ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTOR AUDIT REPORT

VERITEK

For

POWERCO LIMITED
NZBN: 9429037332174

Prepared by: Rebecca Elliot

Date audit commenced: 1 July 2021

Date audit report completed: 21 September 2021

Audit report due date: 10-Oct-21

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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. This is due to the robust processes in place to manage data accuracy and timeliness of updates to the registry. Historic data accuracy issues continue to be a focus, and the volumes of these have continued to decrease during the audit period. The remaining volumes are minor and close to being resolved.

I identified two areas of opportunity during the audit. The process for complex contract related new ICPs where multiple ICPs are involved requires review to ensure that acceptance from the trader is gained. There was an example during the audit period where one trader accepted responsibility while the ICPs were at "new" then the contract was awarded to a different trader and no acceptance was gained from the new trader before they were recorded as the proposed trader on the registry.

The second opportunity relates to ICPs that are made ready to decommission by the trader but where no job is logged in CIWR. In these instances, no action is taken by Powerco to progress these. Powerco previously did have a backlog, and these were resolved via a special project where sites were visited to confirm their correct status. If the ICPs pending where a job is not logged are not worked, this will result in another backlog of ICPs. I recommend that a process is put in place to manage these.

This audit found 11 non-compliances and makes two recommendations. The majority of these non-compliances relate to 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 10 of the 11 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)	1,238 active ICPs have duplicate addresses. 925 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	36 private lights in the Palmerston North City Council region do not have shared unmetered load created.	Strong	Low	1	Investigating
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%).	Strong	Low	1	Investigating
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.	Strong	Low	1	Identified
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.	Strong	Low	1	Investigating
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.	Strong	Low	1	Investigating
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.	Moderate	Low	2	Identified
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.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			1 active ICP with the incorrect town recorded.				
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.	Strong	Low	1	Identified
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.	Strong	Low	1	Identified
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.	Strong	Low	1	Identified
Future Risk Rating						12	

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
Timeliness of provision of information to the registry	3.4	Review the process in place for projects involving multiple ICPs to ensure that permission from the proposed trader is gained in all instances.
Distributors to provide ICP information to the registry.	4.6	Update the unmetered load details to DUML for the six ICPs reconciled using a DUML database.
Management of "decommissioned" status	4.11	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.

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.

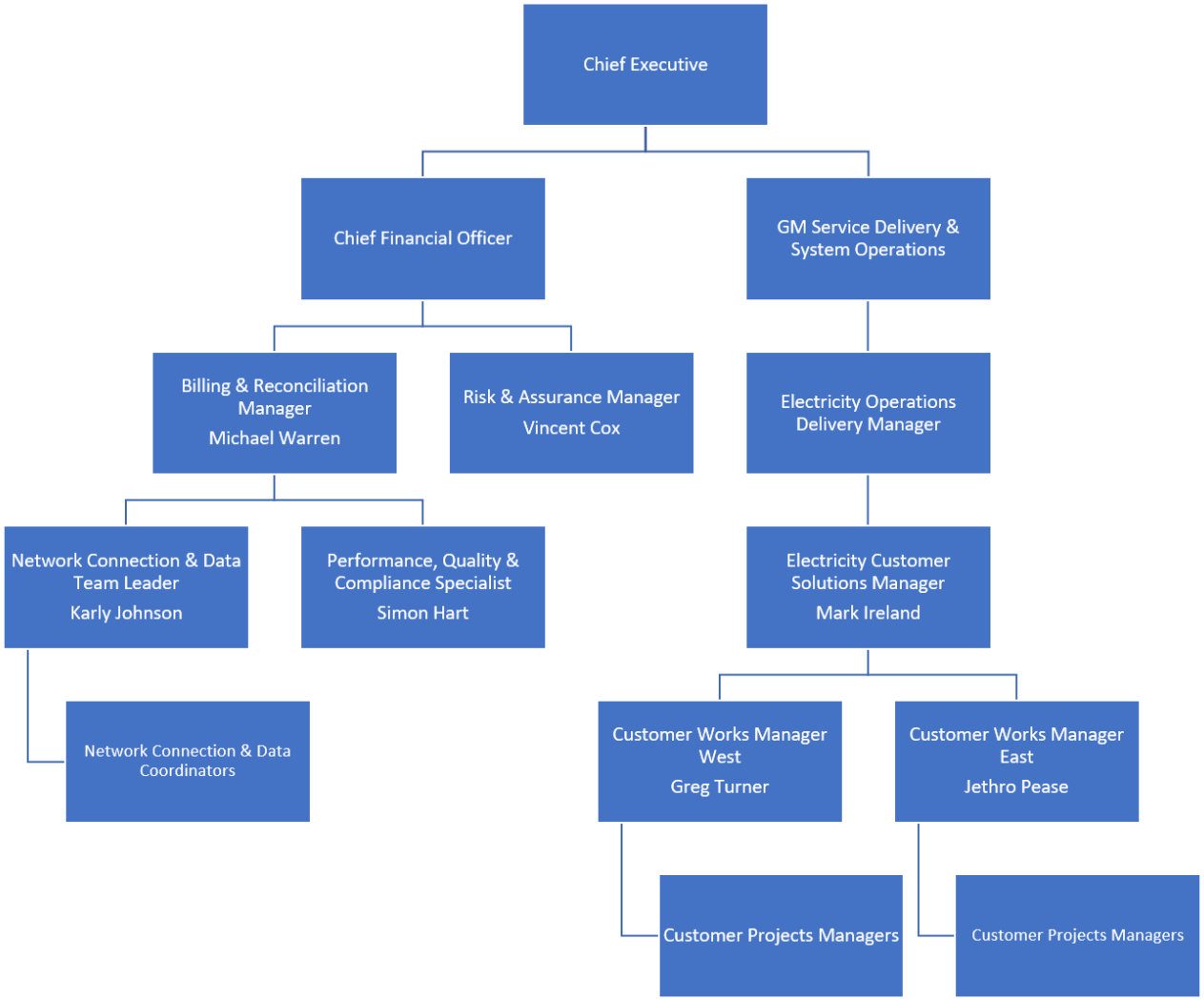
Audit observation

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

Auditor:

Rebecca Elliot

Veritek Limited

Electricity Authority Approved Auditor

Personnel assisting in this audit were:

Name	Title
Michael Warren	Billing and Reconciliation manager
Karly Johnson	Network Connections and Data Team Leader
Simon Hart	Performance, Quality and Compliance Coordinator
Mark Ireland	Electricity Customer Solution Manager
Greg Turner	Customer Works Manager Western Region
Jethro Pease	Customer Works Manager Eastern Region
Name withheld	Customer Projects Managers
Name withheld	Networks Connections and Data Coordinators

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

- A J Greaves Electrical Limited
- 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

- 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

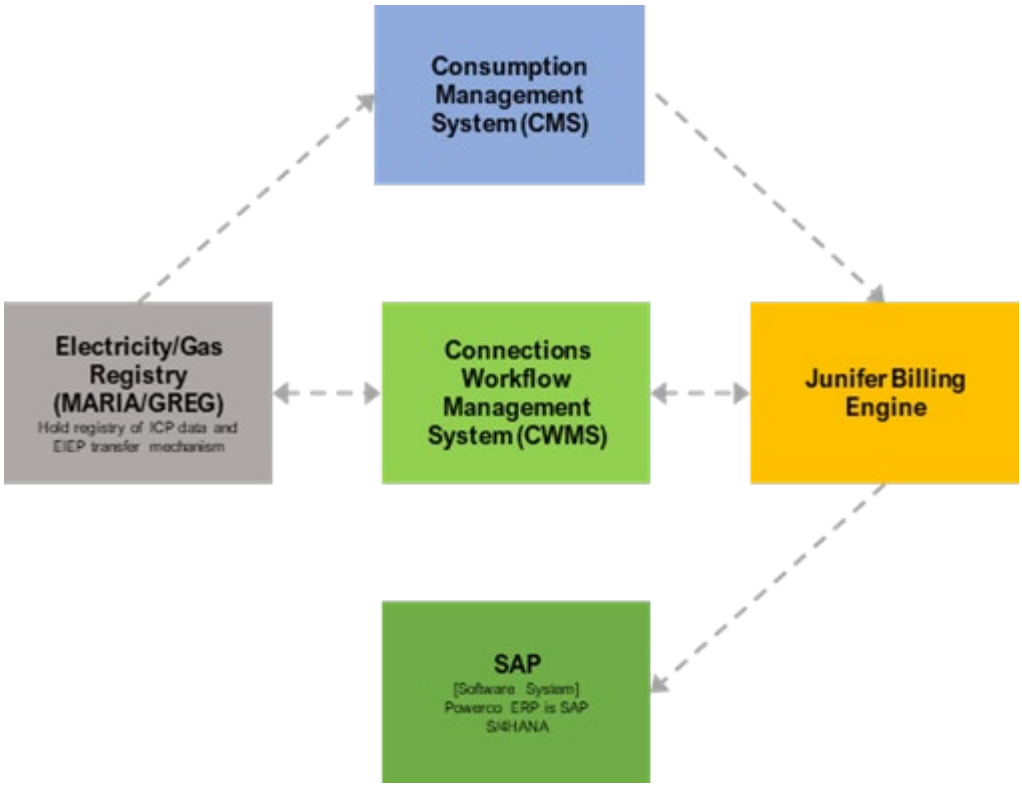
Powerco has provided the list of sub-contractors authorised to perform livening activities on their network in **section 1.4**.

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, Western Bay of Plenty, Hauraki Plains, North-East Waikato, South Waikato, Taranaki, Wanganui, Rangitikei, Manawatu and Wairarapa.

Powerco NSPs

The table below lists the relevant NSPs and their associated balancing areas.

Dist.	NSP POC	Description	Parent POC	Parent Ntwk	Balancing Area	Network type	Start date	No of ICPs
POCO	BPE0331	BUNNYTHORPE			BA4WESTPOCOG	G	1/05/2008	34,194
POCO	BRK0331	BRUNSWICK			BA3WESTPOCOG	G	1/08/2016	12,531
POCO	CST0331	CARRINGTON ST			BA1WESTPOCOG	G	1/05/2008	28,806
POCO	GYT0331	GREYTOWN			BA6WESTPOCOG	G	1/05/2008	7,317
POCO	HIN0331	HINUERA			BA5EASTPOCOG	G	1/05/2008	11,480
POCO	HUI0331	HUIRANGI			BA1WESTPOCOG	G	1/12/2008	10,209
POCO	HWA0331	HAWERA			BA2WESTPOCOG	G	1/05/2008	9,304
POCO	KIN0112	KINLEITH			KIN0112POCOG	G	20/05/2013	1
POCO	KIN0331	KINLEITH			BA2EASTPOCOG	G	1/05/2008	6,686
POCO	KMO0331	Kaitemako			BA1EASTPOCOG	G	1/04/2009	9,050
POCO	KPU0661	KOPU			BA3EASTPOCOG	G	1/05/2008	25,575
POCO	LTN0331	LINTON			BA4WESTPOCOG	G	1/05/2008	18,287
POCO	MGM0331	MANGAMAIRE			BA5WESTPOCOG	G	1/05/2008	4,343
POCO	MST0331	MASTERTON			BA6WESTPOCOG	G	1/05/2008	18,746
POCO	MTM0331	MT. MAUNGANUI			BA1EASTPOCOG	G	1/05/2008	22,715
POCO	MTN0331	MARTON			BA3WESTPOCOG	G	1/05/2008	6,274
POCO	MTR0331	MATAROA			BA3WESTPOCOG	G	1/05/2008	2,770
POCO	OKN0111	OHAKUNE			BA3WESTPOCOG	G	1/05/2008	1,213
POCO	OPK0331	OPUNAKE			BA2WESTPOCOG	G	1/05/2008	3,056
POCO	PAO1101	PIAKO 110KV			BA5EASTPOCOG	G	24/07/2012	7,855
POCO	SFD0331	STRATFORD			BA1WESTPOCOG	G	1/01/2015	8,387
POCO	TGA0111	TAURANGA			BA1EASTPOCOG	G	1/05/2008	10,013
POCO	TGA0331	TAURANGA			BA1EASTPOCOG	G	1/05/2008	34,947

Dist.	NSP POC	Description	Parent POC	Parent Ntwk	Balancing Area	Network type	Start date	No of ICPs
POCO	TMI0331	TE MATAI			BA1EASTPOCOG	G	1/05/2008	12,856
POCO	WGN0331	WANGANUI			BA3WESTPOCOG	G	1/08/2016	9,921
POCO	WHU0331	WAIHOU			BA5EASTPOCOG	G	1/05/2008	5,166
POCO	WKO0331	WAIKINO			BA4EASTPOCOG	G	1/05/2008	16,696
POCO	WVY0111	WAVERLEY			BA3WESTPOCOG	G	1/05/2008	1,361

No NSPs were created or decommissioned by Powerco during the audit period.

Networks embedded under Powerco NSPs

There are eight embedded networks connected to the Powerco network, shown in the table below. No new embedded networks were created or decommissioned during the audit period. NSP FSS0011 was created by TOLQ during the audit period.

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
KIPT	KPP0011	KIWI PLAZA	BPE0331	POCO	KPP0011KIPTE	E	1/05/2008
SMRT	TFQ0011	100 TAUPO QUAY WANGANUI	WGN0331	POCO	TFQ0011SMRTE	E	1/07/2017
TENC	TCT0011	TAURANGA CROSSING TAURIKURA DR	TGA0111	POCO	TCT0011TENCE	E	20/07/2016
TENC	TGD0011	Goddards Shopping Centre	TGA0331	POCO	TGD0011TENCE	E	1/06/2019
TENC	TSB0011	66 THE SQUARE PALMERSTON NORTH	BPE0331	POCO	TSB0011TENCE	E	1/03/2019
TUIH	GRE0111	TUIHANA	MTM0331	POCO	PAPAMOATUIHE	E	1/12/2008
TENC	TMM0111	80b BURWOOD RD MATAMATA	HIN0331	POCO	TMM0111TENCE	E	08/07/2019
TOLQ	FSS0011	56 The Square Palmerston North	BPE0331	POCO	FSS0011TOLQE	E	01/12/2020

Powerco ICP status

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

Status	Number of ICPs 20201	Number of ICPs 2020	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017	Number of ICPs 2016
Distributor (888)	66	66	67	64	64	65
New (999)	9	23	66	104	95	87
Ready (000)	210	146	124	131	170	109
Active (2,0)	339,759	335,254	330,881	327,617	324,102	319,558
Inactive - new connection in progress (1,12)	699	464	287	350	389	316
Inactive – electrically disconnected vacant property (1,4)	7,433	7,360	7,284	7,306	7,454	7,755
Inactive – electrically disconnected remotely by AMI meter (1,7)	1,129	871	953	818	752	2
Inactive – electrically disconnected at pole fuse (1,8)	91	68	76	55	47	11
Inactive – electrically disconnected due to meter disconnected (1,9)	124	113	104	93	39	14
Inactive – electrically disconnected at meter box fuse (1,10)	47	46	51	36	8	0
Inactive – electrically disconnected at meter box switch (1,11)	17	22	18	18	9	0
Inactive – electrically disconnected ready for decommissioning (1,6)	2,335	2,357	2,709	2,718	3,211	4,724
Inactive – reconciled elsewhere (1,5)	2	8	4	3	0	0
Decommissioned (3)	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.

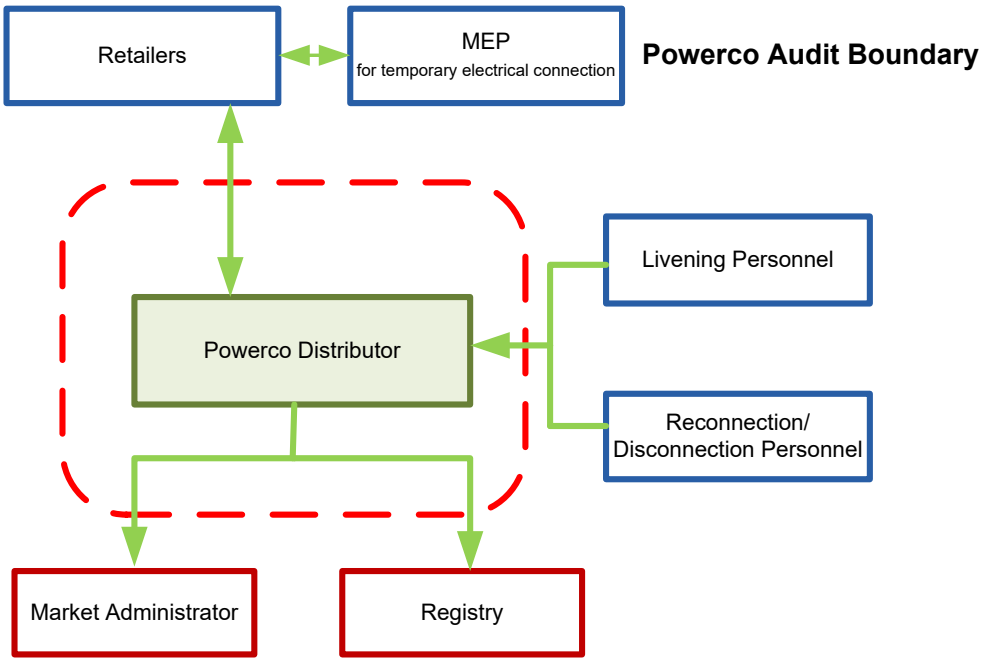
Registry reports for the following date ranges were reviewed for the audit:

- registry list snapshot and meter installation details reports, as of 19 July 2021, and
- registry list, event detail report, and audit compliance (AC020) reports for 1 July 2020 to 19 July 2021.

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 2020 by Tara Gannon 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 provide complete and accurate information	2.1	Clause 11.2(1) and 10.6(1)	Two network events did not have a correct effective date recorded; and were corrected during the audit.	Cleared
Requirement to correct errors	2.2	11.2(2) and 10.6(2)	3,132 active ICPs have duplicate addresses. 1,062 active ICPs have addresses which do not have a street number or property name.	Still existing
Distributors must create ICPs	3.1	11.14	36 private lights in the Palmerston North City Council region do not have shared unmetered load created.	Still existing
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 102 ICPs (2.1%).	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 4,315 ICPs.	Still existing
Connection of ICP that is not an NSP	3.6	Clause 11.17	Trader acceptance was not confirmed for ICP1000585445PC6F2 prior to initial electrical connection.	Still existing
Connection of ICP that is not an NSP	3.7	Clause 10.31	Trader acceptance was not confirmed for ICP1000585445PC6F2 prior to initial electrical connection.	Still existing
Changes to registry information	4.1	Clause 8 of Schedule 11.1	107 late address updates. 690 late distributed generation updates. 5,407 late network updates. 15 late NSP changes. 2,170 late pricing updates. 139 late updates to decommissioned status.	Still existing
Notice of NSP for each ICP	4.2	7(1),(4) and (5) Schedule 11.1	62 ICPs had incorrect NSPs assigned and were corrected during the audit.	Cleared

Subject	Section	Clause	Non-compliance	Status
ICP location address	4.4	Clause 2 of Schedule 11.1	3,132 active ICPs have duplicate addresses. 1,062 active ICPs have addresses which do not have a street number or property name. Nine ICPs had incorrect address towns or regions assigned; and were corrected during the audit.	Still existing
Distributors to Provide ICP Information to the Registry manager	4.6	Clause 7(1) of Schedule 11.1	3,132 active ICPs have duplicate addresses. 1,062 active ICPs have addresses which do not have a street number or property name. Nine ICPs had incorrect address towns or regions assigned; and were corrected during the audit. 62 ICPs had incorrect NSPs assigned and were corrected during the audit. Four ICPs had incorrect initial electrical connection dates; and were corrected during the audit. 114 active ICPs had missing initial electrical connection dates. 40 were corrected during the audit, and 74 are still to be investigated and corrected. 31 ICPs with known unmetered load (28 distributed unmetered load and three standard unmetered load) did not have distributor unmetered load details recorded on the registry and were corrected during the audit. 36 private lights in the Palmerston North City Council region do not have shared unmetered load created. Two ICPs invalidly had "unmetered load" recorded in the distributor unmetered load details; and were corrected during the audit. Powerco had incorrect distributor unmetered load details recorded for three ICPs and out of date details recorded for six ICPs, which were corrected during the audit.	Still existing
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 11 ICPs.	Still existing

Subject	Section	Clause	Non-compliance	Status
Maintenance of price category codes	4.12	23 Schedule 11.1	Price category codes NLC, NLCT and NLCV were incorrectly end dated, and were corrected during the audit period.	Cleared

Table of Recommendations

Subject	Section	Clause	Recommendation	Status
Changes to registry information	4.1	NSP changes for ICPs with shared unmetered load	Ensure that shared unmetered load details are retained when processing NSP changes for ICPs with shared unmetered load.	Cleared
Notification of shared unmetered load ICP list	7.1	Shared unmetered load	Liaise with councils to identify shared unmetered load and create relevant ICPs. Notify traders of created shared load in accordance with clause 11.14 of part 11.	In progress

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),
- **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.

Weekly report	Description
Reconciliation between CWMS and the registry	This report identifies differences between registry and CWMS for retailer, status, address, distributor unmetered load, and pricing. 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:

Weekly report	Description
	• **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: • **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, and • **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.
Clean-up report	Powerco devotes at least eight hours per week to investigating and resolving data discrepancies on the clean-up report, including: • **Low user ANZSIC**: ICPs on a low user pricing category with a non-residential ANZSIC code, • **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, • **Missing parent Shared unmetered load ICP**-ICPs with shared unmetered load, but no parent ICP recorded, • **Missing address data:** ICPs with incomplete addresses, • **Invalid address data:** ICPs with special characters in unexpected places in address fields, and • **Region check:** ICP level and street level discrepancies between regions and other address fields. 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.
Duplicate addresses report	This report shows all ICPs with duplicate addresses and includes inactive ICPs. Powerco has a dedicated resource who has been working through these during the audit period. The result of this work is discussed in **sections 2.2** and **4.4**.

Weekly report	Description
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. The initial electrical connection date aligns with the event date post the fix deployed on 1 July 2020. No incorrect event dates were identified during the audit period.
Address events	Any address changes are recorded with the current date.

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.

	2021	2020	2019	2018	2017	2016	Difference this year
Duplicate addresses	1,238	3,132	4,348	6,091	8,973	13,302	-1,894
Addresses without street number or property name	925	1,062	1,423	1,584	1,733	2,013	-137

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.2 With: 11.2(2) and 10.6(2) From: 20-Jun-20 To: 30-Jun-21	1,238 active ICPs have duplicate addresses. 925 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
Powerco has allocated a dedicated resource to resolve historic data errors. Our focus has been on correcting the backlog of duplicate addresses which is reflected in the large reduction seen in the audit period.	In place	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will continue to identify and correct errors in its weekly and ad-hoc reporting.	On-going	

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

Powerco do not remove or break seals. This work is undertaken by the traders and their MEPs.

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,
- on their website under "contact us", and
- on their Facebook page.

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 40 of the 6,059 new ICPs created since 1 July 2020 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, 2, 4 and 5),
- various traders,
- various price categories,
- various loss factors,
- connected to various NSPs, and
- with and without standard or distributed unmetered load connected (no ICPs with shared unmetered load were created).

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. No examples of points of connection without ICPs were found.

The TOLQ FSS0011 embedded network was created during the audit period, and Powerco created a LE ICP as required by this clause.

Powerco have been working the with councils on their Eastern network to ensure that there is one ICP per NSP for distributed unmetered loads. This is a historic issue and ICPs have been created for the Hauraki DC and Matamata Piako DC streetlights so that there is an ICP per NSP. There are plans to confirm that there is an ICP per NSP for the Councils on the Western network.

The new ICPs have been created for existing NZTA streetlights are to account for existing streetlights that were in the Council streetlight databases but are being removed to be managed in the NZTA streetlight database. This is discussed further in section 4.6.

Powerco does not have an ICP recorded for 36 private lights in the Palmerston North City Council region.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: 11.4 From: 19-Jun-20 To: 30-Jun-21	36 private lights in the Palmerston North City Council region do not have shared unmetered load created. 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 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.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco will continue to engage with councils including PNCC to ensure all unmetered load is correctly reconciled.	1/4/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will continue to work with contractors, DUML owners, and traders to ensure all unmetered load is correctly reconciled and will create ICPs where appropriate.	On-going	

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

Code reference

Clause 11.5(3)

Code related audit information

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

Audit observation

The new connection process was examined in detail. A diverse characteristics sample of 40 of the 6,059 new ICPs created since 1 July 2020 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 40 new ICPs. Four were requested by the trader, three by Trustpower and one by Genesis. All the ICPs were created within three business days of the trader's request. The remaining ICPs were all requested by the customer or a Powerco approved contractor.

Audit outcome

Compliant

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

Code reference

Clause 11.7

Code related audit information

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

Audit observation

35 of the 6,059 new ICPs created since 1 July 2020 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.

ICP information provided to the registry was correct for the sample of ICPs checked against application and connection details. The required fields were populated on the registry for all new connections.

Audit outcome

Compliant

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

Code reference

Clause 7(2) of Schedule 11.1

Code related audit information

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

Audit observation

The registry list, event detail report and AC020 report were examined to determine the timeliness of the provision of ICP information for new connections. A sample of 39 late updates were checked to determine why they were late.

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 WCN is received from the contractor to confirm other ICP attributes.

5,217 of the 6,059 ICPs created since 1 July 2020 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 97.9% last audit to 99.6% this audit. Most of the late updates were caused by new ICPs being created for existing unmetered load with backdated start 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 41 ICPs which did not have ready status populated prior to being electrically connected. The 14 ICPs were created during the audit period were checked and all were related to the creation of DUML ICPs for existing NZTA load that was either recorded in the local Council streetlight database or hasn't been captured before. This database is currently being audited on behalf of the trader.
Proposed trader	14 NZTA DUML ICPs did not have proposed trader information recorded prior being initially electrically connected. At the time these were created at "new" permission had been gained from Meridian who was expected to be the trader. Meridian did not win the contract and no acceptance was gained from Genesis, who won the contract prior. This is recorded as non-compliance, and I recommend below that the process to manage this situation is reviewed.
Address	All ICPs had an address populated prior to being initially electrically connected.
Network information (excluding proposed trader)	All ICPs had network information populated prior to being initially electrically connected.
Pricing	The AC020 report recorded 15 ICPs which did not have pricing information populated prior to being electrically connected. The 13 ICPs that were created during the audit period were checked and found all related to the NZTA contract and were updated late due to contract information not being available.

Recommendation	Description	Audited party comment	Remedial action
Timeliness of provision of ICP information to the registry	Review the process in place for projects involving multiple ICPs to ensure that permission from the proposed trader is gained in all instances.	Powerco is refining its processes to ensure all connections get trader acceptance where the proposed trader changes over the course of the project. We can confirm that the standard new connections process already has controls in place to ensure trader acceptance is re-obtained with a change of proposed trader.	Investigating

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.4 With: 7(2) of Schedule 11.1 From: 01-Jul-20 To: 30-Jun-21	Registry not updated prior to commencement of trading for 41 ICPs (0.6%). Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong overall. One area of improvement was identified. 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 created 14 new ICPs for NZTA to make changes to its contractual arrangements for the reconciliation of its streetlights. NZTA and the contracted trader agreed to a start date prior to trader acceptance and our registry update. Moving the ready date to align with trader acceptance for compliance would have affected the contracted start date and would not be for benefit the consumer or trader. If this situation arises in future, we will better communicate the requirements in the Code and communicate directly with the trader involved where possible.	Complete / On-going	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above in our responses to the recommendation and actions, Powerco is reviewing its processes for non-standard connections where proposed trader switches occur. We have also confirmed out new connections process does obtain trader acceptance in these cases for standard connections.	1/4/2022 Complete	

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 report was examined to determine the timeliness of the provision of initial electrical connection dates for new connections. A sample of 33 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.

Powerco's contractors provide a works completion notice (WCN) 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).

In other distributor audits where either the distributor carries out the electrical connection or the approved contractors provides the date of the initial electrical connection directly to the distributor, I have found instances where the BTS supply is not recorded on the registry and the permanent supply is the first meter to be recorded. As Powerco receives the initial electrical connection date from the trader, effective validation cannot occur between the trader's first active date and the initial electrical connection date, and unrecorded BTS supplies may not be identified.

Late initial electrical connection date updates

The AC020 report recorded 187 initial electrical connection dates which were populated more than ten business days after initial electrical connection, a dramatic decrease from 4,275 late updates last audit. 92 of the late updates were for ICPs created on or after 1 July 2020. A sample of 33 late updates for ICPs created on or after 1 July 2020 were checked, including all updates made more than 30 business days after initial electrical connection:

- 12 were updated late as either the trader or the MEP populated the first active date or the meter certification event late and Powerco used this information to populate the initial electrical connection date,
- eight of these were the NZTA ICPs discussed in **section 3.4** and were late due to the information being provided late,
- five were populated in error and the ICPs are still at "ready" so these are not backdated; the incorrect event is being reversed,

- three were populated late due to late paperwork from the contractor,
- three were populated in the first instance but a subsequent network event removed this from the registry; Powerco identified this via the BAU registry validation process and corrected this backdating the event to the correct event date, and
- two were corrections to the initial electrical connection date identified via the BAU registry validation process.

The AC020 report identified 131 ICPs commissioned after 29 August 2013 with no initial electrical connection date populated, a decrease from 153 during the last audit.

- 57 were timing differences, and initial electrical connection dates were correctly populated prior to the audit.
- 59 were populated but a subsequent network event has stripped this out. Powerco's registry validation process only checks recent ICPs, hence these weren't identified. These are being corrected.
- 13 are decommissioned ICPs and no further activity is expected on these ICPs.
- Two were initially electrically connected prior to the requirement for Distributor to populate this to the registry but the first active date recorded by the trader is post the requirement coming into effect, hence the appeared on the audit compliance report. I checked both ICPs with the relevant trader and both ICPs were electrically connected but made inactive for the intervening period, therefore Powerco is compliant.

The late 182 late updates recorded on the AC020 report are recorded as non-compliance below. The 59 ICPs which are believed to be connected but have missing initial electrical connection dates are recorded as non-compliance in **section 4.6**.

All but two ICPs checked had the correct initial electrical connection date. This is discussed in **section 4.6**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: 7(2A) of Schedule 11.1 From: 23-Jul-20 To: 28-Jun-21	Late population of the initial electrical connection date for 182 ICPs. Potential impact: None Actual impact: None Audit history: Three times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are strong, with initial electrical connection dates based on the best information available and daily monitoring and resolution of missing and potentially incorrect dates. 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 working to clean up historic IECD inaccuracies back their initial implementation.	1/4/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco has made improvements to its IECD reporting to better identify historic issues. We are continuously refining these reports to combine all available internal and external information to populate and correct IECDs as soon as practicable.	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 report 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.

As discussed in **section 3.4**, 14 new DUML ICPs did not have a trader recorded on the registry on the date when they were electrically connected. At the time these were created at "new" permission had been gained from Meridian who was expected to be the trader. Genesis won the contract, but no acceptance was sought from them prior to them being recorded as the proposed trader on the registry. This is recorded as non-compliance, and I recommend in **section 3.4** that the process to manage this situation is reviewed.

I checked a further 27 ICPs to confirm whether acceptance was received from the trader prior to initial electrical connection and acceptance was received in all instances and the proposed trader was recorded in the registry.

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-Jun-21 To: 30-Jun-21	No trader was recorded for the 14 NZTA DUML ICPs until post the first active date. 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 overall. One area of improvement was identified. 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
As discussed in 3.4, Powerco has worked with NZTA and the trader to ensure data for these connections accurate and complete. If this situation arises in future, we will better communicate the requirements in the Code and communicate directly with the trader involved where possible.	Complete/On-going	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As discussed in 3.4, Powerco is reviewing its processes for non-standard connections where proposed trader switches occur. We have also confirmed out new connections process does obtain trader acceptance in these cases for standard connections.	1/4/2022 Complete	

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 40 new connection applications of the 6,059 created since 1 July 2020 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.

As discussed in **section 3.4**, 14 new DUML ICPs did not have a trader recorded on the registry on the date when they were electrically connected. At the time these were created at "new" permission had been gained from Meridian who was expected to be the trader. Genesis won the contract, but no acceptance was sought from them prior to being recorded as the proposed trader on the registry. This is recorded as non-compliance, and I recommend in **section 3.4** that the process to manage this situation is reviewed.

I checked a further 27 ICPs to confirm whether acceptance was received from the trader prior to initial electrical connection and acceptance was received in all instances and the proposed trader was recorded in the registry.

No new connections for shared unmetered load were created.

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 3.7
With: 10.31

From: 01-Jun-21
To: 30-Jun-21</td><td colspan="3">Trader acceptance was not gained for 14 NZTA DUML ICPs prior to initial electrical connection.
Potential impact: Low
Actual impact: Low
Audit history: Twice previously
Controls: Strong
Breach risk rating: 1</td></tr>
<tr><th>Audit risk rating</th><th colspan="3">Rationale for audit risk rating</th></tr>
<tr><td>Low</td><td colspan="3">The controls are rated as strong overall. One area of improvement was identified.
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.</td></tr>
<tr><th colspan="2">Actions taken to resolve the issue</th><th>Completion date</th><th>Remedial action status</th></tr>
<tr><td colspan="2">As discussed in 3.4 and 3.6, Powerco has worked with NZTA and the trader to ensure data for these connections accurate and complete.
If this situation arises in future, we will better communicate the requirements in the Code and communicate directly with the trader involved where possible.</td><td>Complete

On-going</td><td rowspan="3">Investigating</td></tr>
<tr><th colspan="2">Preventative actions taken to ensure no further issues will occur</th><th>Completion date</th></tr>
<tr><td colspan="2">As discussed in 3.4 and 3.6, Powerco is reviewing its processes for non-standard connections where proposed trader switches occur.</td><td>1/4/2022</td></tr>
</table>

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. One temporarily electrically connected ICP was identified and is discussed in **section 4.6**.

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

No new NSPs were created by Powerco during the audit period.

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

No new NSPs were created by Powerco during the audit period.

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 40 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.

A diverse sample of 40 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 for active ICPs and did not identify any inconsistencies.

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 report 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 nine ICPs at "new" status, two were updated to "new connection in progress" or "distributor" status after the report was run. I checked the seven ICPs which remained at "new" status and confirmed all are at the correct 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 report 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. Two ICPs had been at "ready" status for more than 24 months and both have been confirmed as still required with both the trader and contractor.

Status	Number of ICPs at status as at 19/07/21	Number of ICPs at status for more than 12 months	Number of ICPs at status for more than 24 months
New (999,0)	9	9	-
Ready (0,0)	210	13	2

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.

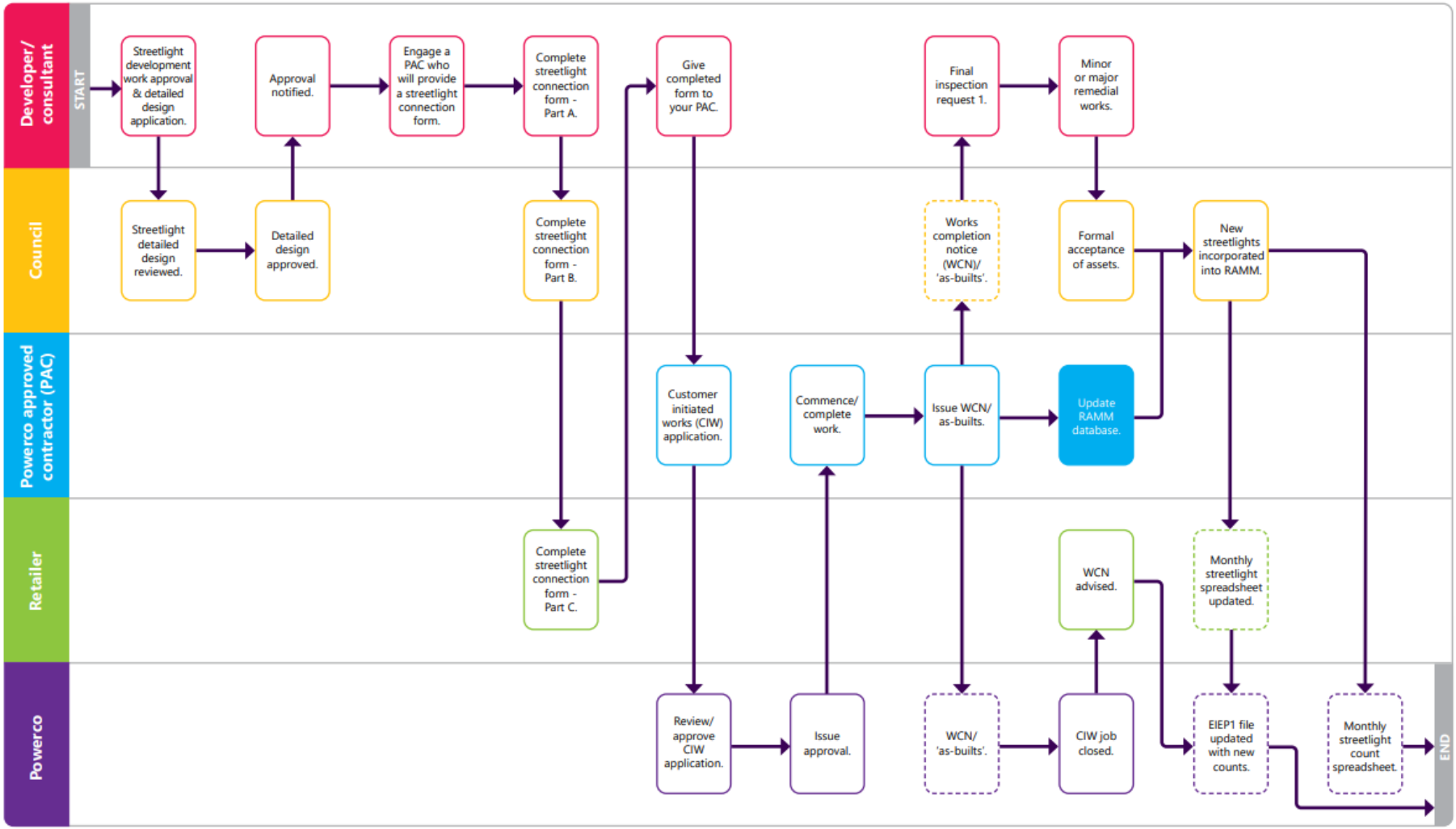
Audit observation

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

Audit commentary

Powerco do not undertake electrical connections. This is a trader's responsibility as detailed in **section 3.4**. The process of electrical connection of street light circuits was examined. Powerco have created a new approval form which is being rolled out across the Eastern network and is expected to be rolled out in the Western network in the future. The process is detailed below:

Streetlight Connection Process



Installing and connecting streetlights and their cables must be carried out by a Powerco Approved Contractor (PAC). You can find one here.

Powerco connect these to the network, but they do not put fuses in. This is expected to be undertaken by a Powerco approved contractor acting as an agent to the trader.

As discussed in earlier sections, 14 DUML ICPs were made ready on the registry without the trader's acceptance of these ICPs. I recommend in **section 3.4**, that this process is reviewed to ensure that the trader's acceptance is confirmed.

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.

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

Powerco bridge meters very rarely and only after all the conditions detailed above are met. In the rare instance when this occurs, the trader is advised of the bridging via email with all the relevant details as part of the work being closed out in CIWR. No instances were identified during the audit period.

Audit outcome

Compliant

4. MAINTENANCE OF REGISTRY INFORMATION

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

Code reference

Clause 8 Schedule 11.1

Code related audit information

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

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

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

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

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

Audit observation

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

A diverse sample of 169 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. 98.94% of updates were on time, and the average business days between the event date and update date was 1.92.

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 3,307 business days
2020	107	97.98%	25.95	17	23	27	29	107
2021	**51**	**98.94%**	**1.92**	**25**	**32**	**44**	**47**	**52**

The five latest updates and five updates between 20 and 150 business days late were examined. Nine were backdated updates made as part of the decommissioning process and one was to correct the town name. All the updates checked contained the correct event attributes.

Network events – distributed generation

The AC020 report recorded 891 ICPs where distributed generation details were updated more than three business days after the event date. 14.82% of updates were on time, and the average business days between the event date and update date was 44.66.

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 1,526 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**

The ten latest updates and five updates between 25 and 450 business days late were examined:

- six were delayed by late receipt of paperwork confirming that the ICP was generating,
- two were late notifications of the distributed generation being removed, and
- two were corrections and both were updated as soon as practicable.

Powerco has robust reporting in place to query any ICPs where distributed generation is present and Powerco have none recorded. These are queried with the trader and the MEP, but responses can be slow. This combined with late paperwork makes it difficult for Powerco to meet the 3-business day update to registry requirement. All the updates checked contained the correct event attributes.

Network events – other

The AC020 report recorded 3,770 ICPs where network fields were updated more than three business days after the event date. 68.71% of updates were on time, and the average business days between the event date and update date was 9.41. 891 of the late updates were to distributed generation fields, which are discussed above. Excluding these there were 2,879 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**

I checked a sample of the ten latest network updates (excluding distributed generation updates) and a diverse sample of a further 15 late updates. 24 were corrections to the initial electrical connection dates, NSPs, or unmetered load details. One was due to a late initial electrical connection date update that was also recorded in the late initial electrical connection date audit compliance report.

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.

* Value for all network updates, including distributed generation

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 94 ICPs where NSP changes were updated more than three business days after the event date.

- 60 late updates were corrections from MTM0331 to TMI0331 effective from 5 March 2019. The transformer was not mapped to the correct feeder. The issue was recorded in the 2020 audit and corrected after investigation following the audit.
- 33 late updates were not an NSP change but the correction made as a result of the last audit's findings where a script for an NSP change with shared unmetered load, had the shared unmetered ICP omitted from the file. These updates were to repopulate this information. There have been no further occurrences of this.
- One late update was a correction from SFD0331 to HUI0331 effective from 14 June 2013. This was to correct the Motukawa Power Station (ICP 0080011661PCC25) NSP connection. This was found during Powerco's analysis of UFE and was backdated to the correct date. Trustpower was notified by email of this correction.

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 312 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**

The ten latest updates and five updates between 30 and 500 business days late were examined and found that these were due to a correction made to CWMS to remove duplicate entries. This caused a pricing event to be sent to the registry which reversed the original event and then replaced it with the same values, effectively no change.

Status events

The AC020 report recorded that 86.71% of updates to decommissioned status were on time, and the average business days between the event date and update date was 15.37. 116 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**

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:

- six were delayed as a subsequent trader or metering event needed to be reversed before the decommission could be completed - traders and MEPs can sometimes be slow to respond to these requests causing Powerco to be non-compliant, and
- four late updates were caused by late receipt of decommissioning paperwork.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: 8 Schedule 11.1 From: 01-Jul-20 To: 19-Jul-21	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. 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.	On-going	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.	On-going	

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 report 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.

Reports are in place to check the transformer to NSP hierarchy to ensure that transformer, feeder and NSP relationships are correct.

Review of the AC020 report identified 56 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. 74 ICPs were affected, and for 65 the balancing area for both NSPs was the same.

I checked the nine ICPs connected a NSP with a different balancing area to other ICPs on the street:

- eight had the correct NSP and address assigned, and
- ICP 0000058942CPF28 has the correct NSP assigned but had the incorrect town recorded (this has been corrected and is shown as non-compliance in **section 4.4**).

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 recorded.

I confirmed that NSP assignment issues present during the 2020 audit have been resolved. Powerco found that the Motukawa Power Station (ICP 0080011661PCC25) was incorrectly connected to SFD0331. This was corrected to HUI0331 effective and backdated to 14 June 2013. This was found this during Powerco's analysis of UFE. Trustpower was notified by email of this correction.

Audit outcome

Compliant

4.3. Customer queries about ICP (Clause 11.31)

Code reference

Clause 11.31

Code related audit information

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

Audit observation

The management of customer queries was examined.

Audit commentary

Powerco directly receives very few 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 report 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 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 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 has appointed a dedicated staff member to resolve these. This has resulted in a reduction of 1,894 active ICPs with duplicate addresses and 137 active ICPs which previously had no street number or property name recorded this year.

1,929 ICPs in total have duplicate and/or incorrect addresses, because some are affected by both issues.

	2021	2020	2019	2018	2017	2016	Difference this year
Duplicate addresses	1,238	3,132	4,348	6,091	8,973	13,302	-1,894
Addresses without street number or property name	925	1,062	1,423	1,584	1,733	2,013	-137

As discussed in **section 4.2**, one ICP had incorrect address towns or regions recorded, and was corrected during the audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: 2 Schedule 11.1 From: 19-Jun-20 To: 17-Jul-21	1,238 active ICPs have duplicate addresses. 925 active ICPs have addresses which do not have a street number or property name. 1 active ICP with the incorrect town recorded. 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. Our focus has been on correcting the backlog of duplicate addresses which is reflected in the large reduction seen in the audit period.	On-going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will continue to identify and correct errors in its weekly and ad-hoc reporting.	On-going	

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 annual roadshows and quarterly catch ups with contractors which include the connection and isolation requirements.

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 remained incorrect by the time the audit was completed; or was not identified and corrected through Powerco's processes.

NSP information

Assignment of NSPs was reviewed in **section 4.2**.

All LE ICPs are recorded with dedicated NSP set to yes. Five active ICPs connected to NSPs within balancing areas containing more than one NSP have dedicated NSP set to yes. All the ICPs are generators and Powerco confirmed that the dedicated NSP status is correct because it is impractical to supply the ICPs from another NSP.

Powerco found that the Motukawa Power Station (ICP 0080011661PCC25) was incorrectly connected to SFD0331. This was corrected to HUI0331 effective and backdated to 14 June 2013. This was found during Powerco's analysis of UFE and was corrected as soon as practicable. Trustpower was notified by email of this correction.

Installation type and generation details

Powerco has a dedicated administration team to manage distributed generation.

Powerco's regular distributed generation installers enter applications directly into CIW. An excel template which includes full generation details and confirms compliance with NZS4777 is required to be completed and pasted into the CIW application. Less frequent installers complete paper-based applications for distributed generation, which are entered into CIW by Powerco's administrator as they are received.

Powerco approves or declines the application, and the customer or their agent is advised. A proposed livening date is expected to be provided within ten business days of approval, and a COC is expected to be provided within three business days of the proposed livening date. Contractors can adjust the expected dates as necessary within CIW. CIW is used to track the application and ensure that a COC and WCN are received, and any late information is followed up by the administrator. Where paper based WCNs are received, a WCN is manually created in CIW.

Reporting from CIW is used to identify overdue jobs for follow up.

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. If no generation is present Powerco asks the retailer to query whether the register should have settlement indicator N with the MEP. Responses can be slow to these requests causing Powerco to be non-compliant for late updates to the registry as detailed in **section 4.1**.

The list file recorded 5,847 active ICPs with distributed generation. The table below tracks the growth year on year:

Year	ICPs with distributed generation
2015	975
2016	1,554
2017	2,404
2018	3,345
2019	4,009
2020	4,853
2021	5,847

Generation information completeness

All ICPs with a non-zero generation capacity had a fuel type and an installation type of "B" or "G" recorded.

The AC020 report recorded 37 ICPs where the trader's profile indicated generation was present but no distributed generation details were recorded by Powerco.

- Five were timing differences and distributed generation details were populated on the registry prior to the audit.
- 14 ICPs either had generation removed or have been confirmed as having no distributed generation. Where distributed generation is removed, Powerco is notified via a CIWR. Once the work request is completed, an email is sent to the trader to notify them, but these do not appear to be actioned by the trader.
- 16 ICPs did not have an EG register and no application for distributed generation had been received. It appears likely that there is no generation, and the trader has recorded an PV1 profile because a generation register is present.
- ICP 0000044980UNFB0 is under investigation with the trader to confirm if distributed generation is present. The trader is liaising with their customer.
- The MEP incorrectly configured the meter on ICP 0000006083UN2AC indicating distributed generation was present. This was for the wrong ICP, and the MEP has recertified the meter and removed the injection channel. The trader has updated to profile to RPS.

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. I found five ICPs with a solar fuel type with a profile indicating not solar. These were checked and found these have both solar and batteries and therefore should be recorded as "other". The trader has the incorrect profile applied.

I checked a further ten ICPs with a non-solar fuel type with a profile indicating solar. "Solar" has been recorded have both solar and battery present and found nine are correctly recorded. ICP 0000053221CP0F6 is recorded as wind but the trader has a solar profile applied. Google Earth images show potential solar panels. Powerco are investigating this to confirm what is on site.

I checked the accuracy of generation details recorded on the registry for a sample of 15 ICPs and confirmed all were correctly populated.

Price and loss categories

Analysis of the list file found all active ICPs had a 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 435 ICPs where trader unmetered load is recorded, but there are no distributor unmetered load details. 83 of the ICPs were active, and 352 were inactive (including 294 ICPs which were ready for decommissioning).

Two of the active ICPs have DUML load indicated by the trader. During the audit, Powerco updated the distributor unmetered load details to "DUML".

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

Review of the registry list identified two active ICPs with distributor unmetered load recorded and no trader unmetered load. Two ICPs invalidly had "unmetered load" recorded in the distributor unmetered load details and were corrected during the audit.

Distributor unmetered load details differ from the trader unmetered load details

1,823 active ICPs have a value recorded in the distributor unmetered load details field.

For the 1,162 ICPs where this information was in the format recommended in the Authority's Guidelines on Unmetered Load Management Version 2.1, and a trader unmetered load value was populated, I compared the figures. For 1,147 ICPs (98.5%) Powerco's value matched the trader's value within ±0.1 kWh, and for 1,155 (99.2%) Powerco's value matched the trader's value within ±1.0 kWh. The other seven ICPs were checked. Six were DUML ICPs and are reconciled using a database so the kWh values in the registry are not used for reconciliation. I recommend that the unmetered load details are updated to indicate these are DUML ICPs.

Recommendation	Description	Audited party comment	Remedial action
Distributors to provide ICP information to the registry.	Update the unmetered load details to DUML for the six ICPs reconciled using a DUML database.	Updates have been made.	Adopted

The unmetered load details for ICP 0000557920UN07D indicate that this may be DUML. This is being investigated with the trader.

DUML and shared unmetered load

Powerco have been working the with councils on their Eastern network to ensure that there is one ICP per NSP for distributed unmetered loads. This is a historic issue and ICPs have been created for the Hauraki DC and Matamata Piako DC streetlights so that there is an ICP per NSP. There are plans to confirm that there is an ICP per NSP for the Councils on the Western network.

The new ICPs have been created for existing NZTA streetlights are to account for existing streetlights that were in the Council streetlight databases but are being removed to be managed in the NZTA streetlight database.

DUML audits for streetlight databases on Powerco's network were reviewed to determine whether there were any issues relating to distributor unmetered load records:

Database	Last audit date	Comment
Carterton District Council	14/05/20	No issues noted.
Hauraki District Council	23/10/20	No issues noted.
Manawatu District Council	31/08/20	No issues noted.
Masterton District Council	26/02/20	No issues noted.
Matamata Piako District Council	15/12/20	No issued noted. The previous audit issue relating to 124 NZTA rural lights is cleared.
New Plymouth District Council	01/09/20	The audit found 76 private lights were not recorded with a valid ICP number and were excluded from the monthly wattage figures. This is potentially resulting in an estimated annual under submission of up to 21,188 kWh per annum if these lights should be reconciled under the NPDC ICPs. The next audit of this database is currently in progress.
NZTA Wairarapa GENESIS	26/05/21	No issues noted.
NZTA Wairarapa	01/06/20	The ICPs associated with this database are expected to be decommissioned and reconciled in the NZTA Lower North Island database
Palmerston North Airport	08/01/20	No issues noted.
Palmerston North City Council	22/05/20	Private lights are recorded in the database but excluded from submission.
South Taranaki District Council	14/06/21	No issues noted.
South Waikato District Council	27/05/21	No issues noted.
South Wairarapa District Council	14/05/20	No issues noted.

Database	Last audit date	Comment
Stratford District Council	30/03/20	No issues noted.
Tararua District Council	28/08/20	No issues noted.
Tauranga City Council	27/11/20	No issues noted.
NZTA Tauranga	20/11/20	No issues noted.
Thames Coromandel District Council	30/11/20	No issues noted.
Western Bay of Plenty District Council	05/05/21	No issues noted.
Western Bay of Plenty NZTA	13/04/21	No issues noted.

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

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 15 ICPs where the initial electrical connection date differed from the meter certification date. All initial electrical connection dates matched the trader's earliest active status date. I checked all 15 exceptions and found two ICPs with the incorrect initial electrical connection date:

- ICP 1000599753PCDB2 was an ICP split - the mains were electrically connected on 16 April 2021, but the initial electrical connection and first active date was recorded as 28 May 2021; this is being corrected, and
- ICP 1000590642PCEFE was temporarily electrically connected to certify the metering on 4 November 2020 but the initial electrical connection and first active date was recorded when the site was powered up on 24 November 2020; this is being corrected.

The AC020 report recorded 23 ICPs at "inactive - new connection in progress" status and 12 ICPs at "ready" status with initial electrical connection dates populated:

- 19 were timing differences, and the status was updated to active after the report was run,
- eight were populated incorrectly and the initial electrical connection date has since been reversed - six of these were NZTA DUML ICPs and the remaining two were due to the incorrect information being provided by the contractor, and
- eight were confirmed as being electrically connected and the trader has yet to make them active.

Missing initial electrical connection dates

The AC020 report identified 131 ICPs commissioned after 29 August 2013 with no initial electrical connection date populated, a decrease from 153 during the last audit.

- 57 were timing differences, and initial electrical connection dates were correctly populated prior to the audit.
- 59 were populated but a subsequent network event has stripped this out. Powerco's registry validation process only checks recent ICPs, hence these weren't identified. These are being corrected.
- 13 are decommissioned ICPs and no further action is expected on these ICPs.
- Two were initially electrically connected prior to the requirement for Distributor to populate this to the registry but the first active date recorded by the trader is post the requirement coming into effect, hence the appeared on the audit compliance report. I checked both ICPs with the relevant trader and both ICPs were electrically connected but made inactive for the intervening period, therefore Powerco is compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.6 With: 7(1) of Schedule 11.1 From: 01-Jul-20 To: 30-Jun-21	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. 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 reporting and associated processes in place will mitigate risk to an acceptable level. The number of discrepancies is minor and has no direct impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco has made corrections to the DG and unmetered load ICPs identified in the audit. As discussed in 3.1 Powerco will continue to engage with councils including PNCC to ensure all unmetered load is correctly reconciled.	Complete On-going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will continue to monitor its reporting and make corrections when required. Powerco is also investigating alternative methods of verifying addresses as residual exceptions become more difficult to resolve.	On-going	

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 report 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.

Eight ICPs created during the audit period did not have pricing information entered within ten business days of being made active. All late updates were checked and found that they related to the new NZTA DUML ICPs and these were backdated to align with the contract start date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.7 With: 7(3) Schedule 11.1 From: 01-Jun-21 To: 28-Jun-21	Pricing was not provided within ten business days of initial electrical connection for eight ICPs. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as the reporting and associated processes will mitigate risk to an acceptable level. The audit risk rating is low. The late pricing events all related to a one incident.

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.	On-going	Identified
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.	On-going	

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

Powerco does not populate GPS coordinates on the registry.

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 210 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 66 ICPs with distributor status.

12 are points of connection between embedded networks and the Powerco network, including an LE ICP created for the TOLQ FSS0011 embedded network, which had a start date during the audit period.

The remaining 54 are shared unmetered load parent ICPs. No new ICPs have been created for shared unmetered load 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

Examination of the list file found 2,335 ICPs are at "ready for decommissioning" status:

Number of ICPs 2021	Number of ICPs 2020	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017	Number of ICPs 2016
2,335	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 July 2020 and 18 July 2021:

Current status	Percentage	Count
Decommissioned	89.65%	901
Ready for decommissioning	8.96%	90
Returned to active status	1.39%	14
Total		**1,005**

The ten ICPs at "ready for decommissioning" status which had the oldest status update dates were checked.

- Four ICPs have since been decommissioned as part of BAU.
- Two decommissions are in progress, and Powerco is awaiting completion paperwork from the contractor before updating the status
- Eight ICPs have not been decommissioned because no request for decommissioning has been received from the trader. The management of ICPs in this status is the responsibility of the Distributor. Powerco worked over a number of years to clear the backlog. ICPs are only progressed through the decommission process if a job has been lodged in CIWR, therefore the volume of such ICPs will build up over time. Currently the oldest ICPs pending decommissioning date back 12 months. I recommend below a process is put in place to manage these ICPs and avoid another build-up of ICPs pending decommissioning.

Recommendation	Description	Audited party comment	Remedial action
Management of "decommissioned" status	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.	Powerco intends to implement a process triggered by the trader moving an ICP to the "ready to decommission status". The intent is to ensure either a decommission job is logged, or the ICP is moved into another (correct) status by the trader.	Identified

A sample of ten decommissioned ICPs were checked and confirmed to have the correct decommissioning date recorded, or the first available date where previous registry events prevented decommissioning on the physical decommissioning date.

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 new price category codes T39, T28N and V22 effective from 1 April 2021. The codes were created more than two months before they came into effect.

Powerco ended dated price category codes T43 and T43N on 1 August 2020. Review of the registry list with history confirmed that these pricing codes were not applied for any active ICPs 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 updated the loss factors for 27 loss codes effective from 1 April 2021 on 5 February 2021. The changes were not made at least two calendar months before the loss factors became effective.

Loss Code	Start Date	End Date	Start Period	End Period	Last Updated
BRK	1/04/2021		1	48	5/02/2021 9:25
BRK11	1/04/2021		1	48	5/02/2021 9:32
BRKSL	1/04/2021		1	48	5/02/2021 9:25
CST	1/04/2021		1	48	5/02/2021 9:08
CST11	1/04/2021		1	48	5/02/2021 9:18
CSTSL	1/04/2021		1	48	5/02/2021 9:16
HUI	1/04/2021		1	48	5/02/2021 9:14
HUI11	1/04/2021		1	48	5/02/2021 9:19

Loss Code	Start Date	End Date	Start Period	End Period	Last Updated
HUISL	1/04/2021		1	48	5/02/2021 9:16
MTN	1/04/2021		1	48	5/02/2021 9:26
MTN11	1/04/2021		1	48	5/02/2021 9:33
MTNSL	1/04/2021		1	48	5/02/2021 9:27
MTR	1/04/2021		1	48	5/02/2021 9:27
MTR11	1/04/2021		1	48	5/02/2021 9:34
MTRSL	1/04/2021		1	48	5/02/2021 9:28
OKN	1/04/2021		1	48	5/02/2021 9:29
OKN11	1/04/2021		1	48	5/02/2021 9:35
OKNSL	1/04/2021		1	48	5/02/2021 9:29
SFD	1/04/2021		1	48	5/02/2021 9:15
SFD11	1/04/2021		1	48	5/02/2021 9:19
SFDSL	1/04/2021		1	48	5/02/2021 9:17
WGN	1/04/2021		1	48	5/02/2021 9:30
WGN11	1/04/2021		1	48	5/02/2021 9:35
WGNSL	1/04/2021		1	48	5/02/2021 9:30
WVY	1/04/2021		1	48	5/02/2021 9:31
WVY11	1/04/2021		1	48	5/02/2021 9:37
WVYSL	1/04/2021		1	48	5/02/2021 9:32

Three loss codes were end dated. Review of the registry list with history confirmed that these loss codes were not applied for any active ICPs during the audit period.

Loss Code	Start Date	End Date	Start Period	End Period	Last Updated
NPL	1/04/2013	31/03/2021	1	48	5/02/2021 11:28
NPL11	1/04/2011	31/03/2021	1	48	5/02/2021 11:29
NPLSL	1/04/2013	31/03/2021	1	48	5/02/2021 11:29

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.2 With: 22 Schedule 11.1 From: 01-Feb-21 To: 05-Feb-21	27 loss factors were updated on the registry less than two months before they came into effect. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are strong and ensure that correct event dates are normally applied. A staff change elsewhere in the business resulted in this being notified late to the team responsible to update this on the registry. Training has been provided. The impact is low because the updates were made 54 days before coming into effect, which is close to two months prior.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco's updates to loss factors was correct and in line with those notified to retailers but sent to registry after the required timeframe. Preventative actions are discussed below.	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Clarification of the timeframe to update registry has been communicated to the pricing team and the process has been updated to ensure changes are received in time to meet our obligations.	Complete	

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 (a "transfer"), the distributor must:

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

Audit observation

The NSP table was examined.

Audit commentary

Powerco did not create or decommission any NSPs which were an interconnection point between two local networks, or between an embedded network and another network.

A new embedded network FSS0011 was created by TOLQ during the audit period.

Dist	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date
TOLQ	FSS0011	56 The Square Palmerston North	BPE0331	POCO	FSS0011TOLQE	E	01/12/20

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

No new NSPs were created by Powerco during the audit period.

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 reviewed.

Audit commentary

No balancing area changes occurred during the audit period.

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 3 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 1 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 have not connected any new NSPs.

Audit outcome

Compliant

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

Code reference

Clause 29 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

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 54 shared unmetered load parent ICPs. No new "distributor" ICPs have been created for shared unmetered load during the audit period, and shared unmetered load was not added for any new ICPs created during the audit period.

As noted in **sections 3.1** and **4.6**, private lights are recorded in both the New Plymouth DC and Palmerston North CC streetlight databases. The private lights for New Plymouth DC have been investigated by Powerco and many of these are believed to belong to the council. These findings have been passed back to the council and Powerco are working with them to resolve these. If standard or shared unmetered load is confirmed this will be created.

For Palmerston North CC shared unmetered load appears to have been added for at least 26 of the lights to existing parent shared unmetered load ICPs. Shared or standard unmetered load is recorded on the registry on the streets for a further 67 lights, but I was unable to confirm whether the load related to that particular light and/or the wattage differed from the value recorded in RAMM. This is discussed further in **sections 3.1** and **4.6**.

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 411 active and inactive child ICPs across 54 SI ICPs, the same as was found during the 2020 audit. 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 records for all ICPs with shared unmetered load on the registry list and confirmed that no unmetered load details had been changed during the audit period. All child ICPs with shared unmetered load had a trader 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.

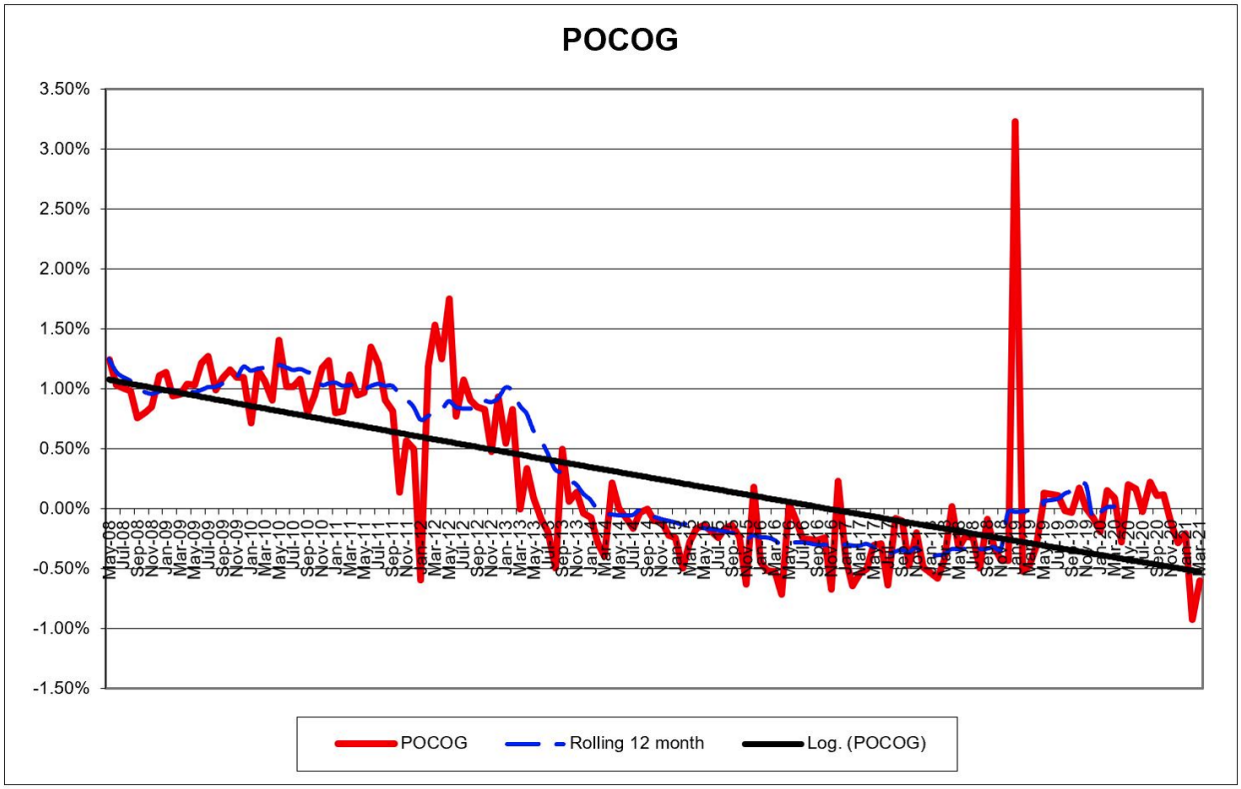
I reviewed correspondence and documentation relating to the loss factor review.

Audit commentary

Powerco completed a loss factor review in January 2021. 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. Where balancing areas were found to be outside the Authority's compliance threshold, they were adjusted effective from 1 April 2021, with the aim of bringing them within the ±1% 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:



Audit outcome

Compliant

CONCLUSION

Powerco have a high level of compliance. This is due to the robust processes in place to manage data accuracy and timeliness of updates to the registry. Historic data accuracy issues continue to be a focus and the volumes of these have continued to decrease during the audit period. The remaining volumes are minor and close to being resolved.

I identified two areas of opportunity during the audit. The process for complex contract related new ICPs where multiple ICPs are involved requires review to ensure that acceptance from the trader is gained. There was an example during the audit period where one trader accepted responsibility while the ICPs were at "new" then the contract was awarded to a different trader and no acceptance was gained from the new trader before they were recorded as the proposed trader on the registry.

The second opportunity relates to ICPs that are made ready to decommission by the trader but where no job is logged in CIWR. In these instances, no action is taken by Powerco to progress these. Powerco previously did have a backlog, and these were resolved via a special project where sites were visited to confirm their correct status. If the ICPs pending where a job is not logged are not worked, this will result in another backlog of ICPs. I recommend that a process is put in place to manage these.

This audit found 11 non-compliances and makes two recommendations. The majority of these non-compliances relate to 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 10 of the 11 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 identified both a high level of compliance and a number of improvements on existing controls.

It is encouraging that this audit has identified that Powerco has strong controls in place across 10 of the 11 areas of non-compliance. This has been an area of focus and will help us to minimise instances of future non-compliance. It is also encouraging to see that these improvements have resulted in a reduced number of issues identified when compared to the last audit.

This year we have focused heavily on data quality which is reflected in the large reduction in duplicated addresses from 3,132 to 1,238 audit to audit. Going forward, the resources assigned to achieve these corrections will be moving into other areas where we expect to see similar improvements.

Following on from the work done with Waka Kotahi (NZTA), Powerco will continue to work with traders and councils to improve the accuracy of data and reconciliation of streetlights in our footprint.

Powerco will continue to refine its processes and systems to strengthen controls and ensure we meet our obligations in the Code.