ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTOR AUDIT REPORT

For

POWERCO

Prepared by: Tara Gannon

Date audit commenced: 18 June 2019

Date audit report completed: 28 June 2019

Audit report due date: 10 August 2019

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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.

Some significant improvements have been made during the audit period:

1. Up to 31/03/19, ICPs were created at "new" status and made ready upon retailer acceptance. From 01/04/19 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 process to obtain trader acceptance is partially automated, and the percentage of on time updates has improved from 95.8% to 98.0%.
2. Up to 30/04/19, initial electrical connection dates were entered as the MEP's meter certification date, and missing initial electrical connection dates were identified and corrected twice per month. From 01/05/19 initial electrical connection dates are based on the best information available, and missing and potentially incorrect dates are monitored, checked, and corrected daily. Because the new connection process changes occurred at around the time the event detail report was run, evidence of improvements to the speed and accuracy of population of initial electrical connection dates was not visible. Improved performance is expected in the next audit period.
3. Processes for distributed generation have improved. A dedicated administrator has been employed, and applications for distributed generation are closely monitored to ensure that a certificate of compliance is received. Registry information is also monitored to identify any ICPs where distributed generation may have been installed without an application, or where paperwork confirming installation is late.

Further improvements are planned, with data and registry validation processes under review.

This audit found 11 non-compliances and makes three recommendations. The majority of the non-compliances relate to late population of data, and some incorrect or incomplete data which Powerco is aware of, and working to resolve. Two of the non-compliances related to late recording of a trader for ICP 1000576622PC9B3. The delay was caused by an upgrade work order being changed to a decommission and new ICP creation by the Powerco approved contractor when on site. The new ICP was not created until after the works completion notice (WCN) was received, causing the backdated updates.

Loss factor accuracy remains outside the threshold for one balancing area (BA1EASTPOCO), but the process is compliant and accuracy is expected to improve during the next audit period.

The audit frequency table indicates that the next audit is due in 12 months. I recommend that the next audit is due in 14 months, after considering:

- That all non-compliances had control ratings of moderate or higher.
- That recent process improvements that should improve future compliance.
- The responses from Powerco, which indicate that appropriate action has or will be taken to prevent future non-compliance.
- Evidence of Powerco's ongoing commitment to resolving historic issues observed during the audit.

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 provide complete and accurate information	2.1	Clause 11.2(1) and 10.6(1)	117 network events did not have a correct effective date recorded.	Moderate	Low	2	Identified
Requirement to correct errors	2.2	11.2(2) and 10.6(2)	117 network events did not have a correct effective date recorded.	Moderate	Low	2	Identified
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 76 ICPs (1.97%).	Moderate	Low	2	Identified
Timeliness of Provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	Late population of initial electrical connection date for 109 ICPs (2.8%).	Strong	Low	1	Identified
Connection of ICP that is not an NSP	3.6	Clause 11.17	ICP 1000576622PC9B3 was electrically connected prior to having a trader nominated on the registry.	Strong	Low	1	Identified
Connection of ICP that is not an NSP	3.7	Clause 10.31	ICP 1000576622PC9B3 was electrically connected prior to the trader accepting responsibility.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Changes to registry information	4.1	Clause 8 of Schedule 11.1	79 late address updates. 7524 late network updates. 1,258 late pricing updates. 443 late status updates.	Moderate	Low	2	Identified
Notice of NSP for each ICP	4.2	7(1),(4) and (5) Schedule 11.1	Three ICPs with incorrect NSPs assigned, and one ICP likely to have an incorrect NSP assigned.	Moderate	Low	2	Cleared
ICP location address	4.4	Clause 2 of Schedule 11.1	5.771 ICPs with addresses that are either duplicated or not readily locatable.	Strong	Low	1	Identified
Distributors to Provide ICP Information to the Registry manager	4.6	Clause 7(1) of Schedule 11.1	Eleven ICPs had incorrect addresses recorded, which have now been corrected. Five ICPs had redundant distributor unmetered load details recorded, which have now been removed. ICP 1000547492PC18A had an incorrect installation type recorded, which has now been corrected. 38 ICPs did not have an initial electrical connection date recorded, which	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			have now been corrected.				
Creation of loss factors	8.1	Clause 11.2	Loss factors are not accurate for balancing area BA1EASTPOCOG as indicated by the reconciliation losses.	Strong	Medium	2	Identified
Future Risk Rating						18	

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	Description
Electrical connection of a point of connection	3.16	Electrical connection of a point of connection	Arrange blanket approvals from DUML traders for new streetlight circuits created without ICPs. Or establish a clear trader responsibility acceptance process for new streetlight circuits created without ICPs.
Distributors to Provide ICP Information to the Registry manager	4.6	Provide ICP information to the registry	Update unmetered load details to "DUML" for those ICPs reconciled by a DUML database by the trader.
Notification of shared unmetered load ICP list	7.1	Clause 11.14(2) and (4) 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.

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.

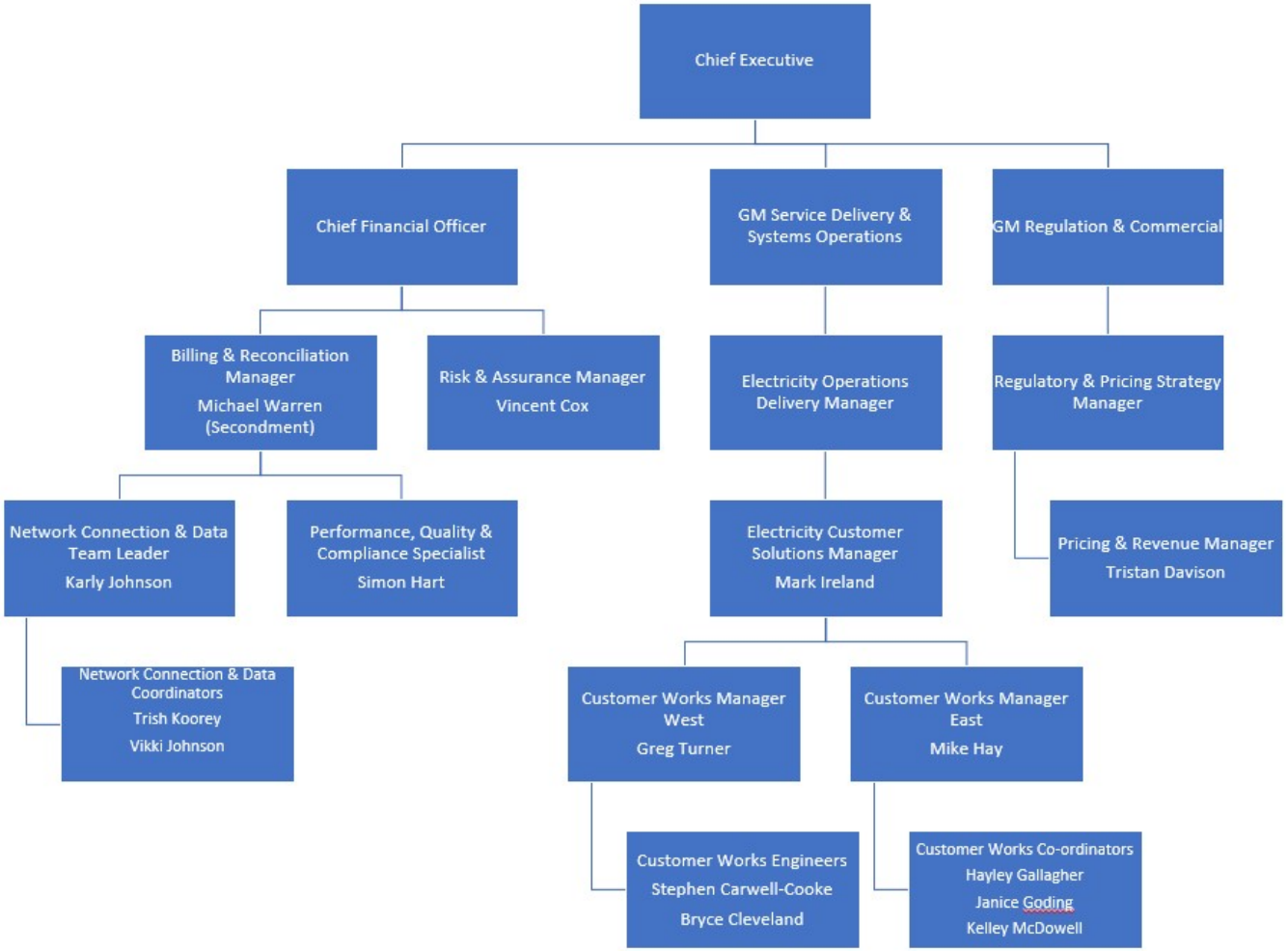
Audit observation

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:

Tara Gannon

Veritek Limited

Electricity Authority Approved Auditor

Personnel assisting in this audit were:

Name	Title
Greg Turner	Customer Works Manager Western Region
Janice Goding	Customer Works Coordinator Eastern Region
Karly Johnson	Network Connections and Data Team Leader
Mark Ireland	Customer Solution Manager
Michael Warren	Billing and Reconciliation manager
Mike Hay	Customer Works Manager Eastern Region
Simon Hart	Performance, Quality and Compliance Coordinator
Tristan Davison	Pricing Manager
Vincent Cox	Risk and Assurance Manager

1.4. Use of contractors (Clause 11.2A)

Code reference

Clause 11.2A

Code related audit information

A participant who uses a contractor

- *remains responsible for the contractors fulfillment 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

Whanganui

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

Manawatu

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

Wairarapa

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

Tauranga

- Northpower Papamoa
- McKay Limited
- Downer Tauranga
- NPE-Tech Ltd Tauranga
- Electrical Inspection Limited
- Elite Electrical Inspections
- Horizon Services Limited
- Switch Electrical
- Accord Electrical Inspections
- Kaimai Electrical Inspections Limited

- Double D Electrical & Inspections
- Guild & Spence Electrical Limited

Waikato and Coromandel

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

1.5. Supplier list

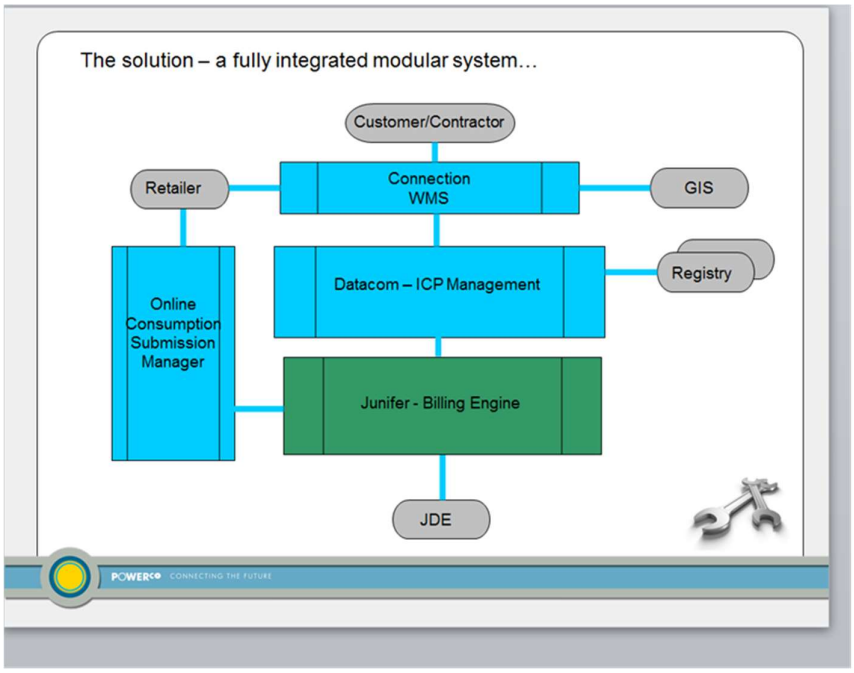
Powerco has provided the list of sub-contractors authorised to perform livening activities on their network in **section 1.4**.

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 customers and contractors can access directly.
- **Customer Workflow Management System (CWMS)** is used to manage workflows, 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 intends to replace its financial and asset management systems with SAP from 01/08/19. Phase two of the SAP project is expected to encompass other processes including registry management, and is likely to be implemented in 2020-2021. 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.

There have been no changes made to the NSPs for the Powerco network during the audit period. The table below lists the relevant NSPs and their associated balancing areas:

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of ICPs
POCO	BPE0331	BUNNYTHORPE			BA4WESTPOCOG	G	1/05/2008	34682
POCO	BRK0331	BRUNSWICK			BA3WESTPOCOG	G	1/08/2016	12298
POCO	CST0331	CARRINGTON ST			BA1WESTPOCOG	G	1/05/2008	19837
POCO	GYT0331	GREYTOWN			BA6WESTPOCOG	G	1/05/2008	7077
POCO	HIN0331	HINUERA			BA5EASTPOCOG	G	1/05/2008	11189
POCO	HUI0331	HUIRANGI			BA1WESTPOCOG	G	1/12/2008	9868
POCO	HWA0331	HAWERA			BA2WESTPOCOG	G	1/05/2008	9239
POCO	KIN0112	KINLEITH			KIN0112POCOG	G	20/05/2013	1
POCO	KIN0331	KINLEITH			BA2EASTPOCOG	G	1/05/2008	6634
POCO	KMO0331	Kaitemako			BA1EASTPOCOG	G	1/04/2009	8708
POCO	KPU0661	KOPU			BA3EASTPOCOG	G	1/05/2008	24966
POCO	LTN0331	LINTON			BA4WESTPOCOG	G	1/05/2008	16703
POCO	MGM0331	MANGAMAIRE			BA5WESTPOCOG	G	1/05/2008	4298
POCO	MST0331	MASTERTON			BA6WESTPOCOG	G	1/05/2008	18085
POCO	MTM0331	MT. MAUNGANUI			BA1EASTPOCOG	G	1/05/2008	15930

POCO	MTN0331	MARTON			BA3WESTPOCOG	G	1/05/2008	6168
POCO	MTR0331	MATAROA			BA3WESTPOCOG	G	1/05/2008	2768
POCO	NPL0331	New Plymouth			BA1WESTPOCOG	G	1/07/2010	8295
POCO	OKN0111	OHAKUNE			BA3WESTPOCOG	G	1/05/2008	1200
POCO	OPK0331	OPUNAKE			BA2WESTPOCOG	G	1/05/2008	3026
POCO	PAO1101	PIAKO 110KV			BA5EASTPOCOG	G	24/07/2012	7639
POCO	SFD0331	STRATFORD			BA1WESTPOCOG	G	1/01/2015	8318
POCO	TGA0111	TAURANGA			BA1EASTPOCOG	G	1/05/2008	9762
POCO	TGA0331	TAURANGA			BA1EASTPOCOG	G	1/05/2008	33537
POCO	TMI0331	TE MATAI			BA1EASTPOCOG	G	1/05/2008	17967
POCO	WGN0331	WANGANUI			BA3WESTPOCOG	G	1/08/2016	9859
POCO	WHU0331	WAIHOU			BA5EASTPOCOG	G	1/05/2008	5124
POCO	WKO0331	WAIKINO			BA4EASTPOCOG	G	1/05/2008	16365
POCO	WVY0111	WAVERLEY			BA3WESTPOCOG	G	1/05/2008	1338

There are eight embedded networks connected to the Powerco network, shown in the table below. The TENC TGD0011 and TSB0011 embedded networks were created during the audit period. No embedded networks were decommissioned during the audit period.

Distributor	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
CBRE	CFM0011	FMG House	LTN0331	POCO	CFM0011CBREE	E	1/09/2010
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

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

Status	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017	Number of ICPs 2016
Distributor (888)	67	64	64	65
New (999)	66	104	95	87
Ready (000)	124	131	170	109
Active (2,0)	330,881	327,617	324,102	319,558
Inactive- new connection in progress (1,12)	287	350	389	316
Inactive – electrically disconnected vacant property (1,4)	7,284	7,306	7,454	7,755
Inactive – electrically disconnected remotely by AMI meter (1,7)	953	818	752	2
Inactive – electrically disconnected at pole fuse (1,8)	76	55	47	11
Inactive – electrically disconnected due to meter disconnected (1,9)	104	93	39	14
Inactive – electrically disconnected at meter box fuse (1,10)	51	36	8	0
Inactive – electrically disconnected at meter box switch (1,11)	18	18	9	0
Inactive – electrically disconnected ready for decommissioning (1,6)	2,709	2,718	3,211	4,724
Inactive – reconciled elsewhere (1,5)	4	3	0	0
Decommissioned (3)	25,470	24,454	23,107	20,482

1.9. Authorisation Received

A letter of authorisation was provided.

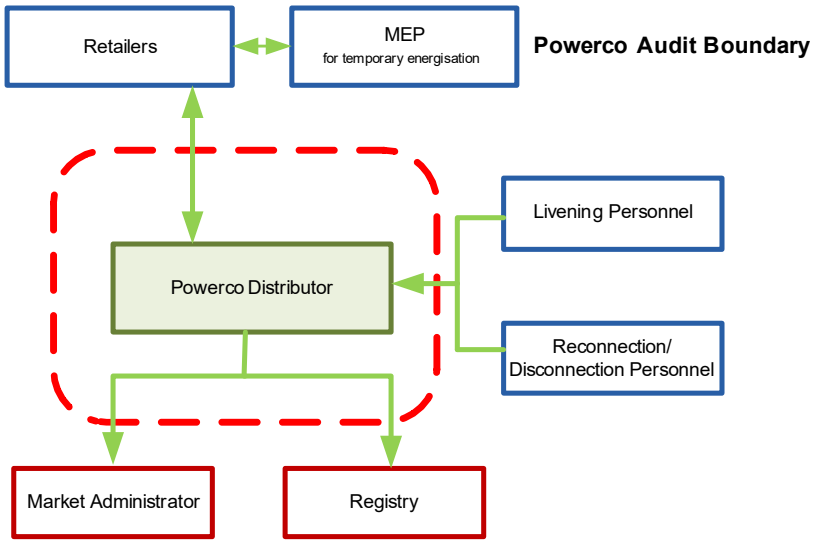
1.10. Scope of Audit

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.

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 2018 by Rebecca Elliot of Veritek Limited. The audit recorded eleven non-compliances and made one recommendation. The current status of the non-compliances and recommendation are listed below.

Subject	Section	Clause	Non-compliance	Status
Requirement to provide complete and accurate information	2.1	11.2(1)	Initial electrical connection date not taken from the electrical connection paperwork but uses the meter certification instead.	Cleared, but other non-compliance still exists

Subject	Section	Clause	Non-compliance	Status
Timeliness of Provision of ICP Information to the registry	3.4	7(2) of Schedule 11.1	Registry not updated prior to commencement of trading for 86 (4.2%) ICPs.	Still existing, but improvements have been made
Timeliness of Provision of Initial Electrical Connection date	3.5	7(2A) of Schedule 11.1	Late population of initial electrical connection date for 100 (4.1%) ICPs.	Still existing, but improvements have been made
Connection of ICPs	3.6	11.17	86 (4.2%) ICPs electrically connected prior to having a "trader" nominated on the registry.	Still existing, but improvements have been made
Connection of ICP that is not an NSP	3.7	10..31	86 (4.2%) ICPs connected prior to retailer accepting responsibility and therefore before the request to connect has been given.	Still existing, but improvements have been made
Changes to registry information	4.1	8 Schedule 11.1	Registry event updates backdated greater than three days. 2 ICPs change of NSP not updated within the required timeframe.	Still existing
Notice of NSP for each ICP	4.2	7(1),(4) and (5) Schedule 11.1	Historic incorrect NSPs recorded against a potential 168 ICPs.	Cleared for issues identified
ICP location address	4.4	2 Schedule 11.1	7,675 ICPs with addresses that are either duplicated or not readily locatable.	Still existing, but improvements have been made

Subject	Section	Clause	Non-compliance	Status
Distributors to Provide ICP Information to the Registry	4.6	7(1) Schedule 11.1	Incorrect ICP designation recorded for nine LE ICPs. Initial electrical connection dates derived from meter certification and not electrical connection records. 10 ICPs recorded with the incorrect initial electrical connection date. Three incorrect unmetered load descriptions recorded.	Cleared Cleared Cleared Some other issues remain
Updating loss factors	5.2	22 of Schedule 11.1	Loss factors not updated two months prior to coming into effect.	Cleared
Creation of loss factors	8.1	11.2	Loss factors are not accurate for balancing area BA1EASTPOCOG as indicated by the reconciliation losses.	Still existing The loss factors have been reviewed again and adjusted from 01/14/19, and are expected to be within the threshold during the coming year.

Subject	Section	Non-compliance	Status
Distributors to Provide ICP Information to the Registry	4.6	Update unmetered load details to "DUML" for those ICPs reconciled by a DUML database by the trader.	Not implemented yet, but Powerco intends to implement this recommendation.

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 file as at 16/04/19 was examined to confirm compliance.

Audit commentary

Registry synchronisation

Processes to send and receive registry information are discussed in detail in **section 3.3.** 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.

Registry and data validation

Powerco validates CWMS data against the registry on the first business day of each month. The validation processes are under review, and Powerco hopes to increase their efficiency so that they can be completed more frequently, ideally weekly.

The current monthly validation includes:

Check	Description
Registry match	Pricing, status, retailer, install type, NSP, recon type, and chargeable capacity data in the registry and CWMS is compared. Any exceptions are identified and checked.
Pricing checks	Waverley ICPs with E1C price codes are identified and corrected. Load cannot be controlled at this NSP. ICPs with 11 kV metering with E1 pricing are identified and checked. All E300 load changes are identified and checked to confirm that they are valid. ICPs with V28 and T24 price codes which do not have TOU metering are identified and checked. Installed capacity is checked for ICPs on T43 and E300 price codes.
Inactive pending connection	ICPs with new connection in progress status for more than 5 days are identified and followed up with the retailer to confirm whether the status is correct.
Inactive pending decommissioning	ICPs which have moved to the inactive ready for decommissioning status in the past month are identified. No action is taken on these ICPs, but Powerco is investigating following up with the retailer.

Check	Description
Distributed generation	ICPs which are active with a profile that indicates generation and no distributor generation details are checked, and applications for distributed generation are followed up as necessary.
ICP and NSP checks	ICPs with more than one event on a day are identified and checked. ICPs are connected to KIN0112 are checked. Massey University ICPs are checked to confirm they have the same retailer.
Metering checks	Active ICPs with no meter and no unmetered load recorded are identified and checked.
Shared unmetered	ICPs with shared unmetered load which have become inactive or decommissioned are identified, so that the shared unmetered load can be redistributed. Child unmetered ICPs without parent ICPs are investigated and updates are made as required. Shared unmetered ICPs with distributor or ready status are investigated, and corrections are carried out as necessary.
New and ready	ICPs at "new" and "ready" status for over 24 months are identified and followed up with the trader. Lists of all ICPs at "new" and "ready" status, and ICPs at "ready" status for over 18 months are also available.
Loss factors	Standard and non-standard loss factors are checked for consistency with other ICP attributes including their region.

In addition to the monthly validation, daily checks are completed for initial electrical connection dates (refer to **section 3.5**) and fortnightly checks are completed for distributed generation (refer to **section 4.6**).

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.

Event type	Event date setting processes
	Prior to the changes to the initial electrical connection date process discussed in **section 3.5**, network updates for initial electrical connection dates were usually recorded with the meter certification date as the event date. Review of the event detail report up to 16/04/19 identified 117 ICPs where the event effective date was inconsistent with the initial electrical connection date, which are recorded as non-compliance below. A sample of 23 were checked, and the errors mainly occurred due to incorrect meter certification event dates applied by the MEPs (which were in turn applied as the network event date), or network events processed with the update date as the event date. Following implementation of the new process in May 2019, initial electrical connection dates have been recorded with the update date as the event date, which may not reflect the date that the initial electrical connection was applied from. Records with incorrect event dates are not manually corrected due to the volume of new connections, and there is a risk that errors could occur during the correction process (such as recording incorrect dates or attributes in the network record).
Address events	Any address changes are recorded with the current date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: 11.2(1) From: 01-Jun-18 To: 19-Jun-19	117 network events did not have a correct effective date recorded. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The current process controls are rated as moderate, because most information is recorded correctly. Powerco is investigating whether event dates can be added where they are not available in the front end of CWMS. I have rated the audit risk rating as low as the initial electrical connection date has no direct impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco is in the process of resolving the effective date issue for IECD. This fix is intended to resolve historic inaccuracies, as well as future updates. This issue arose due to a fix of a greater issue (correct population of IECD date), as such Powerco is being cautious to ensure any changes to correct the effective date will not create any other unintended issues.	31/10/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above, Powerco is working on a system fix to resolve the IECD effective date issue as it occurs.	31/10/2019	
Powerco has implemented a more comprehensive suite of reconciliation and validation reports, which are now scheduled weekly (down from monthly) in order to identify and correct any errors as quickly as practicable.	In place from 24/7/2019	

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 file as at 16/04/19 was examined to confirm 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 most corrections were conducted as soon as practicable.

In some cases, data is not corrected as soon as practicable, including for the incorrect event dates described in **section 2.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.2 With: 11.2(2) and 10.6(2) From: 01-Jun-18 To: 19-Jun-19	117 network events did not have a correct effective date recorded. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The current process controls are rated as moderate, because most information is recorded correctly. Powerco is investigating whether event dates can be added where they are not available in the front end of CWMS. I have rated the audit risk rating as low as the initial electrical connection date has no direct impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
In the process of resolving the effective date issue for IECD. This issue arose due to a fix of a greater issue (correct population of IECD date), as such Powerco is being cautious to ensure any changes to correct this will not create any other unintended issues.	31/10/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco is undertaking a comprehensive process review of unmetered load, with a large focus on street lighting and how it interacts with councils and their traders. As above, Powerco is working on a system fix to resolve the IECD effective date issue as it occurs. Powerco has implemented a more comprehensive suite of reconciliation and validation reports, which will now be scheduled weekly (down from monthly) in order to identify and correct any errors as quickly as practicable.	Detailed action plan by 31/12/2019 In place	

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 16 new connection applications of the 4,315 created since 01/06/2018 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, 3 and 4);
- various traders;
- various price categories;
- various loss factors;
- connected to various NSPs;
- with and without distributed generation connected; 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 TENC TGD0011 and TSB0011 embedded networks were created during the audit period, and Powerco created LE ICPs as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 11.5(3)

Code related audit information

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

Audit observation

The new connection process was examined in detail. A diverse characteristics sample of 16 new connection applications of the 4,315 created since 01/06/2018 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.

I checked a sample of 28 new ICPs, to determine whether they had been created within three business days of receiving a request from the trader.

Audit commentary

Up to 31/03/19, ICPs were created at "new" status and made "ready" upon retailer acceptance.

From 01/04/19 the process was improved. 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.

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 where they are also the contractor.

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. Once a response is received, workflow triggers a manual process to review the response, create the ICP, and move it to "ready" status. Contact Energy and Trustpower (where Trustpower is also the MEP) have blanket arrangements to accept responsibility, and ICPs that meet their requirements are moved to "ready" without an email being required.

I checked 28 new ICPs, including 18 where Trustpower was recorded as the trader. Four of the ICPs were requested by Trustpower as a trader, and were created on the day they were requested. 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

A diverse characteristics sample of 16 new connection applications of the 4,315 created since 01/06/2018 were checked from the point of application through to when the ICPs were 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

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

Registry population is automated from CWMS and the file includes all relevant fields. The registry synchronisation process, which imports files from the registry and exports files to the registry is scheduled to occur twice each day, at approximately 7am and 7pm.

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

- **Rejects from outgoing files:** this email shows all outgoing files which have been rejected, and the error 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. Access to update the registry directly is restricted to three experienced users.
- **Contents of registry synch:** this email shows all the files sent to and received from the registry. It is reviewed to check that no files have missed being generated. For example, if there was a system outage overnight file generation may not occur as scheduled.
- **Unacknowledged outgoing events:** identifies 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 identify missing acknowledgements if they occurred for electricity.

Validation of registry information is discussed in **section 2.1**.

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 for 16/04/19 and event detail report for 01/06/18 to 30/04/19 were examined to determine the timeliness of the provision of ICP information for new connections. A sample of 37 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.

As discussed in **section 3.2**, up to 31/03/19, ICPs were created at "new" status and made "ready" upon retailer acceptance. The change to "ready" normally occurred promptly, and as soon as acceptance was received

From 01/04/19 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, and the WCN is received from the contractor to confirm other ICP attributes.

3,863 of the 4,315 ICPs created since 01/06/2018 had an initial electrical connection date recorded, indicating that they were electrically connected during the period. I checked all 3,863 ICPs to determine whether a proposed trader, ready status, pricing information, and address information was populated on the registry prior to initial electrical connection. I found:

- 3786 (98%) had all information populated prior to the initial electrical connection date.
- ICP 1000580708PCF2F did not have a proposed trader, "ready" status, pricing information, or address information recorded on the registry prior to being electrically connected. It was later decommissioned because it was set up in error, and is compliant.

- ICP 1000576622PC9B3 did not have a proposed trader, "ready" status, pricing information, or address information recorded on the registry prior to being electrically connected. It was created when a Powerco approved contractor attended a site to upgrade a meter and switchboard, and determined that the existing ICP should be decommissioned and a new ICP created. Meridian approved this change of job type and advised Powerco, and the change resulted in the new ICP being created after initial electrical connection.
- A further 75 ICPs did not have "ready" status recorded on the registry prior to being electrically connected. 74 of those also did not have pricing information recorded on the registry prior to electrical connection. I checked a sample of 34 of the late updates, including all ICPs updated to "ready" more than seven business days after initial electrical connection. The late updates were caused by delays in obtaining retailer acceptance, late return of WCN information from the contractor, delays caused by public holidays, or a delay in creating a new transformer in CWMS so that the ICP could be assigned to it.

Timeliness has improved from 4.2% of updates being late in the previous audit period, to 1.97%.

Powerco provides training on systems and network requirements for all new contractors,. Annual roadshows and quarterly catch ups with contractors include the importance of providing timely information. Powerco has invited their contractor's administrative staff to attend these meetings, and visit their offices to take them through Powerco's processes.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.4 With: 7(2) of Schedule 11.1 From: 22-Jun-18 To: 11-Apr-19	Registry not updated prior to commencement of trading for 76 ICPs (1.97%). Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Delays from external parties including traders and contractors are causing delays, therefore I have rated the controls as moderate. The audit risk rating is low. The overall level of compliance is high, and the number of ICPs affected will only have a minor impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
As discussed, Powerco has implemented improvements to its processes for new connections and the creation of ICPs in registry. Our analysis shows that these controls would prevent non-compliance in almost all cases, leaving only exceptional situations. Where network asset work is required prior to connection, Powerco currently creates ICPs at the 'new' status and electrical connection may occur immediately following completion of this work. In these cases, it is impractical to delay electrical connection until registry is updated to ready where the retailer has accepted the connection, the MEP has completed meter installation and the consumer is ready to use the connection. Powerco is considering a change to its new connections process and the use of the 'new' status to help ensure compliance with clause 7(2) of Schedule 11.1.	In place from 1/4/2019 1/2/2020	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco is working with its approved contractors to ensure paperwork is completed and provided within prescribed timeframes. This is part of an ongoing focus on the timely provision of information from contractors and internal business units.	Ongoing	

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

Code reference

Clause 7(2A) of Schedule 11.1

Code related audit information

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

Audit observation

The process for populating initial electrical connection dates was examined.

The registry list for 16/04/19 and event detail report for 01/06/18 to 30/04/19 were examined to determine the timeliness and accuracy of initial electrical connection dates for the 3,863 completed new connections. A sample of 40 late updates were checked, to determine why they were delayed.

Audit commentary

Powerco does not physically carry out electrical connection on their network. Powerco approved contractors complete electrical connection on behalf of traders.

Up to 30/04/19, initial electrical connection dates were entered as the MEP's meter certification date. Use of the meter certification date had some disadvantages:

- Meter certification is required within five business days of initial electrical connection. Where meter certification did not occur on the date the ICP was physically connected, Powerco could apply an incorrect date.
- Where meter certification was provided late, it could cause late initial electrical connection date updates.

From 01/05/19 the process was improved. Powerco's contractors provide a WCN through CIW. Receipt of the WCN triggers a manual process to update the initial electrical connection date based on the information provided. The WCN contains two connection date fields; the date that the network cable was connected (mandatory), and the date that the customer connection was livened (optional). If the contractor is also acting for the MEP they will complete the date that the customer connection was livened as well as the network connection date. This date will be used to determine the initial electrical connection date.

Where a different contractor connects the meter as a contractor to the MEP and retailer, Powerco does not receive confirmation date directly from the contractor. As part of their new connection process review, they investigated whether they could obtain this connection information from the retailer. Powerco advised that some retailers were reluctant to provide this paperwork, and Powerco's analysis showed a very 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. It was decided to rely on the active dates where other information was not available, and monitor and investigate any discrepancies.

Prior to 30/04/19 missing initial electrical connection dates were identified and populated through reports run at the beginning and middle of each month. Since 01/05/19, a daily report is reviewed to identify:

- **IECDs to populate:** any ICPs which have become active more than eight days ago, but do not have an initial electrical connection date populated. Paperwork is checked and followed up for these ICPs to confirm whether they are active, and the correct date.
- **IECDs to verify:** any ICPs with discrepancies between the earliest active date, earliest meter certification date, and initial electrical connection date where the dates fall within the last year. Affected ICPs are reviewed and queried with the retailer and/or MEP as required to confirm the correct date.

The 3,863 new ICPS which had an initial electrical connection date populated were checked.

- 3,753 (97.2%) had initial electrical connection dates populated within ten business days of the initial electrical connection date.
- 109 (2.8%) had initial electrical connection dates populated between 11 and 100 days after the initial electrical connection date.
- ICP 1000580708PCF2F had an initial electrical connection date populated late, but was later decommissioned because it was set up in error. This ICP is considered compliant.

A sample of 40 late updates were checked. I found:

Reason late	Count
Updated using the active date, where the WCN did not confirm the connection date. The missing dates were identified and populated through the old beginning and mid month monitoring process.	7
Updated using the connection date provided by the contractor on the WCN, and the WCN was provided late.	5

Reason late	Count
Updated using the meter certification date according to the old process, and meter certification details were updated late on the registry.	28

Because the process changes occurred at around the time the event detail report was run, evidence of improvements to the speed and accuracy of population of initial electrical connection dates was not visible. Improved performance is expected in the next audit period.

Non-compliance is recorded in **section 2.1** because some initial electrical connection date updates had an incorrect event date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: 7(2A) of Schedule 11.1 From: 26-Jun-18 To: 15-Apr-19	Late population of initial electrical connection date for 109 ICPs (2.8%). Potential impact: None Actual impact: None Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls have improved from weak at the beginning of the audit period (with the initial electrical connection was based on the meter certification date and missing dates were monitored twice per month), to 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 has implemented a new process for the population of the IECD. Internal monitoring indicates the changes have resulted in far greater accuracy and improved timeliness.	In place from 1/5/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will continue to use and refine the new IECD process as required.	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 for 16/04/19 and event detail report for 01/06/18 to 30/04/19 were examined to determine compliance.

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, workflow triggers a manual process to review the response, create the ICP, and move it to "ready" status. Contact Energy and Trustpower (where Trustpower is also the MEP) have blanket arrangements to accept responsibility, and ICPs that meet their requirements are moved to "ready" without an email being required.

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**, two ICPs did not have a trader recorded on the registry on the date they were electrically connected.

- ICP 1000580708PCF2F was later decommissioned because it was set up in error, and is compliant.
- ICP 1000576622PC9B3 was created when a Powerco approved contractor attended a site to upgrade a meter and switchboard, and determined that the existing ICP should be decommissioned and a new ICP created. Meridian approved this change of job type and advised Powerco, and the change resulted in the new ICP being created after initial electrical connection.

Review of the registry list and event detail report confirmed that no new shared unmetered load was created during the period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: Clause 11.17 From: 26-Jun-18 To: 28-Jun-18	ICP 1000576622PC9B3 was electrically connected prior to having a trader nominated on the registry. 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 process to record proposed traders has strong controls. The delay was caused by an upgrade work order being changed to a decommission and new ICP creation by the Powerco approved contractor when on site. The impact is low, because the overall level of compliance is high. Only one genuine exception was identified, and the trader nomination was made two business days late.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco has implemented improvements to its processes for new connections and the creation of ICPs in registry, which is reflected in the reduction of non-compliances.	In place from 1/4/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will continue to communicate its processes and requirements to contractors as well as traders to ensure new connections are compliant.	Ongoing	

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

Code reference

Clause 10.31

Code related audit information

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

Audit observation

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

A diverse characteristics sample of 16 new connection applications of the 4,315 created since 01/06/2018 were checked to determine whether ICPs were connected at the request of the trader.

The registry list as at 16/04/19 was reviewed to confirm that 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. The sample of 16 new connections checked confirmed they had been approved by the trader prior to electrical connection.

As discussed in **section 3.4**, two ICPs did not have a trader recorded on the registry on the date they were electrically connected.

- ICP 1000580708PCF2F was later decommissioned because it was set up in error, and is compliant.
- ICP 1000576622PC9B3 was created when a Powerco approved contractor attended a site to upgrade a meter and switchboard, and determined that the existing ICP should be decommissioned and a new ICP created. Meridian approved this change of job type and advised Powerco. This resulted in the new ICP being created after initial electrical connection, and a delay in requesting and obtaining acceptance of responsibility for the new ICP from the trader.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: 10.31 From: 26-Jun-18 To: 06-Jul-18	ICP 1000576622PC9B3 was electrically connected prior to the trader accepting responsibility. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls over acceptance of trader responsibility are strong. The delay was caused by an upgrade work order being changed to a decommission and new ICP creation by the Powerco approved contractor when on site. The impact is low, because the overall level of compliance is high, and only one genuine exception was identified.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco has implemented improvements to its processes for new connections and the creation of ICPs in registry, which is reflected in the reduction of non-compliances.	In place from 1/4/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco will continue to communicate its processes and requirements to contractors as well as traders to ensure new connections are compliant.	Ongoing	

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**. The registry list for 16/04/19 and event detail report for 01/06/18 to 30/04/19 were examined to determine compliance.

Audit commentary

Any ICPs that are temporarily electrically connected follow the same process as those all other new connections. No temporarily connected ICPs were identified.

I identified nine new connections where the meter certification date was prior to the initial electrical connection date, indicating that they may have been temporarily electrically connected for meter certification. For three ICPs, a trader was recorded on the registry on the meter certification date. The remaining six ICPs were confirmed not to be temporary electrical connections; either the MEP had recorded an incorrect meter certification date on the registry, or the ICP was created as part of an ICP split.

Audit outcome

Compliant

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

Code reference

Clause 10.30

Code related audit information

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

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

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

Audit observation

The NSP table was reviewed.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 10.30(A)

Code related audit information

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

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

Audit observation

The 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 16 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 list file as at 16/04/19 was examined to confirm all active ICPs have a single loss category code.

A diverse sample of 16 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. The sample checked confirmed compliance.

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 for 16/04/19 and event detail report for 01/06/18 to 30/04/19 were examined to determine compliance.

Audit commentary

As discussed in **section 3.2**, up to 31/03/19, ICPs were created at "new" status and made "ready" upon retailer acceptance. The change to "ready" normally occurred promptly, and as soon as acceptance was received.

From 01/04/19 the process was improved. 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.

Compliance is recorded because the current application of the "new" status is correct, and ICPs at "new" status are expected to require network extensions before they will be ready for connection.

66 ICPs are currently at "new" status. ICP 1000565672PCBBA has been at this status for more than 24 months, and is discussed in **section 3.14**.

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 for 16/04/19 and event detail report for 01/06/18 to 30/04/19 were examined to determine compliance.

Audit commentary

ICPs which have been at "new" or "ready" status for more than 24 months are reviewed as part of the registry validation process described in **section 2.1**.

New ICPs

Examination of the registry list found:

Status	Number of ICPs at status as at 16/04/19	Number of ICPs at status for more than 12 months	Number of ICPs at status for more than 24 months
New (999,0)	66	3	1

ICP 1000565672PCBBA has been at new status since 28/02/17, and I confirmed that Powerco had followed up with the trader to confirm whether the ICP was still required.

The 2018 audit recorded that ICP 1000559913PCDAC had been at new status for more than 24 months. The ICP has been updated to active.

Ready ICPs

Examination of the registry list found:

Status	Number of ICPs at status as at 16/04/19	Number of ICPs at status for more than 12 months	Number of ICPs at status for more than 24 months
Ready (0,0)	124	13	1

ICP 1000565580PC82B has been at "ready" status since 28/02/17, and I confirmed that Powerco had followed up with the trader to confirm whether the ICP was still required.

The 2018 audit recorded that ICP 1000554403PC829 had been at "ready" status for more than 24 months. The ICP has been updated to active.

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 as at 07/05/19 and registry list as at 16/04/19 were reviewed to identify any generation stations with capacity of 10 MW or more, and determine compliance.

Audit commentary

Six generation stations with capacity of 10 MW or more were identified in the EMI wholesale data and/or registry list report. All have individual loss factors.

ICP 0000668502UN559 recently had its capacity corrected from 35,000 to 41,000 to reflect the recorded capacity of the plant.

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

Sub-clause (4) states that no participant may electrically connect a point of connection without the permission of the Reconciliation Participant. The electrical connection of street light circuits which are a point of connection was examined.

Audit commentary

Powerco are aware of their obligation to ensure that the trader has provided approval before streetlights are connected.

Where a new ICP is created, Powerco's new connection process described in **section 3.2** applies. Four new streetlight ICPs were created as part of splits of existing DUML ICPs. The splits occurred to separate LED and non LED lights so that profiles can be applied by the retailer.

Connection of new streetlight circuits for existing ICPs is requested through Powerco's CIW system by the customer or their agent. Powerco provides approval for the lights to be connected, and connection is completed by the contractor. The trader receives notifications through CIW in the form of load group changes, and the contractor advises their customer when the connection is complete. Because the connection process is managed by the customer's contractor, Powerco does not always have visibility of the connection date.

Powerco advised that they have discussed distributed unmetered load processes with traders. Reliance is placed on logging and acceptance of the work in CIW by the customer or their agent, rather than explicitly gaining the trader's acceptance each new streetlight circuit connected without a new ICP being created. The relationship between the customer and trader is relied upon to confirm that responsibility for new streetlights is accepted. No instances of circuits being livened without approval were identified.

To ensure future compliance, I recommend obtaining a blanket approval from the DUML traders to confirm that they accept responsibility for any new circuits requested. If the trader's do not wish to provide this blanket approval, a process for traders to accept responsibility for new unmetered circuits being connected without an ICP being created is needed.

Recommendation	Description	Audited party comment	Remedial action
Electrical connection of a point of connection	Arrange blanket approvals from DUML traders for new streetlight circuits created without ICPs. Or establish a clear trader responsibility acceptance process for new streetlight circuits created without ICPs.	Powerco agrees with the recommendation and is reviewing its processes for street-light connections and will be working with both retailers and councils to ensure connections are accepted and recorded.	Identified

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 three 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 eight 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 three business days after the registry manager has advised the distributor that the ICP is ready to be decommissioned, or three business days after the distributor has decommissioned the ICP.

Audit observation

The management of registry updates was reviewed.

The registry list and event detail report for 01/06/18 to 30/04/19 were reviewed to determine compliance. A diverse sample of 60 backdated events were reviewed to determine the reasons for the late updates, including address, network and pricing events.

The management of NSP changes was examined.

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.

The process for updating ICPs has not changed during the audit period. Updates to ICPs are received from traders daily. Each is assessed and once confirmed they are updated in CWMS . Changes are exported to the registry through the registry synchronisation process, which imports files from the registry and exports files to the registry twice each day, at approximately 7am and 7pm. Information sent to and received from the registry is monitored, and automated emails are generated and reviewed each morning to confirm updates are successful.

The event detail report was examined to identify backdated event updates. Compliance for initial population of address, network, pricing, and status information is assessed in **sections 3.4** and **3.5**.

Address events

There were 3,818 address updates that did not relate to the initial population of address data (which is discussed separately in **section 3.4**).

3,739 (97.9%) of the updates were within three business days of the event. This is an improvement from 76.4% of updates on time during the 2018 audit. The 79 late updates were reviewed to determine their lateness:

Late updates	Within 10 bus days	Within 20 bus days	Within 60 bus days	Within 150 bus days	Within 365 bus days	Within 1500 bus days	Within 5165 bus days
79	15	43	49	56	65	75	79

The five latest updates and five updates between 30 and 200 business days late were examined. All were late because they were corrections which were applied from either the ICP creation date or previous address update date, or an update was required before the ICP could be decommissioned.

Network events

There were 9,115 network events that did not relate to the initial population of network and initial electrical connection date data (which is discussed separately in **section 3.5**), or NSP changes (discussed below).

1,591 (17.5%) of the updates were within three business days of the event. This is a decline in performance from 83.8% of updates on time in the 2018 audit period. The 7,524 late updates were reviewed to determine their lateness:

Late updates	Within 10 bus days	Within 20 bus days	Within 30 bus days	Within 60 bus days	Within 150 bus days	Within 365 bus days	Within 1500 bus days	Within 3144 bus days
7,524	6,860	7,132	7,217	7,341	7,419	7,435	7,518	7,524

The ten latest updates and ten updates between 30 and 100 business days late were examined, and I found:

- 12 late updates were caused by backdated corrections to remove unmetered load details, correct initial electrical connection dates, update the dedicated NSP, or remove invalid distributed generation details. I note that Powerco backdate to the actual date of a change to comply with section 11.2 of Part 11 "to provide complete and accurate information" but in these instances, this makes them non-compliant with the requirement to update the registry within three business days of the event date.
- Two late updates were caused by delays in receiving WCNs from the contractors.
- Five late updates occurred after implementation of Powerco's improved process to identify missing distributed generation details, which is discussed further in **section 4.6**.

NSP changes

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

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

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

14,164 ICPs with NSP changes were identified on the registry list for 01/06/18 to 30/04/19. 17,294 network event updates relating to these NSP changes were identified on the event detail report.

Four NSP updates were late, and were made within 37 business days of the event date. When distributed generation details were added for the affected ICPs, the current NSP information was applied to the backdated update, resulting in an invalid NSP change. All affected ICPs were later corrected.

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.

There were 176,547 pricing updates that did not relate to the initial population of pricing data (which is discussed separately in **section 3.4**).

175,289 (99.3%) of the updates were within three business days of the event, which is similar to the level of compliance in the 2018 audit. The 1,258 late updates were reviewed to determine their lateness:

Late updates	Within 10 bus days	Within 20 bus days	Within 30 bus days	Within 90 bus days	Within 365 bus days	Within 2,727 bus days
1,258	825	998	1,063	1,140	1,180	1,258

A sample of ten late updates over 30 business days late were checked. All were backdated to correct pricing because:

1. The original price was based on incorrect information provided on application, and needed to be corrected.
2. A price change from a certain date was requested by the retailer.
3. A change of trader during ICP set up resulted in some records needing to be reversed and replaced.

Status events

936 updates to decommissioned - installation dismantled were identified.

289 (30.8%) of the updates were within three business days of the event. The 647 late updates were reviewed to determine their lateness:

Late updates	Within 10 bus days	Within 20 bus days	Within 30 bus days	Within 60 bus days	Within 150 bus days	Within 365 bus days	Within 1500 bus days	Within 2233 bus days
647	261	413	469	566	609	635	646	647

For 580 of the 647 late updates, the trader's "ready for decommissioning" record was present on the event detail report. For 410 of these, Powerco had updated the registry to "decommissioned" within three business days of the trader's "ready for decommissioning" update. 204 of the updates were processed after 01/11/18 and are compliant with clause 8(2)(ab)(ii) of Schedule 11.1.

A sample of ten late updates over 30 business days where the traders update to "ready for decommissioning" update was not within three business days were checked. These were found to be caused by delays in receiving the application for decommissioning, or because the WCN provided by the

contractor did not clearly indicate that the ICP was decommissioned, and the decommissioning step was missed in the first instance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: 8 Schedule 11.1 From: 01-Jun-18 To: 30-Apr-19	79 late address updates. 7524 late network updates. 1,258 late pricing updates. 443 late status updates. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate as the controls in place will mitigate the risk most of the time, and many of the late updates related to corrections. There is a potential minor impact on settlement, hence the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Powerco is committed to correcting data inaccuracies to the appropriate effective date as soon as they are identified. Improvements to processes and reporting will lead to less errors to be corrected and the timeliness of any updates.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above, Powerco has implemented improved reporting to identify errors quickly for correction and identify areas where processes and/or controls should be reviewed.	Ongoing	

4.2. Notice of NSP for each ICP (Clauses 7(1),(4) and (5) Schedule 11.1)

Code reference

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

Code related audit information

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

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

Audit observation

The process to determine the correct NSP was examined. The registry list for 16/04/19 was reviewed to determine compliance, by identifying street addresses with more than one NSP assigned.

Audit commentary

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 directly linked to the GIS system so the likelihood of incorrect NSP assignment is greatly reduced.

Analysis identified 557 street suburb town combinations with active ICPs connected to more than one NSP. Of those, 417 were supplied by NSPs within one balancing area and 140 were supplied by NSPs connected to different balancing areas. 231 new ICPs created during the period are situated on one of the 557 street suburb town combinations affected.

Streets may genuinely have ICPs connected to more than one NSP, where there are multiple NSPs within the immediate area. A sample of 25 streets (1,132 ICPs) with more than one NSP assigned were checked to determine whether they were genuine. I found:

- Six streets where the addressing and NSP were correct for all ICPs.
- Eleven ICPs on seven streets with the correct NSP assigned, but an incorrect address. The addresses for the affected ICPs have now been updated.
- Three ICPs on three streets with incorrect NSPs assigned, which have now been corrected. ICP 0000970450TUDA0 on Seaforth Road, Waihi Beach is believed to have KMO0331 incorrectly assigned, and is currently being investigated.
- For the other nine streets, Powerco is investigating to confirm that the correct addresses and NSPs are assigned. It is believed that the NSPs are likely to be correct. The affected streets are:

Street suburb and town	Active ICPs
MANAIA ROAD, , MANAIA	58
STATE HIGHWAY 29, , TAURANGA	167
DORSETS ROAD, , MASTERTON	5
MANAIA ROAD, , HAWERA	4
MANAIA ROAD, , KAPONGA	64
STATE HIGHWAY 29, , KAIMAI	5
STATE HIGHWAY 29, LOWER KAIMAI, TAURANGA	8
STATE HIGHWAY 29, TAURIKO, TAURANGA	26

Street suburb and town	Active ICPs
YORK STREET, GONVILLE, WANGANUI	22

A full list of all streets with active ICPs connected to more than one NSP has been provided to Powerco, who intend to check all the affected ICPs and update address and/or NSP information if required.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: 7(1),(4) and (5) Schedule 11.1 From: 01-Jun-18 To: 11-Jun-19	Three ICPs with incorrect NSPs assigned, and one ICP likely to have an incorrect NSP assigned. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate. The new connection process prevents new ICPs from being mapped to an incorrect NSP, and it appears that many of the streets identified during analysis genuinely have ICPs connected to more than one NSP. I have rated the audit risk rating as low due to the small number of potentially mismapped ICPs identified. If NSP assignment is found to be incorrect, it could have a minor impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
New NSP reporting has been created and potential discrepancies are being investigated and corrected where necessary.	In place from 24/7/2019	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco is confident in its controls to ensure new connections are assigned to the correct NSP.	In place	

4.3. Customer queries about ICP (Clause 11.31)

Code reference

Clause 11.31

Code related audit information

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

Audit observation

The management of customer queries was examined.

Audit commentary

Powerco 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 determine correct and unique addresses was examined. The registry list for 16/04/19 was reviewed 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.

No ICPs created during the audit period with duplicate addresses, or difficult to locate addresses.

Prior to the CWMS controls described above being implemented, some duplicate and incomplete ICP addresses were created. Powerco have continued to work on reducing these during the audit period, and have asked for assistance from MEPs, traders and their meter reading contractors to confirm correct addresses. This has resulted in a reduction of 1,743 active ICPs with duplicate addresses and 161 active ICPs which previously had no street number or property name recorded this year. Powerco is also developing a new reconciliation process to identify address discrepancies between CWMS and the registry so that they can be resolved.

	2019	2018	2017	2016	Difference this year
Duplicate addresses	4,348	6,091	8,973	13,302	-1743
Addresses without street number or property name	1,423	1,584	1,733	2,013	-161

As discussed in **sections 4.2** and **4.6**, eleven ICPs on seven streets were found to have incorrect addresses recorded. The addresses for the affected ICPs have now been updated.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 2 Schedule 11.1 From: 01-Jun-18 To: 19-Jun-19	5,771 ICPs with addresses that are either duplicated or not readily locatable. 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 as there were no ICPs created during the audit period that had duplicated addresses, or incomplete addresses. The audit risk rating is low as the volume of ICPs that are not readily locatable 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
Powerco will continue to resolve historic address issues using data from all available sources. Looking to review each ICP and identify where physical checks will be required.	1/4/2020	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powerco is confident that all new connections have complete and unique addresses under its current controls and processes. Powerco systems do not allow the creation of duplicate or incomplete addresses.	In place	

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

Code reference

Clause 3 Schedule 11.1

Code related audit information

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

Audit observation

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

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

Audit commentary

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

Powerco provides training on systems and network requirements for all new contractors, and 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 as at 06/04/19 was reviewed 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 identified some data discrepancies. I found most of the discrepancies were resolved through Powerco's data validation processes prior to the on site audit. Non-compliance is

recorded where data remained incorrect at the time of the on site audit, or was not identified and corrected through Powerco's processes.

NSP information

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

One LE ICP which was not listed as dedicated was identified, and I found it was corrected effective from the ICP's active date as part of Powerco's new connections process.

Installation type and generation details

Powerco has a dedicated administrator to manage distributed generation. Paper based applications for distributed generation are entered into CIW by Powerco's administrator as they are received. Powerco is investigating automation of the application process, so that the customer or their agent can enter the application directly into CIW.

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. 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. A master spreadsheet is also maintained which includes the ICP, address, customer and generation details.

Old applications with no COC have been followed up by the administrator during the audit period, and the registry has been updated wherever possible. This has led to some backdated updates, but use of the correct event date in these instances aids compliance with section 11.2 of Part 11 "to provide complete and accurate information".

Powerco's data validation process described in **section 2.1** identifies ICPs which are active with generation registers and a profile that indicates generation, but no distributor generation details. Affected ICPs are checked against the EIEP reports to determine whether generation is present, and applications for distributed generation are followed up as necessary. This report is usually run and reviewed at least twice each month.

The list file was analysed and found 4,009 ICPs with distributed generation recorded. 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

Review of the registry list found all ICPs with distributed generation had a fuel type, capacity and an installation type of "B" or "G" except ICP 1000547492PC18A, which had an installation type of L. This has now been corrected to B, and was incorrectly populated due to a data processing error.

Review of the registry list identified 54 ICPs which had no generation details recorded, but had an injection register in the meter and a profile that may indicate that generation is present. All were

checked and updated on the registry as part of Powerco's distributed generation processes prior to the on site audit.

I checked the accuracy of generation details recorded on the registry for a sample of ten ICPs and confirmed they were correct.

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 487 ICPs where trader unmetered load is recorded, but there are no distributor unmetered load details. 97 of the ICPs were active, and 390 were inactive (including 332 ICPs which were ready for decommissioning).

23 of the active ICPs have DUML load indicated by the trader, including ICP 1000581347PCFF5, which is the only active ICP with missing distributor unmetered load details created since 2016. I repeat the 2018 audit recommendation to populate the distributor unmetered load details with DUML.

Recommendation	Description	Audited party comment	Remedial action
Provide ICP information to the registry	Update unmetered load details to "DUML" for those ICPs reconciled by a DUML database by the trader.	Powerco agrees with this recommendation and will implement the change as soon as practicable.	Identified

Distributor unmetered load is recorded without trader unmetered load

Review of the registry list identified eight active ICPs with distributor unmetered load details recorded but not trader unmetered load details. For three ICPs, Powerco's details were confirmed to be correct and the trader has updated their unmetered load details. For five ICPs Powerco's notes in the distributed unmetered load field were not required, and have since been removed.

Distributor unmetered load details differ from the trader unmetered load details

1,705 active ICPs have a value recorded in the distributor unmetered load details field. For the 1,005 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 985 ICPs Powerco's value matched the trader's value within ±1 kWh. The other 20 ICPs were checked:

- For one ICP a rounding difference in the wattage resulted in a difference just over 1 kWh.
- Six differences were primarily caused by Powerco's old processes for ballast wattages. Powerco used to apply a ballast wattage of 10%, and then adjusted the process to only record ballast wattages if they were known.
- For eight ICPs, Powerco's details match the original application. Powerco has queried the unmetered load details with the trader.

ICP	Unmetered Load Details - trader	Unmetered load details - distributor
1000574288PCC7C	Unmetered Load Details -retailer	Unmetered load details - Distributor
1000574290PC4C5	0010;24.0;CCTV	0010;24.0;CCTV
1000574301PCE63	0010;24.0;CCTV	0010;24.0;CCTV
0000557858UNE30	0010;24.0;CCTV	0010;24.0;CCTV
1000580201PC47B	0.37KW; 1X150HPS;11.89H;4X45W;24H TRANSIT LIGHTS	0180;24;4x45W 0150;12;1x150W lights
1000554259PC4B6	0200;24.0;Telementry Unit	0250;24.0;Telementry Unit
0000541117TU588	58;24;COMMS CABINET	0200;24;200 WATTS COMMS CABINET
0001570020PC006	1352;12;(13X52W)GREY ST+ (13X52W)DEVONPORT FLUORO	1352;24;26X52 WATT UVL LIGHTS

- For five ICPs the trader had changed the unmetered load details. Powerco will query the changed details with the trader, and update their records as necessary.

ICP	Unmetered Load Details - trader	Unmetered load details - distributor
0000562185UN32C	8.1KW;(11X90W13X135W15X150W7X 250W LT)(91W;24H RTU)	6745;12;11x9013x13515x1507x250W 0091;24;1x91W
0000562361UN29B	2.89KW;24H;9X90W19X30W2X250W6 X80W2X135WSECURITYLTS	2630;24;9x90W19x30W2x250W6x80 W2x135W light
1000571141PC1E1	100;24;SPEED CAMERA	0056;24.0;Speed Camera
1000571147PC06E	100;24;SPEED CAMERA	0056;24.0;Speed Camera
1000571195PCDA9	100;24;SPEED CAMERA	0056;24.0;Speed Camera

<u>DUML and shared unmetered load</u>

Powerco is working to resolve some issues with DUML databases, and assist with LED upgrades and creation of new ICPs where necessary. Processes to validate DUML data are currently being reviewed, Powerco intends to validate monthly DUML information provided by traders against information provided by contractors to confirm its accuracy.

- **Palmerston North City Council (PNCC):** Powerco's commercial team are working with PNCC to resolve issues relating to NZTA and private lights, and NSP assignment. PNCC believed that they were not responsible for NZTA and private lights, which they wanted to remove from the database. NZTA is intending to develop their own database, but there are some dataset issues to be worked through before this can be completed. Shared unmetered load will be created for the private lights.
  PNCC has been working with the Authority regarding splitting their lights between the Bunnythorpe and Linton NSPs, and Powerco will assist with this process.

- **Manawatu District Council (MDC):** Powerco's commercial team had been working with MDC to determine responsibility for 77 private lights, and create standard or shared unmetered load where necessary. Powerco had believed that MDC was intending to contact the affected consumers before the unmetered load details were updated. This process appears to have stalled, and Powerco's commercial team will follow up with MDC to resolve this issue.

- **Tauranga City Council (TCC):** New ICPs have been created to separate the LED lights, so that profiles can be applied. Powerco is working closely with the trader to ensure that ICP details are correct, including active dates.

Shared unmetered load details were checked in **sections 8.1** and **8.2**. Where populated, the details were found to be accurate.

Initial Electrical Connection Dates

As discussed in **section 3.5,** up to 30/04/19, initial electrical connection dates were entered as the MEP's meter certification date. From 01/05/19 initial electrical connection dates are based on the best information available, and missing and potentially incorrect dates are monitored, checked, and corrected daily.

3,863 of the 4,315 ICPs created since 01/06/2018 had an initial electrical connection date recorded. All new ICPs with active status recorded on the registry had an initial electrical connection date recorded.

The accuracy of initial electrical connection dates was checked by comparing them to the meter certification date (where present) and the earliest active date. By the time of the on site audit, dates had been corrected through Powerco's daily monitoring processes or were in the process of being confirmed. I checked all date discrepancies identified through analysis of the registry list, as described below:

Registry list review finding	Audit finding
Five ICPs at ready status with initial electrical connection dates	All were timing differences, and the ICPs have been updated to active effective from the initial electrical connection date.
Two ICPs at new status with initial electrical connection dates	All were timing differences, and the ICPs have been updated to active effective from the initial electrical connection date.
30 ICPs where the initial electrical connection date did not match the trader's earliest active date	In all cases the initial electrical connection date matched the MEP's meter certification date or no meter certificate was recorded on the registry. • Six ICPs had incorrect initial electrical connection dates (and in some cases also incorrect active dates), and were resolved through Powerco's initial electrical connection date monitoring prior to the audit. • 19 ICPs had incorrect active dates and were updated by the trader after being queried as part of Powerco's initial electrical connection date monitoring. • Five ICPs (1000581916PC1B2, 1000579523PCF95, 1000581922PC740, 1000579332PCF7B and 1000579322PC5D6) are being queried with the trader to confirm the correct initial

Registry list review finding	Audit finding
	electrical connection date as part of Powerco's initial electrical connection date monitoring.
16 ICPs where the initial electrical connection date did not match the MEP's certification date.	In all cases the initial electrical connection date matched the trader's earliest active date. I confirmed that 15 of the ICPs had correct initial electrical connection dates recorded. One ICP had an incorrect initial electrical connection date, and was resolved through Powerco's initial electrical connection date monitoring prior to the audit.

65 active ICPs commissioned after 29/08/13[1] did not have initial electrical connection dates recorded on the registry. When the initial electrical connection date field was implemented, Powerco initially believed it was intended to record the ICP creation date. This resulted in some ICPs created before 29/08/13 but electrically connected after 29/08/13 not having initial electrical connection dates recorded when the field first came into effect.

A sample of 43 ICPs commissioned since 29/08/13 which did not have initial electrical connection dates recorded on the registry were checked:

- 38 ICPs should have had an initial electrical connection date populated, and were corrected during the audit;
- three ICPs were confirmed to have been electrically connected prior to 29/08/13 and no initial electrical connection date is required; and
- initial electrical connection dates could not be confirmed for two ICPs, which may have been electrically connected prior to 29/08/13.

The timeliness of the initial electrical connection date updates is detailed in **section 3.5**.

Address information

As discussed in **section 4.2**, eleven ICPs on seven streets were found to have incorrect addresses recorded. The addresses for the affected ICPs have now been updated.

There are 4,348 active ICPs with duplicate addresses and 1,423 active ICPs with addresses which do not include a street number or property name. None of these ICPs were created during the audit period and Powerco is working to correct these. Non-compliance is recorded in **section 4.4**.

Audit outcome

Compliant

[1] When recording initial electrical connection dates became required.

Non-compliance	Description
Audit Ref: 4.6 With: 7(1) of Schedule 11.1 From: 01-Jun-18 To: 19-Jun-19	Eleven ICPs had incorrect addresses recorded which have now been corrected. Five ICPs had redundant distributor unmetered load details recorded, which have now been removed. ICP 1000547492PC18A had an incorrect installation type recorded, which has now been corrected. 38 ICPs did not have an initial electrical connection date recorded, which have now been corrected. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as the moderate because most information is correctly recorded, and errors are usually found and corrected as part of Powerco's validation processes. 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 implemented a new process for the population of the IECD. Internal monitoring indicates the changes have resulted in far greater accuracy and improved timeliness. Improved validation reporting has been implemented and discrepancies are being investigated and corrected when identified.	In place from 1/5/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Validation reports are run on a schedule from daily to weekly by type and any discrepancies are corrected as soon as they are identified.	In place from 24/7/2019	

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 new connection process was examined in detail. The registry list for 16/04/19 and event detail report for 01/06/18 to 30/04/19 were examined to identify any new connections that have either no price category code assigned, or changes to price category codes greater than ten days from the first active date.

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.

All new ICPs created during the audit period had pricing information loaded prior to initial electrical connection.

Audit outcome

Compliant

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

Code reference

Clause 7(8) and (9) Schedule 11.1

Code related audit information

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

Audit observation

The registry list as at 16/04/19 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

Processes to manage the "ready" status were reviewed.

The registry list as at 16/04/19 and event detail report for 01/06/18 to 30/04/19 were reviewed to identify ICPs at "ready" status and check compliance.

Audit commentary

As discussed in **section 3.2**, up to 31/03/19, ICPs were created at "new" status and made "ready" upon retailer acceptance. The change to "ready" normally occurred promptly, and as soon as acceptance was received.

From 01/04/19 the process was improved. 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 124 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 as at 16/04/19 and event detail report for 01/06/18 to 30/04/19 were reviewed to identify ICPs at the distributor status and check compliance.

Audit commentary

There are 67 ICPs with distributor status.

12 are points of connection between embedded networks and the Powerco network, including LE ICPs created for the TENC TGD0011 and TSB0011 embedded networks during the audit period.

The remaining 55 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 as at 16/04/19 and event detail report for 01/06/18 to 30/04/19 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

Ready for decommissioning

Examination of the list file found 2,709 ICPs are at "ready for decommissioning" status. The number of ICPs at this status continues to decrease each year.

Status	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017	Number of ICPs 2016
Inactive – electrically disconnected ready for decommissioning (1,6)	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 01/06/18 and 30/04/19 and found that for the 1,025 updates:

Count	Percentage	Current status
933	91.02%	Decommissioned
84	8.20%	Ready for decommissioning
8	0.78%	Returned to active or another inactive status

A sample of ten ICPs which were moved to "ready for decommissioning" status in the first two months of the period examined (June and July 2018) which remain at ready for "decommissioning status" were checked. I confirmed that they had not been decommissioned because a request for decommissioning had not been received. One request was processed late because the paperwork returned from the contractor did not clearly indicate the ICP had been decommissioned.

Decommissioning

Powerco is aware of the code change to set the decommissioning date as the date of decommissioning, or the date that the ICP is made ready for decommissioning, whichever is later.

A sample of ten 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.

Whilst Powerco endeavour to update the registry within three days of decommissioning, if the trader backdates, this in turn causes Powerco to be non-compliant. Non-compliance is recorded in **section 4.1** in relation to the timeliness of updates.

Audit outcome

Compliant

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

Code reference

Clause 23 Schedule 11.1

Code related audit information

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

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

A price category code takes effect on the specified date.

Audit observation

The price category code table on the registry was examined.

Audit commentary

Powerco have created four new price categories during the audit period. They were all notified more than two months before coming into effect.

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 have created 24 new loss category codes during the audit period. They were all notified more than two months before coming into effect, and specified the date that they came into effect.

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

No loss factor codes were updated during the audit period.

Audit outcome

Compliant

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

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

Code reference

Clause 11.8 and Clause 25 Schedule 11.1

Code related audit information

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

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

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

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 reviewed.

Audit commentary

Powerco has not created or decommissioned any NSPs during the audit period.

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 reviewed.

Audit commentary

No NSPs have been created or decommissioned 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 have 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 one month before the transfer.

Audit observation

The NSP table was reviewed.

Audit commentary

No existing ICPs became NSPs during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 1 to 4 Schedule 11.2

Code related audit information

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

Audit observation

The NSP table was reviewed.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 10.25(1) and 10.25(3)

Code related audit information

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

- *there is one 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:*
  - *a) the reconciliation participant for the NSP (Clause 10.25(2)(b)(i)); and*
  - *b) the MEP for the NSP (Clause 10.25(2)(b)(ii)); and*

c) *no later than 20 business days after the data of certification of each metering installation, advise the reconciliation participant for the NSP of the certification expiry date (Clause 10.25(2)(c)).*

Audit observation

The NSP supply point table was reviewed.

Audit commentary

Powerco have not connected any new NSPs during the audit period.

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

The NSP supply point table was examined.

Audit commentary

Powerco do not own any embedded networks therefore there have been no changes of MEP for embedded gate meters.

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 list file as at 16/04/19 was examined, and the streetlight audits of the network were assessed.

Audit commentary

There are 55 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 recorded in **section 4.6**, shared unmetered load needs to be created for some private streetlights, and Powerco continues to work with the affected councils to arrange this.

Recommendation	Description	Audited party comment	Remedial action
Clause 11.14(2) and (4) Shared unmetered load	Liaise with councils to identify shared unmetered load and create relevant ICPs, including for the 77 Manawatu District Council private streetlights provided during the audit. Notify traders of created shared load in accordance with clause 11.14 of part 11.	Powerco is working with councils where shared unmetered load has been identified as well as undertaking a wider unmetered load review in 2019.	Identified

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 415 active and inactive child ICPs across 55 SI ICPs. I checked the accuracy of the daily unmetered kWh.

Audit commentary

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

As described in **section 2.1**, monthly processes are in place to identify:

- ICPs with shared unmetered load which have become inactive or decommissioned, so that the shared unmetered load can be redistributed;
- child unmetered ICPs without parent ICPs for correction; and.
- shared unmetered with distributor or ready status so that corrections can be carried out as necessary.

Review of the event detail report confirmed that no updates to shared unmetered load details were made during the audit period.

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.

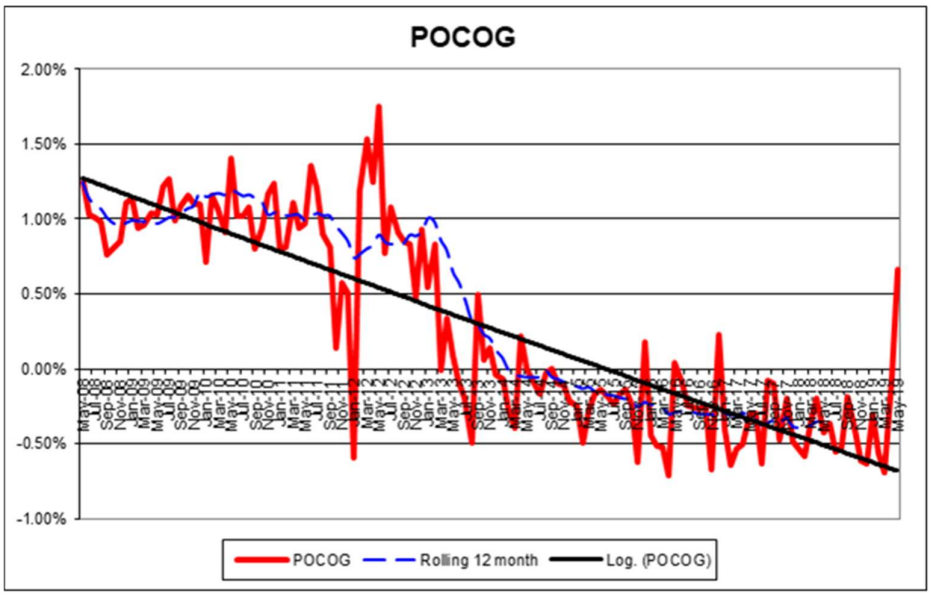
I reviewed correspondence and documentation relating to the loss factor review.

Audit commentary

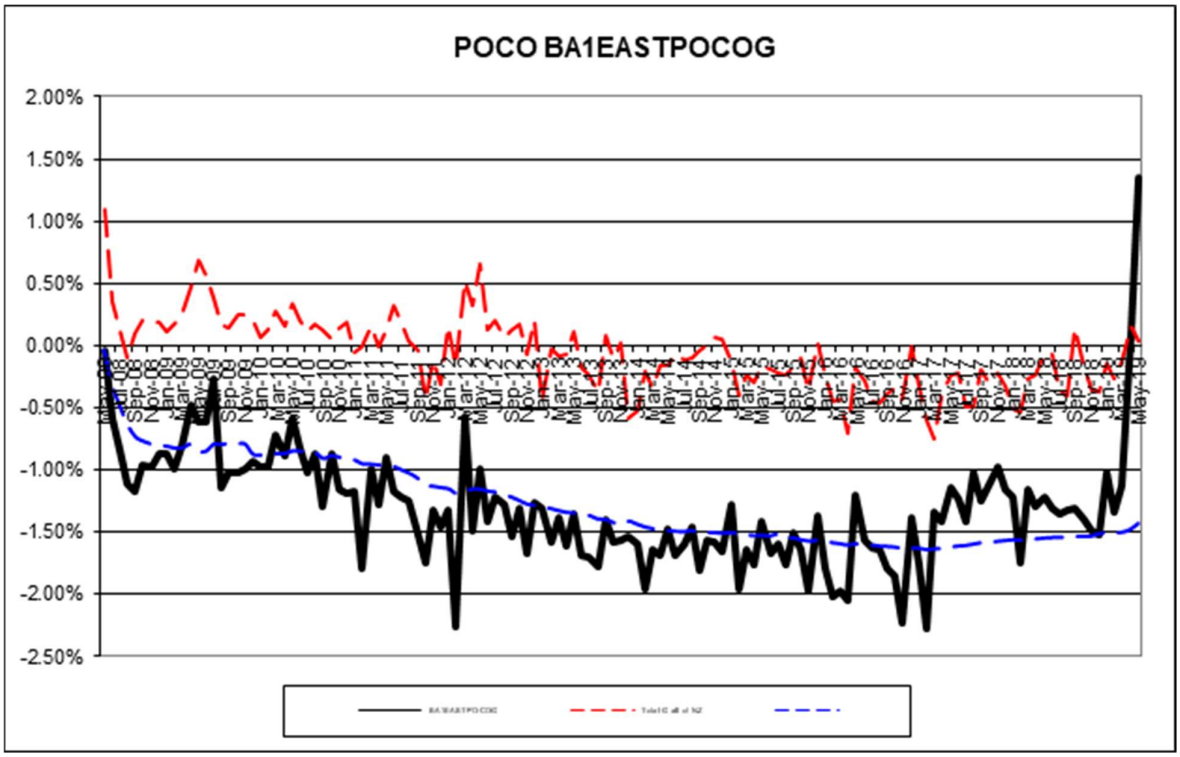
Powerco completed a loss factor review in January 2019. The review as completed by the regulatory and pricing team along with the network team, and considered loss factors and UFE across each network balancing area. Where balancing areas were found to be outside the Authority's compliance threshold, they were adjusted, with the aim of bringing them within the threshold.

The Authority was provided with a copy of Powerco's methodology, and the revised loss factors were provided as part of Powerco's pricing information. Powerco's loss factor calculation methodology has recently been finalised, and will be 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:



The 2018 audit found that UFE for the BA1EASTPOCOG balancing area was outside the Authority's compliance threshold. Prior to the 2018 audit, Powerco had reviewed and adjusted the loss factors for this balancing area, but has found these did not have the desired effect and UFE remains outside the threshold. The loss factors have been reviewed again and adjusted from 01/14/19, and are expected to be within the threshold during the coming year.



Audit outcome

Compliant

Non-compliance	Description
Audit Ref: 8.1 With: 11.2 From: 01-Jun-18 To: 31-Mar-19	Loss factors are not accurate for balancing area BA1EASTPOCOG as indicated by the reconciliation losses. Potential impact: Medium Actual impact: Medium Audit history: Once Controls: Strong Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Medium	The controls are rated as strong because the loss factors are reviewed annually, using a compliant process. Loss factors have been revised from 01/04/19 and are expected to bring the losses to within the compliance threshold. UFE is allocated to participants; therefore there is no adverse impact on settlement; however traders may use published losses in pricing decisions, therefore the use of inaccurate loss factors could lead to incorrect pricing, which is considered to have a medium impact.

Actions taken to resolve the issue	Completion date	Remedial action status
Loss factors for BA1EAST have been updated in alignment with Powerco's annual pricing review. Powerco is confident that UFE will be within the +/-1% guideline following this change when R7 revisions are reconciled.	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Loss factor methodology in line with guidelines	Complete	
Loss factors reviewed. Rolling reviews scheduled annually covering technical and reconciliation losses by region.	First review under new methodology 2020	

CONCLUSION

Some significant improvements have been made during the audit period:

1. Up to 31/03/19, ICPs were created at "new" status and made ready upon retailer acceptance. From 01/04/19 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 process to obtain trader acceptance is partially automated, and the percentage of on time updates has improved from 95.8% to 98.0%.
2. Up to 30/04/19, initial electrical connection dates were entered as the MEP's meter certification date, and missing initial electrical connection dates were identified and corrected twice per month. From 01/05/19 initial electrical connection dates are based on the best information available, and missing and potentially incorrect dates are monitored, checked, and corrected daily. Because the new connection process changes occurred at around the time the event detail report was run, evidence of improvements to the speed and accuracy of population of initial electrical connection dates was not visible. Improved performance is expected in the next audit period.
3. Processes for distributed generation have improved. A dedicated administrator has been employed, and applications for distributed generation are closely monitored to ensure that a certificate of compliance is received. Registry information is also monitored to identify any ICPs where distributed generation may have been installed without an application, or where paperwork confirming installation is late.

Further improvements are planned, with data and registry validation processes under review.

This audit found 11 non-compliances and makes three recommendations. The majority of the non-compliances relate to late population of data, and some incorrect or incomplete data which Powerco is aware of, and working to resolve. Two of the non-compliances related to late recording of a trader for ICP 1000576622PC9B3. The delay was caused by an upgrade work order being changed to a decommission and new ICP creation by the Powerco approved contractor when on site. The new ICP was not created until after the works completion notice (WCN) was received, causing the backdated updates.

Loss factor accuracy remains outside the threshold for one balancing area (BA1EASTPOCO), but the process is compliant and accuracy is expected to improve during the next audit period.

The audit frequency table indicates that the next audit is due in 12 months. I recommend that the next audit is due in 14 months, after considering:

- That all non-compliances had control ratings of moderate or higher.
- That recent process improvements that should improve future compliance.
- The responses from Powerco, which indicate that appropriate action has or will be taken to prevent future non-compliance.
- Evidence of Powerco's ongoing commitment to resolving historic issues observed during the audit.

PARTICIPANT RESPONSE

Several key processes have seen significant improvement during the audit period including:

- new connections and retailer acceptance workflows
- population of IECD in registry
- management of distributed generation applications and the recording of that information in registry
- improvements to reporting and validation of registry information
- implementation of a new loss factor methodology.

Powerco is focused on collaborating with its contractors, other participants and owners of unmetered loads to ensure we meets our obligations in the Code. This collaborative approach will be key to resolving industry wide challenges with distributed unmetered load.

As shown in the audit, Powerco is committed to identifying and resolving historic data issues. We will continue to report on and make corrections to legacy data to bring it up to the high standards we require for new updates.

Powerco believes the audit reflects the continuous improvement made to our processes and controls. While there are still areas for improvement, we are confident that many of the non-compliances raised would have been prevented by recent process changes.