

**ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTOR AUDIT REPORT**



For

WELLINGTON ELECTRICITY LINES LIMITED

Prepared by: Tara Gannon

Date audit commenced: 27 August 2019

Date audit report completed: 27 September 2019

Audit report due date: 28 September 2019

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EXECUTIVE SUMMARY

This Distributor audit was performed at the request of **Wellington Electricity Lines Ltd (Wellington Electricity)**, 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 version 7.2, which was produced by the Electricity Authority.

The 2016, 2017, and 2018 audits found that Wellington Electricity was aware of some historic and current data completeness and accuracy issues, which they were working to resolve through a series of projects. Key data affected included initial electrical connection dates, unmetered load, ICP addressing, NSP assignment, and ICP statuses.

Progress with resolving the issues was initially slow, due to the complexity of some of the issues, staffing changes, and resourcing constraints. Since around the time of the 2018 audit, Wellington Electricity has put significant effort into resolving the issues, including undergoing two interim audits. There has been improvement across all areas where historic non-compliance existed during the audit period.

- Further data validation checks have been implemented, to improve data quality and compliance.
- No ICPs with incorrect statuses were identified. The decommissioning process has been improved and is now closely managed, and the backlog of ICPs at ready for decommissioning status has been cleared.
- Address data has been cleansed, and daily monitoring of incomplete and duplicate addresses has been implemented.
- The timeliness of registry updates has generally improved, and I found most backdated updates related to corrections.
- Initial electrical connection data has been cleansed, and daily monitoring identifies missing electrical connection dates. Some further data cleansing is required for initial electrical connection dates prior to 29/08/13.
- Robust processes have been put in place to ensure that NSPs are correctly assigned. A project to identify and update incorrectly assigned NSPs began in October 2018, with a large number of corrections completed in early 2019. This work is ongoing, and significant improvement was found in **section 4.2**.
- Work to investigate and clear unmetered load discrepancies started in earnest in August 2019, and changes to allow recording of shared unmetered load are expected to be implemented in September 2019 pending test results. Although resolving each discrepancy can be time consuming due to the amount of investigation required, I expect there will be significant improvement in this area during the coming audit period.

Where non-compliance was identified during the audit, the Wellington Electricity team has processed corrections, and worked to identify corrective measures to prevent recurrence.

The following key areas require further improvement:

- **Unmetered load:** Wellington Electricity needs to continue cleansing its unmetered load data, and create shared unmetered load as required;
- **Distributed generation:** Wellington Electricity changed their process to record the generation capacity and fuel type on the registry once the application was approved and update the installation type to B once the presence of EG metering is confirmed through the weekly metering check, Wellington Electricity had hoped this process would allow traders to identify ICPs where applications had been approved, but unfortunately this is non-compliant with the code requirements;

- **Initial electrical connection dates prior to 29/08/13:** These records need to be checked to ensure that they are accurate or removed and as part of this process, Wellington Electricity will need to ensure that the remaining dates are correct; and
- **Event dates:** Processes for establishing event dates should be reviewed, to ensure that they are as accurate.

The audit found eight non-compliances and makes six recommendations for improvement. The audit risk rating is 13 (a decrease from 23 in the 2018 audit), indicating that the next audit be due in 12 months. I recommend that the next audit be due in 15 months after taking into consideration:

- That all non-compliances had control ratings of moderate or higher, and two are already cleared.
- That process improvements made during the audit period should improve future compliance.
- Evidence of Wellington Electricity's ongoing commitment to resolving historic issues observed during the audit. Wellington Electricity's comments indicate that they intend to resolve the issues identified, and make further improvements.

The matters raised are shown in the tables 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	11.2(1) and 10.6(1)	At least 130 network events did not have a correct effective date recorded. 109 of the affected records were corrected during the audit. 18 records relating to unmetered load corrections and three records relating to distributed generation corrections have not been updated. Some ongoing registry discrepancies relating to unmetered load have not been resolved.	Moderate	Low	2	Identified
Requirement to correct errors	2.2	11.2(2) and 10.6(2)	Correction of data does not consistently occur as soon as practicable.	Moderate	Low	2	Identified
Participants may request distributors to create ICPs	3.2	11.5(3)	ICP 0000160643CK4CC was created 14 business days after a request for ICP creation was received from a trader. Wellington Electricity did not advise the trader that the ICP would not be created within three business days.	Strong	Low	1	Identified
Timeliness of Provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	98 late initial electrical connection updates.	Strong	Low	1	Identified
Changes to registry information	4.1	8 Schedule 11.1	295 late network updates. 102 late pricing updates. 28 late status updates.	Moderate	Low	2	Identified
Notice of NSP for each ICP	4.2	7(1),(4) and (5) Schedule 11.1	At least 36 ICPs had an incorrect NSP recorded, and were corrected during the audit.	Moderate	Low	2	Cleared
Distributors to Provide ICP Information to the Registry manager	4.6	7(1) Schedule 11.1	Three ICPs were found to have some incorrect address information recorded, and were corrected during the audit. LE ICP 0000161190CKBEC temporarily had dedicated NSP set to No, and was corrected during the audit. At least 57 ICPs did not have correct initial electrical connection date recorded. The 57 affected records were corrected during the audit. Generation capacity and fuel type details are recorded on the registry	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			from the date the application for generation is approved. The installation type is not updated until EG metering is installed. At the time the registry list was run, at least 106 ICPs had incorrect generation details recorded on the registry. Some corrections have been processed, and at least 41 ICPs have some incorrect details on 05/09/19. 25 ICPs had incorrect distributor unmetered load details. All 25 ICPs were corrected during the audit.				
GPS coordinates	4.8	7(8) and (9) Schedule 11.1	ICP 0000157320CK7B5's GPS coordinates were in UTM format instead of NZTM2000 format. The GPS coordinates have now been removed from the registry.	Strong	Low	1	Cleared
Future Risk Rating						13	

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

RECOMMENDATIONS

Subject	Section	Recommendation	Description
Distributors to Provide ICP Information to the Registry manager	4.6	Clause 8 Schedule 11.1 Distributed generation details on the registry	Where EG or injection flow metering has been installed and no application for generation has been received, investigate whether generation is present by: <ol style="list-style-type: none"> 1. Checking the EIEP1/3 reports provided by traders to determine whether the EG registers are recording consumption. 2. Checking the high risk database (/www.energysafety.govt.nz/energysafety/app/highrisk-db/home) for the address, to determine whether generation has been installed. Follow up any ICPs which appear to have missed applications with the trader.
Distributors to Provide ICP Information to the Registry manager	4.6	Clause 8 Schedule 11.1 Distributed generation details on the registry	Follow up ICPs with approved applications, which do not have EG or injection flow metering installed within three months with the trader. These ICPs can be checked on the high risk database (www.energysafety.govt.nz/energysafety/app/highrisk-db/home) to help to determine whether generation has been installed.

Subject	Section	Recommendation	Description
Distributors to Provide ICP Information to the Registry manager	4.6	Clause 8 Schedule 11.1 Distributed generation details on the registry	Update the registry from the date it is known that generation is installed or the generation metering installation date, whichever is earlier. Ensure that generation capacity reflects the name plate capacity of the generation plant, which may differ from the information provided on the application.
Distributors to Provide ICP Information to the Registry manager	4.6	Clause 8 Schedule 11.1 Unmetered load details	Recheck ICP 1000756506UN59C to confirm the correct unmetered load details, and update GTV and the registry as required. Recheck ICPs 0000157142CK2C7, 0000157143CKE82, 0000157144CK348 and 0000157145CKF0D to confirm the correct on hours, and update GTV and the registry as required.
Notice of balancing areas	6.3	Clause 24(1) and Clause 26(3) Schedule 11.1 Balancing areas	Investigate to confirm which NSPs should be grouped into balancing areas, and then create and assign any new balancing areas as required.
Notification of shared unmetered load ICP list	7.1	Clause 11.14(2) and (4) Shared unmetered load	Liaise with Porirua, Hutt City and Wellington 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 Authority website was checked to determine whether there are code exemptions in place.

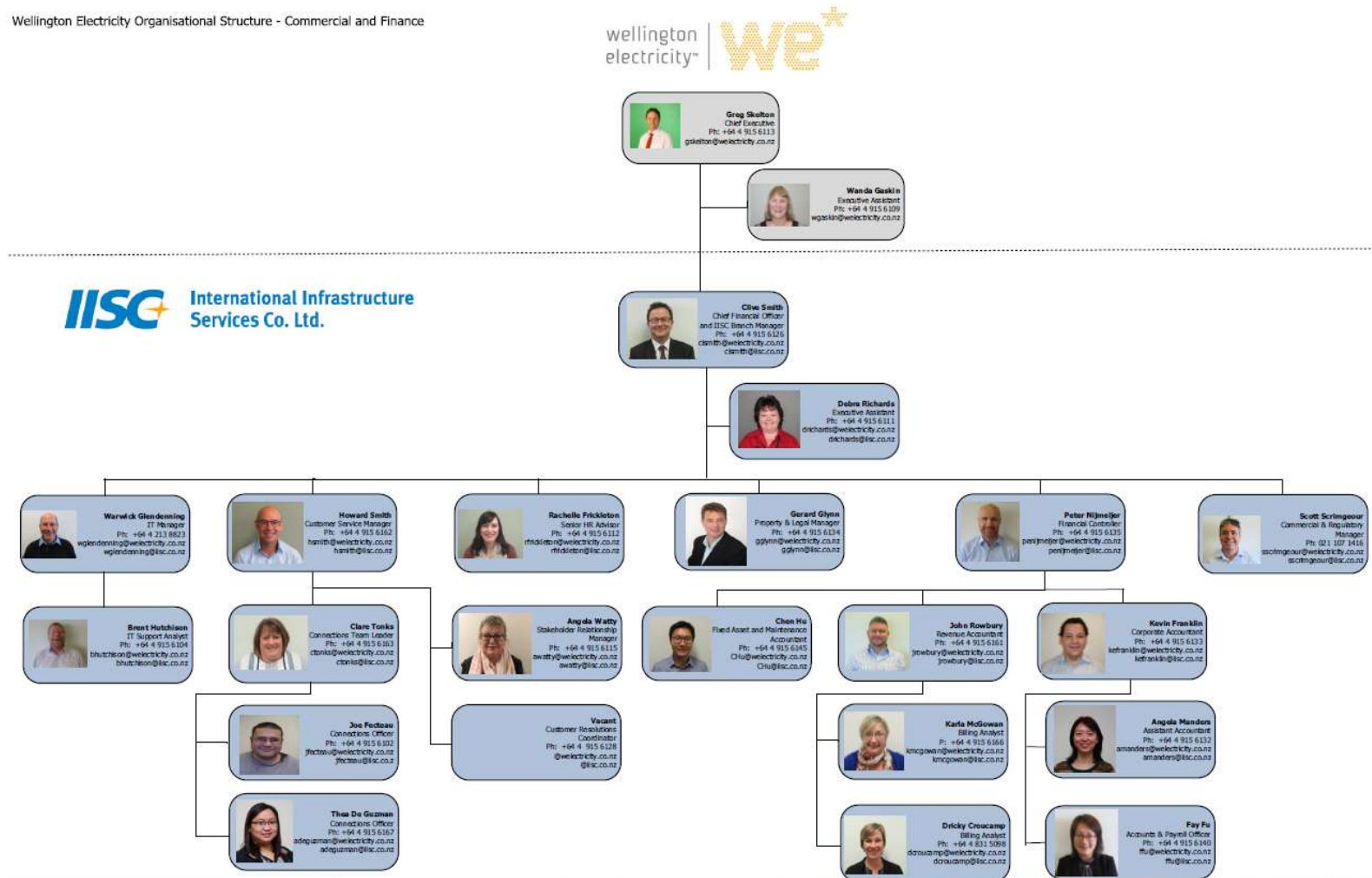
Audit commentary

Review of exemptions on the Authority website confirmed that there are no exemptions in place relevant to the scope of this audit.

1.2. Structure of Organisation

Wellington Electricity provided a copy of their organisational structure as at 26 August 2019:

Wellington Electricity Organisational Structure - Commercial and Finance





1.3. Persons involved in this audit

Auditor:

Tara Gannon

Veritek Limited

Electricity Authority Approved Auditor

Personnel assisting in this audit were:

Name	Title
Clare Tonks	Connections Team Leader
Howie Smith	Customer Service Manager
Thea Zalameda	Connections Officer

1.4. Use of contractors (Clause 11.2A)

Code reference

Clause 11.2A

Code related audit information

A participant who uses a contractor

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

Audit observation

The use of contractors was discussed with Wellington Electricity.

Audit commentary

Wellington Electricity engages Northpower to conduct field services on their network. All other activities are completed directly by Wellington Electricity.

Wellington Electricity understands that they are responsible for code compliance.

1.5. Supplier list

Wellington Electricity engages Northpower to conduct all field services on their network.

1.6. Hardware and Software

The main systems used by Wellington Electricity to meet its code obligations are:

- **SAP** which is used to manage workflows.
- **GTV** (v5) which is used to create ICPs and interface with the registry.
- **SIAS** (GIS) which is used to identify the correct NSP and address information.

The SIAS, Gentrack, and SAP databases and servers are all backed up to CommVault disk media, which are then transferred to tape and stored off site.

Access to the systems is restricted through the use of logins and passwords.

1.7. Breaches or Breach Allegations

The Electricity Authority confirmed that there have been no alleged breaches for Wellington Electricity.

1.8. ICP and NSP Data

Wellington Electricity owns and operates the electricity network in the Wellington region.

Wellington Electricity NSPs

The table below lists the relevant NSPs and their associated balancing area, and the number of active ICPs connected. No Wellington Electricity NSPs have been created, decommissioned, or transferred since the 2018 audit.

Dist	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of ICPs
CKHK	CPK0111	Central Park			WELLTONUNETG	G	1/02/09	6,872
CKHK	CPK0331	Central Park			WELLTONUNETG	G	1/02/09	42,131
CKHK	GFD0331	Gracefield			WELLTONUNETG	G	1/02/09	18,839
CKHK	HAY0111	Haywards			WELLTONUNETG	G	1/02/09	6,743
CKHK	HAY0331	Haywards			WELLTONUNETG	G	1/02/09	5,270
CKHK	KWA0111	Kaiwharawhara			WELLTONUNETG	G	1/02/09	5,834
CKHK	MLG0111	Melling			WELLTONUNETG	G	1/02/09	7,890
CKHK	MLG0331	Melling			WELLTONUNETG	G	1/02/09	11,953
CKHK	PNI0331	Pauatahanui			WELLTONUNETG	G	1/02/09	6,748
CKHK	TKR0331	Takapu Road			WELLTONUNETG	G	1/02/09	32,927
CKHK	UHT0331	Upper Hutt			WELLTONUNETG	G	1/02/09	11,162
CKHK	WIL0331	Wilton			WELLTONUNETG	G	1/01/14	12,368

Networks embedded under Wellington Electricity NSPs

Wellington Electricity does not own any embedded networks. There are 89 embedded networks connected to the Wellington Electricity network.

Three new embedded networks were created after August 2018. The new embedded networks are detailed in the table below and are discussed in the relevant sections of this report.

Dist	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	End date
EDCL	EJS0011	73 Jackson St Petone	GFD0331	CKHK	EJS0011EDCLE	EN	1/09/19	
PPNZ	PCF0011	Charles Ferguson Tower	WIL0331	CKHK	PCF0011PPNZE	EN	19/12/18	
NZAL	NBS0011	10 Brandon Street Wellington	KWA0111	CKHK	NBS0011NZALE	EN	1/10/18	

All embedded networks which had end dates after August 2018 added to the NSP table were checked. None had been decommissioned, or transferred back to the parent network. Three NSPs were transferred to different network owners:

Dist	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	End date	New DIS
ESDP	EVA0011	ESDP SOVEREIGN HOUSE	WIL0331	CKHK	EVA0011ESDPE	EN	1/10/16	13/09/18	SMRT
ESDP	EVA0011	ESDP SOVEREIGN HOUSE	CPK0331	CKHK	EVA0011ESDPE	EN	14/09/18	30/09/18	SMRT
ESDP	ETC0011	Telecom Central 72-80 Boulcott	CPK0331	CKHK	ETC0011ESDPE	EN	1/10/16	28/02/19	SMRT

ICP status

Wellington Electricity's ICPs are summarised by status below:

Status	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Distributor (888)	101	96	85	79
New (999)	-	2	85	52
Ready (000)	142	86	46	44
Active (2,0)	168,737	167,633	166,696	166,263
Inactive - new connection in progress (1,12)	177	155	56	68
Inactive - vacant (1,4)	2,564	2,694	2,568	2,682
Inactive - AMI remote disconnection (1,7)	813	781	486	354
Inactive - de-energised due to meter disconnected (1,8)	15	10	8	3
Inactive - at pole fuse (1,9)	30	30	13	4

Inactive - de-energised at meter box switch (1,10)	8	11	2	0
Inactive - at meter box switch (1,11)	5	4	4	0
Inactive - ready for decommissioning (1,6)	10	174	378	425
Decommissioned (3)	7,757	6,926	6,123	5,477

1.9. Authorisation Received

A letter of authorisation was provided.

1.10. Scope of Audit

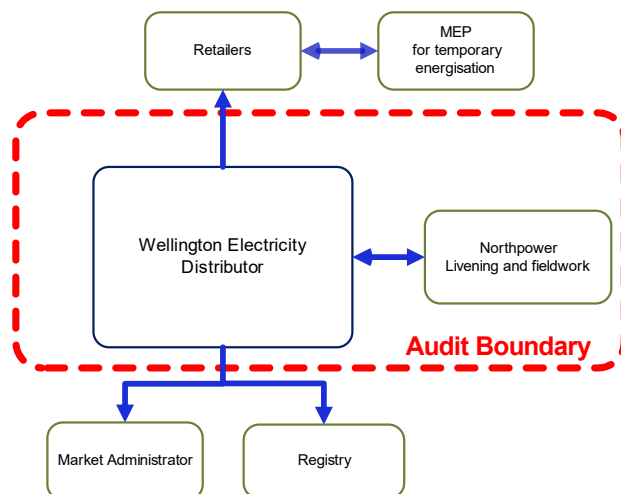
This Distributor audit was performed at the request of Wellington Electricity, to encompass the Electricity Industry Participation Code requirement for an audit, in accordance with clause 11.10 of part 11.

The audit was conducted in accordance with the Guideline for Distributor Audits V7.2, which was produced by the Electricity Authority. The audit was completed at Wellington Electricity's premises in Petone on 27 August 2019.

The table below shows the tasks under clause 11.10(4) of Part 11, which Wellington Electricity is responsible for. There are no 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 Wellington Electricity audit boundary shown for clarity.



1.11. Summary of previous audit

Wellington Electricity provided a copy of the previous audit report, completed in November 2018 by Tara Gannon of Veritek Limited. The audit found ten non-compliances and made six recommendations. The findings are detailed in the table below:

Subject	Section	Clause	Non-Compliance	Status
Requirement to provide complete and accurate information	2.1	11.2(1) and 10.6(1)	Complete validation of registry information does not occur. Some registry discrepancies have not been resolved.	Still existing Still existing
Requirement to correct errors	2.2	11.2(2) and 10.6(2)	Correction of data does not consistently occur as soon as practicable.	Still existing
Timeliness of ICP information to the Registry Manager	3.4	7(2) of Sch 11.1	Ready status was not recorded on the registry prior to commencement of trading for seven ICPs. A proposed trader was not recorded on the registry prior to the commencement of trading for seven ICPs.	Cleared
Timeliness of initial electrical connection date	3.5	7(2A) of Sch 11.1	Non-population of the initial electrical connection date. 20 late initial electrical connection updates to registry.	Cleared Still existing
Connection of an ICP that is not an NSP	3.6	11.17	A proposed trader was not recorded on the registry prior to the commencement of trading for seven ICPs.	Cleared
Timeliness of registry updates	4.1	8 of Sch 11.1	Some price, network, status, and address changes were updated more than three business days after the event date.	Still existing
Notice of NSP for each ICP	4.2	7(1),(4) and (5) Sch 11.1	Some existing ICPs have an incorrect NSP recorded.	Still existing
ICP location address	4.4	2 & 7 (1)(a) of Sch 11.1	1,820 active ICPs with duplicate addresses. 130 active ICPs without a physical address unit number, street number or property name to allow them to be readily located.	Cleared Cleared
Distributor to provide ICP information	4.6	7(1) of Sch 11.1	Some initial electrical connection dates and unmetered load details recorded on the registry are incorrect.	Still existing
GPS coordinates	4.8	7(8) and (9) Sch 11.1	49 ICPs have GPS coordinates in UTM format instead of NZTM2000 format.	Cleared

Subject	Section	Recommendation	Status
Requirement to provide complete and accurate information	2.1	<p>I recommend adding the following checks to the registry validation:</p> <ul style="list-style-type: none"> • a comparison between unmetered load trader and distributor fields; • a comparison between distributor distributed generation details and metering information; and • a comparison between all distributor-maintained fields on the registry and GTV. 	Cleared
Distributors must create ICPs	3.1	Advise TENC that NSP TKO0011 is connected to WIL0331, so that their records and the NSP table can be updated.	Cleared, the network supply points table and NSP mapping table have been updated.
Timeliness of initial electrical connection date	3.5	Identify all backdated initial electrical connection date corrections where a later network event has resulted in a date change. This could be achieved by comparing current initial electrical connection dates recorded on the registry to the expected values. Replace or reverse incorrect records as required.	Implemented, but some discrepancies still exist
Distributors to Provide ICP Information to the Registry manager – distributed generation details	4.6	<p>Update the registry from the date it is known that generation is installed or the generation metering installation date, whichever is earlier.</p> <p>Follow up ICPs with approved applications, which do not have generation metering installed within three months. These ICPs should be followed up with the trader to confirm whether generation is present.</p> <p>Compare the PR255 metering installation details report to the distributed generation spreadsheet at least monthly to identify any ICPs that may have generation but an application has not been received or approved. These ICPs should be followed up with the trader to confirm whether generation is present.</p>	<p>Not implemented yet, but intended to be implemented</p> <p>Not implemented yet, but intended to be implemented</p> <p>Not implemented yet, but intended to be implemented</p>
Notice of balancing areas	6.3	Investigate to confirm which NSPs should be grouped into balancing areas, and then create and assign any new balancing areas as required.	Not implemented yet, but intended to be implemented
Notification of shared unmetered load ICP list	7.1	Liaise with Porirua, Hutt City and Wellington 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.	Underway

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 as at 29/07/19 was examined to confirm compliance.

Audit commentary

Registry synchronisation

Registry updates are processed automatically by GTV each night. If GTV does not have valid values recorded in all the fields required for the registry update, the registry update will not be processed for the affected ICP, and the ICP will be listed on the “held” report.

Each business day staff work through the exceptions on the “held” report and update the missing information so that the registry update can be processed at the next opportunity. I reviewed recent “held” reports and found it was rare for updates to be held.

A one off incident where Wellington Electricity did not log into the registry FTP following overnight system updates caused some late registry updates which are discussed in **section 4.1**. To prevent recurrence, Wellington Electricity’s IT team completes a daily check that registry updates have been processed, and reprocesses files as necessary.

A daily GTV “health check” is conducted, including review of registry acknowledgements, and error reports.

Mismatches between GTV and the registry are identified and resolved through the data validation processes described below.

Registry and data validation

Each business day, a registry list is compared to GTV using Microsoft Access. The checks have been expanded since the 2018 audit and include:

- Status mismatch;
- Retailer mismatch;
- NSP mismatch;
- Loss code mismatch;
- Pricing plan mismatch;
- EIEP8 files received from traders, which are reviewed and used to process price category code changes;
- Duplicate and unlocatable addresses, which are investigated and corrected;

- All ICPs with GPS coordinates, which are checked to confirm the address is unique before the GPS coordinates are removed¹;
- ICPs at “ready for decommissioning” status, which are checked to determine whether they can be decommissioned;
- GIS import changes, which are reviewed to ensure that changes to transformers have been processed as required;
- Trader and distributor unmetered load detail, which records ICPs with unmetered load details recorded - review of unmetered load details is discussed in **section 4.6**; and
- All ICPs at “active” status with no initial electrical connection date, which are checked to determine the correct initial electrical connection date and updated. Wellington Electricity intends to implement further validation to cross check initial electrical connection dates and “active” dates against the meter certification date, and query any differences with the trader. Wellington Electricity is aware that meter certification is required within five business days of initial electrical connection, so the meter certification date may not always be consistent with the initial electrical connection date.

Any mismatches are investigated to determine whether they are timing differences or corrective action is required. Monitoring controls are in place to ensure that validations are completed. A summary sheet records the number of exceptions, and the date and staff member who reviewed and resolved them.

Details of late updates are recorded in a breach spreadsheet, which records the details of the update and the reason it was late. This enables Wellington Electricity to identify any trends (such as late updates to “active” status for a particular trader leading to late initial electrical connection date population), and take corrective action as necessary.

Wellington Electricity adds applications for distributed generation to a spreadsheet once they are approved. Weekly, this spreadsheet is compared to the registry to confirm whether EG metering is installed. The code requires distributed generation details to be updated on the registry effective from the date that generation begins. The 2018 audit found that the installation type, generation capacity, and fuel type were only updated on the registry once EG metering was installed. Wellington Electricity changed their process to record the generation capacity and fuel type on the registry once the application was approved, and update the installation type to B once the presence of EG metering is confirmed through the weekly metering check. Wellington Electricity had hoped this process would allow traders to identify ICPs where applications had been approved, but unfortunately this is non-compliant with the code requirements. Distributed generation processes are discussed further in **section 4.6**.

Many of the discrepancies identified in previous audits have already been resolved, or Wellington Electricity is intending to resolve them. Some ongoing data accuracy issues have not been resolved, particularly relating to unmetered load details. This is recorded as non-compliance below.

Event dates

Event dates should reflect the date from which the attribute values for the event apply.

Registry updates are processed automatically by GTV each night, and the method to determine the event date varies depending on the update type. I viewed a sample of updates of each type to confirm how event dates are determined.

¹ This check was implemented following identification of an ICP with incorrect GPS coordinates, discussed further in **section 4.8**.

Event type	Event date setting processes
Address events	Today's date is automatically applied.
Network events - excluding unmetered load details	An event date is selected in GTV when the network event change is loaded.
Network events - unmetered load details	Unmetered load details are stored as installation fixtures in GTV, which are automatically recorded with the update date by GTV. If a different event date is required, the registry must be manually updated.
Pricing events	An event date is selected in GTV when the price change is loaded. Wellington Electricity has asked retailers not to provide backdated price change requests and will normally only backdate price changes by a maximum of 3 business days.
Status events	An event date is selected in GTV when the status change is loaded.

Review of the event detail report for 02/04/19 to 29/07/19 found 109 network events populating the initial electrical connection date for new connections did not have an effective date which matched the initial electrical connection date. I found that the incorrect event dates were caused by errors when entering the effective date into GTV. The affected events were all reversed and replaced with a new record with the correct attributes and event dates during the audit. The initial electrical connection date process has been updated, and staff are aware that the event date must reflect the date that the attributes applied from.

Review of distributed generation in **section 4.6** found that generation details were not added to the registry from the correct effective date for ICPs 0000072559TRE9B (solar installed 10/11/18), 1001112665UNF64 (solar installed 27/09/13) and 1001153905CK1D3 (solar installed 28/06/14).

Review of unmetered load details in **section 4.6** identified 18 ICPs where corrections to unmetered load details were processed effective from the update date, but should have been processed from the date the unmetered load was effective. The affected ICPs are:

- 0000160900CK5A6
- 0000160475CK8BC
- 0000158540CK723
- 0000158542CK7A6
- 0000158529CK682
- 0000158536CK3F1
- 0000157590CK301
- 0000156857CKD8C
- 1001152583CK8BA
- 1001146928CKC1C
- 1001145773UNA56
- 1000756168UN5F6
- 0000121539TR493
- 0000190117TR9F5
- 0000159586CK0E3
- 1001156919CKF40
- 0000157855CKCA9; and
- 0000158224CK6DB.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 2.1</p> <p>With: Clause 11.2(1) and 10.6(1)</p> <p>From: 02-May-19</p> <p>To: 05-Sep-19</p>	<p>At least 130 network events did not have a correct effective date recorded. 109 of the affected records were corrected during the audit. 18 records relating to unmetered load corrections and three records relating to distributed generation corrections have not been updated.</p> <p>Some ongoing registry discrepancies relating to unmetered load have not been resolved.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls over the non-compliances are rated as moderate.</p> <ul style="list-style-type: none"> There were some incorrect registry event dates. Wellington Electricity has begun to cleanse its unmetered load data and processes are being tested for creation and management of shared unmetered load. Once these new processes are bedded in, control ratings are expected to improve. <p>Overall controls over data accuracy are strong. Most data is accurate following data cleansing after the 2018 audit, and there have been significant improvements to the registry data validation processes. Good progress is currently being made with resolving unmetered load discrepancies.</p> <p>The impact is low. Most records with incorrect event dates have been corrected during the audit, and the impact of the missing unmetered load is expected to be low. Improvements have been made during the audit period and are expected to continue.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
These non-compliances were identified prior to the audit and are part of a programme of work which is already underway to resolve historic non-compliances.		31/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Process changes have been implemented to mitigate the risk of any future non-compliance.		13/09/2019	

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

Wellington Electricity's data management processes were examined. The registry list as at 29/07/19 was examined to confirm compliance.

Audit commentary

I saw evidence of incorrect information being identified and corrected during the audit, through the registry update and discrepancy processes discussed in **section 2.1**.

Previous audits identified some persistent data accuracy issues, where Wellington Electricity was aware of errors in their data, but corrections were not processed as soon as practicable. Wellington Electricity has prioritised the areas requiring action, focussing on putting processes in place to prevent further instances of incorrect data and then working to correct historic discrepancies. The discrepancies that can be resolved quickly have been prioritised first, in an effort to reduce the overall number of discrepancies sooner.

The current status of each of these data accuracy issues is discussed below:

- **Status corrections**

Current Status: Cleared

Historic status discrepancies have been resolved. Status discrepancies between GTV and the registry are now monitored and corrected daily.

- **Initial electrical connection dates**

Current Status: Improvements implemented

Electrical connection is almost always completed by the trader for new connections on Wellington Electricity's network. Wellington Electricity is reliant on the trader's update to "active" status on the registry to confirm the initial electrical connection date, and in some cases this led to missing or inaccurate initial electrical connection dates on the registry.

Wellington Electricity have cleansed their historical initial electrical connection date data and updated the registry. Daily checks are now in place to monitor new connections and update initial electrical connection dates. The timeliness and accuracy of initial electrical connection date updates has improved during the audit period, and is discussed in **sections 3.5** and **4.6**.

- **Incomplete, inaccurate, and duplicate ICP addresses**

Current Status: Cleared

As described in **section 4.4**, historic issues relating to duplicate and incomplete addresses have been resolved. Procedures are in place to reduce the risk of duplicate or invalid addresses being entered in the future, and new exceptions are identified and resolved daily.

- **Unmetered load**

Current Status: Data cleansing is underway

Previous audits have identified that some unmetered load details are incorrect or missing where unmetered load details are known.

During this audit, lists of unmetered load exceptions were provided to Wellington Electricity. Each discrepancy was investigated and corrections have been processed where unmetered load details were confirmed. Wellington Electricity intends to continue this process post audit for the remaining exceptions.

Wellington Electricity implemented monitoring of DUML load in February 2019, which compares their records to DUML databases monthly. Changes are tracked in a spreadsheet and GTV. They are working with Vodafone's retailer to create new DUML ICPs, and intend to have created the ICPs required by the end of 2019.

- **Shared unmetered load**

Current Status: Processes and system changes are being tested, then data cleansing will be completed

Wellington Electricity is developing processes to manage shared unmetered load, based on the Authority's guidelines. The changes are currently in Wellington Electricity's test system. Pending the test results, it is anticipated that the changes will be moved into production at the end of September 2019. ICP 0001408077UN5D7 will be used as a test case, and Wellington Electricity has been working alongside the affected traders.

Hutt, Porirua and Wellington City Councils have provided Wellington Electricity lists of private streetlights, and there are no private streetlights for Upper Hutt City Council. Once the shared unmetered load processes are in place, Wellington Electricity intends to work through these private lights and create shared unmetered load as required.

- **NSP assignment**

Current Status: Data cleansing is underway

Robust processes have been put in place to ensure that NSPs are correctly assigned.

A project to identify and update incorrectly assigned NSPs began in October 2018, with a large number of corrections completed in early 2019. This work is ongoing, and significant improvement was found in **section 4.2**.

There has been improvement across all areas during the audit period. Non-compliance is recorded for not correcting unmetered load details as soon as practicable, because there has been limited progress with unmetered load during the audit period. Work to investigate and clear discrepancies started in earnest in August 2019, and changes to allow recording of shared unmetered load are expected to be implemented in September 2019 pending test results. Although resolving each discrepancy can be time consuming due to the amount of investigation required, I expect there will be significant improvement in this area during the coming audit period.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.2 With Clause 11.2(2) From: 01-Nov-18 To: 27-Aug-19	Correction of data does not consistently occur as soon as practicable. 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 have recently improved to moderate, now that progress with resolving issues has been demonstrated for standard and shared unmetered load. The risk is rated as low, typically small numbers of ICPs are affected, and/or the data has a low impact.		
Actions taken to resolve the issue		Completion date	Remedial action status
These non-compliances are part of a programme of work which is already underway to resolve historic non-compliances.		31/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Process changes have been implemented to mitigate the risk of any future non-compliance.		13/09/2019	

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 sample was checked from the point of application through to when the ICP was created, including:

- ten new connection applications of the 552 created between 18/12/18 and 01/04/19; and
- ten new connection applications of the 633 created between 02/04/19 and 29/07/19.

I also checked the new embedded networks EJS0011, PCF0011, and NBS0011, to determine whether an LE ICP had been created.

Audit commentary

Wellington Electricity creates ICPs as required by clause 1 of schedule 11.1. The new connection process is set out below, and remains unchanged since the 2016 audit:

Review of the sample of 20 new connections found ICPs were created as required by this clause.

LE ICPs were created for new embedded networks EJS0011, PCF0011, and NBS0011.

The 2018 audit found TKO0011 was incorrectly recorded against CPK0331, and should have been recorded against WIL0331. The network supply points table and NSP mapping table have both been corrected from 12/07/18.

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 process to request and create ICPs was reviewed, and a diverse sample was checked to determine whether the ICP had been created within three business days of a request by a trader, including:

- ten new connection applications of the 552 created between 18/12/18 and 01/04/19; and
- 22 new connection applications of the 633 created between 02/04/19 and 29/07/19.

Audit commentary

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

The ICP creation process is unchanged from the previous audit, and is as follows:

1. ICP requests are made directly into a portal to SAP by traders or their agents, and must include the information required to create the ICP and progress the connection. If data provided via the portal is incomplete (such as missing address details) the trader is advised of what is required to complete the application and a note is added to the record in SAP. In an effort to reduce the number of incomplete and incorrect applications, Wellington Electricity has provided revised portal documentation to traders.
2. Once the ICP request is saved, an automatic email is sent to the WE_Connections email inbox and the trader. Staff monitor this inbox to manage the next step in the process.
3. The data entered into SAP is validated, including manual checks for incomplete information and duplicate addresses. Any applications with incomplete or duplicate information are held, and a request for further information is sent to the trader.
4. The transformer, which corresponds to the NSP, is added manually after checking SIAS (GIS) to confirm the transformer the ICP will be connected to. A weekly report of new or changed NSPs is obtained from SIAS and matched to Northpower's records to confirm that the correct transformers are recorded for new ICPs.
5. GTV automatically generates an ICP identifier once all of the relevant new connection information is loaded.
6. The ICP information is uploaded to the registry overnight. If GTV does not have valid values recorded in all the fields required for the registry update, the registry update will not be processed for the affected ICP. The ICP will be listed on the "held" report. Each business

day staff work through the exceptions on the “held” report and update the missing information so that the registry update can be processed at the next opportunity.

7. The trader and Northpower are then both notified of the details of the newly created ICP.

A sample of 32 new connections were checked. 31 were created within three business days of the trader providing all the information required for the new connection application. ICP 0000160643CK4CC was created 14 business days after a request for ICP creation was received, and Wellington Electricity did not advise the trader that the ICP would not be created within three business days. The ICP was created late due to an oversight, and was created when the trader followed up.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 11.5(3) From: 20-Mar-19 To: 09-Apr-19	ICP 0000160643CK4CC was created 14 business days after a request for ICP creation was received from a trader. Wellington Electricity did not advise the trader that the ICP would not be created within three business days. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong, this appears to be an isolated error. The impact is assessed to be low, the ICP was created immediately when the trader followed up.		
Actions taken to resolve the issue		Completion date	Remedial action status
Daily monitoring of all service requests has been implemented to identify any other ICP's where by a Retailer has amended the fields.		13/09/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Investigation of whether changes to our IT system to prevent a Trader from incorrectly editing the assignment field are feasible.		31/6/2020	

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

Code reference

Clause 11.7

Code related audit information

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

Audit observation

The process to request and create ICPs was reviewed, and a diverse sample was checked from the point of application through to when the ICP was created, to confirm the process and controls worked in practice including:

- ten of the 552 new connections created between 18/12/18 and 01/04/19; and
- 22 of the 633 new connections created between 02/04/19 and 29/07/19.

Audit commentary

Review of the sample of 20 new connections confirmed that the ICP information provided to the registry by Wellington Electricity was correct. Validation processes are designed to prevent incorrect or incomplete records from being sent to the registry.

Timeliness of provision of information is discussed in **sections 3.4** and **3.5** below.

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

Event detail reports from 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined to determine the timeliness of the provision of ICP information for new connections.

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. Wellington Electricity continues to create all ICPs at “ready”, unless they know a network extension is needed.

353 of the 552 ICPs created between 18/12/18 and 01/04/19 were electrically connected, and 401 of the 633 ICPs created between 02/04/19 and 29/07/19 were electrically connected.

I reviewed these completed new connections on the event detail reports, and found all the ICPs had “ready” status, pricing information, address information, and network information including a proposed trader populated prior to becoming electrically connected.

The timeliness of provision of initial electrical connection dates is discussed separately in **section 3.5**.

Audit outcome

Compliant

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

Code reference

Clause 7(2A) of Schedule 11.1

Code related audit information

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

Audit observation

The process for populating initial electrical connection dates was examined.

Event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined to determine the timeliness of initial electrical connection dates for the 754 completed new connections.

A sample of 37 late updates were checked to determine why they were delayed.

Audit commentary

Wellington Electricity does not normally carry out electrical connection on their network. Approved contractors complete electrical connection on behalf of traders, and Northpower installs and tests the connection either before or after metering is installed. In almost all cases, the ICP is electrically connected by the trader.

Daily, Wellington Electricity identifies all ICPs at “active” status with no initial electrical connection date. The ICPs are checked to determine the correct initial electrical connection date and updated. Wellington Electricity intends to implement further validation to cross check initial electrical connection dates and “active” dates against the meter certification date, and query any differences with the trader. Wellington Electricity is aware that meter certification is required within five business days of initial electrical connection, so the meter certification date may not always be consistent with the initial electrical connection date.

ICPs which were initially electrically connected during the audit period were checked to determine whether the initial electrical connection date was provided on time. I found that timeliness improved as the audit period progressed due to improvements in both monitoring processes, and the report used to monitor active ICPs without initial electrical connection dates. The report previously excluded ICPs which moved to “inactive - new connection in progress” status between the “ready” and “active” statuses.

Event detail report period	Electrically connected ICPs	On time updates	Late updates	Comments
18/12/18 to 01/04/19	353	277 (78%)	76 (22%)	<p>The 76 late updates were populated between 11 and 56 business days after initial electrical connection.</p> <p>A sample of the 15 latest updates were checked. I found there were delays in identifying ICPs which had become active without an initial electrical connection date, because the report only included ICPs which had changed from “ready” to “active” statuses, and excluded ICPs which had changed from “inactive” to “active” statuses.</p>

Event detail report period	Electrically connected ICPs	On time updates	Late updates	Comments
02/04/19 to 29/07/19	401	379 (95%)	22 (5%)	<p>The 22 late updates were populated between 12 and 43 business days after initial electrical connection.</p> <p>The late updates were primarily caused by backdated trader updates to “active” status, some updates prior to June 2019 were further delayed by a temporary process issue where missing initial electrical connection dates were not checked and updated daily. Daily review of ICPs which have become “active” without an initial electrical connection date has consistently been in place since June 2019.</p>

Late updates are recorded in a breach spreadsheet, which records the details of the update and the reason it was late. This enables Wellington Electricity to identify any trends (such as late updates to “active” status for a particular trader leading to late initial electrical connection date population), and take corrective action as necessary.

Review of a registry list as at 29/07/19 found that all ICPs connected between 29/08/13² and 17/12/18³ had initial electrical connection dates populated.

The 2018 audit found bulk corrections of initial electrical connection dates were correctly backdated, but unfortunately in some cases there was a later network update which reverted the initial electrical connection date back to the incorrect value. Wellington Electricity has since completed data cleansing to identify affected ICPs and correct the registry data. I found the 27 ICPs with incorrect initial electrical connection dates at the time the 2018 audit was finalised have now been corrected.

Processes for population of initial electrical connection dates were reviewed during the audit period, and were temporarily changed to record the connection date as the initial electrical connection date in June-July 2019, with initial electrical connection date corrections processed once the ICPs moved to “active” status. The process was quickly reverted to record the correct initial electrical connection date following trader feedback, and the affected records were corrected.

The late population of the initial electrical connection date is recorded as non-compliance below. Non-compliance is recorded in **section 2.1** because some initial electrical connection date updates had an incorrect event date.

Audit outcome

Non-compliant

² When the code change requiring initial electrical connection dates came into effect.

³ The last day before the new connection sample date range of 18/12/18-29/07/19.

Non-compliance	Description		
Audit Ref: 3.5 With: Clause 7(2A) of Schedule 11.1 From: 18-Dec-18 To: 23-Jul-19	98 late initial electrical connection updates. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are currently strong. Improved reporting and daily monitoring processes have been put in place to ensure initial electrical connection dates are populated more promptly. The impact is assessed to be low based on the volume of late and missing initial electrical connection dates.		
Actions taken to resolve the issue		Completion date	Remedial action status
Process changes implemented earlier this year have been effective in reducing incidences of non-compliance. Historic non-compliances and those generated prior to this year's process change are being resolved as part of our data improvement programme.		31/10/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Investigation of the use of the PR255 report is underway to determine how that can augment our current processes.		31/03/2020	

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 **sections 3.1** and **3.2**.

The registry list for 29/07/19 and event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined to determine compliance.

Audit commentary

ICPs will not be electrically connected without the agreement from the trader. Trader acceptance is confirmed during the application process.

Review of the registry list for 29/07/19 confirmed that a trader is currently recorded for all active and inactive ICPs. All ICPs which were initially electrically connected during the period reviewed had a proposed trader recorded on the initial electrical connection date. A sample of 22 new connections were checked, and trader responsibility had been confirmed as part of the application process prior to the ICP being electrically connected.

Review of the registry list confirmed that shared unmetered load is not recorded for ICPs on Wellington Electricity's network. As discussed in **section 2.2**, Wellington Electricity are working towards identifying shared unmetered load and correcting their records.

Audit outcome

Compliant

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

Code reference

Clause 10.31

Code related audit information

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

Audit observation

The registry list for 29/07/19 and event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined to determine compliance.

Audit commentary

ICPs will not be electrically connected without the agreement from the trader, who in turn has agreement with an MEP for the ICP. Trader acceptance is confirmed during the application process.

Review of the registry list and event detail report confirmed that all ICPs which were initially electrically connected during the period reviewed had a proposed trader recorded on the initial electrical connection date.

Audit outcome

Compliant

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

Code reference

Clause 10.31A

Code related audit information

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

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

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

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

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

Audit observation

The new connection process was examined in **sections 3.1** and **3.2**.

The registry list for 29/07/19 and event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined to determine compliance.

Audit commentary

Any ICPs that are temporarily electrically connected follow the same process as other new connections.

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 all nine ICPs a proposed trader was recorded on the registry prior to the meter certification date.

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 five 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 Wellington Electricity 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 examined.

Audit commentary

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

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:

xxxxxxxxxxxccc where:

- *xxxxxxxxxx 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.

Audit commentary

ICP numbers are created in GTV. The process for the creation of ICPs was examined, and all ICPs are created in the appropriate format.

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 to assign loss categories was examined. The registry list as at 29/07/19 was examined to confirm all active ICPs have a single loss category code.

Audit commentary

Loss categories are determined from the information provided on application for a new connection, and Wellington Electricity's published loss factors.

The registry list was examined and all ICPs have a single loss category code, except decommissioned ICPs which have a blank loss category. Each loss category code clearly identifies the relevant loss factor.

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 as at 29/07/19 was examined to determine compliance.

Audit commentary

ICPs are created on the registry at "ready" once the retailer has accepted responsibility for the ICP, except for embedded network gateway (LE) ICPs which are created with "distributor" status.

Network extensions are not normally required on Wellington Electricity's network. If an ICP genuinely required "new" status, it would be loaded manually on the registry according to the working instructions document.

Review of the registry list report found no ICPs at "new" status. Monitoring of ICPs with "new" and "ready" status 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 ICP creation process was reviewed. The registry list as at 29/07/19 was examined to determine compliance.

Audit commentary

ICPs at “new” or “ready” status are monitored every three months by Wellington Electricity. ICPs with “new” or “ready” status for over 24 months are checked with the trader to determine whether they are still required, and are decommissioned if necessary. ICPs with “inactive vacant” or “new connection in progress” status for over 24 months are also followed up as part of this process.

The registry list shows 142 ICPs at the “ready” status and no ICPs at the “new” status. No ICPs have been at “ready” status for more than 24 months.

The registry list shows 177 ICPs at “new connection in progress” status. Eight ICPs have been at “new connection in progress” status for more than 24 months, including six ICPs which have been at the status since 2016. All were followed up with the traders in April or May 2019. Seven have now been decommissioned, and one was confirmed to still have a connection in progress.

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 01/08/19 and registry list as at 29/07/19 were reviewed to identify any generation stations with capacity of 10 MW or more, and determine compliance.

Audit commentary

No new embedded generation stations with capacity greater than 10 MW were connected during the audit period.

Wellington Electricity supplies one embedded generation station (1001154460CK204) with a capacity of 10 MW or more. This ICP has an individual loss category code (MILL01) and was connected on 01/04/2014.

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

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

Where a new ICP is created, Wellington Electricity's new connection process described in **sections 3.1** and **3.2** applies.

Where a new ICP is not required, a new connection job must be logged by the trader on behalf of the customer. As part of this process the trader gives their consent for the circuit to be connected.

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.

Event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined to determine compliance for registry updates that did not relate to initial population of registry data for new connections. Timeliness of these initial updates is discussed in **sections 3.4** and **3.5**.

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

NSP changes were examined.

Audit commentary

When information recorded in the registry changes, the distributor should ensure that the registry is updated within three business days. The registry update process is described in **section 2.1**.

Late registry updates are recorded as non-compliance in this section. Most of the backdated events relate to data corrections, which makes Wellington Electricity non-compliant with this clause, but compliant with the requirement to provide complete and accurate information (Clause 11.2 of part 11).

Address events

The timeliness of address updates was assessed, and I found there were no genuine late updates during the period reviewed. This is a dramatic improvement from the 2018 audit, where a large number of late updates were found, mainly caused by address data corrections.

Event detail report period	Total updates	On time updates	Late updates	Comments
18/12/18 to 01/04/19	3,264	3,256 (99.8%)	8 (0.2%)	There were no genuine late address updates. Wellington Electricity provided correspondence with Jade confirming that the late updates were caused by a registry data processing error. All eight updates were sent to the registry with no changes to the previous record on 22/01/19

Event detail report period	Total updates	On time updates	Late updates	Comments
				between 11.07am and 11.08am. Under normal circumstances the registry would not process the update because there was no change. However, the registry replaced the previous record for this small group of updates. Jade investigated the incident, and confirmed that no change should have occurred.
02/04/19 to 29/07/19	489	489 (100%)	-	There were no late address updates.

Network events

The timeliness of network updates was assessed, and I found that most of the late updates were backdated corrections.

Event detail report period	Total updates	On time updates	Late updates	Comments
18/12/18 to 01/04/19	21,474	21,398 (99.6%)	76 (0.4%)	<p>The 76 late updates were all made within 34 business days of the event date. The 60 latest updates were checked to determine why they were late:</p> <ul style="list-style-type: none"> • 24 were corrections to distributed generation details, which were accidentally omitted when initial electrical connection date corrections were processed; • 18 were corrections to initial electrical connection dates; • seven were delayed by Wellington Electricity's Christmas shutdown period, or delays in processing the change; • six were corrections to NSPs; and • five were caused by late notification of distributed generation.
02/04/19 to 29/07/19	1,856	1,637 (88.2%)	219 (11.8%)	<p>28 updates were made more than 30 business days after the event date, and all 219 late updates were all made within 69 business days of the event date.</p> <p>I checked all 28 late updates over 30 business days after the event date and found they were corrections to initial electrical connection dates or distributed generation details.</p>

Pricing events

The timeliness of pricing updates was assessed, and found to have improved during the audit period. In the 2018 audit 27% of pricing updates were late, and 54 over 30 business days.

Event detail report period	Total updates	On time updates	Late updates	Comments
18/12/18 to 01/04/19	3,931	3,856 (98.1%)	75 (1.9%)	The 75 late updates were all made within 25 business days of the event date.

Event detail report period	Total updates	On time updates	Late updates	Comments
				16 late updates more than seven business days after the event date were checked to determine why they were late. 15 were delayed by Wellington Electricity's Christmas shutdown period, and one was delayed in part by a retailer switch withdrawal.
02/04/19 to 29/07/19	10,055	10,028 (99.7%)	27 (0.3%)	<p>The 27 late updates were all made within 21 business days of the event date.</p> <p>All 13 updates made over four business days after the event date were checked to determine the reasons for the late updates:</p> <ul style="list-style-type: none"> Eight updates were late because the FTP server was not logged in after running overnight system updates. Processes have been changed to ensure that the server is logged in once updates are complete, and the IT team completes a daily check that registry updates have been processed, and reprocesses files as necessary. Five late updates were pricing corrections requested by the retailer.

Status events

Status updates were checked, excluding updates to new and ready for new connections. 28 genuine late updates (4.4%) were identified. This is an improvement from the 2018 audit, and has been achieved through closer management of the decommissioning process and the code change which counts business days from the decommissioning event date, or date of the trader's update to "ready for decommissioning" status, whichever is later.

Event detail report period	Total updates	On time updates	Late updates	Comments
18/12/18 to 01/04/19	289	279 (96.5%)	10 (3.5%)	All late updates were checked, and found to be caused by delays in confirming the ICPs were genuinely ready for decommissioning.
02/04/19 to 29/07/19	354	336 (94.9%)	18 (5.1%)	

NSP changes

The registry list and event detail reports were reviewed to identify NSP changes, and confirm the timeliness of those changes.

Registry list period	Total NSP changes	On time updates	Late updates	Comments
18/12/18 to 01/04/19	994	994	-	All NSP changes were notified within 15 business days of the change. A sample of ten updates were checked, and found to have been processed correctly.
02/04/19 to 29/07/19	1,043	1,043	-	

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.1 With: Clause 8 Schedule 11.1 From: 18-Dec-18 To: 27-Jul-19	295 late network updates. 102 late pricing updates. 28 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	Controls are rated as moderate, because processes have improved during the audit period. The risk rating is low, because most of the delayed updates were processed within 30 days. Based on the sample checked, the late updates appear to be mostly data corrections.		
Actions taken to resolve the issue		Completion date	Remedial action status
WE* will continue its strong process controls, addressing of items raised by exception reporting and follow-up with contractors.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Improve monitoring processes to ensure compliance. Assign a team member to cover the Christmas break to reduce the non-compliances Identify whether robotics can be used to automate any of our otherwise manual data entry and exception reporting processes.		Immediate 21/12/2019 31/12/2020	

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 as at 29/07/19 was reviewed to determine compliance.

Audit commentary

The NSP for each ICP is notified to the registry as part of the new connection process described in **section 3.2**.

The new connection application requires an address, which is used to locate the nearest transformer in SIAS (GIS), which corresponds to the NSP. Network Control notify the connections team of any transformer changes so that the NSP can be updated where necessary.

A weekly report of new or changed NSPs is obtained from SIAS and matched to Northpower's records to confirm that the correct transformers are recorded for new ICPs.

Following the 2018 audit, Wellington Electricity began a project to validate and cleanse its NSP data which is still underway. This data cleansing project included:

- updating records for at least 10,000 ICPs which did not have feeder information recorded;
- creating GIS records for at least 30,000 ICPs which were missing from the GIS, so that NSP mapping could be checked; and
- checking ICPs which were attached to decommissioned transformers and updating to a new transformer where required.

To check the accuracy of NSP data, the list file was analysed and identified 244 streets where active ICPs were connected to different NSPs. This is a significant improvement from 450 streets during the 2018 audit.

In some cases ICPs on a street could genuinely be connected to different NSPs, particularly where the streets are long and/or there is more than one NSP in the immediate area. To identify streets where address and/or NSP information was more likely to be incorrect, I determined whether ICPs on each street were connected to NSPs in more than one geographical area of Wellington Electricity's network (e.g. Hutt Valley, Wellington City, or Tawa/Porirua) and found 14 affected streets (670 ICPs). All were checked:

- for three streets (Centennial Highway, Ngauranga, Jaunpur Crescent, Broadmeadows, and Nalanda Crescent, Broadmeadows) ICPs were genuinely connected to NSPs in more than one geographical area.
- across the other 11 streets, I found three ICPs had some incorrect address information recorded, and 36 ICPs had incorrect NSPs recorded, all were corrected during the audit. The ICPs with incorrect addresses are recorded as non-compliance in **section 4.6**, and incorrect NSPs are recorded as non-compliance below.

Discrepancies identified in the 2018 audit but not cleared by the time the report was finalised are now resolved.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.2 With: Clauses 7(1), (4) and (5) Schedule 11.1 From: 01-Nov-18 To: 27-Aug-19	At least 36 ICPs had an incorrect NSP recorded, and were corrected during the audit. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate, as they are sufficient to ensure that the majority of ICPs created by Wellington Electricity will have the correct NSP assigned. The incorrect NSPs appear to be largely historic, and Wellington Electricity has made progress on identifying issues and cleansing their NSP data. Further work is currently being undertaken and controls are expected to be strong once this is complete. The impact is low, and all NSPs that have been confirmed to be incorrect have been updated. For reconciliation purposes all Wellington Electricity's NSPs are in the WELLTONUNETG balancing area. It is possible affected ICPs may not be correctly identified where there are outages or maintenance work is carried out, so the potential impact is rated as medium.		
Actions taken to resolve the issue		Completion date	Remedial action status
These non-compliances are part of a programme of work which is already underway to resolve historic non-compliances.		31/12/2020	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
Weekly data updating/monitoring has been implemented between systems to monitor any discrepancies.		13/09/2019	

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

Wellington Electricity seldom receives direct requests for ICP identifiers. ICP identifiers are provided immediately once the ICP address has been confirmed.

The requestor is advised that future requests should first go to their trader, and contact information for the trader is provided.

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 as at 29/07/19 was reviewed to determine compliance.

Audit commentary

Wellington Electricity relies on information provided on the new connection application and city council address information to determine unique and locatable addresses.

Duplicate and unlocatable addresses are identified and corrected daily, as part of the registry validation process discussed in **section 2.1**.

Duplicate addresses

As discussed in **section 3.2**, staff manually check for duplicate addresses when data is received in SAP. When the data is entered into GTV, a warning message appears if an entered address is an exact match for an existing address. It is possible to override the GTV warning message and continue with the duplicate address.

Where an address is not unique, staff contact the trader to request further address information and the application is put on hold.

Review of the registry list identified four ICPs with duplicate addresses, which is a significant reduction from 1,820 ICPs with duplicate addresses identified in the 2018 audit. The incomplete addresses were all identified and corrected through Wellington Electricity's daily validation process, and compliance is recorded.

Not readily locatable

The new connection application contains a number of fields for address information, including property names, unit, and street numbers.

Review of the registry list did not identify any ICPs with addresses which were not readily locatable.

Addresses that were not readily locatable at the time of the 2017 and 2018 audits have been updated and are now compliant.

Audit outcome

Compliant

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

The management of this process was discussed, and a sample of new connections were examined.

Audit commentary

Each new ICP created after 7 October 2002 must be able to be electrically disconnected without electrically disconnecting another ICP, unless it is an ICP that represents the consumption calculated by difference between the total consumption for the embedded network and all other ICPs on that embedded network.

When new physical points of connection are created during the new connection process, there is a check of SIAS (GIS) to confirm the network configuration meets the requirements of this clause.

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 29/07/19, event detail report and metering installation details report were reviewed to determine compliance.

Audit commentary

Registry updates are processed automatically by GTV each night. Processes for completeness and accuracy of registry updates are discussed in **section 2.1**.

Review of the registry list identified some data discrepancies. I found most of the discrepancies were resolved through Wellington Electricity's data validation processes prior to the on-site audit. Non-compliance is recorded where data was not identified and corrected through Wellington Electricity's processes, and was updated during the audit.

Addresses

ICP location addresses were reviewed in **section 4.4**.

Three ICPs were found to have some incorrect address information recorded, and were corrected during the audit:

ICP	Registry list address on 29/07/19	Correct address
0000058352TR1C4	588 PAREMATA HAYWARDS ROAD, PAUATAHANUI, PORIRUA	588 PAREMATA HAYWARDS ROAD, JUDGEFORD, PORIRUA
0000058348TR9F8	SHEARING SHED, STATE HIGHWAY 58, HAYWARDS, LOWER HUTT	SHEARING SHED, 616 PAREMATA HAYWARDS ROAD, JUDGEFORD, LOWER HUTT
0000058358TR355	RELAY NUMBER 8104135-DRR, STATE HIGHWAY 58, PAUATAHANUI, PORIRUA	RELAY NUMBER 8104135-DRR, 537 A PAREMATA HAYWARDS ROAD, JUDGEFORD, PORIRUA

NSPs

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

I found that LE ICP 0000161190CKBEC had dedicated NSP set to N. Wellington Electricity confirmed that dedicated NSP should have been set to Y, and processed a correction for the affected ICP during the audit. Procedure documentation has been updated to clarify the use of dedicated NSP status.

Reconciliation type

Review of the registry list confirmed that the reconciliation types applied were valid and consistent with other ICP information, including status.

Price and loss categories

Analysis of the list file found all active ICPs had a price category and loss category assigned. Assignment of loss factors was reviewed in **section 3.12**.

Installation type and generation details

Distributed generation process

Wellington Electricity adds applications for distributed generation to a spreadsheet once they are approved. Weekly, this spreadsheet is compared to the registry to confirm whether EG (or injection flow) metering is installed.

The 2018 audit recommended that ICPs with no application for generation and EG metering should be checked. Wellington Electricity intends to implement further validation by early September, including

comparing the registry PR255 metering installation details report to the distributed generation spreadsheet. I recommend some minor improvements to the proposed process:

Recommendation	Description	Audited party comment	Remedial action
Clause 8 Schedule 11.1 Distributed generation details on the registry	<p>Where EG or injection flow metering has been installed and no application for generation has been received, investigate whether generation is present by:</p> <ol style="list-style-type: none"> 1. Checking the EIEP1/3 reports provided by traders to determine whether the EG registers are recording consumption. 2. Checking the high risk database (https://www.energysafety.govt.nz/energysafety/app/highrisk-db/home) for the address, to determine whether generation has been installed. <p>Follow up any ICPs which appear to have missed applications with the trader.</p>	We have taken the Auditor recommendations as action points.	Investigating

Approved applications for generation which do not have EG metering installed are not routinely followed up with the trader. I repeat last year's recommendation:

Recommendation	Description	Audited party comment	Remedial action
Clause 8 Schedule 11.1 Distributed generation details on the registry	<p>Follow up ICPs with approved applications, which do not have EG or injection flow metering installed within three months with the trader.</p> <p>These ICPs can be checked on the high risk database (https://www.energysafety.govt.nz/energysafety/app/highrisk-db/home) to help to determine whether generation has been installed.</p>	We have taken the Auditor recommendations as action points.	Investigating

The registry installation type, generation capacity, and fuel type are expected to be updated effective from the date that generation begins. Approval to generate, and installation of EG metering may occur on a different date to commencement of generation. Where a trader decides to gift generated electricity, EG metering may not be installed at all.

The 2018 audit found that the installation type, generation capacity, and fuel type were only updated on the registry once EG metering was installed. Wellington Electricity changed their process to record the generation capacity and fuel type on the registry once the application was approved, and update the installation type to B once the presence of EG metering is confirmed through the weekly metering check. Wellington Electricity had hoped this process would allow traders to identify ICPs where applications had been approved, but unfortunately this is non-compliant with the code requirements.

The registry must be updated from the date when generation is confirmed to be installed, not the date of application approval:

Recommendation	Description	Audited party comment	Remedial action
Clause 8 Schedule 11.1 Distributed generation details on the registry	Update the registry from the date it is known that generation is installed or the generation metering installation date, whichever is earlier. Ensure that generation capacity reflects the name plate capacity of the generation plant, which may differ from the information provided on the application.	We have taken the Auditor recommendations as action points.	Investigating

Accuracy of registry information

Examination of the registry list showed an increase in the number of active ICPs with distributed generation:

Year	ICPs with distributed generation
2016	338
2017	460
2018	816
2019	1,102

160 ICPs with a fuel type and generation capacity, but an installation type of L. It is expected that any ICP with generation capacity will have installation type G or B.

- 41 of the ICPs had an approved application without EG metering installed. The generation capacity and fuel type were updated on approval, and the installation type remained as L because EG metering was not installed. This is non-compliant.
- 14 ICPs had an approved application without EG metering installed, and were later updated to installation type B once EG metering was installed.
- 104 ICPs were updated by the project team as part of their initial electrical connection date data cleansing. The updates accidentally changed the installation type from B to L. I confirmed that corrections were processed on the registry for all the affected ICPs.
- ICP 1001152574CK567 is under investigation to confirm the generation details, and the registry will be updated once this is complete.

All other ICPs with generation capacity had a fuel type and installation type of B or G recorded.

Review of the registry list identified 16 ICPs which had no generation details recorded, but had EG metering and a profile that may indicate that generation is present.

- Seven ICPs were timing differences, and now have generation details recorded on the registry. For ICPs 0000072559TRE9B (solar installed 10/11/18), 1001112665UNF64 (solar installed 27/09/13) and 1001153905CK1D3 (solar installed 28/06/14) the registry event date did not reflect the solar installation date. This is recorded as non-compliance in **section 2.1**.
- Three ICPs were confirmed not to be generating, and Wellington Electricity's records are correct.
- ICPs 0000043289TRC57, 0000058480TR301, 0000085149TR9CB, 0000103319TR54D, 0000124846TRC38 and 0000190525TR289 have been checked with the retailer because no

application for generation has been received. The high risk database indicates that 0000085149TR9CB had a photovoltaic system installed on 24/11/17.

The accuracy of generation details including generation capacity and fuel types were checked. Some exceptions were found:

- ICP 0000100101TR513 is recorded with fuel type wind, but the profile assigned by the retailer indicates solar. Wellington Electricity is confirming the correct fuel type for this ICP with the trader.
- The 2018 audit found two ICPs had their fuel type listed as undefined. Wellington Electricity has now confirmed that 1001146724CK909 and 1001146725CK54C use diesel generation and the fuel type has been updated to “liquid fuel”.

As discussed in **section 3.15**, Wellington Electricity supplies one embedded generation station (1001154460CK204) with a capacity of 10 MW or more. This ICP has an individual loss category code (MILL01).

Initial electrical connection dates

The accuracy of initial electrical connection dates was checked by comparing them to the meter certification date (where present) and the earliest active date.

- The 401 new ICPs electrically connected between 02/04/19 and 29/07/19 had initial electrical connection dates consistent with the earliest “active” date recorded by the trader. For 11 ICPs, the meter certification date was different. Wellington Electricity queried the initial electrical connection dates with the traders, and updated the initial electrical connection date to match the meter certification date during the audit. The incorrect initial electrical connection dates are recorded as non-compliance below.
- The 353 new ICPs electrically connected between 18/12/18 and 01/04/19 had initial electrical connection dates consistent with the earliest “active” date recorded by the trader and meter certification date, except ten ICPs where the initial electrical connection date did not match the earliest active date, and 11 ICPs where the initial electrical connection date did not match the meter certification date. All the affected dates were corrected by Wellington Electricity prior to this audit.

The registry list as at 29/07/19 was reviewed to identify potentially incorrect initial electrical connection dates:

Registry list review finding	Audit finding
ICP 0000161082CK8C0 had “ready” status, and an initial electrical connection date recorded.	This was a timing difference, and the trader has now processed a backdated update to “active” status.
24 ICPs have “inactive new connection in progress” status, and an initial electrical connection date recorded.	The initial electrical connection dates were updated in error as part of a data cleansing project. The incorrect initial electrical connection dates were removed during the audit and are recorded as non-compliance below.
28,751 ICPs have initial electrical connection dates earlier than 29/08/13 ⁴ . Initial electrical connection dates prior to 29/08/13 are not required to be	The initial electrical connection dates were updated as part of a data cleansing project, and were a combination of manual and bulk registry updates.

⁴ When the code change requiring initial electrical connection dates came into effect.

Registry list review finding	Audit finding
recorded, but they must be accurate if populated.	<p>A diverse sample of 22 initial electrical connection dates earlier than 29/08/13 were checked for accuracy, including at least two (or all) dates within each calendar year. All 22 initial electrical connection dates were incorrect, and reflected:</p> <ul style="list-style-type: none"> the most recent update to “active” status in GTV; or where a date was not available in GTV, the project team applied 01/01/2000. <p>The incorrect initial electrical connection dates were removed during the audit and are recorded as non-compliance below.</p> <p>Wellington Electricity is working through checking and correcting the other ICPs with initial electrical connection dates prior to 29/08/13 to confirm whether they are valid, and update the registry as necessary.</p>

Unmetered load

Part 11 states the distributors must provide unmetered load type and capacity of the unmetered load to the registry “if known”. When new unmetered load is identified, Wellington Electricity confirms the unmetered load with the trader and populates the distributor unmetered load details.

Unmetered load details format

812 active ICPs have a value in the Unmetered load details – Distributor field, an increase from 805 in 2018. The Authority’s Guidelines on Unmetered Load Management Version 2.1 recommends the distributor unmetered load details are populated on the registry in the following format: “watts;running hours per day;other text”.

Wellington Electricity has loosely followed this format. For most ICPs, connected load is recorded as kW instead of watts, and a colon separator is used instead of a semi colon.

Wellington Electricity investigated changing to the Authority’s recommended format, but decided not to proceed because a change to GTV’s base code would be required. GTV stores unmetered load details as an installation fixture. The load is entered into GTV in watts, and is automatically converted to kW to two decimal places with “kW” as a suffix.

Trader unmetered load is recorded without distributor unmetered load

Review of the registry list identified 388 ICPs where trader unmetered load is recorded, but there are no distributor unmetered load details. 78 of the ICPs were active, and 310 were inactive. None of the ICPs had DUML indicated, and three of the ICPs were created after August 2018.

The 78 active ICPs were provided to Wellington Electricity, who investigated each ICP to determine whether unmetered load details had been provided as part of the application process, or subsequent field services jobs or correspondence. Once investigation was complete, Wellington Electricity contacted the affected traders to confirm the correct unmetered load details, if any.

- For 64 ICPs Wellington Electricity is still working with the traders to confirm the unmetered load details.
- For 14 ICPs the correct unmetered load details have been confirmed and the registry has been updated. The corrections were processed effective from the update date but should have been processed from the unmetered load details effective date. The incorrect event dates are recorded as non-compliance in **section 2.1**, and the incorrect unmetered load details are recorded as non-compliance below.

Distributor unmetered load is recorded without trader unmetered load

Review of the registry list identified ten active ICPs with distributor unmetered load details recorded but no trader unmetered load details.

- Nine ICPs were confirmed not to have unmetered load connected, and Wellington Electricity removed the unmetered load details during the audit. The incorrect unmetered load details are recorded as non-compliance below.
- ICP 0000160387CK72C was confirmed to have unmetered load connected, and Wellington Electricity's details are correct. The trader has now updated their unmetered load details.

Distributor unmetered load details differ from the trader unmetered load details

812 active ICPs have a value recorded in the distributor unmetered load details field. For the 268 ICPs where the format of the distributor information enabled recalculation, and a trader unmetered load value was populated, I compared the figures. For 234 ICPs Wellington Electricity's value matched the trader's value within ± 1 kWh. I found some small differences were caused by GTV's rounding of wattage to kW with two decimal places.

The 34 ICPs with differences over ± 1 kWh were checked:

- for eight ICPs, Wellington Electricity's unmetered load details were confirmed to be correct;
- for ICPs 0000159586CK0E3 and 1001156919CKF40, corrections to unmetered load details were processed effective from the update date but should have been processed from the installation date, the incorrect event dates are recorded as non-compliance in **section 2.1**, and the incorrect unmetered load details are recorded as non-compliance below;
- for 19 ICPs, Wellington Electricity is working with the trader to confirm the unmetered load details and will process updates as required; and
- for the remaining six ICPs, Wellington Electricity believes that their details are correct and consistent with previous correspondence with the trader. I recommend that these are rechecked:

ICP	Unmetered load details - Distributor	Unmetered Load Details - Retailer	Comment
1000756506UN59C	0.07kW:24:G001_7 0.8W_NSL	0.25;24;WATERSUPPLY	The trader's details are inconsistent with expected values.
0000157142CK2C7	0.07kW:24:G001_7 2W_NSL	0072;00.1;max24hr per year Flood Water Penstock	The trader has recorded 24 hours per annum, and distributor 24 hours per day.
0000157143CKE82			
0000157144CK348			
0000157145CKF0D			

Recommendation	Description	Audited party comment	Remedial action
Clause 8 Schedule 11.1 Unmetered load details	Recheck ICP 1000756506UN59C to confirm the correct unmetered load details, and update GTV and the registry as required. Recheck ICPs 0000157142CK2C7, 0000157143CKE82, 0000157144CK348 and 0000157145CKF0D to confirm the correct on hours, and update GTV and the registry as required.	Management have reviewed and confirm ICP 1000756506UN59C is currently being investigated with the Trader and their customer. The other 4 ICP's have been confirmed as correct as 24 hours and this is reflected in our UML Details at the Registry.	Investigating

Three new connections in the sample of new connection applications checked had unmetered load indicated by the trader's unmetered load field. All were checked as part of the new connections review, and found to be compliant.

Unmetered load exceptions identified in the 2018 audit were followed up:

ICP	2018 comment	2019 comment
0000158224CK6DB	This ICP is metered, and details will be updated once metering is loaded on the registry.	The ICP has since been confirmed to have unmetered load, and correct unmetered load details have been added. The event date was incorrectly applied as the date that the update was processed, and is recorded as non-compliance in section 2.1 .
0000157855CKA9	Should show 0.19kW:24:MultUNMLoad but shows 0.26kW:24:MultUNMLoad.	Details have now been corrected to 0.35kW:24:MultUNMLoad. The event date was incorrectly applied as the date that the update was processed, and is recorded as non-compliance in section 2.1 .
0000159069CK082	No distributor unmetered load recorded, awaiting confirmation of unmetered load from the trader.	The ICP Service request lodged by the Trader was for a metered load connection, which was completed as requested. Wellington Electricity have engaged with the trader who is in discussion with the customer (Wellington City Council) to help resolve this issue.
0000159166CK658	No distributor unmetered load recorded, awaiting confirmation of unmetered load from the trader.	The ICP Service request lodged by the Trader was for a metered load connection, which was completed as requested. Wellington Electricity have engaged with the trader who is in discussion with the customer (Wellington City Council) to help resolve this issue.

Shared unmetered load

Wellington Electricity is developing processes to manage shared unmetered load, based on the Authority's guidelines. The changes are currently in Wellington Electricity's test system. Pending the test results, it is anticipated that the changes will be moved into production at the end of September 2019.

ICP 0001408077UN5D7 will be used as a test case, and Wellington Electricity has been working alongside the affected traders.

Hutt, Porirua and Wellington City Councils have provided Wellington Electricity lists of private streetlights, and there are no private streetlights for Upper Hutt City Council. Once the shared unmetered load processes are in place, Wellington Electricity intends to work through these private lights and create shared unmetered load as required.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.6</p> <p>With: Clause 7(1) Schedule 11.1</p> <p>From: 01-Aug-18 To: 05-Sep-19</p>	<p>Three ICPs were found to have some incorrect address information recorded, and were corrected during the audit.</p> <p>LE ICP 0000161190CKBEC temporarily had dedicated NSP set to No, and was corrected during the audit.</p> <p>At least 57 ICPs did not have correct initial electrical connection date recorded. The 57 affected records were corrected during the audit.</p> <p>Generation capacity and fuel type details are recorded on the registry from the date the application for generation is approved. The installation type is not updated until EG metering is installed. At the time the registry list was run, at least 106 ICPs had incorrect generation details recorded on the registry. Some corrections have been processed, and at least 41 ICPs have some incorrect details on 05/09/19.</p> <p>25 ICPs had incorrect distributor unmetered load details. All 25 ICPs were corrected during the audit.</p> <p>Potential impact: High</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>
Audit risk rating	Rationale for audit risk rating
Low	<p>Controls are assessed to be moderate. Controls around initial electrical connection dates have improved to moderate as new processes have been put in place to ensure initial electrical connection dates are populated more promptly. Wellington Electricity plans to improve their processes for unmetered load details, LE ICPs and distributed generation.</p> <p>The actual impact is low, because most data provided is accurate and most of the exceptions have been cleared.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
3 ICP's had incorrect addresses - these were identified by WE* daily status reporting and were corrected and cleared within the audit.	28/05/2019	Identified
<ul style="list-style-type: none"> 1 LE ICP not set to dedicated NPS 	5/08/2019	
<ul style="list-style-type: none"> IED 	5/08/2009	
<ul style="list-style-type: none"> DG 	WIP	
<ul style="list-style-type: none"> UML 	5/08/2019	
Preventative actions taken to ensure no further issues will occur	Completion date	
Duplicated and Un-locatable addresses are monitored daily.	13/09/2019	
New LE process documentation has been created	13/09/2019	
More regular monitoring of the metering file to determine if Import/Export meters have been installed along with the date of the metering be first installed (IED).	31/10/2019	
UML refer 2.1	31/12/2020	

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

Code reference

Clause 7(3) Schedule 11.1

Code related audit information

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

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

Audit observation

The management of registry information was reviewed.

The registry list for 29/07/19 and event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined to determine compliance.

Audit commentary

The price category and chargeable capacity (if any) are usually known at the time of the ICP being created, and are recorded prior to electrical connection. If these details are not known prior to initial electrical connection, they are updated as soon as possible after notification is received from the contractor.

All new ICPs created during the audit period had pricing information recorded on the registry 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 29/07/19 was reviewed to identify all ICPs with GPS coordinates. GPS coordinates were mapped using to determine their accuracy relative to the physical address listed.

Audit commentary

GPS coordinates are optional, but if populated the registry requires New Zealand Transverse Mercator 2000 (NZTM2000) coordinates.

Review of the registry list found Wellington Electricity had populated GPS coordinates for ICP 0000157320CK7B5 on the registry. When the coordinates for ICP 0000157320CK7B5 were mapped based on NZTM2000 I found they were not situated at the address recorded for the ICP, and were located in the Tasman sea. The coordinates were in Universal Transverse Mercator (UTM) format, which is non-compliant.

The incorrect GPS coordinates were removed from the registry during the audit. The address remains unique and locatable without the GPS coordinates.

ICPs with GPS coordinates are now identified and corrected daily, as part of the registry validation process discussed in **section 2.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 7(8) and (9) Schedule 11.1 From: 25-Jun-19 To: 05-Aug-19	ICP 0000157320CK7B5's GPS coordinates were in UTM format instead of NZTM2000 format. The GPS coordinates have now been removed from the registry. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are now rated as strong. The GPS coordinates have been removed from the registry, and daily checks are now in place to identify and correct any ICPs with GPS coordinates.</p> <p>The potential impact is low, because address information will assist in the location of the ICP and the coordinates have been removed.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
The GPS field has been added to our daily field monitoring processes.		13/09/2019	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
The GPS field has been added to our daily field monitoring processes.		13/09/2019	

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 29/07/19 and event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined were reviewed to identify ICPs at “ready” status and check compliance.

Audit commentary

Unless an ICP is an embedded network gateway (LE), GTV requires the ICPs to be moved to “ready” status before they are updated on the registry. Network extensions are rare, but if one is needed, the ICP will be manually created at “new” on the registry according to the working instructions document.

The registry list showed 142 ICPs currently at “ready” status, 131 of which were created in the past year. All ICPs at “ready” status have a proposed trader and a single price category recorded. Monitoring of ICPs at “ready” status is discussed in **section 3.14**.

All ICPs electrically connected during the audit period were updated to “ready” by the time they were electrically connected, as discussed in **section 3.4**.

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 29/07/19, the NSP table as at 01/08/19, and event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined were reviewed to identify ICPs at “distributor” status and check compliance.

Audit commentary

The registry list showed 101 ICPs currently at “distributor” status. “Distributor” status is managed by the distributor and denotes that the ICP represents a shared unmetered load installation, or the point of connection between an embedded network and its parent network. Wellington Electricity does not record any shared unmetered load, all the ICPs with distributor status relate to LE ICPs for embedded networks. Shared unmetered load is discussed further in **section 2.2**.

As noted in **section 1.8**, there are currently 89 embedded networks connected to the Wellington Electricity network. The list file and NSP mapping table were compared, and confirmed that there was at least one LE ICP per embedded network. The table below sets out the differences by NSP:

NSP	LE ICPs	NSP Table	Difference
CPK0111	10	10	-
CPK0331	51	44	7
GFD0331	2	2	-
KWA0111	13	12	1
MLG0111	2	1	1
MLG0331	4	1	3
TKR0331	2	2	-
WIL0331	17	17	-

I confirmed that LE ICPs were created as required for all embedded networks created during the audit period.

The 2018 audit identified discrepancies where the LE ICP and/or NSP were not recorded against the correct parent NSP for TET0011 and TKO0011. Both these issues have been cleared.

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 decommissioning process was discussed.

The registry list as at 29/07/19, and event detail reports for 18/12/18 to 01/04/19 and 02/04/19 to 29/07/19 were examined were reviewed to identify ICPs at “decommissioned” or “ready for decommissioning” status and check compliance.

A sample of 18 “decommissioned” ICPs was examined. I also examined all ten ICPs at “ready for decommissioning” status.

Audit commentary

The decommissioning process starts with a service request for decommissioning from a trader. Northpower is dispatched to conduct the physical decommissioning and removal of the relevant connection. Once complete, the service request is closed in GTV and the registry is updated.

If an ICP is identified as ready for decommissioning and a request has not been received from the trader, Wellington Electricity asks the trader for confirmation that the ICP is ready for decommissioning and to update the status on the registry.

Decommissioned statuses are included in the daily status match described in **section 2.1**. Where the trader has not already changed the status to “ready for decommissioning”, they are contacted and asked to do so.

Wellington Electricity has cleared the backlog of ICPs at “ready for decommissioning” status, and all ICPs at “ready for decommissioning” have been at the status for less than one year. The table below shows the number of ICPs at “ready for decommissioning” status by trader:

Trader	ICPs at ready for decommissioning status		
	2019	2018	2017
CTCT	2	102	175
GBUG	1	-	-

Trader	ICPs at ready for decommissioning status		
	2019	2018	2017
GENE	4	60	31
GEOL	1	1	-
MEEN	-	1	5
MERI	1	1	9
PSNZ	-	-	15
PUNZ	-	-	1
SIMP	1	-	2
SWCH	-	-	112
TODD	-	1	1
TRUS	-	8	27
Total	10	174	378

All ten ICPs at “ready for decommissioning” status were checked:

- seven ICPs have subsequently been decommissioned;
- ICP 0000189541TR832 was incorrectly assigned “ready for decommissioning” status by the trader, and has been corrected to “inactive vacant” status; and
- two ICPs correctly remain at “ready for decommissioning status, ICP 0000101497TRFDE has been assigned to a contractor to be decommissioned, and Wellington Electricity is waiting for the job completion and paperwork before updating the registry and ICP 0001446722UND67 is awaiting a service request with a site contact before decommissioning.

A further 18 decommissioned ICPs were reviewed to confirm whether the ICP was inactive and ready for decommissioning prior to being decommissioned. In all cases, the ICPs were genuinely ready for decommissioning at the time they were decommissioned, and the appropriate decommissioned code was applied.

The 2018 audit found that ICPs 1001157073CKA88 and 1001158901CKF39 had been decommissioned in GTV, but the registry had not been updated. Both have now been decommissioned on the registry.

The timeliness of updates to the registry is discussed in **section 4.1** above.

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 two 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

No new price category codes have been created since 18/04/2018.

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

No new loss factors were created during the audit period.

Audit outcome

Compliant

5.2. Updating loss factors (Clause 22 Schedule 11.1)

Code reference

Clause 22 Schedule 11.1

Code related audit information

Each loss category code must have a maximum of two 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

Loss factor codes VECG1, VECG2, VECG3 and VECG4 were updated effective from 01/04/19 on 08/04/19, and subsequently corrected to be updated effective from 01/07/19 on 12/04/19.

Compliance is recorded because the backdated update effective from 01/04/19 was reversed and replaced with a compliant update.

Only one factor is applied per calendar month. The loss factor review process is discussed in **section 8.1**.

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 two 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 two 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 examined.

Audit commentary

No NSPs have been created or decommissioned 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 two local networks. In all other cases, the request must be made at least one month before the NSP is electrically connected or the ICP is transferred.

Audit observation

The NSP table was examined.

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 examined.

Processes to determine balancing areas were discussed.

Audit commentary

No balancing area changes have occurred during the audit period

Until 30/04/08, the network (then owned by UNET) had one balancing area per NSP. On 01/05/08 UNET moved all the NSPs into a single balancing area WELLTONUNETG. As recorded in the 2018 audit, the NSPs have remained in this single balancing area since 01/05/08.

ICPs should only be in the same balancing area if an NSP within the balancing area could receive supply from at least one other NSP within the balancing area. If alternative supply is not possible between groups of NSPs, then separate balancing areas should be used.

The 2018 audit found it was likely that the Wellington Electricity Network should have more than one balancing area. Wellington Electricity's asset and planning team intends to review its balancing area groupings and carry out corrections as required. A target completion date had not been set for this project. I repeat the previous audit recommendation to maintain visibility.

Recommendation	Description	Audited party comment	Remedial action
Clause 24(1) and Clause 26(3) Schedule 11.1 Balancing areas	Investigate to confirm which NSPs should be grouped into balancing areas, and then create and assign any new balancing areas as required.	We have taken the Auditor recommendation as an action point.	Investigating

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 one 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 examined.

Audit commentary

Wellington Electricity does not own any embedded networks, and has not created any new embedded networks during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 24(2) and (3) Schedule 11.1

Code related audit information

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

Audit observation

The NSP table was reviewed.

Audit commentary

No balancing area changes have occurred during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 27 Schedule 11.1

Code related audit information

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

Audit observation

The NSP table was reviewed.

Audit commentary

No existing ICPs became NSPs during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 1 to 4 Schedule 11.2

Code related audit information

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

Audit observation

The NSP table was reviewed.

Audit commentary

Wellington Electricity 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

The NSP supply point table was examined.

Audit commentary

Wellington Electricity 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

Wellington Electricity did not create 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 one month's 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

Wellington Electricity have not initiated any changes of network owner during the audit period.

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

Wellington Electricity 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

Wellington Electricity 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

Wellington Electricity 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

Processes for the management of shared unmetered load were discussed. The registry list as at 29/07/19 was reviewed to identify any ICPs with shared unmetered load connected.

Audit commentary

Review of the registry list confirmed that shared unmetered load is not currently recorded for any ICPs on Wellington Electricity's network.

Wellington Electricity is developing processes to manage shared unmetered load, based on the Authority's guidelines. The changes are currently in Wellington Electricity's test system. Pending the test results, it is anticipated that the changes will be moved into production at the end of September 2019. ICP 0001408077UN5D7 will be used as a test case, and Wellington Electricity has been working alongside the affected traders.

Hutt, Porirua and Wellington City Councils have provided Wellington Electricity lists of private streetlights, and there are no private streetlights for Upper Hutt City Council. Once the shared unmetered load processes are in place, Wellington Electricity intends to work through these private lights and create shared unmetered load as required.

I repeat the 2017 and 2018 audit recommendation to maintain visibility of this issue. Because Wellington Electricity has known that some shared unmetered load exists for several years, missing shared unmetered load details will be recorded as non-compliance with the requirements to take all practicable steps to provide complete and accurate information.

Recommendation	Description	Audited party comment	Remedial action
Clause 11.14(2) and (4) Shared unmetered load	Liaise with Porirua, Hutt City and Wellington 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.	We have taken the Auditor recommendation as an action point.	Investigating

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

Processes for the management of shared unmetered load were discussed. The registry list as at 29/07/19 was reviewed to identify any ICPs with shared unmetered load connected.

Audit commentary

Review of the registry list confirmed that shared unmetered load is not recorded for ICPs on Wellington Electricity's network, and there have not been any changes to shared unmetered load. The project to update shared unmetered load details is discussed in **section 7.1**.

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 Wellington Electricity’s process and compliance against the guideline’s recommended thresholds.

Audit commentary

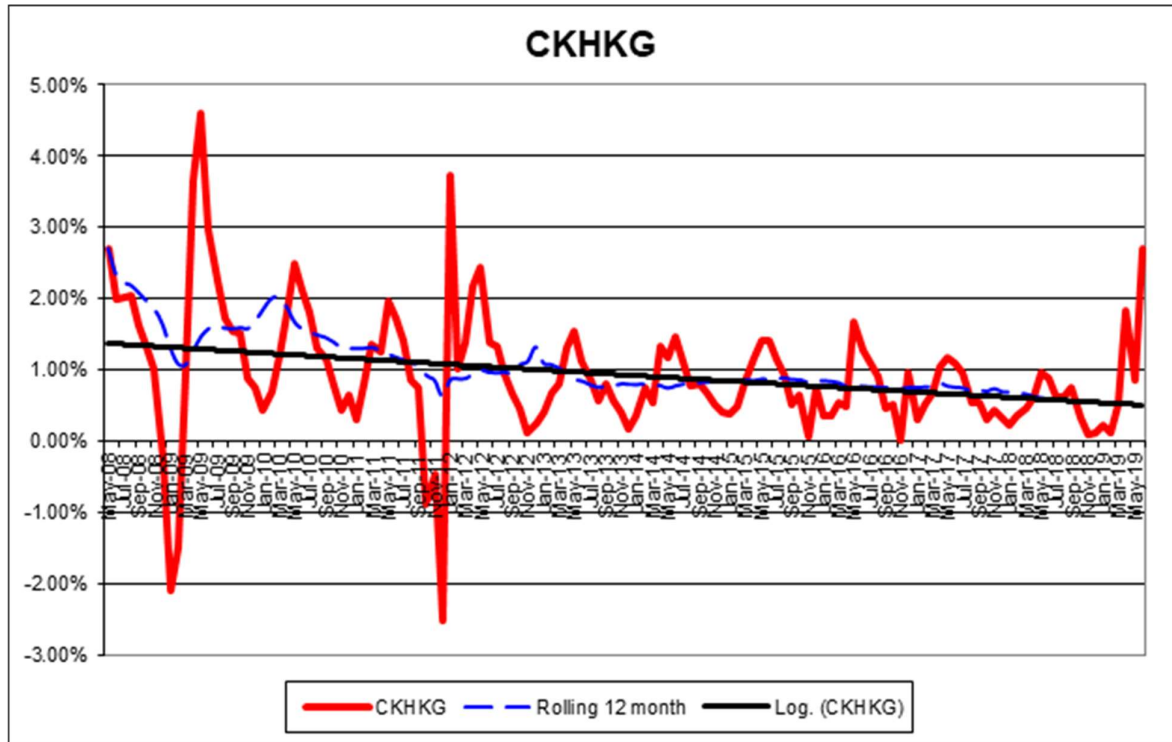
As recorded in the 2018 audit, Wellington Electricity reviewed their loss factors in October 2018 in accordance with the Authority’s guideline. Some minor changes to loss factors were made as a result, and the update of this information on the registry is discussed in **section 5.2**.

The review process included:

- confirming the loss factor requirements, and reviewing existing technical loss factor and loss ratio;
- confirming the loss factor policy was compliant, and the best methodology to complete the loss factor review;
- compiling the data used to support the loss factor calculation, and carrying out the review; and
- post review analysis, to identify any improvements that could be for the next loss factor review.

External consultants were engaged to ensure that Wellington Electricity’s loss factor policies and calculation methodology were consistent with the Authority’s guidelines.

I was provided by the Electricity Authority the reconciliation losses which indicate losses are tracking within the +/- 1% threshold indicated in the guideline:



Audit outcome

Compliant

CONCLUSION

The 2016, 2017, and 2018 audits found that Wellington Electricity was aware of some historic and current data completeness and accuracy issues, which they were working to resolve through a series of projects. Key data affected included initial electrical connection dates, unmetered load, ICP addressing, NSP assignment, and ICP statuses.

Progress with resolving the issues was initially slow, due to the complexity of some of the issues, staffing changes, and resourcing constraints. Since around the time of the 2018 audit, Wellington Electricity has put significant effort into resolving the issues, including undergoing two interim audits. There has been improvement across all areas where historic non-compliance existed during the audit period.

- Further data validation checks have been implemented, to improve data quality and compliance.
- No ICPs with incorrect statuses were identified. The decommissioning process has been improved and is now closely managed, and the backlog of ICPs at ready for decommissioning status has been cleared.
- Address data has been cleansed, and daily monitoring of incomplete and duplicate addresses has been implemented.
- The timeliness of registry updates has generally improved, and I found most backdated updates related to corrections.
- Initial electrical connection data has been cleansed, and daily monitoring identifies missing electrical connection dates. Some further data cleansing is required for initial electrical connection dates prior to 29/08/13.
- Robust processes have been put in place to ensure that NSPs are correctly assigned. A project to identify and update incorrectly assigned NSPs began in October 2018, with a large number of corrections completed in early 2019. This work is ongoing, and significant improvement was found in **section 4.2**.
- Work to investigate and clear unmetered load discrepancies started in earnest in August 2019, and changes to allow recording of shared unmetered load are expected to be implemented in September 2019 pending test results. Although resolving each discrepancy can be time consuming due to the amount of investigation required, I expect there will be significant improvement in this area during the coming audit period.

Where non-compliance was identified during the audit, the Wellington Electricity team has processed corrections, and worked to identify corrective measures to prevent recurrence.

The following key areas require further improvement:

- **Unmetered load:** Wellington Electricity needs to continue cleansing its unmetered load data, and create shared unmetered load as required;
- **Distributed generation:** Wellington Electricity changed their process to record the generation capacity and fuel type on the registry once the application was approved and update the installation type to B once the presence of EG metering is confirmed through the weekly metering check, Wellington Electricity had hoped this process would allow traders to identify ICPs where applications had been approved, but unfortunately this is non-compliant with the code requirements;
- **Initial electrical connection dates prior to 29/08/13:** These records need to be checked to ensure that they are accurate or removed and as part of this process, Wellington Electricity will need to ensure that the remaining dates are correct; and
- **Event dates:** Processes for establishing event dates should be reviewed, to ensure that they are as accurate.

The audit found eight non-compliances and makes six recommendations for improvement. The audit risk rating is 13 (a decrease from 23 in the 2018 audit), indicating that the next audit be due in 12 months. I recommend that the next audit be due in 15 months after taking into consideration:

- That all non-compliances had control ratings of moderate or higher, and two are already cleared.
- That process improvements made during the audit period should improve future compliance.
- Evidence of Wellington Electricity's ongoing commitment to resolving historic issues. Wellington Electricity's comments indicate that they intend to resolve the issues identified, and make further improvements.

PARTICIPANT RESPONSE

Wellington Electricity is focused on progressively resolving an outstanding balance of historical data issues and on constantly improving its connections processes to achieve stronger compliance outcomes. Our remediation plan over the next 15 month period is to resolve approximately 60% of our outstanding data errors.