ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTOR AUDIT REPORT

VERITEK

For

WELLINGTON ELECTRICITY LINES LIMITED

Prepared by: Tara Gannon, Veritek Limited

Date audit commenced: 17 August 2018

Date audit report completed: 4 November 2018

Audit report due date: 28 November 2018

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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 and 2017 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. Due to the complexity of some of the issues, staffing changes and resourcing constraints, progress was slow.

During the current audit period, Wellington Electricity prioritised the projects, focussing on those where large numbers of exceptions could be resolved quickly first, before moving on to the next project. In parallel, analysis was completed to identify the causes of each issue. Additional controls have been implemented in the affected areas reduce recurrence and monitor compliance.

As part of this audit, I reviewed progress with resolving these historic issues:

- Historic status mismatch issues are largely resolved. New exceptions are identified and corrected through monthly monitoring, which now includes decommissioned ICPs.
- Initial electrical connection dates are expected to be corrected by the end of the month, and new weekly processes are expected to improve the accuracy and timeliness of these dates.
- All ICP address updates are expected to be completed by the end of the month. Additional guidance has been made available to traders requesting new ICPs, and controls are in place to improve address uniqueness and accuracy.
- Work has begun on projects to cleanse NSP data and unmetered load information.

The audit found ten non-compliances and makes six recommendations for improvement. The audit risk rating is 23, indicating that the next audit be due in six months. Taking into consideration that:

- Improved controls have been put in place to prevent recurrence of data timeliness and accuracy issues. Many of the data accuracy issues relate to data created before the audit period.
- Significant work has been undertaken to resolve the initial electrical connection date, ICP addressing, and status mismatch issues, and work is underway to resolve the remaining issues. Management appear to be taking a considered and methodical approach to working through the issues, some of which are complex and require detailed investigation for individual ICPs.
- The audit found significant numbers of late registry updates, but these were largely due to the data cleansing projects completed during the audit period, and improved data accuracy.
- The address related non-compliances were cleared (for GPS and duplicate addresses) and mostly cleared (for addresses that are not readily locatable) prior to the finalisation of this report. These non-compliances had a combined audit risk rating of four.
- Wellington Electricity intends to resolve the remaining non-compliances by 30/06/2019.

I recommend that the next audit be due in 12 months, to allow sufficient time for Wellington Electricity to complete further data cleansing, bed in their improved processes, and demonstrate compliance.

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)	Complete validation of registry information does not occur. Some registry discrepancies 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.	Weak	Low	3	Identified
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.	Moderate	Low	2	Investigating
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.	Moderate	Medium	4	Identified
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.	Moderate	Low	2	Identified
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.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Notice of NSP for each ICP	4.2	7(1),(4) and (5) Sch 11.1	Some existing ICPs have an incorrect NSP recorded.	Moderate	Low	2	Identified
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.	Moderate	Low	2	Identified
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.	Moderate	Low	2	Identified
GPS coordinates	4.8	7(8) and (9) Sch 11.1	49 ICPs have GPS coordinates in UTM format instead of NZTM2000 format.	Moderate	Low	2	Cleared, all GPS coordinates were removed prior to this report being finalised.
Future Risk Rating						23	
Indicative Next Audit Frequency						6 months	

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	Next Action
Requirement to provide complete and accurate information	2.1	I recommend adding the following checks to the registry validation: a comparison between unmetered load trader and distributor fields a comparison between distributor distributed generation details and metering information	Identified

Subject	Section	Recommendation	Next Action
		a comparison between all distributor maintained fields on the registry and GTV.	
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.	Identified
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.	Identified
Distributors to Provide ICP Information to the Registry manager – distributed generation details	4.6	Update the registry from the date it is known that generation is installed or the generation metering installation date, whichever is earlier. 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. 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.	Investigating
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.	Investigating
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.	Investigating

ISSUES

Subject	Section	Issue	Next Action
		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

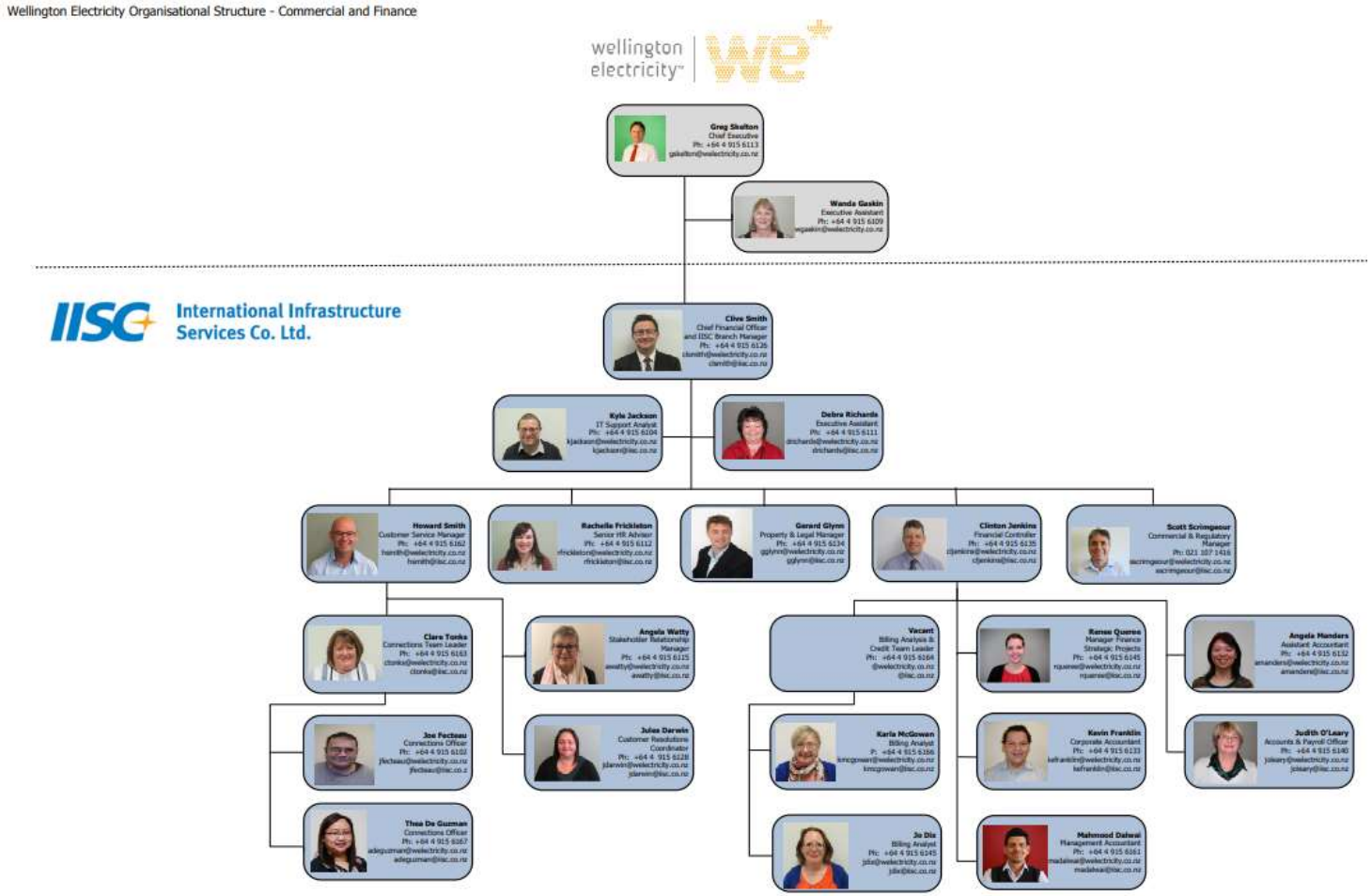
The Authority website was checked to determine whether there are code exemptions in place.

Audit commentary

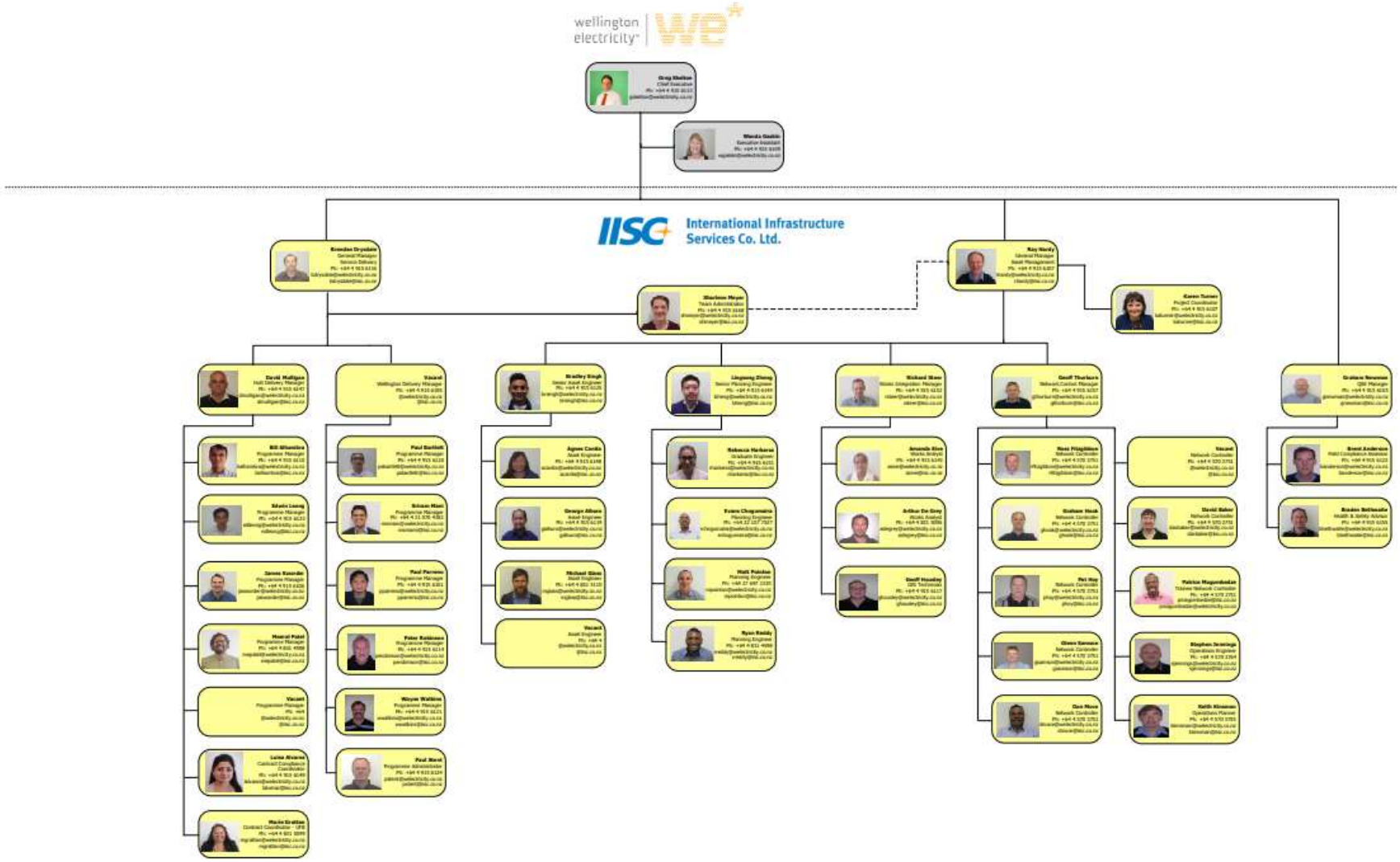
Review of exemptions on the Authority website confirmed that there are no exemptions in place relevant to the scope of this audit.

1.2. Structure of Organisation

Wellington Electricity provided a copy of their organisational structure as at 24 September 2018:



Wellington Electricity Organisational Structure - Service Delivery and Asset Management



1.3. Persons involved in this audit

Auditors:

Name	Company	Role
Tara Gannon	Veritek Limited	Lead Auditor
Debbie Anderson	Veritek Limited	Supporting Auditor

Wellington Electricity personnel assisting in this audit were:

Name	**Title**
Clare Tonks	Connections Team Leader
Joe Fecteau	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 contractors fulfillment of the participants Code obligations*
- *cannot assert that it is not responsible or liable for the obligation due to the action of a contractor*
- *must ensure that the contractor has at least the specified level of skill, expertise, experience, or qualification that the participant would be required to have if it were performing the obligation itself.*

Audit observation

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 systems are backed up in accordance with standard industry protocols.

1.7. Breaches or Breach Allegations

The Electricity Authority confirmed that there have been no alleged breaches for Wellington Electricity between 01/12/2017 and 31/08/2018.

1.8. ICP and NSP Data

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

The table below lists the relevant NSPs and their associated balancing area, and the number of active ICPs connected.

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	7014
CKHK	CPK0331	Central Park			WELLTONUNETG	G	1/02/09	40358
CKHK	GFD0331	Gracefield			WELLTONUNETG	G	1/02/09	15985
CKHK	HAY0111	Haywards			WELLTONUNETG	G	1/02/09	6742
CKHK	HAY0331	Haywards			WELLTONUNETG	G	1/02/09	5176
CKHK	KWA0111	Kaiwharawhara			WELLTONUNETG	G	1/02/09	5696
CKHK	MLG0111	Melling			WELLTONUNETG	G	1/02/09	7052
CKHK	MLG0331	Melling			WELLTONUNETG	G	1/02/09	15302
CKHK	PNI0331	Pauatahanui			WELLTONUNETG	G	1/02/09	6650
CKHK	TKR0331	Takapu Road			WELLTONUNETG	G	1/02/09	31969
CKHK	UHT0331	Upper Hutt			WELLTONUNETG	G	1/02/09	10811
CKHK	WIL0331	Wilton			WELLTONUNETG	G	1/01/14	13941

Wellington Electricity does not own any embedded networks, however there are 85 embedded networks connected to the Wellington Electricity network. 19 new embedded networks have been created during the audit period. 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
CBRE	CJC0011	16 Kate Sheppard Pl Wellington	WIL0331	CKHK	CJC0011CBREE	EN	1/02/18	31/12/25

Dist	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	End date
EDCL	ERS0011	1 Roxburgh Street Wellington	CPK0331	CKHK	ERS0011EDCLE	EN	20/08/18	31/12/25
PSPI	PPT0011	PWC TOWER 113 THE TERRACE WLG	WIL0331	CKHK	PPT0011PSPIE	EN	1/08/18	31/12/25
RJEN	RLC0011	117 Lambton Quay Wellington	WIL0331	CKHK	RLC0011RJENE	EN	1/02/18	31/12/25
RJEN	RLH0011	152-172 Lambton Quay Wellington	KWA0111	CKHK	RLH0011RJENE	EN	1/04/18	31/12/25
RJEN	RWC0011	154 Featherston St Wellington	WIL0331	CKHK	RWC0011RJENE	EN	1/02/18	31/12/25
SMRT	OTF0011	110 Featherston St Wellington	WIL0331	CKHK	OTF0011SMRTE	EN	1/06/18	31/12/25
TENC	KNW0111	North City Shopping Centre	TKR0331	CKHK	KNW0111TENCE	EN	9/07/18	31/12/25
TENC	PFB0011	55 Featherston Street Wellington	WIL0331	CKHK	PFB0011TENCE	EN	1/06/18	31/12/25
TENC	PHS0011	195 Lambton Quay Wellington	KWA0111	CKHK	PHS0011TENCE	EN	1/06/18	31/12/25
TENC	TCU0011	50 Customhouse Quay Wellington	KWA0111	CKHK	TCU0011TENCE	EN	1/04/18	31/12/25
TENC	TJS0011	3-11 Hunter Street Wellington	WIL0331	CKHK	TJS0011TENCE	EN	1/08/18	31/12/25
TENC	TKO0011	10 Waterloo Quay Wellington	CPK0111	CKHK	TKO0011TENCE	EN	8/12/17	31/12/25
TENC	TPK0011	Peak Apartments Wellington	CPK0111	CKHK	TPK0011TENCE	EN	1/08/18	31/12/25

Dist	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	End date
TENC	TWA0011	2026 STEWART DUFF DR Wellington	CPK0331	CKHK	TWA0011TENCE	EN	1/04/18	31/12/25
TENC	TWG0011	8 Wigan Street Wellington	CPK0111	CKHK	TWG0011TENCE	EN	1/06/18	31/12/25
TENC	TWL0011	84 WILLIS ST WELLINGTON	CPK0331	CKHK	TWL0011TENCE	EN	2/08/18	31/12/25

One embedded network had an end date added during the audit period. It transferred to SMRT effective from 01/10/18.

Network	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	End date
ESDP	EVA0011	ESDP SOVEREIGN HOUSE	WIL0331	CKHK	EVA0011ESDPE	EN	1/10/2016	30/09/2018

Wellington Electricity's ICPs are summarised by status below:

Status	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Distributor	96	85	79
New	2	85	52
Ready	86	46	44
Active (2,0)	167,633	166,696	166,263
Inactive - new connection in progress (1,12)	155	56	68
Inactive - vacant (1,4)	2,694	2,568	2,682
Inactive - AMI remote disconnection (1,7)	781	486	354
Inactive - de-energised due to meter disconnected (1,8)	10	8	3
Inactive - at pole fuse(1,9)	30	13	4
Inactive - de-energised at meter box switch (1,10)	11	2	0
Inactive - at meter box switch (1,11)	4	4	0
Inactive - ready for decommissioning (1,6)	174	378	425
Decommissioned (3)	6,926	6,123	5,477

1.9. Authorisation Received

Wellington Electricity provided a letter of authorisation to Veritek, permitting the collection of data from other parties for matters directly related to the audit.

1.10. Scope of Audit

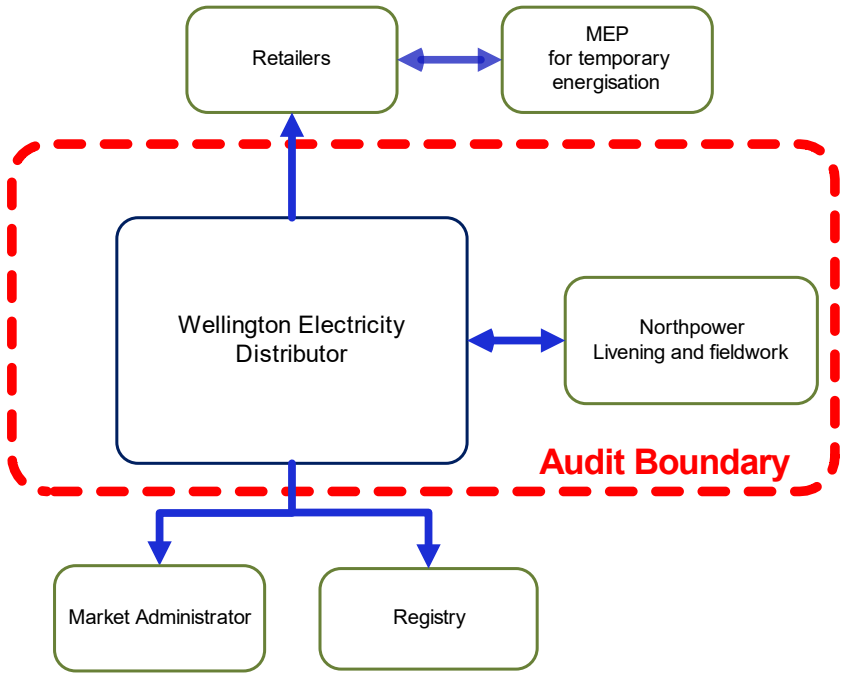
This Distributor audit was performed at the request of Wellington Electricity, to encompass the Electricity Industry Participation Code requirement for an annual audit, in accordance with clause 11.10 of part 11.

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 16/10/18.

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

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

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



1.11. Summary of previous audit

Wellington Electricity provided a copy of the previous audit report, conducted in November 2017 by Tara Gannon of Veritek Limited. The audit found ten non-compliances and makes four recommendations. The findings are detailed in the table below:

Subject	Section	Clause	Non-Compliance	Status
Registry validation	2.1	11.2(1)	Complete validation of registry information does not occur.	Still existing.
Correction of errors	2.2	11.2(2)	Correction of data does not consistently occur as soon as practicable.	Still existing.
Provision of Information to the Registry	3.4	7(2) of Schedule 11.1	Registry not updated prior to commencement of trading.	Still existing.
Provision of initial energisation dates	3.5	7(2A) of Schedule 11.1	Non-population and late population of the initial electrical connection date.	Still existing.
Connection of ICPs	3.6	11.17	Five ICPs were energised before proposed trader information was provided to the registry, and 18 ICPs were energised before the trader could accept responsibility for the ICP on the registry.	Still existing. Refer to **sections 3.4** and **3.6**.
New status	3.12	13 Schedule 11.1	ICP 0001436704UNB04 is incorrectly recorded with new status, it should be decommissioned.	Cleared. Refer to **section 3.13**.
Changes to registry information	4.1	8 Schedule 11.1	Some price, network, status, and address changes were backdated more than three business days.	Still existing.
NSP assignment	4.2	7(1),(4) and (5) Schedule 11.1	Some existing ICPs have an incorrect NSP recorded.	Still existing.
ICP address	4.4	2 Schedule 11.1	There are 2257 active ICPs with duplicate addresses, and 229 active ICPs without a physical address unit number, street number or property name to allow them to be readily located.	Still existing, but improvements have been made.
Provision of information	4.6	7(1) Schedule 11.1	Some unmetered load and electrical connection information provided to the registry is incorrect.	Still existing.

Subject	Section	Recommendation	Status
Clause 11.2(1) Validation of registry information	2.1	I recommend adding the following checks to the registry validation: ICPs at "new" or "ready" with an initial electrical connection date populated more than 10 business days ago	Partially implemented.

Subject	Section	Recommendation	Status
		ICPs that have been made active for the first time more than eight business days ago but no initial electrical connection date is populated. a comparison between unmetered load trader and distributor fields a comparison between the distributor maintained fields on the registry and GTV.	
Clause 11.4 Embedded networks	3.1	Advise Smartco that NSP TOR0011 is connected to CPK0331, so that their records and the NSP table can be updated.	Cleared.
Clause 7(1) Schedule 11.1 Distributed generation without injection/export metering	4.6	Follow up ICPs with active distributed generation where injection/export metering is not recorded on the registry with the trader.	Still existing.
Clause 11.14(2) and (4) Shared unmetered load	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.	Still existing.

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 11.2(1) and 10.6(1)

Code related audit information

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

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

Audit observation

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

The registry list file was examined to confirm compliance.

Audit commentary

Wellington Electricity has processes in place for completeness and accuracy of registry information:

1. 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. 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.
2. At the beginning of each month, a registry list is compared to GTV using Microsoft Access and exceptions are identified. Status discrepancies are reviewed each month, and other discrepancies are reviewed less frequently, including trader, pricing plan, capacity, and GXP. As data quality increases through Wellington Electricity's data cleansing projects the number of discrepancies is expected to reduce, and more fields will be checked for discrepancies each month.
3. Registry acknowledgements are manually reviewed to identify attempted updates which have failed. I found some failed updates had not been identified, including two updates to decommissioned status discussed in **section 4.11**. Mismatched statuses should now be identified and corrected through the monthly status match processes.

I have repeated the validation checks recommended in 2016 and 2017 (which have not yet been implemented) to maintain visibility.

Recommendation	Description	Audited party comment	Remedial action
Clause 11.2(1) Validation of registry information	I recommend adding the following checks to the registry validation: • a comparison between unmetered load trader and distributor fields • a comparison between distributor distributed generation details and metering information • a comparison between all distributor maintained fields on the registry and GTV.	Implemented additional field monitoring to the daily system matching report.	Identified

Non-compliance is recorded below, because the registry validation processes do not include all distributor fields. The monthly review of registry error files is also too infrequent to allow errors to be identified and resolved promptly, this is discussed further in **sections 3.4 and 4.1**.

Some registry information discrepancies were identified during the audit, relating to incorrect initial electrical connection dates, unmetered load details, distributed generation details, addresses information, NSPs, and statuses. I found that in all cases Wellington Electricity had either resolved the discrepancy by the time of the site audit, or was intending to resolve it.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11.2(1) and 10.6(1) From: 01-Dec-17 To: 16-Oct-18	Complete validation of registry information does not occur. Some registry discrepancies have not been resolved. 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	The controls are rated as moderate and the audit risk rating is low. The automated registry update process and daily detection of any records not sent to the registry help to ensure that GTV will be consistent with the registry, although full validation processes are not in place. Improvements have been made during the audit period and are expected to continue.

Actions taken to resolve the issue	Completion date	Remedial action status
Validation on four fields identified within the 2017 Audit commenced in 2017 on a monthly basis and in December 2018 will increase in frequency to a daily reconciliation. In a staged approach we are adding a further four fields to the reconciliation data set by December 2018.	30/06/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Implementing a daily system matching report, this will improve the ability to identify and correct issues as they occur.	01/12/2018	

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 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**.

In some cases, Wellington Electricity is aware of errors in their data, but corrections have not been processed as soon as practicable, usually because investigation and extra resources are required. 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 following projects are underway to resolve data issues:

- **Status corrections**

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

- **Initial electrical connection dates**

  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 has led to missing or inaccurate initial electrical connection dates on the registry.

Wellington Electricity has identified ICPs which require updates to their initial electrical connection dates and has processed a small number of trial updates. They intend to complete bulk updates for another 3,500-4,000 ICPs by the end of October.

Weekly checks have been implemented to identify all ICPs which have moved from ready to active status on the registry, so that initial electrical connection dates can be confirmed and updated. This process is discussed further in **section 3.5.**

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

  Wellington Electricity's review of address information is expected to be completed by the end of October 2018. SIAS and GTV data was checked against the NZ Post Postcode Finder tool to ensure that address suburb, city, and postcode data was correct. Addresses were also checked for duplicates.

  Procedures are in place to prevent duplicate or invalid addresses being entered in the future.

- **Unmetered load**

  This project is in the early stages. Wellington Electricity intends to compare the trader and distributor unmetered load details on the registry to identify discrepancies, then will determine the correct unmetered load and update the registry.

- **Shared unmetered load**

  Wellington Electricity has continued to work with the city councils and Wellington City Council's trader to identify shared unmetered load and ensure the master ICPs have the correct loads.

  Over the past four months, Wellington Electricity has been identifying all poles on private property and confirming whether unmetered streetlights are attached to those poles through a combination of SIAS data analysis and site visits. This information will be cross checked against other unmetered load details to ensure Wellington Electricity has complete and accurate shared unmetered load details recorded.

- **NSP assignment**

  This project will begin in October 2018. Reports from SIAS and GTV will be compared to identify possible NSP discrepancies. Analysis and resolution of issues will be completed in collaboration with the IT team.

  Processes have been put in place to ensure new ICPs are assigned the correct NSP. 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.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.2 With Clause 11.2(2) From: 01-Dec-17 To: 16-Oct-18	Correction of data does not consistently occur as soon as practicable. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3

Audit risk rating	Rationale for audit risk rating
Low	The controls are rated as weak, some data issues have been outstanding for over two years. In most cases progress is being made. 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
Exception lists have been produced in November 2018 work has commenced on investigating and resolving historical issues.	30/06/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Implementing a daily system matching report, this will improve the ability to identify and correct issues as they occur.	01/12/2018	

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.

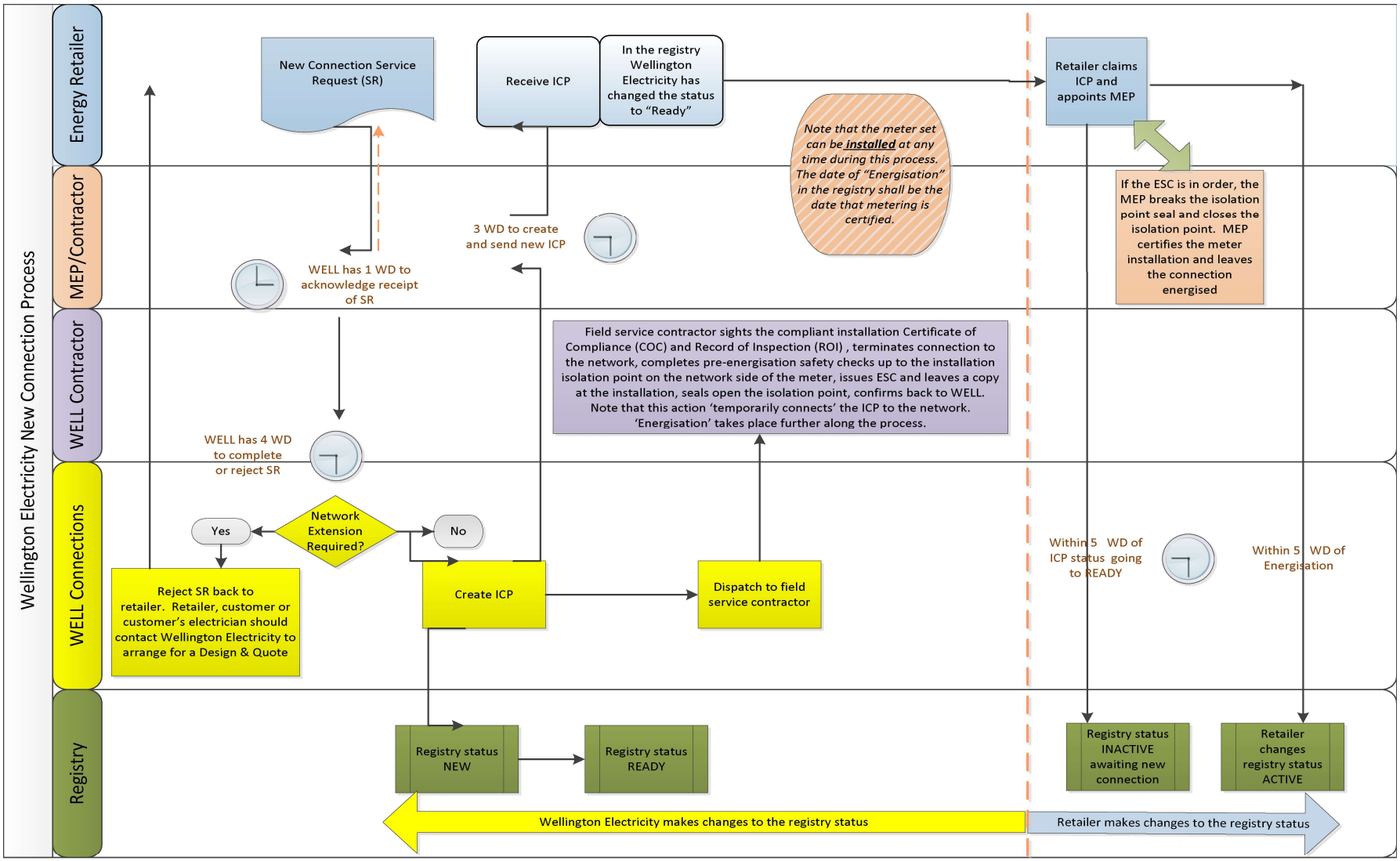
Audit observation

The new connection process was examined in detail and is described in Section **3.2**. A sample of 15 new connection applications of the 1,481 created since December 2017 were checked from the point of application through to when the ICP was created.

I also checked all new embedded networks created during the audit period, to determine whether an LE ICP has 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:


Wellington Electricity New Connection Process
Energy Retailer
MEP/Contractor
WELL Contractor
WELL Connections
Registry
New Connection Service Request (SR)
Receive ICP
In the registry Wellington Electricity has changed the status to "Ready"
Retailer claims ICP and appoints MEP
Note that the meter set can be installed at any time during this process. The date of "Energisation" in the registry shall be the date that metering is certified.
If the ESC is in order, the MEP breaks the isolation point seal and closes the isolation point. MEP certifies the meter installation and leaves the connection energised
3 WD to create and send new ICP
WELL has 1 WD to acknowledge receipt of SR
Field service contractor sights the compliant installation Certificate of Compliance (COC) and Record of Inspection (ROI) , terminates connection to the network, completes pre-energisation safety checks up to the installation isolation point on the network side of the meter, issues ESC and leaves a copy at the installation, seals open the isolation point, confirms back to WELL. Note that this action 'temporarily connects' the ICP to the network. 'Energisation' takes place further along the process.
WELL has 4 WD to complete or reject SR
Network Extension Required?
Yes
No
Reject SR back to retailer. Retailer, customer or customer's electrician should contact Wellington Electricity to arrange for a Design & Quote
Create ICP
Dispatch to field service contractor
Within 5 WD of ICP status going to READY
Within 5 WD of Energisation
Registry status NEW
Registry status READY
Registry status INACTIVE awaiting new connection
Retailer changes registry status ACTIVE
Wellington Electricity makes changes to the registry status
Retailer makes changes to the registry status

The 2017 audit found that the NSP table recorded TOR0011 against parent POC CPK0111, but the corresponding LE ICP (1001155481CK55B) was recorded against CPK0331 on the registry. This issue has now been cleared; TOR0011 and 1001155481CK55B are both recorded against CPK0331.

Two new discrepancies were found for embedded networks:

- TET0011 and its LE ICP 1001152952CK5B1 were both recorded against CPK0331, but should have been recorded against CPK0111. Both are now correctly recorded against CPK0111.
- TKO0011 was recorded against CPK0111, but its LE ICP 0000157436CK395 was recorded against WIL0331. Both should be recorded against WIL0331.

Recommendation	Description	Audited party comment	Remedial action
Clause 11.4 Embedded networks	Advise TENC that NSP TKO0011 is connected to WIL0331, so that their records and the NSP table can be updated.	Identified and cleared	Identified

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

I checked a diverse sample of 15 new connections of the 1,481 created since December 2017 to determine whether the ICP had been created within three business days of a request by a trader.

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. A sample of 15 new connections were checked, all were created within three business days of the trader providing all the information required for the new connection application.

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. 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.
4. 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.
6. The trader and Northpower are then both notified of the details of the newly created ICP.

Audit outcome

Compliant

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

Code reference

Clause 11.7

Code related audit information

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

Audit observation

A sample of 15 connections of the 1,481 created since December 2017 were checked from the point of application through to when the ICP was created, to confirm the process and controls worked in practice.

Audit commentary

Review of the sample of 15 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

An event detail report was 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. ICPs which require the new status are updated manually on the registry.

1,273 new connections were completed and made active between December 2017 and August 2018. I reviewed these completed new connections on the event detail report to identify ICPs where information was provided late. The timeliness of provision of initial electrical connection dates is discussed separately in **section 3.5**.

I found:

- All ICPs had pricing information updated prior to electricity being traded.
- Seven ICPs (0.5%) were updated to ready between one and three days after connection date.
- Seven ICPs had a proposed trader recorded on the registry after the initial electrical connection date.

All registry updates that occurred after the ICP had been connected were reviewed and found to be caused by incomplete information delaying update of the registry. As discussed in **section 2.1**, if ICP information is incomplete, a registry update will not occur and the ICP will appear on the held report for investigation and update.

The late update of the registry for new connections is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.4 With: Clause 7(2) of Schedule 11.1 From: 20-Dec-17 To: 28-May-18	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. 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 they are sufficient to prevent late updates most of the time, and the last late update occurred in May 2018. The audit risk rating is low because a very small number of late updates occurred, and the held report process will normally promptly identify missing information so that the registry can be updated.

Actions taken to resolve the issue	Completion date	Remedial action status
The seven ICPs identified as missing Trader details are currently being investigated.	15/12/2018	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Implementing a daily system matching report, this will improve the ability to identify and correct issues as they occur.	01/12/2018	

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 event detail report for December 2017 to August 2018 and the registry list were examined to determine the timeliness and accuracy of initial electrical connection dates.

A sample of 20 late updates and 20 ICPs where initial electrical connection dates were not populated were checked, to determine the reasons for the delay.

The accuracy of initial electrical connection date is discussed further in **section 4.6**.

Audit commentary

Due to the nature of Wellington Electricity's new connection process, it can be difficult to confirm the date an ICP is electrically connected. 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.

Wellington Electricity uses the trader's earliest active status date to determine the initial electrical connection date. In the rare cases where Northpower connected the ICP and metering details are recorded in their paperwork, Wellington Electricity uses Northpower's restoration date as the initial electrical connection date. The accuracy of initial electrical connection dates is discussed further in **section 4.6**.

1,273 new connections were completed and made active during the period reviewed.

- I found 1,191 (94%) of these ICPs did not have an initial electrical connection date populated. This is a substantial increase from the 149 (43%) found last year. A sample of 20 of these ICPs were checked and found to be cases where Northpower had checked the connection prior to metering being installed, and another party had connected the ICP. All 20 had initial electrical connection dates populated in October 2018 as part of the bulk update process.
- Of the 82 ICPs which had an initial electrical connection date populated, 39 (48%) were updated within ten business days of electrical connection. All 20 late updates were corrections to make the initial electrical connection date match the earliest active date.

Wellington Electricity has identified missing and incorrect initial electrical connection dates by matching them to the trader's active date, and is performing a series of bulk initial electrical connection date corrections on the registry. To ensure that initial electrical connection dates are recorded correctly for new ICPs, a report of ICPs that change from ready to active status on the registry is produced weekly, and initial electrical connection dates are updated based on the active date.

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. 14 of the 20 late updates to initial electrical connection dates, and 13 of the 23 ICPs checked for initial electrical connection date accuracy checked in **section 4.6** were affected. I recommend that Wellington Electricity completes checks to identify all initial electrical connection dates affected by this issue, and reverses or replaces the affected network records as required.

Recommendation	Description	Audited party comment	Remedial action
Correction of initial electrical connection dates	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.	In early 2018 we identified a process which could be used to correct historical IED data. We have completed in excess of 60000 historical IED updates. Correction of historical data is ongoing and we aim to have this completed within six months.	Identified

The non-population and late population of the initial electrical connection date is recorded as non-compliance. The late processing of corrections is recorded as non-compliance in **section 2.2**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 7(2A) of Schedule 11.1 From: 01-Dec-17 To: 16-Oct-18	Non-population of the initial electrical connection date. 20 late initial electrical connection updates to registry. Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4

Audit risk rating	Rationale for audit risk rating
Medium	Controls were initially weak, but have improved to moderate as new processes have been put in place to ensure initial electrical connection dates are populated more promptly. The potential impact is high, because Wellington Electricity is not always aware of when ICPs on its network are energised. I saw evidence of corrections to initial electrical connection dates, and processes to populate new initial electrical connection dates which should significantly reduce the impact. I also note that traders normally connect ICPs on Wellington Electricity's network and should be aware of the connection date.

Actions taken to resolve the issue	Completion date	Remedial action status
We have an improved process to run the IED's for upload on a daily basis. In a staged approach, as at November 2018 we have completed in excess of 60000 IED updates. Correction of historical data is ongoing and we aim to have this completed within six months.	30/06/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
A manual check to update this field has been included within the new connection process. Any errors will be identified by exception reporting which will be monitored daily.	01/12/2018	

3.6. Connection of an 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.

Audit observation

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

The event detail file and registry list 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 confirmed that a trader is currently recorded for all active and inactive ICPs. Seven ICPs had a proposed trader recorded on the registry after the initial electrical connection date. This is recorded as non-compliance below, and discussed in **section 3.4**.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: Clause 11.17 From: 20-Dec-17 To: 28-May-18	A proposed trader was not recorded on the registry prior to the commencement of trading for seven ICPs. 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 they are sufficient to prevent late updates most of the time, and the last late update occurred in May 2018. The audit risk rating is low because a very small number of late updates occurred, and the held report process will normally promptly identify missing information so that the registry can be updated.

Actions taken to resolve the issue	Completion date	Remedial action status
The seven ICPs identified as missing Trader details are currently being investigated.	15/12/2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Implementing a daily system matching report, this will improve the ability to identify and correct issues as they occur.	01/12/2018	

3.7. Electrical 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.

Audit observation

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

The event detail file and registry list 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 confirmed that twelve ICPs had a proposed trader recorded on the registry after the electrical connection date. This is recorded as non-compliance in **section 3.6**. In all cases, Wellington Electricity had received a request for the connection from a trader and met the requirements of this clause.

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.*

Audit observation

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

The event detail file and registry list were examined to determine compliance.

Audit commentary

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

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:

yyyyyyyyyyxxccc where:

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

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 of allocation of the loss category was examined.

The list file was examined to confirm all active ICPs have a single loss category code.

Audit commentary

Loss factors are determined from the information provided on application for a new connection.

The registry list was examined and all ICPs have a single loss category code, except new and 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 event detail file and registry list were examined to determine compliance.

Audit commentary

Wellington Electricity create all ICPs at new status and move them to ready to enable them to be uploaded onto the Registry. Only embedded network ICPs pass the validation to be uploaded at new. 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 shows two ICPs at new status, both were created prior to the audit period.

The 2016 audit found that when Wellington Electricity upgraded GTV, and there were status discrepancies between GTV and the registry, the registry information was loaded into GTV. At the time of the 2017 audit, ICP 0001436704UNB04 was recorded with new status but should have been decommissioned. This issue has now been cleared and the registry shows the correct status.

The timeliness of updates to the registry are discussed in **section 3.4**. 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 calendar 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 event detail file and registry list were examined to determine compliance.

Audit commentary

ICPs at new or ready status are monitored monthly by Wellington Electricity. ICPs with new or ready status for over two years are checked with the trader to determine whether they are still required, and are decommissioned if necessary.

The registry list shows 86 ICPs at the ready status and two ICPs at the new status. 14 ready ICPs and both new ICPs have been at the new or ready status for over two years. All ICPs with new or ready status for over two years were checked during the audit, and I found that all had been followed up with the trader in October 2018 to confirm whether they were still needed or could be decommissioned. For all 16, it appears that the ICPs can be decommissioned. Wellington Electricity is waiting for final confirmation of this from the trader before processing the decommissions.

Analysis of the registry list also identified three ICPs which had new connection in progress status for more than two years. All three ICPs were checked:

- 1001158153CK7B9 has since been moved to active status and has an initial electrical connection date populated.
- 1001158333CK24E and 1001158444CK5DB still have new connection in progress status and do not have initial electrical connection dates populated. Both were followed up with the trader in October 2018, and Wellington Electricity is awaiting a response.

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 event detail file and registry list were reviewed to confirm 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

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 14 days, the time within which notification must be effected in accordance with Clause 8(3) of Schedule 11.1 begins on the 15th day after the change.

Audit observation

The management of registry updates was reviewed.

The event detail report for December 2017 to August 2018 was reviewed to determine compliance. A diverse sample of 60 backdated events were reviewed to determine the reasons for the late updates, including the ten latest 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. As discussed in **sections 2.1** and **2.2**, there are sometimes delays in identifying incorrect data and processing corrections, which can lead to late registry updates.

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

There were 157,916 address updates during the audit period.

- During August 2018 136,235 addresses were updated on the registry as part of an address data cleansing project and were labelled "Addressfix". All these updates had an event date of 01/08/2018, and 12,560 (9%) were updated within three business days. The remaining 123,675 updates were late.
- There were 21,681 other address updates during the audit period. All of these were updated within three business days.

The ten latest updates were checked, and all found to be part of the "Addressfix" project.

Network events

There were 2,074 network events that did not relate to the population of initial electrical connection dates for new connections (which are discussed separately in **section 3.5**). 219 of the network events (11%) were updated more than three business days after the event, and 37 were updated more than 30 business days after the event. The ten latest updates were reviewed, all were backdated data corrections.

202 initial electrical connection date updates were made for ICPs that were not created during the audit period. 61 of these were more than three business days after the event date, and I reviewed the latest ten. All were corrections to match the trader's earliest active date.

148 network events added distributed generation details. None of these updates were within three business days of the event. Wellington Electricity adds approved applications for distributed generation to a spreadsheet once they are approved. Monthly this spreadsheet is checked against the registry to confirm whether generation metering is installed, and the registry is updated once this is confirmed. The ten latest updates were checked and found to be caused by delays in completing this process.

Pricing events

12,120 pricing updates were identified. 3,325 of these (27%) were updated more than three business days after the event, and 54 were updated more than 30 business days after the event. The ten latest updates were reviewed:

- One late update was backdated at the trader's request following a switch withdrawal, and was later reversed.
- For two late updates, capacity was not entered and the update was held because it was incomplete. This missing data is now identified on the held report which is reviewed daily.
- For seven late updates, the delay was caused by completed paperwork not being uploaded into SAP. Wellington Electricity have been working with Northpower to locate the missing paperwork, so pricing details can be confirmed and updated.

Status events

1,805 status updates were identified. 245 of these (13.6%) were updated more than three business days after the event. 64 were updated more than 30 business days after the event. The ten latest updates were backdated changes to decommissioned status following improvements to Wellington Electricity's decommissioning processes. These improvements are discussed further in **section 4.11**.

NSP changes

Review of the registry list and discussion with Wellington Electricity confirmed that there were no NSP changes for more than 14 days during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: Clause 8 Schedule 11.1 From: 29-Mar-18 To: 12-Sep-18	Some price, network, status, and address changes were updated more than three business days after the event date. 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
Implementing a daily system matching report that will improve the ability to identify and correct issues as they occur.	01/12/2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Implementing a daily system matching report that will improve the ability to identify and correct issues as they occur.	01/12/2018	

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 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 customer services team of any transformer changes so that the NSP can be updated where necessary.

During the audit period Wellington Electricity identified 147 transformers that were attached to an incorrect NSP, which have now been corrected. There have also been some historic issues relating to new ICPs being ready before new transformer information is available. In these cases ICPs were temporarily assigned to another nearby transformer (and NSP) but have not consistently been moved to the correct transformer (and NSP) once it became available. To prevent recurrence of this issue,

Wellington Electricity intends to create transformers with partial information so that ICPs can be assigned to them, and will add the rest of the transformer information once it becomes available.

Wellington Electricity is aware that some ICPs may still have an incorrect transformer and/or NSP recorded. As discussed in **section 2.2**, a project to cleanse NSP data is due to begin in October 2018. Reports from SIAS and GTV will be compared to identify possible NSP discrepancies. Analysis and resolution of issues will be completed in collaboration with the IT team.

Processes have been put in place to ensure new ICPs are assigned the correct NSP. 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.

To check the accuracy of NSP data, the list file was analysed and identified 450 streets where active ICPs were connected to different NSPs. A sample of 10 streets with ICPs connected to different NSPs were checked, 1,512 ICPs in all. The following discrepancies were identified:

Street	Count of ICPs	Recorded NSP	Correct NSP	Comments
FELTEX LANE	11	CPK0331	CPK0111	**In progress.** Loaded against the transformer for the neighbouring building. Wellington Electricity intends to update the records.
HATAITAI ROAD	3	CPK0111	CPK0331	**Cleared.** Incorrect transformer recorded but now corrected.
INVERLOCHY PLACE	1	CPK0331	CPK0111	**Cleared.** Incorrect transformer recorded but now corrected.
MERCER STREET	22	WIL0331	CPK0331	**Cleared.** Incorrect transformer recorded but now corrected.
NAIRN STREET	12	CPK0331	CPK0111	**Cleared.** Incorrect transformer recorded but now corrected.
NAIRN STREET	1	MLG0111	CPK0111	**Cleared.** Incorrect transformer recorded but now corrected.
UPLAND ROAD	1	CPK0111	CPK0331	**Cleared.** Incorrect transformer recorded but now corrected.
Total	51			

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: Clauses 7(1), (4) and (5) Schedule 11.1 From: 01-Dec-17 To 16-Oct-18	Some existing ICPs have an incorrect NSP recorded. 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. The impact is low. Most of the issues identified have been resolved. 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
Process reviewed and improvements made to avoid reoccurrence of ICPs with incorrect NSP recorded.	01/12/2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Process reviewed and improvements made to avoid reoccurrence of ICPs with incorrect NSP recorded.	01/12/2018	

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 three 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 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 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 1,820 active ICPs with duplicate addresses created since 2009, a decrease from 2,256 duplicate addresses identified during the 2017 audit. 97 of these were created during the audit period. I reviewed five ICPs with duplicate addresses created during the audit period, and found all had been corrected since the registry list was run.

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 identified 130 ICPs without a physical address unit number, street number or property name to allow them to be readily located. This is a decrease from 229 ICPs which were not readily locatable during the previous audit. I reviewed the eight ICPs with incomplete addresses created by Wellington Electricity and found:

- Seven had unit numbers or property names added after the registry list was provided.
- ICP 1001148216CK3B1 had the property name populated into the wrong field so it had not been updated on the Registry. This was corrected in GTV on 16/10/18 but has not flowed through to the registry to date.

ICP 0000155212CKA8C had incomplete address information in the 2017 audit and had not been updated. It should be recorded as lot 977.

A full list of the ICPs which were not readily locatable has been provided to Wellington Electricity, who intend to review and update the incomplete addresses.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 2 Schedule 11.1 From: 01-Dec-17 To: 16-Oct-18	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. 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, as they are sufficient to ensure that most ICPs will have unique and locatable addresses. The impact is low because in most cases address information is correct. The incomplete and duplicate addresses appear to be largely historic, and Wellington Electricity is cleansing this data. All duplicate addresses and 44/130 addresses that were not readily locatable were corrected prior to this report being finalised.

Actions taken to resolve the issue	Completion date	Remedial action status
Prior to audit, we had identified and were actively correcting duplicate addresses. All 1820 ICPs with duplicate addresses have been corrected since the registry list was provided. – Cleared and evidence provided to Auditor 97 duplicate addresses appeared as non-compliant due to a bulk update performed by Wellington Electricity. Of the 97, there was no requirement to change 13 of the addresses. The remaining 84 addresses were corrected and identified as being impacted by a bulk update. Cleared and evidence provided to Auditor. There have been 8 instances of non-locatable addresses since 2009, which have been corrected. 44 of the 130 non-locatable addresses have been corrected; work is underway to complete the remaining 86.	30/04/2019	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
A manual check to the address has been added to the new connection process. If an address exists within the registry the new connection is rejected if correct address is not provided in three business days.	01/12/2018	

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.

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 from metering information*
  - *c) 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*
- *c) 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 accuracy of initial electrical connection dates was checked by matching the earliest active date, initial electrical connection date and meter certification date for a sample of 23 ICPs.

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**. Validation of status information is now occurring monthly, but some other registry fields are not validated frequently.

Wellington Electricity provides information to the registry as required by this clause. The processes to supply accurate information to the registry were reviewed.

Addresses

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

NSPs

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

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

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

Year	ICPs with distributed generation
2016	338
2017	460
2018	816

Two ICPs had their fuel type listed as other, in both cases this was the most suitable choice. ICPs 1001146724CK909 and 1001146725CK54C had their fuel type listed as undefined and Wellington Electricity is working with the trader to confirm the correct details. The generation details for five other ICPs were checked, and I confirmed that the generation details recorded were consistent with their application and installation paperwork.

Wellington Electricity adds approved applications for distributed generation to a spreadsheet once they are approved. Monthly, this spreadsheet is checked against the registry to confirm whether generation metering is installed. Once generation metering is installed, the registry is updated with the generation details.

This process requires some improvement to ensure that generation details on the registry are timely and correct:

- Generation details are only updated once generation metering is installed, but generation could occur without generation metering.
- The registry metering details are not checked against the distributed generation spreadsheet to identify ICPs where generation metering is installed but an application has not been received or approved. Review of the meter installation details report identified 181 ICPs with EG meters and which did not have distributor unmetered load details. 10 ICPs were checked and found to have generation installed, and the registry was subsequently updated.

- ICPs that are approved which do not have generation metering installed are not followed up. 137 ICPs have been approved but do not have generation metering installed. 62 of these have been approved since 2017 or earlier and the oldest ICP was approved in 2013. I recommend that ICPs which do not have generation metering installed after three months should be followed up to confirm whether generation is present.

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. 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. 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.	We have taken the Auditor recommendation as an action point.	Investigating

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 event detail report and the registry list were examined to determine the accuracy of initial electrical connection dates.

1,273 new connections became active during the period reviewed. Only 82 of these had an initial electrical connection date populated. As discussed in **section 3.5**, the nature of Wellington Electricity's connection process can make it difficult to determine the correct initial electrical connection date. A project is underway to cleanse and update initial electrical connection dates on the registry, and improved processes have been put in place for initial electrical connection dates.

For the 82 new ICPs where an initial electrical connection date was populated, 26 (32%) matched the trader's earliest active date and meter certification date, and 56 did not match. The differences were checked for a sample of 23 ICPs and found:

- Six ICPs had the correct initial electrical connection date recorded.
- Three ICPs did not have the correct date recorded.

ICP	Earliest Active Date	Initial Electrical Connection Date
0000158413CKAEF	7/05/2018	8/05/2018
0000158091CK321	13/04/2018	18/04/2018
0000158112CK3AF	26/04/2018	3/05/2018

- 13 ICPs had backdated corrections processed, but there was a later network update which reverted the initial electrical connection date back to the incorrect value.

ICP	Earliest Active Date	Initial Electrical Connection Date
0000158269CKB25	17/04/2018	18/04/2018
0000158326CKF5A	23/04/2018	27/04/2018
0000158303CKF40	18/04/2018	23/04/2018
0000157776CK233	5/02/2018	31/05/2018
0000158260CK574	12/04/2018	18/04/2018
0000158261CK931	12/04/2018	20/04/2018
0000158226CK65E	18/04/2018	23/04/2018
0000158140CKB22	28/03/2018	23/04/2018
0000158001CKCC6	16/05/2018	15/03/2018
0000158409CK2D3	4/05/2018	7/05/2018
0000158079CKB8F	5/04/2018	18/04/2018
0000158415CKB60	7/05/2018	8/05/2018
0000158366CKDFF	9/05/2018	10/05/2018

ICPs with incorrect initial electrical connection dates at the time of the 2017 audit were re-checked:

ICP	2017 Comments	2018 Comments
1001158146CK05B	IECD remains 09/02/2016, but should be 01/03/2016.	**Cleared.** The IECD has been corrected to 01/03/2016.
1001158691CKFD1	ICP remains active, IECD is still 04/07/2016. Wellington Electricity believes the duplicate ICP should be	**Still existing.** The ICP remains active and has an IECD of 04/07/2016.

ICP	2017 Comments	2018 Comments
	decommissioned and are working with the retailer.	
1001159046CK8FF	IECD remains 29/08/2016, ICP is now dismantled effective from 30/08/2017.	**Still existing.** The IECD is recorded as 29/08/16 but expected to be 24/08/16.

No ICPs at new, or new connection in progress status had initial electrical connection dates populated. ICPs at ready status with initial electrical connection dates populated were checked.

ICP	2017 Comments	2018 Comments
0000157380CKFAA	-	**Still existing.** Adshell at ready awaiting information from the trader, and is likely to be decommissioned.
1001147673CK46F	Ready status since 19/11/14	**Partially cleared.** Updated to inactive new connection in progress in October 2018, trader has agreed to update to active.
1001157563CK520	Initial electrical connection date was populated in error and is to be removed.	**Cleared.** The initial electrical connection date has been removed on 07/06/2018, with event date of 07/09/2015.
1001157127CKA8E	The ICP was set up in error and is to be decommissioned.	**Cleared.** The ICP was decommissioned on 07/06/2018.

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.

Review of the registry list identified 81 active ICPs with unmetered load recorded by the trader and no unmetered load recorded by Wellington Electricity. As discussed in **section 2.2**, Wellington Electricity intends to compare the trader and distributor unmetered load details on the registry to identify discrepancies, then will determine the correct unmetered load and update the registry.

There were seven new ICPs with unmetered load indicated by the trader's unmetered load field. All seven ICPs were checked:

- Three ICPs have the distributor's unmetered field populated in the recommended format, and were consistent with the trader's unmetered load details.
- 0000158224CK6DB is metered, and will be updated once metering details are available on the registry.
- 0000157855CKCA9 should show 0.19kW:24:MultUNMLoad but shows 0.26kW:24:MultUNMLoad.
- ICPs 0000159069CK082 and 0000159166CK658 are awaiting confirmation of the unmetered load from the trader before being updated.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.6 With: Clause 7(1) Schedule 11.1 From: 01-Dec-17 To: 16-Oct-18	Some initial electrical connection dates and unmetered load details recorded on the registry are incorrect. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	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 and distributed generation. The actual impact is low, because most data provided is accurate.

Actions taken to resolve the issue	Completion date	Remedial action status
We have an improved process to run the IED's for upload on a daily basis. In a staged approach, as at November 2018 we have completed in excess of 60000 IED updates. Correction of historical data is ongoing and we aim to have this completed within six months.	30/06/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
A manual check to update this field has been included within the new connection process. Any errors will be identified by exception reporting which will be monitored daily.	01/12/2018	

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 event detail report and registry list were reviewed to determine compliance.

Audit commentary

985 new connections were completed and made active during the period reviewed. Installation details provided by the trader are used to confirm the pricing category and chargeable capacity.

I reviewed these completed new connections on the event detail report and found all had a pricing category entered within 10 days of being energised.

Audit outcome

Compliant

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

Code reference

Clause 7(8) and (9) Schedule 11.1

Code related audit information

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

Audit observation

The registry list was reviewed to identify all ICPs with GPS coordinates. GPS coordinates were mapped for a sample of 13 ICPs to determine their accuracy.

Audit commentary

Wellington Electricity has populated GPS coordinates for 49 ICPs on the registry. A mapping tool is used to convert the GPS coordinated to Universal Transverse Mercator (UTM) format for entry into the registry.

The use of UTM coordinates is non-compliant. GPS coordinates are optional, but if populated the registry requires New Zealand Transverse Mercator 2000 (NZTM2000) coordinates. When the coordinates for a sample of 13 ICPs were mapped based on NZTM2000 I found they were not situated at the addresses recorded for the ICPs, and were located in the Tasman sea.

Wellington Electricity intends to change the GPS coordinates to the correct format, or remove them and add additional addressing information.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 7(8) and (9) Schedule 11.1 From: 01-Dec-17 To: 16-Oct-18	49 ICPs have GPS coordinates in UTM format instead of NZTM2000 format. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	49 ICPs have GPS co-ordinates. Controls are rated as moderate, because most ICPs do not have GPS populated and a relatively small number of ICPs have GPS populated in an incorrect format. The potential impact is low, because address information will assist in the location of the ICP and a small number of ICPs are affected. All GPS coordinates were removed prior to this report being finalized.

Actions taken to resolve the issue	Completion date	Remedial action status
All GPS coordinates have been removed from the Registry.	01/12/2018	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
If GPS coordinates are supplied they will be entered in NZTM2000 format. Documentation updated.	01/12/2018	

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, including review of working instructions for new connections.

The event detail report and registry list were reviewed to identify ICPs at ready status. A diverse sample of ten ICPs at ready status were checked.

Audit commentary

Wellington Electricity create all ICPs at new status. Unless they are an embedded network, 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 86 ICPs currently at ready status, 55 of which were created in this audit period. All 55 Ready ICPs created in this audit period have a proposed trader and a single price category recorded.

13 ICPs (1.8%) were updated to ready between one and 41 days after the connection date, this is recorded as non-compliance 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 event detail report and registry list were reviewed to identify ICPs at distributor status. A diverse sample of ten ICPs at ready status were checked.

Audit commentary

The registry list showed 96 ICPs currently at distributor status. The ICP status of "distributor" is managed by the distributor and denotes that the ICP record 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.

As noted in **section 1.8,** there are currently 85 embedded networks connected to the Wellington Electricity network. The list file and NSP mapping table were compared. The table below sets out the differences by NSP:

NSP	LE ICPs	NSP Table	Difference
CPK0111	7	8	1
CPK0331	28	27	-1
GFD0331	1	1	0

NSP	LE ICPs	NSP Table	Difference
KWA0111	12	11	-1
MLG0111	2	1	0
MLG0331	4	1	-3
TKR0331	2	2	0
WIL0331	40	34	-2

I have checked to confirm that there is at least one LE ICP per NSP and found two new discrepancies for embedded networks:

- TET0011 and its LE ICP 1001152952CK5B1 were both recorded against CPK0331, but should have been recorded against CPK0111. Both are now correctly recorded against CPK0111.
- TKO0011 was recorded against CPK0111, but its LE ICP 0000157436CK395 was recorded against WIL0331. Both should be recorded against WIL0331. A recommendation to correct the NSP for TKO0011 is made in **section 3.1**.

The 2017 audit found that the NSP table recorded TOR0011 against parent POC CPK0111, but the corresponding LE ICP (1001155481CK55B) was recorded against CPK0331 on the registry. This issue has now been cleared; TOR0011 and 1001155481CK55B are both recorded against CPK0331.

One embedded network had an end date added during the audit period. It transferred to SMRT effective from 01/10/18.

Network	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	End date
ESDP	EVA0011	ESDP SOVEREIGN HOUSE	WIL0331	CKHK	EVA0011ESDPE	EN	1/10/2016	30/09/2018

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 event detail report and registry list were reviewed to identify ICPs at decommissioned status. A diverse sample of 10 ICPs ready for decommissioning, and 10 decommissioned ICPs with meters were checked.

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 were originally excluded from Wellington Electricity's status matches to the registry discussed in **section 2.1**. Decommissioned statuses are now included in the monthly status match, and where the trader has not already changed the status to ready for decommissioning, they are contacted and asked to do so.

A further decrease in ICPs "ready for decommissioning" occurred this audit period, with 174 outstanding when the registry list was reviewed. None of the ICPs at this status were created during this audit period. The table below shows the number of ICPs at ready for decommissioning status by trader:

	ICPs at ready for decommissioning status	
Trader	2018	2017
CTCT	102	175
GENE	60	31
GEOL	1	0
MEEN	1	5
MERI	1	9
PSNZ	0	15
PUNZ	0	1
SIMP	0	2
SWCH	0	112
TODD	1	1
TRUS	8	27
Total	**174**	**378**

A sample of ten ICPs that were ready for decommissioning were checked to determine whether they were genuinely ready for decommissioning:

- Two ICPs were genuinely ready, and have since been updated to the decommissioned status in GTV and on the registry.
- Two ICPs were genuinely ready, and had been updated to the decommissioned status in GTV but the registry update had failed and not been followed up. The affected ICPs were 1001157073CKA88 (decommissioned 17/01/2018) and 1001158901CKF39 (decommissioned 06/06/2018). The incorrect statuses on the registry are recorded as non-compliance in **section 2.1**.
- A work request had not been received by the trader for six of the ICPs, and Wellington Electricity was awaiting confirmation from the trader before decommissioning.

A further ten 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 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

Two new pricing codes have been entered during the audit period, RLUEVB and RSUEVB. Pricing information was complete and provided more than two months prior to the specified date.

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 have been 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 on the registry, the distributor must enter the replaced loss factor on the table in the registry.

Audit observation

The loss category code table on the registry was examined.

Audit commentary

No loss factors were changed during the audit period, and only one factor 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 on the registry 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 1 month before the NSP is electrically connected or the ICP is transferred.

Audit observation

The NSP table on the registry was examined.

I discussed the process for NSP changes and sighted the network change form for temporary configuration changes between NSPs.

Audit commentary

No NSPs have been created or decommissioned during the audit period.

There were no NSP changes lasting for more than 10 business days. I viewed the network change form for temporary configuration changes between NSPs, and noted that any changes needed to be appropriately authorized.

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 on the registry 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. The NSPs have remained in this single balancing area since then.

ICPs should only be in a single balancing area if a 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.

It appears likely that the Wellington Electricity Network should have more than one balancing area. Because there was insufficient time to complete analysis to confirm correct balancing area groupings prior to the issue of this report, I recommend that this analysis is completed as soon as practicable with new balancing areas created and assigned as required.

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 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 calendar 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 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 do not have responsibility for any NSPs that are not POCs to the grid; compliance was not assessed.

Audit outcome

Not applicable

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 notify:

- *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.

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 is not responsible for embedded network gate meters; compliance was not assessed.

Audit outcome

Not applicable

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

Not applicable

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 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 has continued to work with the city councils and Wellington City Council's trader to identify shared unmetered load with the intention of ensuring that master ICPs are created and correct unmetered loads are recorded.

To identify all shared unmetered load, for the past four months Wellington Electricity has been identifying all poles on private property and confirming whether unmetered streetlights are attached to those poles through a combination of GIS data analysis and site visits. This information will be cross checked against other unmetered load details to ensure Wellington Electricity has complete and accurate shared unmetered load details recorded.

Meridian Energy believes that shared unmetered load is connected to ICP 0001409077UN5D7, and is working with Wellington Electricity to confirm this and update the registry.

I repeat last year's recommendation to maintain visibility of this issue.

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

The registry list 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**, and a recommendation is made to monitor unmetered load details in **section 2.1**.

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.

Wellington Electricity provided a memorandum outlining the loss factor review process which was reviewed.

Audit commentary

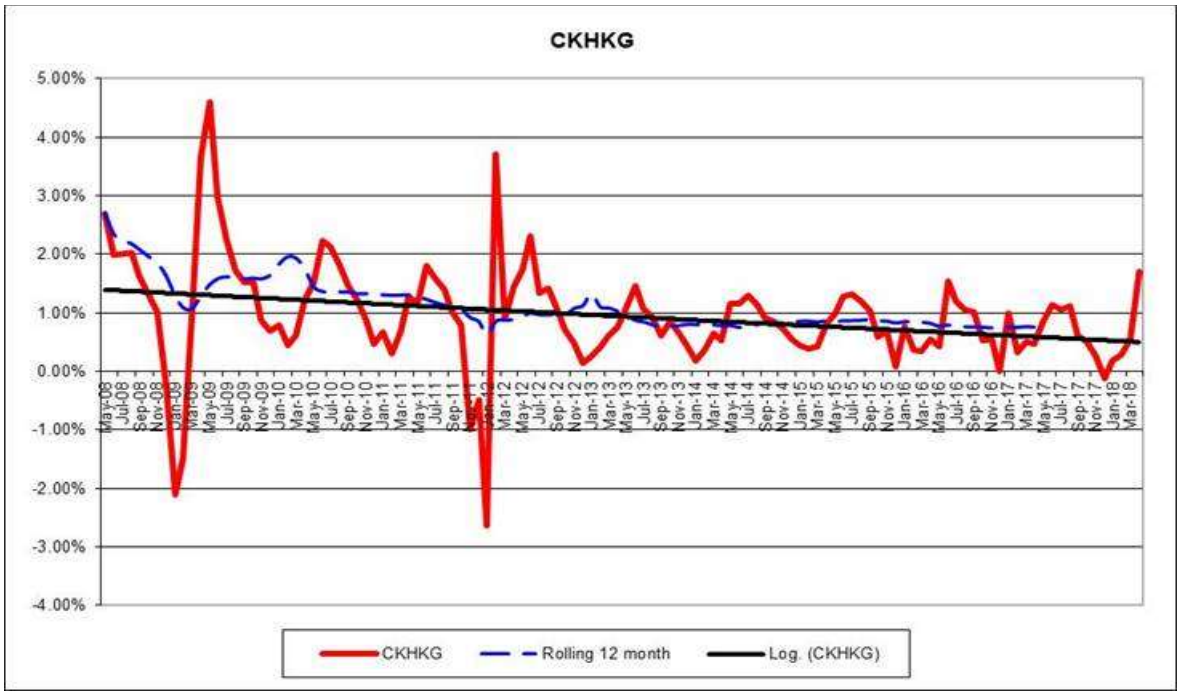
Wellington Electricity reviewed their loss factors in October 2018 in accordance with the Authority's guideline and will make some minor changes to the loss factors effective from April 2019.

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.
- 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

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 and 2017 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. Due to the complexity of some of the issues, staffing changes and resourcing constraints, progress was slow.

During the current audit period, Wellington Electricity prioritised the projects, focussing on those where large numbers of exceptions could be resolved quickly first, before moving on to the next project. In parallel, analysis was completed to identify the causes of each issue. Additional controls have been implemented in the affected areas reduce recurrence and monitor compliance.

As part of this audit, I reviewed progress with resolving these historic issues:

- Historic status mismatch issues are largely resolved. New exceptions are identified and corrected through monthly monitoring, which now included decommissioned ICPs.
- Initial electrical connection dates are expected to be corrected by the end of the month, and new weekly processes are expected to improve the accuracy and timeliness of these dates.
- All ICP address updates are expected to be completed by the end of the month. Additional guidance has been made available to traders requesting new ICPs, and controls are in place to improve address uniqueness and accuracy.
- Work has begun on projects to cleanse NSP data and unmetered load information.

The audit found ten non-compliances and makes six recommendations for improvement. The audit risk rating is 23, indicating that the next audit be due in six months. Taking into consideration that:

- Improved controls have been put in place to prevent recurrence of data timeliness and accuracy issues. Many of the data accuracy issues relate to data created before the audit period.
- Significant work has been undertaken to resolve the initial electrical connection date, ICP addressing, and status mismatch issues, and work is underway to resolve the remaining issues. Management appear to be taking a considered and methodical approach to working through the issues, some of which are complex and require detailed investigation for individual ICPs.
- The audit found significant numbers of late registry updates, but these were largely due to the data cleansing projects completed during the audit period, and improved data accuracy.
- The address related non-compliances were cleared (for GPS and duplicate addresses) and mostly cleared (for addresses that are not readily locatable) prior to the finalisation of this report. These non-compliances had a combined audit risk rating of four.
- Wellington Electricity intends to resolve the remaining non-compliances by 30/06/2019.

I recommend that the next audit be due in 12 months, to allow sufficient time for Wellington Electricity to complete further data cleansing, bed in their improved processes, and demonstrate compliance.

PARTICIPANT RESPONSE

Wellington Electricity's comments on each non-compliance and recommendation are set out below:

Subject	Section	Clause	Non-Compliance	Remedial Action Participant Comment
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.	Implementing a daily system matching report, this will improve the ability to identify and correct issues as they occur. We have taken a staged approach to improve the information upload to the registry. We plan to have the historical data corrected within six months and we have checks and measures in place to ensure correct data moving forward.
Requirement to correct errors	2.2	11.2(2) and 10.6(2)	Correction of data does not consistently occur as soon as practicable.	Implementing a daily system matching report that will improve the ability to identify and correct issues as they occur.
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.	A daily system matching report to advise all information that should have been uploaded to the Registry being in a "Held" status. This is scheduled to run seven days a week.
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.	We have an improved process to run the IED's for upload on a daily basis. In a staged approach, as at November 2018 we have completed in excess of 60000 IED updates. Correction of historical data is ongoing and we aim to have this completed within six months
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.	A daily system matching report to advise all information that should have been uploaded to the Registry. All seven ICPs have now been cleared.

Subject	Section	Clause	Non-Compliance	Remedial Action Participant Comment
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.	Address events - Bulk updates occurred as part of an address update project. Completed. Tighter controls have been implemented around address information accepted from a Trader. Network events - manual daily checks are being performed. Pricing events - The current process identified these issues and a correction was applied. We believe the control is strong - Cleared Status events – Prior to Audit this was identified, the 10 latest updates were changes to the decommission status based on improvements by Wellington Electricity's decommissioning process as a result, stronger controls are already in place.
Notice of NSP for each ICP	4.2	7(1),(4) and (5) Sch 11.1	Some existing ICPs have an incorrect NSP recorded.	Process reviewed and improvements made to avoid reoccurrence of ICPs with incorrect NSP recorded.
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.	Prior to audit, we had identified and were actively correcting duplicate addresses. All 1820 ICPs with duplicate addresses have been corrected since the registry list was provided. – Cleared and evidence provided to Auditor 97 duplicate addresses appeared as non-compliant due to a bulk update performed by Wellington Electricity. Of the 97, there was no requirement to change 13 of the addresses. The remaining 84 addresses were corrected and identified as being impacted by a bulk update. Cleared and evidence provided to Auditor. There have been 8 instances of non-locatable addresses since 2009, which have been corrected. 44 of the 130 non-locatable addresses have been corrected; work is underway to complete the remaining 86. Controls in place are strong based on the number of incidences.
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.	Bulk updates of IED commenced. Implementing a daily system matching report for unmetered load that will improve the ability to identify and correct issues as they occur.
GPS coordinates	4.8	7(8) and (9) Sch 11.1	49 ICPs have GPS coordinates in UTM format instead of NZTM2000 format.	We were provided with incorrect format by Jade for a non mandatory field. All UTM format for 49 ICPs has been resolved. Management believes the controls in place are strong as we followed the instruction from EA provided in 2017.

Subject	Section	Clause	Non-Compliance	Remedial Action Participant Comment
				Item cleared.

Subject	Section	Recommendation	Next Action Participant Comment
Requirement to provide complete and accurate information	2.1	I recommend adding the following checks to the registry validation: a comparison between unmetered load trader and distributor fields a comparison between distributor distributed generation details and metering information a comparison between all distributor maintained fields on the registry and GTV.	Recommendation under consideration from Management
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.	Management have reviewed and confirm this is completed
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.	Recommendation under consideration from Management
Distributors to Provide ICP Information to the Registry manager – distributed generation details	4.6	Update the registry from the date it is known that generation is installed or the generation metering installation date, whichever is earlier. 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. 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.	Recommendation under consideration from Management
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.	Recommendation under consideration from Management
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.	Recommendation under consideration from Management