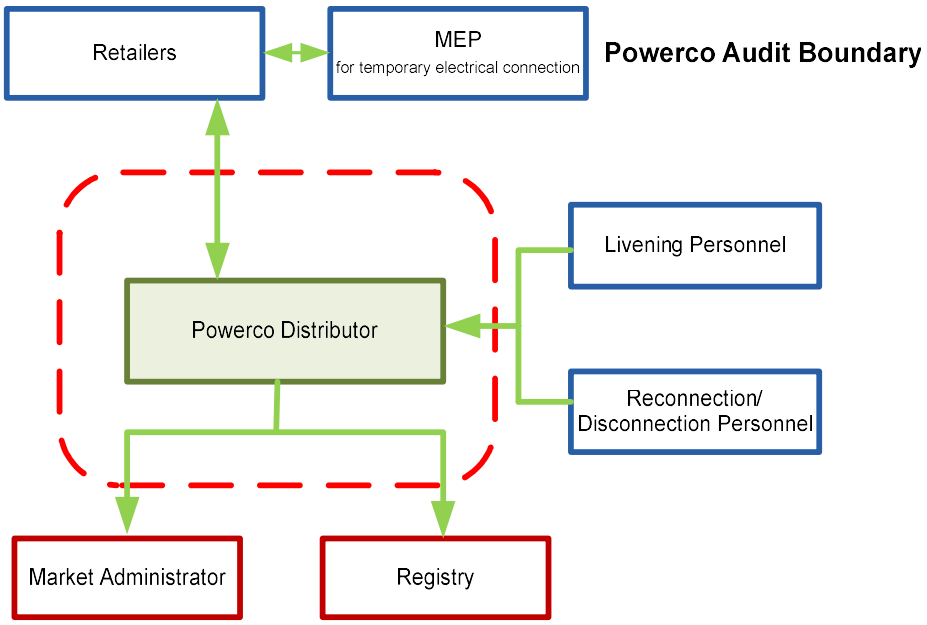
Registry reports for the following date ranges were reviewed for the audit:

- registry list snapshot and meter installation details report for 6 December 2022, and
- registry list, event detail report, and audit compliance (AC020) reports for 1 August 2021 to 7 December 2022.

The table below shows the tasks under clause 11.10(4) of Part 11, which Powerco is responsible for. There are no other agents who assist with these tasks:

Functions Requiring Audit Under Clause 11.10(4) of Part 11	Contractors Involved in Performance of Tasks
The creation of ICP identifiers for ICPs.	Nil
The provision of ICP information to the registry and the maintenance of that information.	
The creation and maintenance of loss factors.	

The scope of the audit is shown in the diagram below, with the Powerco audit boundary shown for clarity.



1.11. Summary of previous audit

Powerco provided a copy of their previous audit conducted in October 2021 by Rebecca Elliot of Veritek Limited. The audit recorded 13 non-compliances and made two recommendations. The current status of the non-compliances and recommendations are listed below.

Table of Non-compliance

Subject	Section	Clause	Non-compliance	Status
Requirement to correct errors	2.2	11.2(2) and 10.6(2)	1,238 active ICPs have duplicate addresses. 925 active ICPs have addresses which do not have a street number or property name.	Still existing
Distributor must create ICPs	3.1	11.4	36 private lights in the Palmerston North City Council region do not have shared unmetered load created.	In process of being cleared
Timeliness of Provision of ICP Information to the registry manager	3.4	7(2) of Schedule 11.1	Registry not updated prior to commencement of trading for 41 ICPs (0.6%).	Still existing
Timeliness of Provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	Late population of initial electrical connection date for 182 ICPs.	Still existing
Connection of ICP that is not an NSP	3.6	Clause 11.17	No trader was recorded for the 14 NZTA DUML ICPs until post the first active date.	Still existing
Connection of ICP that is not an NSP	3.7	Clause 10.31	Trader acceptance was not gained for 14 NZTA DUML ICPs prior to initial electrical connection.	Cleared
Changes to registry information	4.1	Clause 8 of Schedule 11.1	51 late address updates. 891 late distributed generation updates. 2,879 late network updates (excluding the 891 late distributed generation updates). 61 late NSP changes. 312 late pricing updates. 116 late updates to decommissioned status.	Still existing

Subject	Section	Clause	Non-compliance	Status
ICP location address	4.4	Clause 2 of Schedule 11.1	1,238 active ICPs have duplicate addresses. 925 active ICPs have addresses which do not have a street number or property name. One active ICP with the incorrect town recorded.	Still existing
Distributors to Provide ICP Information to the Registry manager	4.6	Clause 7(1) of Schedule 11.1	Five ICPs with distributed generation with the incorrect fuel type recorded. Two ICPs invalidly had "unmetered load" recorded in the distributor unmetered load details. 36 private lights in the Palmerston North City Council region do not have shared unmetered load created. Two ICPs had incorrect initial electrical connection dates. 59 active ICPs have missing initial electrical connection dates.	Cleared Cleared In the process of being cleared Cleared In the process of being cleared
Provision of information to registry after the trading of electricity at the ICP commences	4.7	7(3) Schedule 11.1	Pricing was not provided within ten business days of initial electrical connection for eight ICPs.	Cleared
Updating of loss category codes	5.2	23 Schedule 11.1	27 loss factors were updated on the registry less than two months before they came into effect.	Cleared

Table of Recommendations

Subject	Section	Clause	Recommendation	Status
Timeliness of provision of information to the registry	3.4	7(2) of Schedule 11.1	Review the process in place for projects involving multiple ICPs to ensure that permission from the proposed trader is gained in all instances.	Adopted
Distributors to provide ICP information to the registry.	4.6	Clause 7(1) of Schedule 11.1	Update the unmetered load details to DUML for the six ICPs reconciled using a DUML database.	Adopted
Management of "decommissioned" status	4.11	20 Schedule 11.1	Put a process in place to manage aged ICPs set to "ready to decommission" ICPs where no request for decommissioning has been received from the trader.	Being adopted, reporting is being developed.

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

I walked through the process to ensure that registry information is complete, accurate and not misleading or deceptive, including viewing reports used to resolve discrepancies.

The registry list and AC020 report were examined to determine compliance.

Audit commentary

Registry synchronisation

Registry population is automated from CWMS and the file includes all relevant fields. The registry synchronisation process imports data from the registry into CWMS at 7am each day, and exports data from CWMS to the registry at 7pm each day.

Information sent to and received from the registry is monitored, and automated emails are generated and reviewed each morning including:

- **Rejects from outgoing files** which shows all rejected outgoing files and the error reason codes; exceptions are worked through and resolved either by:
  - updating CWMS so that the update can be processed again, or
  - updating the registry directly where CWMS is already correct (direct access to update the registry is restricted to a small number of experienced users)
  - rejections sometimes occur because CWMS links losses and GXPs, so a pricing and network event is sent to the registry each time either of the fields is updated,
- **Contents of registry synch** which contains a link to all the files sent to and received from the registry; it is reviewed to check that no files have been missed, and
- **Unacknowledged outgoing events** which will identify any files sent to the registry which have not received an acknowledgement; this normally only occurs for files sent to the gas registry but will also identify missing acknowledgements if they occurred for electricity.

Registry and data validation

Powerco completes a weekly reconciliation between CWMS and the registry, and weekly data discrepancy checks. I walked through the validation process and reviewed the reports and exceptions.

Weekly report	Description
Reconciliation between CWMS and the registry	This report identifies differences between registry and CWMS for: • **retailer**, which normally only shows distributor status ICPs which have a retailer recorded in CWMS for billing, but no retailer recorded on the registry, • **status**, which normally shows distributor status ICPs which are active in CWMS to enable billing,

Weekly report	Description
	• **address**, which shows address differences, • **network**, which shows IECD differences, • **UML**, which shows differences between the distributor unmetered load details in CWMS and the registry, and • **pricing**, which normally shows differences where an ICP is at "new" status on the registry, but pricing is available in CWMS. Discrepancies are checked to determine whether they are timing differences; or require investigation and/or correction. Discrepancies are resolved weekly, with the exception of some address and unmetered load differences which require further investigation.
Validation report	The validation report identifies potential data discrepancies, which are investigated and resolved each week: • **duplicates:** more than one registry event on the same day for one event type, • **pricing:** inconsistencies between the pricing category and region, • **chargeable capacity:** inconsistencies between the pricing category and chargeable capacity, • **other charges:** inconsistencies between the pricing category and other charges, • **dedicated NSP:** Y on a non-dedicated NSP or N on a dedicated NSP, • **UNM with E1C:** unmetered load with a controlled price category, • **SUML:** shared unmetered child ICPs without parent ICPs, and vice versa, • **retailer:** the retailer is not set up in CWMS and/or does not have a UoSA in place, • **GXP billing:** a GXP billing account is not set up for the retailer, and • **KIN0112** and **Massey University:** unexpected ICPs are assigned, and/or the affected ICPs have different retailers.
Monitoring report	The monitoring report is used to monitor the total number of ICPs at certain statuses weekly: • **inactive pending (1,12 status):** if total numbers exceed expectations they will be followed up with the affected retailers, • **inactive ready for decommissioning (1,6 status):** total numbers are monitored, and ICPs are managed through the decommissioning process once requests for decommissioning are received, • **ready > 18 months:** the affected ICPs are followed up with the trader to confirm whether they are still required, • **new > 18 months:** the affected ICPs are followed up with the trader to confirm whether they are still required, • **active ICPs without an MEP:** these ICPs are followed up with the trader if no metering details are added 10 business days after initial electrical connection; the report indicates whether the ICP is expected to be unmetered, and • **IECD not active:** shows ICPs at "new", "ready" or "inactive - new connection in progress" status which are followed up with the proposed trader by email.
Clean-up report	Powerco investigates and resolves data discrepancies on the clean-up report, including: • **low user ANZSIC**: ICPs on a low user pricing category with a non-residential ANZSIC code are checked and worked through weekly, • **unmetered daily kWh comparison**: ICPs where the trader's daily unmetered kWh to the does not match the value calculated from Powerco's unmetered load details; the report also lists ICPs where Powerco's value cannot be recalculated because information is insufficient or not in the required format,

Weekly report	Description
	however the report is not routinely reviewed and unmetered load data will be cleansed as part of a daily kWh project, • **missing parent Shared unmetered load ICP:** ICPs with shared unmetered load, but no parent ICP recorded, Each discrepancy on this report needs to be individually investigated, which can be time consuming. In some cases, investigation confirms that Powerco's values are correct.
Address validation report	An address validation report has replaced the duplicate addresses report, and includes checks for • duplicate addresses (including inactive ICPs), • invalid ICP addresses which include characters not allowed on the registry, • missing or incomplete address data (including inactive ICPs), • no street number but has property name, and • number of regions per street and town. Powerco is continuing to work through its incomplete and duplicate address information using this report.
Distributed generation report	This report identifies ICPs with an I flow meter register and installation type L. The report also shows the profile used and whether volumes have been reported against the I flow register on the EIEP1 report. The ICPs are queried with the retailer to confirm whether generation is present. If generation is present, Powerco confirms the generation details and updates the registry. If no generation is present, Powerco asks the retailer to query whether the register should have settlement indicator N with the MEP.
NSP check	This report shows the count of NSPs and balancing areas per street. Network connectivity data is used to prioritise streets which have NSPs assigned which are not physically close or do not have an open connection to each other and are more likely to be incorrect. Any NSPs or addresses which are found to be incorrect are updated.

In addition to this, Powerco validates initial electrical connection dates daily.

- **IECDs to populate:** ICPs with an active status date or meter certification date but no initial electrical connection date populated are identified and investigated since the requirement came into effect.
- **IECDs to verify:** ICPs with a difference between the active date, meter certification date and livening date created in the previous day are reviewed and queried with the retailer and/or MEP as required to confirm the correct date (issues from previous days which are under investigation are retained in the report so that they can be followed up).

Event dates

Event dates should reflect the date from which the attribute values for the event apply. For pricing events, CWMS allows users to select an effective date for the event, which is used to update the registry.

For address and network events, the user is unable to select an effective date because the field is not accessible through the CWMS front end. The event is processed on the registry with the event date recorded as the update date, although the attributes associated with the event may apply from a different date. Powerco is aware of this issue, and has processes in place to manage it:

Event type	Event date setting processes
Network events	Where NSP changes occur, Powerco processes the registry event on the date that the change occurs. When bulk NSP changes are processed, scripts are used to create files with the correct dates to update the registry. Where distributed generation changes occur, Powerco checks the registry manually the following morning, and processes a manual update to the event date on the registry if necessary. CWMS workflows are used to ensure that this process occurs when generation is added. When unmetered load changes occur, Powerco manually checks the registry and updates the event date if necessary. I checked a sample of 6,203 network updates where the initial electrical connection date was populated and a sample of other updates and found all were processed from the correct date except 1000605490PC56E, where a correction was processed the day that the incorrect date was entered but the original record was not reversed. The record was corrected during the audit.
Address events	Any address changes are recorded with the current date.

Data accuracy

Some historic data accuracy issues remain in relation to addressing, and Powerco is working to resolve these as discussed in **section 2.2.**

A small amount of inaccurate data was created during the audit, compliance is recorded in this section because all of the issues were corrected as soon as practicable once they were discovered.

The majority of data accuracy issues identified were caused by CWMS' inability to record event dates for network events. The work arounds in place ensure that almost all updates with incorrect dates and attributes are manually corrected by the Powerco team, but a small number of updates were missed and found during the audit. The issues with date setting in CWMS are discussed in more detail in **section 4.6**.

Audit outcome

Compliant

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

Powerco's data management processes were examined. The registry list and AC020 report were examined to determine compliance.

Audit commentary

Powerco have processes in place to identify and resolve registry discrepancies as described in **section 2.1**. I saw evidence of incorrect information being corrected during the audit and corrections were conducted as soon as practicable.

Some data discrepancies which require further investigation to resolve are not always corrected as soon as practicable, such as incomplete and duplicate addresses. Powerco has a dedicated resource who has been working through these during the audit period and significant progress is being made with these discrepancies over time. 1,279 ICPs in total have duplicate and/or incorrect addresses, because some are affected by both issues.

Discrepancy	2022	2021	2020	2019	2018	2017	2016	Difference this year
Duplicate addresses	629	1,238	3,132	4,348	6,091	8,973	13,302	-609
Addresses without street number or property name	727	925	1,062	1,423	1,584	1,733	2,013	-198

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.2 With: 11.2(2) and 10.6(2) From: 01-Aug-21 To: 06-Dec-22	629 active ICPs have duplicate addresses. 727 active ICPs have addresses which do not have a street number or property name. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as the processes in place will mitigate risk and they have a dedicated resource who is working through the historic addresses to resolve these. The audit risk rating is low as the volume of ICPs that are not readily locatable and duplicated is reducing greatly during the audit period. Incorrect addresses can have a direct impact on the retailer's ability to read, disconnect and reconnect these sites.

Actions taken to resolve the issue	Completion date	Remedial action status
As in the previous audit period, Powerco has allocated a dedicated resource to resolve historic data issues, primarily focused on addresses. As of 22 March 2023, the number of duplicate addresses were down to 129.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco's systems and processes prevent duplicate or incomplete addresses from being created and monitoring is in place to detect these issues if they present from other updates.	In place	

2.3. Removal or breakage of seals (Clause 48(1A) and 48(1B) of Schedule 10.7)

Code reference

Clause 48(1A) and 48(1B) of Schedule 10.7

Code related audit information

If the distributor provides a load control signal to a load control switch in the metering installation, the distributor can remove or break a seal without authorisation from the MEP to bridge or unbridge the load control device or load control switch – as long as the load control switch does not control a time block meter channel.

If the distributor removes or breaks a seal in this way, it must:

- *ensure personal are qualified to remove the seal and perform the permitted work and they replace the seal in accordance with the Code*
- *replace the seal with its own seal*
- *have a process for tracing the new seal to the personnel*
- *notify the metering equipment provider and trader*

Audit observation

Processes for removal or breakage of seals were reviewed.

Audit commentary

No instances where Powerco or their contractors had removed or broken seals were identified during the audit.

Powerco does not direct its contractors to break seals. If work requires seals to be removed or broken, it will be referred to the retailer responsible for the ICP.

Audit outcome

Compliant

2.4. Provision of information on dispute resolution scheme (Clause 11.30A)

Code reference

Clause 11.30A

Code related audit information

A distributor must provide clear and prominent information about Utilities Disputes:

- *on their website*
- *when responding to queries from consumers*
- *in directed outbound communications to consumers about electricity services and bills.*

If there are a series of related communications between the distributor and consumer, the distributor needs to provide this information in at least one communication in that series.

Audit observation

The process to ensure that information on Utilities Disputes is provided to customers was discussed. Powerco's website and a sample of customer communications were reviewed.

Audit commentary

Information on Utilities Disputes is provided:

- on invoices and outbound communications relating to electricity services and bills,
- in written acknowledgements for and responses to complaints,
- in written responses to customer enquiries,
- as a recorded message for inbound calls, and
- on their website under https://www.powerco.co.nz/contact/complaints.

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 new connection process was examined in detail and is described in **section 3.2**.

A diverse characteristics sample of 52 of the 7,103 new ICPs created since 1 August 2021 were checked from the point of application through to when the ICPs were created. The sample included ICPs with:

- various meter categories (including category 1-5),
- various traders,
- various price categories,
- various loss factors,
- connected to various NSPs, and
- with and without unmetered load connected.

The creation of LE ICPs for the connection of embedded networks to Powerco's network was also examined.

Audit commentary

Powerco creates ICPs as required by clause 1 of schedule 11.1.

Five new embedded networks were created during the audit period, and Powerco have created embedded network gateway (LE) ICPs as required by the Code.

Dist.	NSP POC	Description	Parent POC	Parent Network	Start date	LE ICP
TENC	TCM0011	306 CAMERON RD	TGA0111	POCO	1 September 2022	1000608339PC602
TENC	TNP0011	CENTRE CITY GILL ST NEW PLYMOUTH	CST0331	POCO	1 February 2022	1000602902PCB64
TENC	TPP0011	7 GRAVATT RD PAPAMOA	MTM0331	POCO	1 September 2021	1000601974PCD56, 1000601976PCDD3
TENC	TTF0011	FARMERS -TAURANGA RETAIL	TGA0331	POCO	20 July 2021	1000582362PCD0F
TENC	TTF0012	38 ELIZABETH ST TAURANGA	TGA0331	POCO	1 October 2021	1000600766PC0D5, 1000600767PCC90

Review of the DUML audits for ICPs on the Powerco network found that there are some private lights which are not currently reconciled against DUML ICPs in the Manawatu District Council, Matamata Piako District Council, New Plymouth District Council, and Palmerston North City Council databases. These private lights may be metered through customer installations. If the load is not metered, it is required to be recorded against an existing ICP as standard or shared unmetered load, or have a new standard or shared unmetered load ICP created to account for the unmetered load. An ICP should be considered standard unmetered load if there is one point of connection and the connected load benefits only that point of connection. An ICP should be considered to be shared unmetered load if the benefit of a single point of connection are shared across more than one ICP.

The private lights are investigated by Powerco when they are approached by database owners and/or traders for assistance. In **section 4.6** I reviewed the DUML audits to identify potentially unmetered private lights which are not reconciled under DUML ICPs and found Powerco had undertaken significant work to resolve historic issues relating to private lights for the Palmerston North City Council. Powerco is willing to work with other affected database owners and has requested that auditors advise them of any private light issues at the time DUML audits are completed, so that they can engage with the database owners.

Powerco have been working with traders to cleanse DUML ICP information. This is complete for the western network and in progress for the eastern network. The process has involved checking ICPs to confirm that they have the correct feeder, transformer, substation and NSP assigned and that the ICP address information is clear and consistent. This process has identified some potentially redundant ICPs where there is more than one DUML ICP per feeder, and Powerco is consulting with the affected traders and database owners to confirm whether the ICPs should be made inactive or decommissioned. Powerco is progressing the investigations as time and workloads allow.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: 11.4 From: 19-Jun-20 To: 07-Mar-23	Some private lights in the Manawatu District Council, Matamata Piako District Council, New Plymouth District Council and Palmerston North City Council regions do not have their load recorded against an ICP. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	I have rated the controls as strong as Powerco have a robust ICP creation process and these lights are an historic issue and no other such instances have been identified. I have rated the audit risk rating as low as the kWh volume associated with these lights will be small, and some of the private lights may be metered.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco is following up with the respective councils and their retailers to ensure all lights are being reconciled and new ICPs are created where necessary.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco is continuing to work closely with councils to ensure better understanding of the requirements and obligations for streetlight connections.	Ongoing	

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 three 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 new connection process was examined in detail. A diverse characteristics sample of 7,103 new ICPs created since 1 August 2021 were checked to determine whether the ICPs had been created within three business days of a request by a trader. The sample included various traders.

Audit commentary

In most cases, requests for connection are made by the customer or customer's agent. The main exception to this is Trustpower, who request ICPs as the trader.

Applications for new connections are made online using CIW. Once an application for connection is received, workflows within the system create an email to the trader requesting acceptance of responsibility unless it meets the requirements of a blanket acceptance arrangement. Contact Energy and Trustpower (where Trustpower is also the contractor) have blanket arrangements to accept responsibility, and ICPs that meet their requirements are moved to "ready" without an email being required.

ICPs are only created at "new" status if a network extension is required, or for new unmetered load which is not yet ready to be connected. Other ICPs are created at "ready" once the retailer has accepted responsibility for the ICP and a works completion notice (WCN) has been received from the contractor to confirm the ICP attributes.

I checked 30 new ICPs, and found 29 were requested by the customer or customer's agent. The trader requested that new standard unmetered load ICP 1000603908PC855 was created to replace shared unmetered load ICPs benefiting the address. Powerco received a request to create a new standard unmetered load ICP on 13 October 2021, but the ICP was not created until 22 November 2021. Powerco did not advise the trader why the ICP could not be created within three business days.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: 11.5(3) From: 13-Oct-21 To: 22-Nov-21	Powerco received a request to create a new standard unmetered load ICP on 13 October 2021, but the ICP was not created until 22 November 2021 and Powerco did not advise the trader why the ICP could not be created within three business days. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	I have rated the controls as strong as Powerco have a robust ICP creation process, and this is an isolated non-compliance relating to a rare scenario where shared unmetered load is replaced with standard unmetered load. The audit risk rating is low because the ICP was created within 40 days of the request, and revised submission data will be provided through the reconciliation process.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco has identified that ICP requests through non-standard channels may not always be identified and treated as such immediately. Going forward, requests from retailers will be checked for potential ICP requests to meet Powerco's obligation in the Code.	In place	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will be vigilant to identify requests outside of normal channels as ICP requests and act within its obligated timeframe.	In place	

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

7,103 new ICPs created since 1 August 2021 were checked from the point of application through to when the ICP was created, to confirm the process and controls worked in practice.

Data populated on the registry was checked for all new connections during the audit period, to confirm that required fields were populated.

Audit commentary

Processes to send, receive, and validate registry information are discussed in detail in **section 2.1.** Information sent to and received from the registry is monitored, and automated emails are generated and reviewed each morning to identify and correct any issues. The required fields were populated on the registry for all new connections.

The AC020 report identified 59 active ICPs commissioned after 29 August 2013 with no IECD populated. I checked a sample of 11 and found five should have had IECDs and were corrected during the audit, and six were connected prior to 29 August 2013 and no IECD was required.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: 11.17 From: 01-Aug-21 To: 07-Mar-23	Five ICPs had missing initial electrical connection dates and were corrected during the audit. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	I have rated the controls as strong because a small number of exceptions were identified over a ten year period. The audit risk rating is low because there is no direct impact on submission. Retailers may use this information to check their active dates.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco is investigating the remaining missing IECDs and will populate where the ICPs were first electrically connected on or after 29 August 2013.	1/4/2024	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As described in 2.1, Powerco has processes and reporting to populate the IECD in an accurate and timely manner.	In place	

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 registry list, event detail report and AC020 reports were examined to determine the timeliness of the provision of ICP information for new connections. All late updates for ICPs created during the audit period, and a sample of late updates for ICPs created before the audit period were checked.

Audit commentary

The distributor must provide to the registry the information listed in clause 7(1) of schedule 11.1 as soon as practicable, and before electricity is traded at the ICP.

ICPs are only created at "new" status if a network extension is required, or a new unmetered load ICP is not ready for activation. Other ICPs are created at "ready" once the retailer has accepted responsibility for the ICP, and the work completion notice (WCN) is received from the contractor to confirm other ICP attributes.

6,203 of the 7,103 new ICPs created since 1 August 2021 had an initial electrical connection date recorded, indicating that they were electrically connected during the period. I assessed the timeliness of pricing and ready status updates using the AC020 report, and the timeliness of address, proposed trader, and network updates using the registry list and event detail reports.

The proportion of ICPs created during the audit period with on time initial information updates has improved from 99.6% last audit to 99.92% this audit. The late updates were caused by backdated start dates for complex new connections (e.g. where the ICPs had been split, or a work order was changed from an upgrade to a new connection) or corrections to ICP connection dates.

I reviewed all ICPs which had required information populated after initial electrical connection:

Late update type	Reasons for late update
Ready status	The AC020 report recorded 16 ICPs which did not have "ready" status populated prior to being electrically connected. Three were not genuinely late, but appeared on the AC020 report because an earlier on time update was replaced. The 13 genuine late updates were checked: • ten ICPs were created prior to the audit period; I checked four late updates made more than 100 business days after the event date, and found they were caused by delays in confirming that the ICP was required, or corrections where incorrect event dates were originally applied, and • three ICPs created during the audit period were moved to "ready" status one to 138 business days after the initial electrical connection date; they were delayed because of late completion paperwork, a job which was changed from an upgrade to a new connection on completion, and a correction where incorrect dates were originally applied.
Proposed trader	Two ICPs did not have a proposed trader, network information (excluding the proposed trader), and address information populated prior to being electrically connected.

Late update type	Reasons for late update
Network information Address	• ICP 1000599753PCDB2's supply was originally downstream of another connection. Detailed investigation confirmed that a new separate ICP was required and the correct connection date, resulting in backdated creation on the registry and late population of ICP information. The ICP was created prior to the audit period. • ICP 1000604626PCDF4's job was changed from an upgrade to a new connection on completion, resulting in backdated creation on the registry and late population of ICP information. The ICP was created during the audit period.
Pricing	The AC020 report recorded four ICPs which did not have pricing information populated prior to being electrically connected. Three ICPs were created prior to the audit period, and one was created during the audit period. The late updates occurred when the initial electrical connection date was corrected to an earlier date, and the pricing record event date was aligned with it.

The previous audit recommended Powerco review the process for projects involving multiple ICPs to ensure that permission from the proposed trader is gained in all instances. This recommendation related to an isolated issue affecting a specific group of NZTA streetlights, and Powerco have changed their process to ensure that DUML ICPs go through a modified version of the standard new connection process to ensure trader approval has been received. If there is a change of proposed trader part way through the connection process the trader acceptance process is re-activated to ensure that the new trader accepts. If the process has moved too far past the trader acceptance process, trader acceptance will be handled manually outside the system.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.4 With: 7(2) of Schedule 11.1 From: 01-Aug-21 To: 06-Dec-22	13 ICPs did not have ready status populated prior to being electrically connected. Two ICPs did not have a proposed trader, network information (excluding the proposed trader), and address information populated prior to being electrically connected. Four ICPs did not have pricing populated prior to being electrically connected. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong and the audit risk rating is low. The overall level of compliance is high, and the number of ICPs affected is very small and will only have a minor impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco is working with contractors to communicate the importance of correct and timely information for new connections. It will continue to backdate and correct where appropriate to provide the most accurate information to registry.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above, Powerco is continuing to work with its approved contractors to get accurate and timely information for new connections.	Ongoing	

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 AC020 reports were examined to determine the timeliness of the provision of initial electrical connection dates for new connections. A sample of 61 late updates were checked to determine why they were late.

Audit Commentary

Initial electrical connection date process

Powerco does not physically carry out electrical connection on their network. Powerco approved contractors complete all electrical connection on behalf of traders. These contractors provide works completion notices (WCNs) through CIW. Receipt of the WCN triggers a manual process to update the initial electrical connection date based on the information provided.

If Powerco's contractor is also acting for the MEP they will complete the date that the network cable was connected (mandatory), and the date that the customer connection was livened (optional) in the WCN. The date that the customer connection was livened will be applied as the initial electrical connection date.

If Powerco's contractor is not also acting for the MEP, they will only provide the date that the network cable was connected (mandatory) in the WCN. If the MEP's contractor is not present at the same time, the Powerco contractor will ensure that electricity cannot flow into the installation and initial electrical connection will be completed by the trader or MEP's contractor. In these cases, Powerco does not receive confirmation of the initial electrical connection date directly from the trader or MEP's contractor. Powerco's analysis showed a strong correlation between the earliest active dates recorded by retailers on the registry and the confirmed initial electrical connection dates where their approved contractors had connected the meters. Powerco rely on the active dates where other information is not available and monitor and investigate any discrepancies.

A daily report is reviewed to identify:

- **IECDs to populate:** ICPs with an active status date or meter certification date in the past year but no initial electrical connection date populated are identified and investigated, and
- **IECDs to verify:** ICPs with a difference between the active date, meter certification date and livening date created in the previous day are reviewed and queried with the retailer and/or MEP as required to confirm the correct date (issues from previous days which are under investigation are retained in the report so that they can be followed up).

Powerco does not use unmetered builder's temporary supplies.

Late initial electrical connection date updates

The AC020 report recorded 229 IECDs which were populated more than ten business days after initial electrical connection.

123 of the 229 late updates were for new ICPs created since 1 August 2021, making up 1.9% of the 6,203 ICPs created and electrically connected during the audit period. The late updates were between 11 and 217 business days after the IECD, with 87 within 30 business days of the IECD. I checked all 36 late updates more than 30 business days after the IECD and found:

- six were not genuinely late and were network record replacements where the IECD did not change,
- ten were backdated corrections to the IECD, or repopulated the IECD after it was removed,
- 14 were updated after being identified through Powerco's validation processes as having a meter certification date and/or active status record but no IECD, and
- six updates were delayed because paperwork was received late.

The other 106 of the 229 late updates were for ICPs created prior to 1 August 2021. I checked the 25 latest updates which were all over 300 days after the IECD, and found five were not genuinely late and were network record replacements where the IECD did not change, and the other 20 were corrections to re-enter the IECD where a previous update had removed it, delayed by late paperwork, or corrections to the IECD.

There have been some issues with CWMS removing IECDs and other network attributes when processing updates. In some cases, CWMS does not record an "event date" with the network record attributes, they are stored with the entry date which is typically after the event date. When a backdated update occurs, CWMS cannot always accurately identify which network attributes applied on a given date. Because of this, the record sent from CWMS to the registry may contain incorrect attributes along with and the current day as the event date. It is necessary for a user to check the registry the next day and update any incorrect information, and then also make any corrections required in CWMS. If there are any differences after these corrections, the ICP should be identified through Powerco's validation processes if the difference affects the current attributes. If the update is backdated, discrepancies may be difficult to identify if the current values match.

The AC020 report identified 59 active ICPs commissioned after 29 August 2013 with no IECD populated. I checked a sample of 11 and found five should have had IECDs and were corrected during the audit, and six were connected prior to 29 August 2013 and no IECD was required.

The AC020 report identified 258 ICPs commissioned after 29 August 2013 with an initial electrical connection date which differed from the trader's active status date:

- two of the ICPs became active during the audit period, both have the correct initial electrical connection dates populated,
- four of the ICPs are now decommissioned, and
- 252 of the ICPs became active between 2014 and 2019; I checked a sample of ten ICPs and found eight ICPs had correct IECDs, and ICP 1000545775PC6B9 had an incorrect IECD of 27

February 2014 which was corrected to 17 February 2014 during the audit, the other ICP was initially electrically connected in 2013 and I was unable to confirm whether the connection date was correct.

The six ICPs commissioned after 29 August 2013 with incorrect or missing IECDs are recorded as non-compliance in **section 4.6**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: 7(2A) of Schedule 11.1 From: 01-Aug-21 To: 06-Dec-22	223 ICPs did not have initial electrical connection dates populated within ten business days of being electrically connected. Potential impact: None Actual impact: None Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are moderate. Initial electrical connection dates based on the best information available and daily monitoring and resolution of missing and potentially incorrect dates. Many of the late updates were caused by CWMS invalidly removing initial electrical connection dates or corrections due to CWMS being unable to set event dates accurately. The audit risk rating is low because there is no direct impact on submission. Retailers may use this information to check their active dates.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco has corrected IECDs where identified in reporting.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco monitors IECD accuracy through daily reporting as well as in its weekly registry reconciliation.	In place	

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 new connection process was examined in **section 3.2**. The registry list and event detail reports examined to determine compliance. No new shared unmetered load was created during the audit period.

Audit commentary

As described in **section 3.2**, workflows within CIW create an email to the trader requesting acceptance of responsibility for the new ICP, unless it meets the requirements of a blanket acceptance arrangement. Once a response is received, there is a manual process to review the response, create the ICP, and move it to "ready" status. All ICPs at the "ready" status in the list file have a nominated trader recorded.

Powerco does not electrically connect ICPs. All these activities are performed at the request of traders by contractors authorised by both parties.

I checked a 30 ICPs and confirmed responsibility was accepted by the trader prior to initial electrical connection. Two ICPs did not have a proposed trader populated on the registry prior to being electrically connected.

- ICP 1000599753PCDB2's supply was originally downstream of another connection. Detailed investigation confirmed that a new separate ICP was required and the correct connection date, resulting in backdated creation on the registry and late population of ICP information. The ICP was created prior to the audit period.
- ICP 1000604626PCDF4's job was changed from an upgrade to a new connection on completion, resulting in backdated creation on the registry and late population of ICP information. The ICP was created during the audit period.

No new connections for shared unmetered load were created.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: 11.17 From: 01-Aug-21 To: 06-Dec-22	A proposed trader was not recorded on the registry prior to commencement of trading for one ICP created and electrically connected during the audit period, and one ICP created prior to the audit period. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, and the audit risk rating is low. The trader had accepted responsibility for the ICP prior to initial electrical connection.

Actions taken to resolve the issue	Completion date	Remedial action status
As above, Powerco created the ICPs as soon as they were identified to ensure the correct information was supplied to registry.	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco is continuing to work with contractors to ensure complete and accurate information is supplied to avoid these errors.	Ongoing	

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 new connection process was examined in **section 3.2**.

A diverse characteristics sample of 52 of the 7,103 new ICPs created since 1 August 2021 were checked to determine whether ICPs were connected at the request of the trader.

The registry list was reviewed to confirm whether all active ICPs had a trader recorded.

Audit commentary

The new connections process is designed to include a "retailer responsibility" step. The registry list showed that all active ICPs had a trader recorded on the registry.

I checked a diverse sample of 30 ICPs and confirmed trader approval was obtained prior to the initial electrical connection date.

No new connections for shared unmetered load were created.

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 was examined in **section 3.2**.

Audit commentary

An ICP will not be electrically connected without the agreement from the trader, who in turn has agreement with an MEP for the ICP. Any ICPs that are temporarily electrically connected follow the same process as all other new connections. The date of temporarily electrical connection should be recorded as the initial electrical connection date on the registry.

No temporary electrical connections were identified during the audit period.

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 trader responsible for ensuring there is a metering installation for the point of connection.

The distributor that initiates the connection under Part 11 and connects the NSP 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 NSP table was reviewed.

Audit commentary

New NSP ARI1102POCOGN was created during the audit period. It is a point of connection to the grid and this clause does not apply.

Audit outcome

Compliant

3.10. Electrical connection of NSP that is not point of connection to grid (Clause 10.30A and 10.30B)

Code reference

Clause 10.30A and 10.30B

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.*

A distributor may only electrically connect an NSP if:

- *each distributor connected to the NSP agrees*
- *the trader responsible for delivery of submission information has requested the electrical connection*
- *the metering installations for the NSP are certified and operational metering*

Audit observation

The NSP table was reviewed.

Audit commentary

New NSP ARI1102POCOGN was created during the audit period. It is a point of connection to the grid and this clause does not apply.

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 process for the creation of ICPs was examined. A diverse sample of 52 new connections were checked to confirm that ICP numbers were valid.

Audit commentary

All ICPs are created in CWMS in the appropriate format, with a check sum. The sample checked confirmed compliance.

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 process of allocation of the loss category was examined. The registry list was examined to confirm all active ICPs have a single loss category code, and that it is consistent with the NSP region and pricing category.

A diverse sample of 52 new connections were checked to confirm that loss factors were correctly assigned.

Audit commentary

Each active ICP has a single loss category, which clearly identifies the relevant loss factor.

Loss factors are determined based on region and pricing code information, which is confirmed as part of the ICP creation process. For large ICPs the asset management group will advise the correct loss factor to be applied.

I checked the loss factors against the NSP region and pricing category for active ICPs on the registry list and did not identify any inconsistencies. The sample of new connections checked had correct loss categories applied.

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 ICP creation process was reviewed. The registry list, event detail report and AC020 reports were examined to determine compliance.

Audit commentary

ICPs are only created at "new" status if a network extension is required, or for new unmetered load which is not yet ready to be connected. Other ICPs are created at "ready" once the retailer has accepted responsibility for the ICP. This process is discussed in **section 3.4**.

The registry list recorded six ICPs at "new" status. Four were later moved to 3,1 "decommissioned - set up in error" status as it was confirmed that they were not required. The other two ICPs are correctly at "new" status.

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 process to monitor ICPs at "new" and "ready" status was reviewed. The registry list and AC020 reports were examined to determine compliance.

Audit commentary

ICPs which have been at "new" or "ready" status for more than 18 months are reviewed and followed up with the trader as part of the registry validation process described in **section 2.1**.

Examination of the registry list found no ICPs have been at "new" status for more than 24 months. Three ICPs had been at "ready" status for more than 24 months and have been followed up with the trader withing the last ten months.

Status	Number of ICPs at status as of 6 December 2022	Number of ICPs at status for more than 12 months	Number of ICPs at status for more than 24 months
New (999,0)	6	-	-
Ready (0,0)	139	25	3

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:*
  - *the unique loss category code assigned to the ICP*
  - *the ICP identifier of the ICP*
  - *the NSP identifier of the NSP to which the ICP is connected*

- *the plant name of the embedded generating station.*

Audit observation

The EMI wholesale data set and registry list were reviewed to identify any generation stations with capacity of 10 MW or more and determine compliance.

Audit commentary

All generation stations with capacity of 10 MW or more have individual loss factors.

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 new connection process was examined in relation to the electrical connection process.

Audit commentary

Metered and standard unmetered load

Powerco do not undertake electrical connections, this is the trader's responsibility as detailed in **section 3.2**.

Distributed unmetered load

DUML ICPs are connected through the standard CIW new connection process described in **section 3.2**. Two new DUML ICPs were connected during the audit period, and I confirmed that trader acceptance was obtained prior to initial electrical connection.

To connect new streetlight circuits to existing DUML ICPs, Powerco used a streetlight application and approval process which was separate to the new connection process up until May 2022. It required the Powerco Approved Contractor and trader to complete application forms before the job was entered into Powerco's CIW system for approval and connection.

Since June 2022 a modified version of the standard new connection process has been applied. The key difference from the former process is that a trader application is not required, trader approval is confirmed in the same way as other new connections. I walked through the process for adding new streetlight circuits and confirmed that trader acceptance is obtained as part of the process:

1) An application to connect a new streetlight circuit is made to Powerco by the Powerco Approved Contractor who is to connect the lights. This step may involve one application to install electrical cables and another to connect the lights if all work will not be completed at the same time.
2) The application is entered into CIW either by the contractor or Powerco. The application includes notes that it is adding load to an existing ICP.
3) Powerco reviews and approves the application.
4) CIW issues an email to the trader for approval for the connection of new unmetered load. This email clearly states that it is a streetlight livening application. Approval is always requested

individually for these ICPs; Trustpower do not complete DUML new connections where they are the trader and contractor, and Contact Energy's blanket approval does not apply for DUML.

5) Once acceptance is received a diary note is added to the ICP in CIW stating that acceptance is confirmed.
6) The approved new connection will follow the same path as a new ICP and work will be completed, with the following differences: an ICP is not created and the work required tag indicates that it is an application to liven street lighting, not to connect a new ICP.
   Once a work completion notice is received CIW is updated, and the information is transferred to CWMS and then the registry via workflows.

Audit outcome

Compliant

3.17. Electrical disconnection of a point of connection (Clause 10.30C and 10.31C)

Code reference

Clause 10.30C and 10.31C

Code related audit information

A distributor can only disconnect, or electrically disconnect an ICP on its network:

- *if empowered to do so by legislation (including the Code)*
- *under its contract with the trader for that ICP or NSP*
- *under its contract with the consumer for that ICP*

Audit observation

The disconnection process was examined.

Audit commentary

Powerco will only undertake an electrical disconnection when a request is received from a trader via the CIWR, or for safety. In both instances Powerco will liaise with the relevant trader. I viewed examples of safety disconnections to confirm the process.

Audit outcome

Compliant

3.18. Meter bridging (Clause 10.33C)

Code reference

Clause 10.33C

Code related audit information

A distributor may only electrically connect an ICP in a way that bypasses a meter that is in place ("bridging") if the distributor has been authorised by the responsible trader.

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

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

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

Audit observation

Processes for meter bridging were reviewed.

Audit commentary

In rare circumstances Powerco may direct a contractor to bridge a meter to resolve a fault where the fault cannot be resolved due to safety concerns, the meter cannot be connected by other means, and leaving the electricity supply disconnected would cause significant disadvantage or hardship to the customer.

If a meter is bridged by a Powerco contractor, Powerco notifies the responsible MEP and retailer via email within one business day as part of closing the work completion notice in CIWR.

No instances where Powerco or their contractors had bridged meters were identified during the audit.

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.

In the case of a change to price category codes, where the change is backdated, no later than 3 business days after the distributor and the trader responsible for the ICP agree on the change.

Audit observation

The management of registry updates and NSP changes was reviewed. The AC020 report was reviewed to determine compliance.

A diverse sample of 79 backdated events were reviewed to determine the reasons for the late updates, including address, network, pricing, and status events.

Audit commentary

When information that is held by the registry changes, the distributor responsible for that ICP must provide notice to the registry of that change within three business days of that change taking effect. Compliance for initial population of address, network, pricing, and status information is assessed in **sections 3.4** and **3.5**.

The process for updating ICPs has not changed during the audit period. Registry population is automated from CWMS and the file includes all relevant fields. The registry synchronisation process imports data from the registry into CWMS at 7am each day, and exports data from CWMS to the registry at 7pm each day. Information sent to and received from the registry is monitored, and automated emails are generated and reviewed each morning to confirm updates are successful.

Address events

The AC020 report recorded 51 ICPs where addresses were updated more than three business days after the event date. 99.09% of updates were on time, and the average business days between the event date and update date was 1.45.

Year	Total late	Percentage on time	Average business days	Within 10 business days	Within 20 business days	Within 60 business days	Within 350 business days	Within 4,903 business days
2020	107	97.98%	25.95	17	23	27	29	107
2021	51	98.94%	1.92	25	32	44	47	52
2022	**68**	**99.09%**	**1.45**	**38**	**45**	**57**	**64**	**68**

The ten latest updates, including all over 75 business days after the event date were examined. All were backdated updates made as part of the decommissioning process, and one ICP address contained an invalid character "-" which prevented it from being updated on the registry. All the updates checked contained the correct event attributes.

Network events – distributed generation

The AC020 report recorded 1,620 ICPs where distributed generation details were updated more than three business days after the event date. 27.42% of updates were on time, and the average business days between the event date and update date was 32.95.

Year	Total late	Percentage on time	Average business days	Within 10 business days	Within 20 business days	Within 30 business days	Within 60 business days	Within 300 business days	Within 500 business days	Within 1,687 business days
2020	690	13.86%	22.62	358	519	561	627	684	687	690
2021	891	14.82%	44.66	458	640	709	772	836	882	891
2022	**1,620**	**27.42%**	**32.95**	**868**	**1,151**	**1,277**	**1,425**	**1,547**	**1,591**	**1,620**

The ten latest updates and five updates between 25 and 500 business days late were examined, to determine why they were late and whether the content was correct:

- four were delayed by late receipt of paperwork confirming that the ICP was generating,
- eight were backdated corrections, including two ICPs which had the fuel type updated to "other" from the installation date to reflect that generation was solar and battery, and six event date corrections,
- two were retrospective additions of distributed generation from the installation date after distributed generation was discovered on site, and
- one was an error where incorrect distributed generation details were incorrectly recorded as part of a network update from CWMS; the error was corrected on discovery during the audit.

Powerco's weekly data validation process described in **section 2.1** identifies ICPs which are active with EG meter registers without installation type B. The report contains a field to show whether I flow data is being submitted by the trader on the EIEP1. The ICPs are queried with the retailer to confirm whether generation is present.

- If generation is present, Powerco confirms the generation details and updates the registry. To avoid delays where traders are slow to respond to queries, Powerco will update the registry to reflect distributed generation from the first date that generation is recorded on the EIEP report and update it later if necessary.
- If no generation is present Powerco asks the retailer to query whether the register should have settlement indicator N with the MEP.

Network events – other

The AC020 report recorded 5,042 ICPs where network fields were updated more than three business days after the event date. 66.49% of updates were on time, and the average business days between the event date and update date was 10.31. 1,620 of the late updates were to distributed generation fields, which are discussed above. Excluding these there were 3,422 late updates to other network fields.

Year	Total late	Percentage on time*	Average business days*	Within 10 business days	Within 20 business days	Within 30 business days	Within 60 business days	Within 300 business days	Within 500 business days	Within 5,407 business days
2020	5,407	51.88%	53.01	761	1,081	1,373	1,995	5,336	5,390	5,407
2021	2,879	68.71%	9.41	2,664	2,751	2,773	2,786	2,804	2,868	2,879
2022	**5,042**	**66.49%**	**10.31**	**3,983**	**4,365**	**4,514**	**4,709**	**4,902**	**4,986**	**5,042**

I checked a sample of the ten latest network updates and a diverse sample of a further 15 late updates between 25 and 1000 business days after the event date, to determine why they were late and whether the content was correct:

- 11 were backdated corrections to DUML details, initial electrical connection dates or NSPs; the corrections were often to reinstate initial electrical connection dates which had been removed by CWMS,
- four were delayed by late receipt of paperwork or information confirming the correct ICP attributes,
- four were backdated changes of proposed retailer or start dates at the customer or trader's request,
- five related to creation of ICPs for historic unmetered load that was recently discovered, and
- one was an error where unmetered load details were incorrectly removed as part of a network update from CWMS; the error was corrected on discovery during the audit.

NSP changes

When NSP changes occur, they can be for an individual ICP or a group of ICPs, or all ICPs connected to a transformer, feeder, or NSP.

The Network Operations Centre manages physical NSP changes. If a change will be for more than 14 days, they will advise the Network Information Team and create a network change notice. The network change notice can be provided as a form, or as a service request if a new hierarchy needs to be established as part of the change, such as adding a new substation.

The Network Information Team manage information for transformers changing between feeders and update the GIS; all other information is managed by the Data Team. Wherever possible, Powerco updates the system on the date of the change, either manually or using scripts, to ensure that the correct date is applied for the network event.

The AC020 report recorded 11 ICPs where NSP changes were updated more than three business days after the event date:

- two were errors where incorrect NSP details were provided as part of a network update from CWMS; the errors were corrected on discovery during the audit, and

* Value for all network updates, including distributed generation

- nine late updates were not genuine NSP changes; a previous record which changed the NSP had been replaced by a later update which recorded the same NSP, and the updates changed distributed generation of dedicated NSP details.

Pricing events

Powerco's approach to pricing changes and corrections remains unchanged. Pricing updates are usually only backdated at the retailer's request. Some retailers prefer changes to take effect from the first day of the month because it can be difficult for them to manage more than one network price code per month in their systems.

The AC020 report recorded 3,586 ICPs where pricing details were updated more than three business days after the event date.

Year	Total late	Within 10 business days	Within 20 business days	Within 30 business days	Within 90 business days	Within 350 business days	Within 1,000 business days	Within 1,526 business days
2020	2,170	1,645	2,072	2,135	2,158	2,168	2,170	2,170
2021	312	192	211	245	261	266	307	312
2022	**3,586**	**1,729**	**3,013**	**3,533**	**3,569**	**3,584**	**3,586**	**3,586**

The ten latest updates and five updates between 25 and 150 business days late were examined and I found that they related to corrections, which were agreed with the trader and updated promptly on agreement being reached. For the sample checked, Powerco are compliant with Clause 8 of Schedule 11.1 which requires Powerco to update the registry within three business days of the Powerco and the trader agreeing to the backdated pricing change.

Status events

The AC020 report recorded that 83.32% of updates to decommissioned status were on time, and the average business days between the event date and update date was 11.11. 247 ICPs were updated to "decommissioned" status more than three business days after the event date, and more than three business days after the trader's update to "ready for decommissioning" status.

Year	Total late	Percentage on time	Average business days
2020	139	84.33%	13.32
2021	116	86.71%	15.37
2022	**247**	**83.32%**	**11.11**

The five largest differences between the event date and Powerco's update date, and five largest differences between the trader inactive update date and Powerco's update date were examined:

- five late updates were caused by late receipt of decommissioning paperwork,
- four were backdated updates to decommission ICPs which are Basepower sites once the Basepower trial period was over, and
- one was a backdated update following storm damage.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: 8 Schedule 11.1 From: 01-Aug-21 To: 06-Dec-22	68 late address updates. 1,620 late distributed generation updates. 3,422 late network updates (excluding the 1,620 late distributed generation updates). Two late NSP changes. 247 late updates to decommissioned status. 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	I have rated the controls as moderate as the controls in place will mitigate the risk most of the time, and many of the late updates related to corrections. There is a potential minor impact on settlement, hence the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco is committed to correcting data inaccuracies to the appropriate effective date as soon as they are identified. Improvements to processes and reporting will lead to less errors to be corrected and the timeliness of any updates	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will continue to work with its contractors to maintain and improve timeframes for providing information. Regular reporting provides Powerco with visibility of timeframes and any issues are raised with contractors as required. Powerco is continuing to improve reporting to identify errors quickly for correction and identify areas where processes and/or controls should be reviewed.	Ongoing	

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 process to determine the correct NSP was examined. The registry list and AC020 reports were examined to determine compliance. I reviewed Powerco's weekly NSP mapping checks.

Audit commentary

NSP assignment

Powerco confirms the NSP as part of the new connection process. Maps from the ICP to the transformer are provided by the contractor, and this information is used to confirm the feeder and NSP.

Relationships between transformers, feeders, and NSPs are hard coded into CWMS. Transformer information is validated first by the CIW team (who confirm that the address location and transformer are within 500 metres), then by the connections team (who confirm that the address and transformer, feeder, and NSP information is consistent). CWMS is linked to the GIS system so the likelihood of incorrect NSP assignment is greatly reduced.

NSP accuracy

Powerco completes a weekly check of NSP mapping, using a report which shows the count of NSPs and balancing areas per street. Network connectivity data is used to prioritise streets which have NSPs assigned which are not physically close or do not have an open connection to each other and are more likely to be incorrect. Any NSPs or addresses which are found to be incorrect are updated.

Every two months, the CWMS GIS transformer hierarchy is checked using a dashboard to ensure that transformer, feeder and NSP relationships are correct.

Review of the AC020 reports identified 58 streets where 10% or fewer ICPs on the street have a different NSP to the other ICPs, where the number of ICPs with a different NSP is less than three. 73 ICPs were affected, and for 62 the balancing area for both NSPs was the same. None of the affected ICPs were created during the audit period.

I checked the 11 ICPs connected a NSP with a different balancing area to other ICPs on the street. All the ICPs had the correct NSP assigned, and three ICPs had incorrect address information which was corrected as soon as practicable after it was identified during the audit.

I checked a further ten ICPs where the ICP was connected to a NSP with the same balancing area to other ICPs on the street and confirmed all had the correct NSP and street address recorded.

Review of late network updates found two ICPs where incorrect NSP details were provided as part of a network update from CWMS. The error was corrected on discovery during the audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: 7(1),(4) and (5) Schedule 11.1 From: 01-Aug-21	Two ICPs had incorrect NSPs and were corrected during the audit. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong

To: 06-Dec-22	Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	I have rated the controls as strong. The errors occurred because CWMS does not allow users to select and event date when processing updates to network attributes making it more difficult to ensure that the correct attributes are applied on the event date. There is a manual process which is used to check and update the registry information, and almost all exceptions are resolved through this process. The NSPs were located in the same balancing area so the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco is working through potential NSP assignment errors as identified through NSP reporting as well as those identified in address validation and reporting.	In-place	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco has reporting in place to detect potential errors in NSP assignment and correct them as soon as possible.	In-place	

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 management of customer queries was examined.

Audit commentary

Powerco receives very few direct requests for ICP identifiers, and these are provided immediately once the customer confirms their address.

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 process to ensure ICP addresses are unique and readily locatable was examined. The registry list and AC020 reports were examined to determine compliance.

Audit commentary

When a new connection is requested, ICP address information is provided in CIW by the requestor. The provided address is validated using the GIS to confirm it is legally issued and correct. Powerco may also refer to the local council's mapping system or ask the customer or contractor for further information if needed.

CWMS will not allow users to enter a duplicate address, or an address without either a street number or property name. Where street address information is unavailable, I saw evidence that Powerco will use lot numbers, pole and/or pillar numbers to aid address location. Lot numbers are replaced with street numbers when the supply moves from a metered builder's temporary supply to a permanent supply.

No ICPs with incomplete or duplicate addresses were created during the audit period.

Prior to the CWMS controls described above being implemented, some duplicate and incomplete ICP addresses were created. Powerco is working through resolving these which has resulted in a reduction of 609 active ICPs with duplicate addresses and 198 active ICPs which previously had no street number or property name recorded this year.

1,279 ICPs in total have duplicate and/or incomplete addresses, because some are affected by both issues.

	2022	2021	2020	2019	2018	2017	2016	Difference this year
Duplicate addresses	629	1,238	3,132	4,348	6,091	8,973	13,302	-609
Addresses without street number or property name	727	925	1,062	1,423	1,584	1,733	2,013	-198

I validated NSP information against address information and found three ICPs had incorrect address information which was corrected as soon as practicable after it was identified during the audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: 2 Schedule 11.1 From: 01-Aug-21 To: 06-Dec-22	629 active ICPs have duplicate addresses. 727 active ICPs have addresses which do not have a street number or property name. Three ICPs with incorrect address information were identified and corrected during the audit. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating
Low	The controls are rated as strong as the new connection process is robust and the historic addresses are being resolved using as many tools as are available to Powerco. The audit risk rating is low as the volume of ICPs that are not readily locatable and duplicated is reducing. Incorrect addresses can have a direct impact on the retailer's ability to read, disconnect and reconnect these sites.

Actions taken to resolve the issue	Completion date	Remedial action status
As discussed in 2.2, Powerco has allocated a dedicated resource to resolve historic data errors. As of 22 March 2023, the number of duplicate addresses on Powerco's network were down to 129.	On-going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As noted in 2.2, systems and processes prevent the creation of new exceptions and Powerco will continue to correct errors in its weekly and ad-hoc reporting.	In-place	

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 was examined as part of the new connection process and proof of process was checked as part of the sample of new connections examined.

Information on isolation in Powerco's Electricity Network Connection Standard was reviewed.

Audit commentary

Powerco's "Electricity Network Connection Standard" provides clear instruction in relation to this clause.

Powerco provides training on systems and network requirements for all new contractors, and catch ups with contractors which include the connection and isolation requirements. These roadshows and catch ups have occurred less regularly during the audit period due to Covid-19 and high workloads. No new contractors have been added during the audit period.

All new connection applications require a "concept design" which is reviewed by the customer works team. The customer works team review includes checking where the ICP will be isolated from, and additional information is requested to confirm the isolation point if necessary.

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 management of registry information was reviewed. The registry list and AC020 report were examined to determine compliance. A typical sample of data discrepancies were checked.

Registry data validation processes are discussed in **section 2.1**.

Audit commentary

Review of the registry list and AC020 report identified some data discrepancies. I found most of the discrepancies were resolved through Powerco's data validation processes prior to the audit. Non-compliance is recorded where data was not identified and corrected through Powerco's processes.

The majority of data accuracy issues identified were caused by CWMS' inability to record event dates for network events. Network events contain NSP, dedicated NSP, unmetered load information, distributed generation, and initial electrical connection date information as well as direct billed information which is not normally used by Powerco. The values in these fields can change independently, a common example would be an ICP is created at "ready" status with no initial electrical connection date and installation type L in 2020, it is connected and has an initial electrical connection date added in 2021, and then has distributed generation capacity, installation type B and fuel type updated in 2022.

This can make the update registry update process complex where a backdated change to a network field is required. Powerco must ensure that all of the network event attributes are correct for each event date. When a network update is sent from CWMS and cannot be processed on the date that the event occurred the user needs to 1) log into the registry and manually correct the event date after it is sent to the registry and 2) check that all network event attributes are correct from the event date until the day of the next event date (if any) and make manual corrections as needed.

Address information

As discussed in **sections 2.2** and **4.2,** 1,279 ICPs in total have duplicate and/or incorrect addresses and Powerco is working through resolving these. I validated NSP information against address information and found three ICPs had incorrect address information which was corrected as soon as practicable after it was identified during the audit.

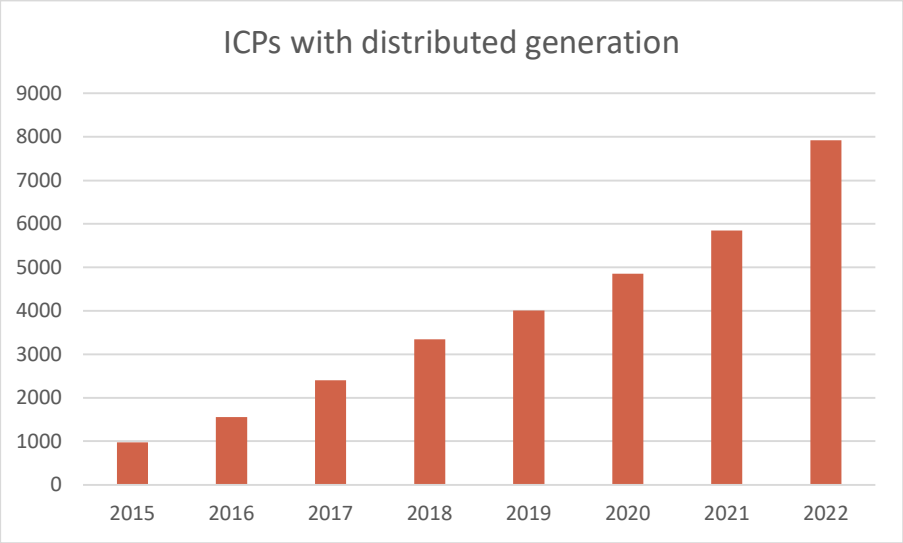
NSP information

Assignment of NSPs was reviewed in **section 4.2**. I found two ICPs where incorrect NSP details were provided as part of a network update from CWMS. The error was corrected on discovery during the audit.

There are 18 LE ICPs with distributor status on to Powerco's network. All are connected to NSPs which are part of balancing areas containing more than one NSP and have the dedicated NSP flag set to yes. Powerco confirmed that the dedicated NSP status is correct because it is impractical to supply the ICPs from another NSP.

Installation type and generation details

The list file recorded 7,925 active ICPs with distributed generation. The table below tracks the number of ICPs with distributed generation by year:



Distributed generation processes

Powerco has a dedicated administrator to manage distributed generation, and is intending to add a temporary team member to assist. I walked through the process to add distributed generation:

1) Large Powerco approved contractors enter an application for distributed generation directly into CIW. Smaller contractors provide an application form via email, and Powerco enters the details into CIW as applications are received.

An excel template which includes full generation details and confirms compliance with NZS4777 is required to be completed and pasted into the CIW application.

2) The application is reviewed and approved or declined by Powerco. The CIW workflow directs the application to an approver based on load size. Any applications over 30 kW are referred to a planning and protection engineer, and smaller applications can be approved by the administrator responsible for distributed generation. This change to allow smaller applications to be approved by the administrator has improved timeliness as she can approve 85% of applications immediately.

3) The contractor and customer are advised of whether the application has been approved or declined. Applications are rarely declined, and reasons are provided where this occurs.

4) The installation is completed by the Powerco approved contractor, who supplies a work completion notice (WCN), certificate of compliance (COC) and record of inspection (ROI).

5) When a WCN is received, CIW is updated, and the information is transferred to CWMS and then the registry via workflows. Because network updates are sent to the registry with the current date as an event date, the administrator must log into the registry the day after the update to correct the event date to reflect the work completion/certificate of compliance date.

If the WCN is not received within three business days of the proposed livening date (entered as part of the application and updated by Powerco on request from the contractor) an automated email is sent to the requestor to follow up paperwork. The email is sent to contractors who enter applications directly into CIW, and Powerco's administrator where she enters applications on contractors' behalf. She then follows up with the contractors.

When a customer requires removal of distributed generation a customer initiated work request is logged in CIW either directly by the approved contractor, or by Powerco's administrator on the contractor's behalf. The application is reviewed and approved, and the work is completed. When a WCN is received, CIW is updated and the information is transferred to CWMS and then the registry via workflows. Because network updates are sent to the registry with the current date as an event date, the administrator must log into the registry the day after the update to correct the event date to reflect the work completion/certificate of compliance date. Late paperwork is monitored as described in step 5 above.

Powerco's weekly data validation process described in **section 2.1** identifies ICPs which are active with EG meter registers without installation type B. The report contains a field to show whether I flow data is being submitted by the trader on the EIEP1. The ICPs are queried with the retailer to confirm whether generation is present. If generation is present, Powerco confirms the generation details and updates the registry. To avoid delays where traders are slow to respond to queries, Powerco will update the registry to reflect distributed generation from the first date that generation is recorded on the EIEP report and update it later if necessary. If no generation is present Powerco asks the retailer to query whether the register should have settlement indicator N with the MEP.

Generation information completeness

All ICPs with a non-zero generation capacity had a fuel type and an installation type of "B" or "G" recorded, apart from 0000044980UNFB0 which had "L". This was an accidental error when the record was updated and was corrected as soon as practicable once identified during the audit.

The AC020 report recorded 36 ICPs where the trader's profile indicated generation was present but no distributed generation details were recorded by Powerco. 11 were timing differences and distributed generation details were populated on the registry prior to the audit, and 25 ICPs were confirmed to have had their distributed generation removed.

Generation information accuracy

Powerco's fuel type is determined from the generation application and installation information. For single fuel types, the corresponding fuel type is applied. Where there are multiple sources, such as solar and battery the "other" generation fuel type is usually applied.

I checked the accuracy of fuel types by comparing them to the trader's profile:

- no ICPs had a solar fuel type with a profile that did not indicate solar, and
- nine ICPs had a non-solar fuel type with a profile that indicated solar, and Powerco's fuel type was confirmed to be correct.

I checked the accuracy of generation details recorded on the registry for a sample of 15 ICPs. One ICP had incorrect distributed generation details recorded as part of a network update from CWMS. The error was corrected on discovery during the audit.

Price and loss categories

Analysis of the list file found all active ICPs had a valid price category and loss category assigned.

Unmetered load

Part 11 states the distributors must provide unmetered load type and capacity of the unmetered load to the registry "if known". If distributor unmetered load is populated, it is required to be accurate. Powerco is considering how to validate their unmetered load details against the trader unmetered details as part of their review of registry validation processes.

Trader unmetered load is recorded without distributor unmetered load

Review of the registry list identified 427 ICPs where trader unmetered load is recorded, but there are no distributor unmetered load details. 86 of the ICPs were active, and 341 were inactive (including 284 ICPs which were "ready for decommissioning").

None of the ICPs had DUML indicated by the trader, and no ICPs created during the audit period had trader unmetered load but no distributor unmetered load.

Distributor unmetered load is recorded without trader unmetered load

The registry list recorded two ICPs with unmetered load recorded by Powerco where the trader had the unmetered flag set to N:

- ICP 0000541042TU9CB has trader daily unmetered kWh and load details consistent with Powerco's details, and it appears the trader has populated the unmetered flag incorrectly, and
- ICP 0010567610WR7FA was metered in November 2022, and Powerco has removed the unmetered load effective from the meter installation date during the audit.

Distributor unmetered load details differ from the trader unmetered load details

1,847 active ICPs have a value recorded in the distributor unmetered load details field.

For the 1,211 ICPs this information was in the format recommended in the Authority's Guidelines on Unmetered Load Management Version 2.1 and the ICPs were not DUML, and I compared the information to the trader's daily unmetered kWh. For 1,205 ICPs (99.5%) Powerco's value matched the trader's value within ±0.1 kWh, and for 1,208 (99.5%) Powerco's value matched the trader's value within ±1.0 kWh. The other six ICPs are being investigated by Powerco to confirm the correct unmetered load. I note that the distributor and trader unmetered load descriptions match for ICP 1000595713PC497, and it appears there may be an error in the trader's daily unmetered kWh calculation.

Recommendation	Description	Audited party comment	Remedial action
Confirmation of unmetered load details	Confirm the unmetered load details for these ICPs where the trader daily unmetered kWh and distributor unmetered load details are inconsistent, and update the registry as necessary: 1000544328PCC4B, 0000557920UN07D, 0000557952UN5A5, 0000634792UN84D, 1000595713PC497, and	1000544328PCC4B is in the process of being decommissioned as it is being reconciled on a DUML ICP. 0000557920UN07D, 0000557952UN5A5, and 1000597535PC10A are being investigated with NZTA and the trader to confirm the correct details. 0000634792UN84D has a minor difference due to hours of operation. The trader uses 11.89 hours per day for lighting, but we use 12 hours. We have removed our	Investigating

Recommendation	Description	Audited party comment	Remedial action
	1000597535PC10A.	details from registry to avoid the discrepancy. 1000595713PC497 appears to be an error by the trader. The unmetered details fields match but the trader's 'daily unmetered kWh' is too low by a factor of 100. We have queried this with the trader to correct.	

1000590030PCD20 is for a telecommunications cabinet and was recorded as being on for 24.7 hours per day in the distributor unmetered load details. This was corrected to 24 hours per day during the audit.

DUML and shared unmetered load

Powerco have been working with traders to cleanse DUML ICP information. This is complete for the western network and in progress for the eastern network. The process has involved checking ICPs to confirm that they have the correct feeder, transformer, substation and NSP assigned and that the ICP address information is clear and consistent. This process has identified some potentially redundant ICPs where there is more than one DUML ICP per feeder, and Powerco is consulting with the affected traders and database owners to confirm whether the ICPs should be made inactive or decommissioned. Powerco is progressing the investigations as time and workloads allow.

DUML audits for streetlight databases on Powerco's network were reviewed to determine whether there were any issues relating to distributor unmetered load records. Where the DUML database owner contacts Powerco to resolve historic issues with private lights, Powerco will assist. Without notification from the database owner Powerco is not aware of private streetlights that require investigation, and they have requested that auditors notify them if they discover private lights which are not allocated to a DUML ICP which require investigation and action during audits, so that they can liaise with the database owners to resolve the issues.

Database	Last audit date	Comment
Carterton District Council	28 November 2022	No issues noted.
Hauraki District Council	15 December 2021	No issues noted.
Manawatu District Council	1 March 2022	Private lights are recorded in the database with an ICP number of "private", except where the private light is connected to a pole which has a council or NZTA light attached. Because the ICP is assigned at pole level, these lights have a valid ICP, but are recorded with zero wattage because MDC is not responsible for private lights.
Masterton District Council	18 February 2022	No issues noted.
Matamata Piako District Council	17 June 2022	14 lights have the ICP is recorded as "privately owned": • three have a Matamata Piako District Council ICP recorded against them,

Database	Last audit date	Comment
		• six are outside the Te Aroha Museum and are thought to be connected to the metered building supply; I recommend below that the ICP for the museum is added to the database, • four are associated with a retirement village but the ICPs associated with village have no unmetered load and there is no shared unmetered load; I have passed these findings to Power Solutions to work with MPDC and Powerco to resolve, and • the item of load recorded against Follis Street is located on Riverview Lane and is mis-plotted. The audit recommended that Matamata Piako District Council liaise with Powerco to identify the metered ICP for the Te Aroha Museum and determine the correct ICP for the remaining eight private lights to be reconciled against.
New Plymouth District Council	16 November 2022	76 private streetlights (4,961 W) that did not have a valid ICP number recorded. Some of these were expected to be metered through the customer's installation or to have standard unmetered load created by the network. 14 of the 76 lights have standard unmetered load ICPs. The remaining 62 are in private subdivisions, retirement villages, holiday parks or within the area owned by the Port. These lights are unlikely to meet the definition of "shared unmetered load" because this definition is as follows: "shared unmetered load means unmetered load at a single point of connection that is distributed across more than one ICP" And the definition of a "point of connection" is as follows: "point of connection means a point at which electricity may flow into or out of a network" In most cases, it is unlikely there will be a single point of connection to Powerco's network for these private lights. This situation is becoming more common as Councils are no longer managing private lights, and the Code is not clear on responsibilities for these lights or how to resolve this situation.
NZTA Greytown Wairarapa	26 May 2021	No issues noted.
Palmerston North Airport	8 January 2020	No issues noted.
Palmerston North City Council	30 May 2022	33 lights recorded against DUML ICPs with a private owner (2,659W) are excluded from the database extracts and submission. Powerco arranged for their approved contractors to visit the light locations to confirm who is responsible and how the lights are supplied. Through this process Powerco confirmed that some of the lights are the Council's responsibility, and these have been assigned to DUML ICPs. Powerco also found that some of the lights are metered through the customer's existing meter installation. Powerco has contacted the relevant retailer for the remaining lights and asked them to contact their customers to obtain acceptance of the unmetered load as part of their connection. If acceptance is obtained Powerco will create a new ICP for the private light, otherwise it will be disconnected.

Database	Last audit date	Comment
South Taranaki District Council	14 June 2021	No issues noted.
South Waikato District Council	27 May 2021	No issues noted.
South Wairarapa District Council	24 May 2022	No issues noted.
Stratford District Council	27 May 2022	No issues noted.
Tararua District Council	29 September 2022	No issues noted.
Tauranga City Council	27 November 2020	No issues noted.
Tauranga City Council Parks and Reserves	25 May 2022	No issues noted.
NZTA Tauranga	16 August 2022	No issues noted.
Thames Coromandel District Council	18 May 2022	No issues noted.
Western Bay of Plenty District Council Parks	5 May 2021	No issues noted.
Western Bay of Plenty District Council	13 December 2021	No issues noted.
Western Bay of Plenty NZTA	13 April 2021	No issues noted.

Shared unmetered load details were checked in **sections 7.1** and **7.2**.

Event dates

Event dates are expected to be the date that the attributes applied from. I checked a sample of 6,203 network updates where the initial electrical connection date was populated and a sample of other updates and found all were processed from the correct date except 1000605490PC56E, where a correction was processed the day that the incorrect date was entered but the original record was not reversed. The record was corrected during the audit.

Initial Electrical Connection Dates

As discussed in **section 3.5,** initial electrical connection dates are based on the best information available and missing and potentially incorrect dates are monitored and corrected daily.

Initial electrical connection date discrepancies

The AC020 report recorded 29 ICPs where the initial electrical connection date differed from the meter certification date.

Exception	Qty	Qty incorrect	Comment
IECD = active date and IECD ≠ MCD	22	1	I checked all 22 ICPs with date discrepancies: • 19 ICPs had correct IECDs recorded, • the IECD for ICP 1000608282PC360 was incorrectly recorded as 15 July 2022 and was corrected to 13 September 2022 during the audit, and • Powerco is trying to confirm the IECDs for 1000598960PC121 (IECD and active date 18 July 2022, meter certification 5 August 2022) and 1000600957PCD63 (IECD and active date 14 October 2021, meter certification 10 November 2021).
IECD ≠ active date and IECD = MCD	2	-	Powerco's IECDs are correct.
IECD ≠ active date and MCD	5	-	Powerco's IECDs are correct.
Total	**29**	**1**	**The exception was corrected as soon as it was identified during the audit.**

Recommendation	Description	Audited party comment	Remedial action
Confirmation of IECDs	Confirm the IECDs for 1000598960PC121 (IECD and active date 18 July 2022, meter certification 5 August 2022) and 1000600957PCD63 (IECD and active date 14 October 2021, meter certification 10 November 2021) and update CWMS and the registry as necessary.	1000598960PC121 has been queried with the trader to provide documentation confirming the correct IECD. We are awaiting a response and will correct registry if necessary. 1000600957PCD63 appears to have an incorrect meter certification date, or a late certification as the expiry is 10 years after the active date. We have queried the dates with the trader and are waiting on a response.	Investigating

The AC020 report recorded 16 ICPs at "inactive - new connection in progress" status and six ICPs at "ready" status with initial electrical connection dates populated. All 22 were timing differences, and the status was updated to active after the report was run.

The AC020 report identified 258 ICPs commissioned after 29 August 2013 with an initial electrical connection date which differed from the trader's active status date:

- two of the ICPs became active during the audit period, both have the correct initial electrical connection dates populated,
- four of the ICPs are now decommissioned, and
- 252 of the ICPs became active between 2014 and 2019; I checked a sample of ten ICPs and found eight ICPs had correct IECDs, and ICP 1000545775PC6B9 had an incorrect IECD of 27

February 2014 which was corrected to 17 February 2014 during the audit, the other ICP was initially electrically connected in 2013 and I was unable to confirm whether the connection date was correct.

Missing initial electrical connection dates

The AC020 report identified 59 active ICPs commissioned after 29 August 2013 with no IECD populated. I checked a sample of 11 and found five should have had IECDs and were corrected during the audit, and six were connected prior to 29 August 2013 and no IECD was required.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.6 With: 7(1) of Schedule 11.1 From: 01-Aug-21 To: 07-Mar-23	1,279 ICPs in total have duplicate and/or incomplete addresses and Powerco is working through resolving these. Three ICPs had incorrect address information were corrected during the audit. One ICP had incorrect distributed generation information and was corrected during the audit. Two ICPs had some incorrect unmetered load details and were corrected during the audit. Two ICPs had incorrect NSPs and were corrected during the audit. At least two ICPs had incorrect initial electrical connection dates and were corrected during the audit. Five ICPs had missing initial electrical connection dates and were corrected during the audit. One ICP had an incorrect network event date and was corrected during the audit. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	I have rated the controls as strong. The errors mainly occurred because CWMS does not allow users to select and event date when processing updates to network attributes making it more difficult to ensure that the correct attributes are applied on the event date. There is a manual process which is used to check and update the registry information, and almost all exceptions are resolved through this process. The impact is low because there may be a small impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco has continued to work with traders and contractors to ensure the correct information and effective dates have been sent to registry	Ongoing	Cleared

Preventative actions taken to ensure no further issues will occur	Completion date	
Powerco is confident in its processes for assigning pricing to new connections but will continue to monitor and report on them to identify issues and correct them as soon as practicable.	In-place	

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 management of registry information was reviewed. The registry list and AC020 reports were reviewed to determine compliance.

Audit commentary

The price category and chargeable capacity (if any) are known at the time of the ICP being created therefore these are recorded correctly in the first instance.

The AC020 report recorded four ICPs which did not have pricing entered within ten business days of being initially electrically connected. One of the ICPs was created during the audit period, the other three were created prior to the audit period. In all four cases the original pricing update was provided on time, but later reversed and replaced with a new pricing event which had the initial electrical connection date as the event date.

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 registry list was reviewed to determine compliance.

Audit commentary

One Powerco ICP (0031630929PC7E2) has GPS coordinates recorded on the registry. I mapped the coordinates and confirmed that they are in NZTM2000 format and were consistent with the ICP location.

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 management of ICPs in relation to the use of the "ready" status was examined. The registry list and AC020 report were examined to determine compliance.

Audit commentary

ICPs are only created at "new" status if a network extension is required. ICPs not requiring a network extension are created at "ready" once the retailer has accepted responsibility for the ICP.

The price category field in Powerco's ICP database contains a "drop down" list, which ensures each ICP can only have a single price category and it is valid for the ICP attributes.

All 139 ICPs at "ready" status had a single price category assigned and proposed trader identified.

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

Processes to manage the distributor status were reviewed. The registry list and AC020 report were examined to determine compliance.

Audit commentary

There are 68 ICPs with distributor status.

18 are points of connection between embedded networks and the Powerco network, including four new LE ICPs for new embedded networks created during the audit period.

The remaining 50 are shared unmetered load parent ICPs. New shared unmetered load ICP 1000605403PC649 was compliantly created during the audit period. Shared unmetered load is discussed further in **section 7**.

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 registry list and AC020 report were reviewed to identify ICPs at the "decommissioned" or "ready for decommissioning" status.

A sample of ten "decommissioned" ICPs was examined. I also examined all ICPs at "ready for decommissioning" status.

Audit commentary

Powerco decommissions ICPs once approval has been received from the customer and trader, and the trader has moved the ICP to "inactive - ready for decommissioning" status.

The previous audit recommended a process be developed to manage ICPs at "ready for decommissioning" status where no request for decommissioning has been received from the trader. Powerco is developing reporting on these ICPs and plans to work through the outstanding ICPs as a project. They plan to start with the most recent ICPs and work backwards.

Examination of the list file found 2,284 ICPs are at "ready for decommissioning" status:

Number of ICPs 2022	Number of ICPs 2021	Number of ICPs 2020	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017	Number of ICPs 2016
2,284	2,335	2,357	2,709	2,718	3,211	4,724

I checked the current status of each ICP moved to "ready for decommissioning" status by a trader between 1 August 2021 and 6 December 2022:

Current status	Percentage	Count
Decommissioned	94.7%	1,514
Ready for decommissioning	3.2%	52
Returned to active status	1.9%	32
Returned to a different inactive status	0.2%	3
Total		**1,650**

I checked a sample of ten ICPs which have been at ready for decommissioning status for the whole audit period (since 1 August 2021) and found that they had not been decommissioned because no request for decommissioning had been received. It is expected that these ICPs will be checked and have their status updated as part of the ready for decommissioning project.

A sample of ten decommissioned ICPs were checked and confirmed to have the correct decommissioning date recorded.

Non-compliance is recorded in **section 4.1** in relation to the timeliness of updates to decommissioned status.

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

I examined the price category code table on the registry, and application of price category codes on the registry list.

Audit commentary

Powerco created six new price category codes effective from 1 April 2022, to migrate customers from non-standard pricing to new standard pricing codes. Powerco confirmed that notifications were provided to customers and the registry by 31 January 2022.

46 price category codes had a backdated change of price category description during the audit period, effective from the existing start date. The changes were made to standardise the description to reflect the region, customer group and load size. Compliance is recorded because the code does not explicitly state that changes to existing codes must be notified two months in advance of the effective date.

No price category codes were end dated 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 on the registry was examined.

Audit commentary

Powerco has not created any new loss category codes during the 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 code table on the registry was examined.

Audit commentary

Powerco replaced the loss factors for 33 loss codes effective from 1 April 2022 on 28 January 2022. Compliance is recorded in this section because the changes were made on time.

No loss factor codes were end dated without being replaced with a new value during the audit period.

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.

The notice provided to the reconciliation manager must be provided no later than 30 days prior to the intended date or creation or decommissioning.

If the intended date of creation or decommissioning changes the distributor must provide an updated notice as soon as possible.

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, 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 table was examined.

Audit commentary

New NSP ARI1102POCOGN was created during the audit period. It is not an interconnection point between two local networks or between an embedded network and another network and this clause does not apply.

Five new NSPs embedded into Powerco's network were created by embedded network owners during the audit period. The new NSPs are listed in **section 1.8**.

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 table was examined.

Audit commentary

New NSP ARI1102POCOGN was created during the audit period. As a new point of connection to the grid the NSP was created by Transpower, who provided the required notifications on time.

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 table was examined.

Audit commentary

New balancing area ARI1102POCOG was created for NSP ARI1102POCOGN. As a new point of connection to the grid the NSP was created by Transpower, who provided the required notifications on time. Powerco subsequently updated the NSP balancing area to BA5EASTPOCOG to reflect its connectivity to Powerco's network. The update was made on time, more than one month before the NSP start date.

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 table was reviewed.

Audit commentary

Powerco has not created any new embedded networks during the audit period.

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 three business days after the change takes effect.

Audit observation

The NSP table was reviewed.

Audit commentary

No balancing area changes have occurred during the audit period.

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 one month before the transfer.

Audit observation

The NSP table was reviewed.

Audit commentary

No existing ICPs became NSPs during the audit period.

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

The NSP table was reviewed.

Audit commentary

Powerco has not initiated the transfer of any ICPs during the audit period.

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

Powerco does not have responsibility for any NSP metering.

Audit commentary

Powerco does not have responsibility for any NSP metering.

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 the reconciliation participant for the NSP (Clause 10.25(2)(b)); and*
- *no later than 5 business days after the date of certification of each metering installation, advise the reconciliation manager of*
  a) the MEP for the NSP (Clause 10.25(2)(c)(i)); and
  b) the NSP of the certification expiry date (Clause 10.25(2)(c)(ii)).

Audit observation

Powerco does not have responsibility for any NSP metering.

Audit commentary

Powerco does not have responsibility for any NSP metering and or NSPs which are not points of connection to the grid.

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

The NSP supply point table was reviewed.

Audit commentary

Powerco have not initiated any changes of network owner.

Audit outcome

Compliant

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

Powerco does not have responsibility for any NSP metering.

Audit commentary

Powerco does not have responsibility for any NSP metering.

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

The NSP supply point table was reviewed.

Audit commentary

Powerco has not initiated the transfer of 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

The NSP supply point table was reviewed.

Audit commentary

Powerco has not initiated the transfer of 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 registry list was examined, and the streetlight audits of the network were assessed.

Audit commentary

There are 50 are shared unmetered load parent ICPs. New shared unmetered load ICP 1000605403PC649 was created during the audit period, and I confirmed that notification was provided to traders as required by this clause.

Audit outcome

Compliant

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 list file contained 378 active and inactive child ICPs across 50 SI ICPs. I checked the accuracy of the daily unmetered kWh.

Audit commentary

Shared unmetered load was shared equally, and in the recommended format. Ballast has been added where the light type can be confirmed.

I reviewed all shared unmetered load parent ICPs and confirmed none had changes to their distributor unmetered load detailer or shared ICP list during the audit period. New shared unmetered load parent ICP 1000605403PC649 was created during the audit period as described in **section 7.2**.

All child ICPs with shared unmetered load had a trader, the unmetered flag set to yes and a daily unmetered kWh recorded on the registry.

Audit outcome

Compliant

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

The "Guidelines on the calculation and the use of loss factors for reconciliation purposes" was published on 26 June 2018. I have assessed Powerco's process and compliance against the guideline's recommended thresholds.

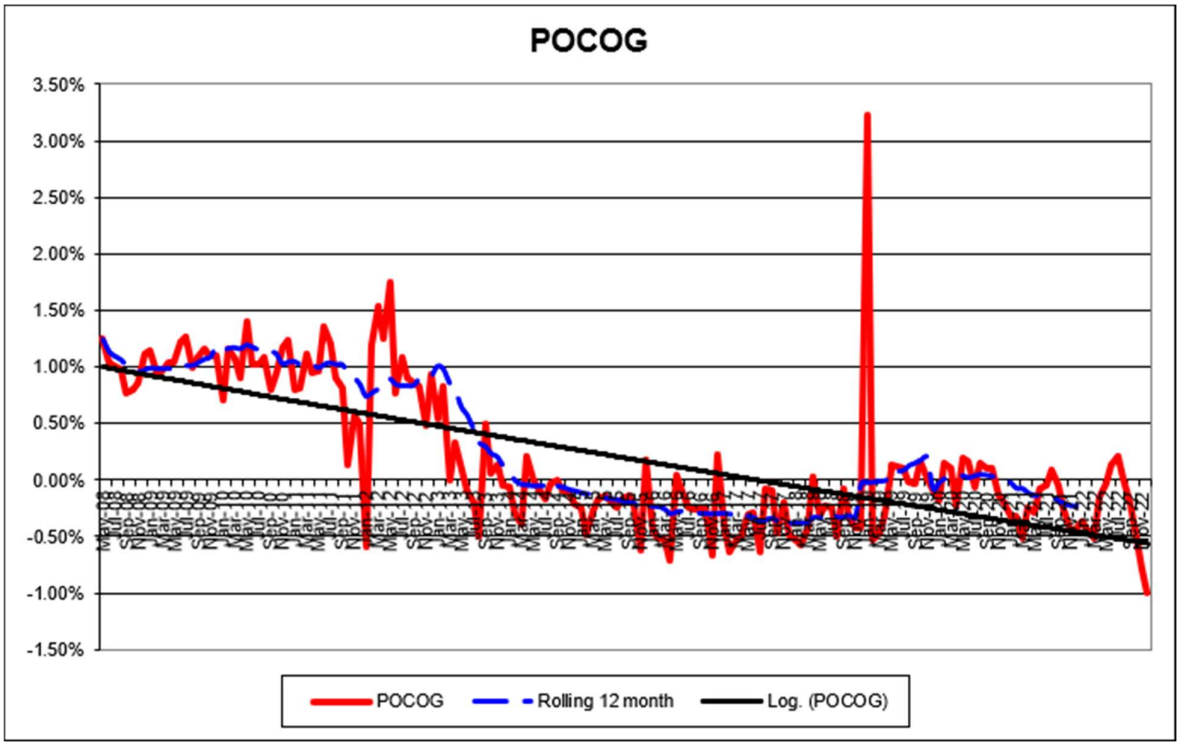
I reviewed correspondence and documentation relating to the December 2021 loss factor review.

Audit commentary

Powerco's last loss factor review was completed in December 2021, which resulted in changes to some loss factors from 1 April 2022. The review as completed by the regulatory and pricing team along with the network team; and considered loss factors and UFE across each network balancing area. At the time no balancing areas were found to be outside the Authority's compliance threshold, but some were adjusted to in an effort to prevent losses breaching the thresholds in the future where they were tracking close to the upper or lower threshold.

Powerco's loss factor calculation methodology is published on Powerco's website. The methodology was designed to meet the requirements of the loss factor guidelines.

I was provided by the Electricity Authority the reconciliation losses which indicate losses are tracking within the +/- 1% threshold indicated in the guideline when all balancing areas are considered as a group:



Powerco has one residual load SB ICP and I confirmed that the loss factor was correctly set to 1.

Audit outcome

Compliant

CONCLUSION

Powerco have a high level of compliance. Historic data accuracy issues continue to be a focus, and the volumes of ICPs with incorrect or incomplete addresses, and private unmetered streetlights without an ICP have decreased during the audit period.

This audit found 11 non-compliances and makes two recommendations. The majority of these non-compliances relate to late updates for corrections to data. This will always create non-compliance for not being able to meet the timeliness requirements but more importantly ensures that where possible Powerco is providing complete and accurate information.

The audit frequency table indicates that the next audit is due in 12 months. I recommend that the next audit is due in 18 months, after considering:

- Powerco's comments,
- that the level of compliance is high and has continued to improve, and
- that eight of the ten non-compliances have a strong control rating indicating that the non-compliances found are exceptions and processes in place are robust and mitigate risk where possible.

PARTICIPANT RESPONSE

Powerco appreciates the importance of our code obligations, and we take pride that this audit has recognised our on-going high level of compliance and our focus on continual improvement. We will continue to focus on data quality and historic data corrections such as our address information exceptions (which we are close to resolving).

We will continue to collaborate with responsible parties (such as Waka Kotahi (NZTA), councils and traders) to improve the accuracy of data and ensure the appropriate reconciliation of streetlights in our footprint.

We will also continue to refine our processes and systems to strengthen controls and improve the ongoing compliance with our obligations in the Code.