ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTOR AUDIT REPORT

For

VECTOR LIMITED
(NZBN: 9429039215109)

Prepared by: Brett Piskulic

Date audit commenced: 3 July 2023

Date audit report completed: 17 October 2023

Audit report due date: 19-Oct-23

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EXECUTIVE SUMMARY

This distributor audit was performed at the request of **Vector Limited** (**Vector),** 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.

Vector is the distributor for the Auckland area and has two participant codes covering two geographical areas, UNET and VECT. UNET is used for ICPs north of the Waitemata Harbour and in West Auckland and VECT is used for ICPs south of the Waitemata Harbour.

This audit has found a similar level of compliance to previous audits. The main areas of non-compliance relate to the timeliness and accuracy of registry updates. Vector relies on third parties to provide information related to initial electrical connection and the addition of distributed generation. This has led to a high number of late or missing registry updates. There are robust processes in place to identify missed and late updates, and reminders are sent to the third parties requesting the information.

Vector installed an interconnection point between its network and the neighbouring Counties Energy network in May 2023 which will provide an emergency backup supply in the area. The information and notifications regarding setting up the NSP and ensuring a metering installation was in place and an MEP contracted were examined in this audit. Non-compliance is recorded for late notifications in three sections of the audit.

The audit found fifteen non-compliances and makes no recommendations. The audit risk rating is 23, and the next audit frequency table indicates that the next audit be due in six months. I have considered this in conjunction with Vector's responses and I recommend that the next audit is in 12 months.

The matters raised are set out in the table below.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Requirements to provide complete and accurate information	2.1	11.2	Examples of incorrect or missing information found in **sections 3.3, 4.2, 4.4** and **4.6**.	Moderate	Low	2	Identified
Requirement to correct errors	2.2	11.2(2)	Errors were not always corrected as soon as practicable.	Moderate	Low	2	Identified
Provision of ICP information to the registry manager	3.3	11.7	360 ICPs became "active" but had no initial electrical connection date populated.	Moderate	Low	2	Identified
Timeliness of Provision of ICP Information to the registry manager	3.4	7(2) of Schedule 11.1	Nine ICPs were made "ready" after electrical connection, and therefore trading, had occurred.	Strong	Low	1	Identified
Timeliness of Provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	3,273 ICPs did not have initial electrical connection dates populated within ten business days of being electrically connected.	Moderate	Low	2	Identified
Connection of ICP that is not an NSP	3.6	11.17	Nine ICPs were connected prior to recording of the accepting trader in the registry.	Strong	Low	1	Identified
Connection of NSP that is not point of connection to grid	3.9	10.30	The MEP identifier and meter installation certification expiry date advised after 14	Strong	Low	1	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			business days for NSP WHA0221.				
Changes to registry information	4.1	8 of Schedule 11.1	53 late address updates. 130 late updates to decommissioned status. 318 late other network updates. 1,839 late distributed generation updates. 1,282 late NSP changes.	Moderate	Low	2	Identified
Notice of NSP for each ICP	4.2	7(1)(b) of Schedule 11.1	24 of the 30 ICPs sampled mapped to the incorrect NSP.	Moderate	Low	2	Identified
ICP location address	4.4	2 of Schedule 11.1	1,502 ICPs with addresses that are not readily locatable or are duplicates.	Moderate	Low	2	Identified
Distributors to provide ICP Information to the registry manager	4.6	7(1) of Schedule 11.1	11,691 ICPs had missing initial electrical connection dates. 359 ICPs with potentially incorrect initial electrical connection dates on the registry. Distributed generation details not populated for ten of a sample of 20 ICPs. Seven ICPs with incorrect unmetered load details. Seven "GN" ICPs with an incorrect	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			NSP dedication flag of "Y". Six LE ICPs with the incorrect NSP dedication flag of "N".				
Provision of information to registry after the trading of electricity at the ICP commence	4.7	7(3) Schedule 11.1	Price category code was updated 16 business days after trading commenced for one ICP.	Strong	Low	1	Identified
GPS coordinates	4.8	Clause 7(8) and (9) Schedule 11.1	93 ICPs with the incorrect GPS co-ordinates recorded in the registry.	Strong	Low	1	Identified
Creation and decommissioning of NSPs	6.1	Clause 11.8 and Clause 25 Schedule 11.1	Reconciliation manager notified late of the intended start date of NSP WHA0221.	Strong	Low	1	Cleared
Responsibility for metering information when creating an NSP that is not a POC to the grid	6.9	Clause 10.25(2)	The MEP identifier and meter installation certification expiry date advised after 14 business days for NSP WHA0221.	Strong	Low	1	Cleared
Future Risk Rating						23	

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

RECOMMENDATIONS

Subject	Section	Recommendation	Description
		Nil	

ISSUES

Subject	Section	Issue	Description
		Nil	

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

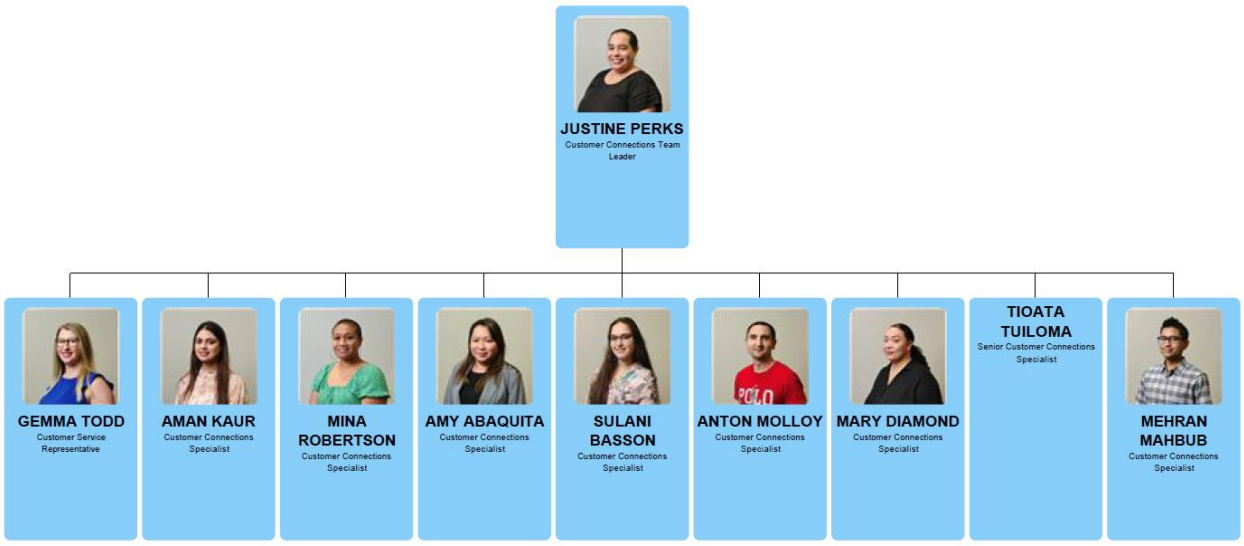
The Authority website was checked to determine whether there are code exemptions in place.

Audit commentary

Vector has no exemptions in place that are relevant to the scope of this audit.

1.2. Structure of Organisation

Vector provided a copy of the relevant part of the organisation chart:



1.3. Persons involved in this audit

Auditor:

Name	Company	Role
Brett Piskulic	Provera	Auditor

Vector personnel assisting in this audit were:

Name	Title
Tioata Tuiloma	Senior Customer Connections Specialist
Justine Perks	Customer Connections Team Leader
Michelle Gasson	Billing Team Leader
Jacques de La Bat	Senior Engineer Network Planning
Hayden Oswin	Senior Information Specialist

1.4. Use of contractors (Clause 11.2A)

Code reference

Clause 11.2A

Code related audit information

A participant who uses a contractor

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

Audit observation

Vector were asked to provide the details of any contractors authorised to perform electrical connection activities on their networks.

Audit commentary

Activities covered by the scope of this audit, including fieldwork and inspection are conducted by Vector employees.

1.5. Supplier list

Vector does not use any sub-contractors.

1.6. Hardware and Software

Vector uses Gentrack Velocity for the management of ICPs and associated information, the registry is updated directly from Gentrack Velocity on a daily basis. Siebel is the Customer Relationship Management (CRM) system used for work management with customers and traders. The GIS system used is called Small World. Access to all systems is controlled by individual passwords.

Vector have a full disaster recovery plan in place. All systems are backed up to the cloud.

1.7. Breaches or Breach Allegations

The Electricity Authority confirmed that there have been no alleged breaches for Vector relevant to the scope of this audit during the audit period.

1.8. ICP and NSP Data

The NSP mapping table was examined. Vector has two participant codes covering two geographical areas UNET and VECT. UNET is used for ICPs north of the Waitemata Harbour and West Auckland and VECT is used for ICPs in the Auckland region south of the Waitemata Harbour.

UNET

Dist	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of active ICPs
UNET	ALB0331	ALBANY			NORTHRNUNETG	G	14 August 2020	50,359
UNET	ALB1101	ALBANY			NORTHRNUNETG	G	1 May 2008	4,051
UNET	HEN0331	HENDERSON			NORTHRNUNETG	G	14 August 2020	46,792
UNET	HEP0331	HEPBURN RD			NORTHRNUNETG	G	14 August 2020	46,874
UNET	SVL0331	SILVERDALE			NORTHRNUNETG	G	14 August 2020	37,084
UNET	WEL0331	WELLSFORD			NORTHRNUNETG	G	1 May 2008	16,379
UNET	WRD0331	WAIRAU RD			NORTHRNUNETG	G	14 May 2013	49,733

Status	Number of ICPs 2023	Number of ICPs 2022	Number of ICPs 2021
New (999,0)	**2**	2	3
Ready (0,0)	**611**	662	458
Active (2,0)	**251,272**	245,932	240,788
Distributor (888,0)	**69**	62	55
Inactive – new connection in progress (1,12)	**1,055**	1,082	503
Inactive – electrically disconnected vacant property (1,4)	**3,474**	3,346	3,330
Inactive – electrically disconnected remotely by AMI meter (1,7)	**1,081**	1,041	
Inactive – electrically disconnected at pole fuse (1,8)	**21**	14	6
Inactive – electrically disconnected due to meter disconnected (1,9)	**283**	274	265
Inactive – electrically disconnected at meter box fuse (1,10)	**7**	8	5
Inactive – electrically disconnected at meter box switch (1,11)	**16**	26	13
Inactive – electrically disconnected ready for decommissioning (1,6)	**584**	478	331
Inactive – (1,0)	**1**	1	1
Inactive – reconciled elsewhere (1,5)	**0**	0	0
Decommissioned (3)	**24,922**	24,176	23,407

VECT

Dist	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of active ICPs
VECT	HEP0331	HEPBURN RD			AUCKLNDVECTG	G	14 August 2020	5,162
VECT	HOB1101	HOBSON ST			AUCKLNDVECTG	G	24 January 2014	11,121
VECT	MNG0331	MANGERE			AUCKLNDVECTG	G	1 May 2008	26,910
VECT	MNG1101	MANGERE			AUCKLNDVECTG	G	21 December 2015	3
VECT	OPH0111	106 Opaheke Rd Papakura	TAK0331	VECT	AUCKLNDVECTG	I	1 May 2023	N/A
VECT	WHA0221	461 East Coast Rd Whakatiwai	TAK0331	VECT	AUCKLNDVECTG	I	1 May 2023	N/A
VECT	OTA0221	OTAHUHU			AUCKLNDVECTG	G	1 May 2008	19,263
VECT	PAK0331	PAKURANGA			AUCKLNDVECTG	G	1 May 2008	47,189
VECT	PEN0221	PENROSE			AUCKLNDVECTG	G	1 May 2008	8,723
VECT	PEN0331	PENROSE			AUCKLNDVECTG	G	1 May 2008	76,875
VECT	PEN1101	PENROSE			AUCKLNDVECTG	G	1 November 2014	27,737
VECT	ROS0221	MT. ROSKILL			AUCKLNDVECTG	G	1 May 2008	46,305
VECT	ROS1101	MT. ROSKILL			AUCKLNDVECTG	G	1 April 2012	23,211
VECT	TAK0331	TAKANINI			AUCKLNDVECTG	G	1 May 2008	48,730
VECT	WIR0331	WIRI			AUCKLNDVECTG	G	1 May 2008	21,120

Status	Number of ICPs 2023	Number of ICPs 2022	Number of ICPs 2021
New (999,0)	**1**	6	3
Ready (0,0)	**1,044**	1,032	740
Active (2,0)	**362,349**	355,688	351,033
Distributor (888,0)	**159**	146	146
Inactive – new connection in progress (1,12)	**1,748**	1,598	1,598
Inactive – electrically disconnected vacant property (1,4)	**5,723**	5,768	5,768
Inactive – electrically disconnected remotely by AMI meter (1,7)	**1,510**	1,761	1,761
Inactive – electrically disconnected at pole fuse (1,8)	**43**	25	25
Inactive – electrically disconnected due to meter disconnected (1,9)	**1,325**	1,312	1,312
Inactive – electrically disconnected at meter box fuse (1,10)	**23**	17	17
Inactive – electrically disconnected at meter box switch (1,11)	**10**	21	7
Inactive – electrically disconnected ready for decommissioning (1,6)	**1,160**	929	929
Inactive (1,0)	**0**	0	0
Inactive – reconciled elsewhere (1,5)	**2**	2	2
Decommissioned (3)	**61,041**	59,369	59,369

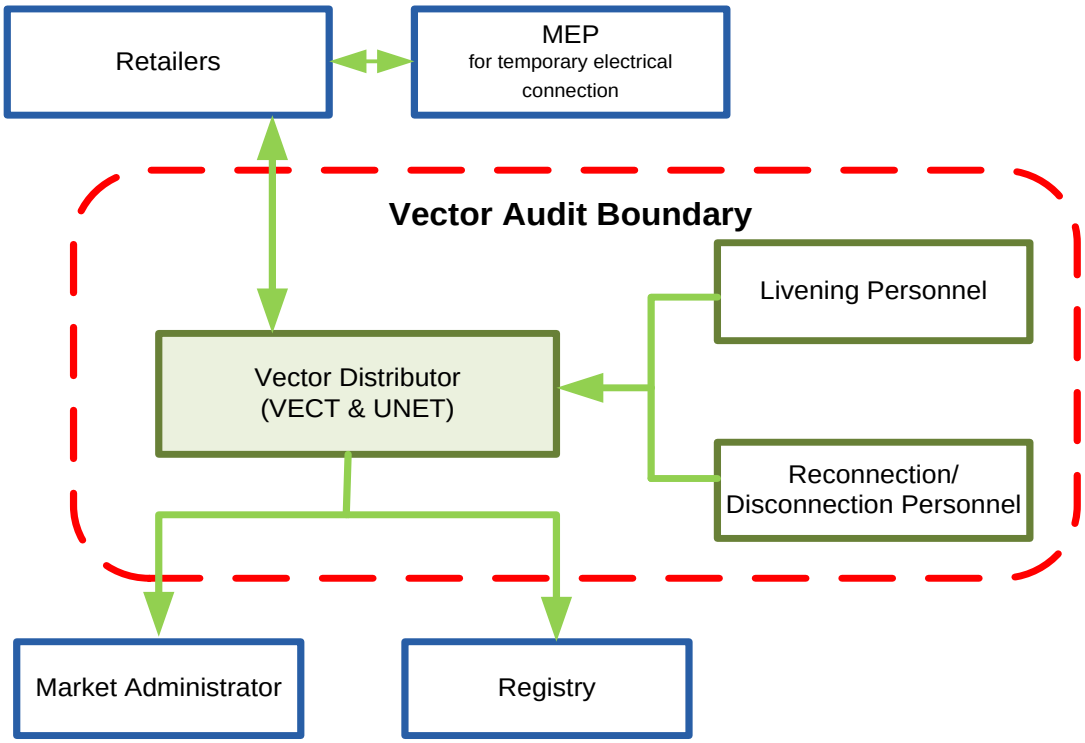
1.9. Authorisation Received

Vector provided a letter of authorisation to Provera, 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 Vector to encompass the Electricity Industry Participation Code requirement for an audit as required by 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 scope of the audit is shown in the diagram below, with the Vector audit boundary shown for clarity.



1.11. Summary of previous audit

Vector provided a copy of their previous audit report, conducted by Ewa Glowacka of TEG & Associates in October 2022. This found 12 non-compliances and made no recommendations. The current status of these has been updated below:

Table of non-compliance

Subject	Section	Clause	Non-compliance	Status
Requirements to provide complete and accurate information	2.1	11.2	Inaccurate or missing information in the registry for distributed generation, UML, NSP, and Initial Electrical Connection Dates not populated in the Registry.	Still existing
Requirement to correct errors	2.2	11.2(2)	Incorrect or missing historical information in the registry across a number of areas	Still existing
Participants may request distributors to create ICPs	3.2	11.5(3)	No notification of delay to ICP creation for 25 ICPs requested by traders	Cleared
Provision of ICP information to the registry manager	3.3	11.7	1,029 ICPs with no initial electrical connection date	Still existing
Timeliness of Provision of ICP Information to the registry manager	3.4	7(2) of Schedule 11.1	Five ICPs not updated on the registry (proposed trader) prior to commencement of trading.	Still existing
Timeliness of Provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	2,824 late updates of initial electrical connection dates in the registry, some of them are historic updates. 1,029 ICPs do not have IECD recorded.	Still existing
Management of "NEW" status	3.13	13 of Schedule 11.1	Five ICPs had incorrectly the "NEW' status recorded in the registry.	Cleared
Changes to registry information	4.1	8 of Schedule 11.1	Registry event (NSP change, address, distributed generation, decommissioning) updates backdated more than three business days. Incorrect effective event date for the NSP change for longer than 10 business days.	Still existing

Subject	Section	Clause	Non-compliance	Status
Notice of NSP for each ICP	4.2	7(1)(b) of Schedule 11.1	Eight out of 21 ICPs sampled were mapped to incorrect NSP.	Still existing
ICP location address	4.4	2 of Schedule 11.1	1,532 ICPs with addresses that are not readily locatable.	Still existing
Distributors to provide ICP Information to the registry manager	4.6	7(1) of Schedule 11.1	Discrepancies for number of ICPs where the Initial Electrical Connection date is different to the Metering Installation Certification date or the Active date (Status Event Date). Four ICPs (LE) incorrectly the Dedicated NSP flag set to "N". Five ICPs (GN) incorrectly Dedicated NSP flag set to "Y". For small number of ICPs incorrect solar kW are recorded in the registry.	Still existing
Management of "ready" status	4.9	14 of Schedule 11.1	Some ICPs are loaded to the registry with "ready" status before being accepted by trader in Siebel.	Cleared

Recommendations

Subject	Section	Recommendation	Remedial action	Status
		Nil		

Issues

Subject	Section	Issue	Description	Status
		Nil		

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 11.2(1) and 10.6(1)

Code related audit information

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

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

Audit observation

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

The registry list and audit compliance reports were examined to determine compliance.

Audit commentary

Registry population is automated, with updates to the registry occurring twice daily, once at midday and once in the evening. A small number are updated directly in the registry as required.

The process for creating new ICPs is managed through the Siebel, a Customer Relationship Management (CRM) system which provides an interface with customers and traders and automatically updates Gentrack with ICP information. Vector is reliant on warranted persons nominated by traders to update Siebel with the connection information for new connections including the initial electrical connection date. This information is not always supplied in a timely manner. Vector has reporting in place for identifying missed dates and follows up with the warranted person requesting missing information.

Daily discrepancy reporting is generated by Gentrack which identifies discrepancies with registry information, the reporting identifies the following issues.

- In Gentrack but Missing in Registry or Siebel,
- Status: DZ in Gentrack but Connected in Registry,
- Status: Inactive/Ready to Decom in Registry but not DI in Gentrack, and
- Registry failed to update.

The registry audit compliance reports are run monthly used to identify data discrepancies and monitor ICPs at the “new” and “ready” statuses.

Whilst Vector has robust processes in place to identify and correct discrepancies the audit found a number of areas where information is missing or inaccurate and has not been corrected. These are summarised in the table below and discussed in more detail in the relevant sections of the report.

Section	Finding
3.3	360 ICPs became active but had no initial electrical connection date populated.
4.2	24 of the 30 ICPs sampled mapped to the incorrect NSP.
4.4	1,502 ICPs with addresses that are not readily locatable.
4.6	11,691 had missing initial electrical connection dates.
4.6	359 ICPs with potentially incorrect initial electrical connection dates on the registry.
4.6	Distributed generation details not populated for ten of a sample of 20 ICPs.
4.6	Seven ICPs incorrect unmetered load details.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: 11.2(1) & 10.6(1) From: 01-Oct-22 To: 11-Jul-23	Examples of incorrect or missing information found in **sections 3.3, 4.2, 4.4** and **4.6**. 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 as whilst there are good processes in place for identifying inaccurate and missing information, corrections are not always made in a timely manner. The audit risk rating is low as the incorrect information has a small or no effect on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Distributed Generation: Continue monthly follow up with customers for missing COCs and issue deadline to customer for response. IECD: Allocate resource to manage and monitor follow up for missing IECD from warranted person monthly. We will continue to use the audit compliance report to pick up missing data.	30/11/2023 30/11/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
N/A		

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

Vector's data management processes were examined. The registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were examined to confirm compliance.

Audit commentary

Vector has processes in place to identify and resolve registry discrepancies as described in **section 2.1**.

Whilst Vector has robust processes in place to identify and correct discrepancies the audit found a number of areas where information is missing or inaccurate and has not been corrected. These are summarised in the table below and discussed in more detail in the relevant sections of the report.

Section	Finding
3.3	360 ICPs became active but had no initial electrical connection date populated.
4.2	24 of the 30 ICPs sampled mapped to the incorrect NSP.
4.4	1,502 ICPs with addresses that are not readily locatable.
4.6	11,691 had missing initial electrical connection dates.
4.6	359 ICPs with potentially incorrect initial electrical connection dates on the registry.
4.6	Distributed generation details not populated for ten of a sample of 20 ICPs.
4.6	Seven ICPs incorrect unmetered load details.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.2 With: 11.2(2) and 10.6(2) From: 01-Oct-22 To: 11-Jul-23	Errors were not always corrected as soon as practicable. 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 as whilst there are good processes in place for identifying inaccurate and missing information, corrections are not always made in a timely manner. The audit risk rating is low as the incorrect information has a small or no effect on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Refer to audit reference 2.1 A daily process of checking registry errors (NOTfiles) will be in place to identify updates that failed to flow up from Gentrack to registry. We will continue to use the audit compliance report to pick up missing data.	30/11/2023	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
N/A		

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

Code reference

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

Code related audit information

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

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

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

Audit observation

Processes for removal or breakage of seals were reviewed.

Audit commentary

No instances where Vector had broken or removed seals were identified during the audit. Vector does not conduct any work on customer installations or metering installations. Vector advises customers to contact their retailer if there are any issues with the metering installation.

Audit outcome

Compliant

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

Code reference

Clause 11.30A

Code related audit information

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

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

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

Audit observation

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

Audit commentary

Information on Utilities Disputes is clear and prominent for consumers, it is provided:

- on the Vector website at https://www.vector.co.nz/personal/electricity/complaints-and-utilities-disputes-ltd,
- in email communications,
- on a voice recording when consumers contact Vector by phone, and
- in written and email communications regarding planned outages.

Audit outcome

Compliant

3. CREATION OF ICPS

3.1. Distributors must create ICPs (Clause 11.4)

Code reference

Clause 11.4

Code related audit information

The distributor must create an ICP identifier in accordance with Clause 1 of Schedule 11.1 for each ICP on the distributor's network. This includes an ICP identifier for the point of connection at which an embedded network connects to the distributor's network.

Audit observation

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

A diverse characteristics sample of 50 new connection applications of the 12,965 ICPs (VECT 7,503 and UNET 5,462) created since 1 October 2022 were checked from the point of application through to when the ICPs were created. The sample included ICPs with:

- various meter categories,
- various proposed traders,
- various price categories,
- with and without distributed generation,
- with and without standard or distributed unmetered load connected (no ICPs with shared unmetered load were created), and
- connected to different NSPs.

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

Audit commentary

Vector creates ICPs as required by clause 1 of schedule 11.1. The process in place is robust and has good controls in place. The sample checked in **section 3.2** below confirms this.

Ten new LE ICPs were created as required by the Code by Vector for new embedded networks created during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 11.5(3)

Code related audit information

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

Audit observation

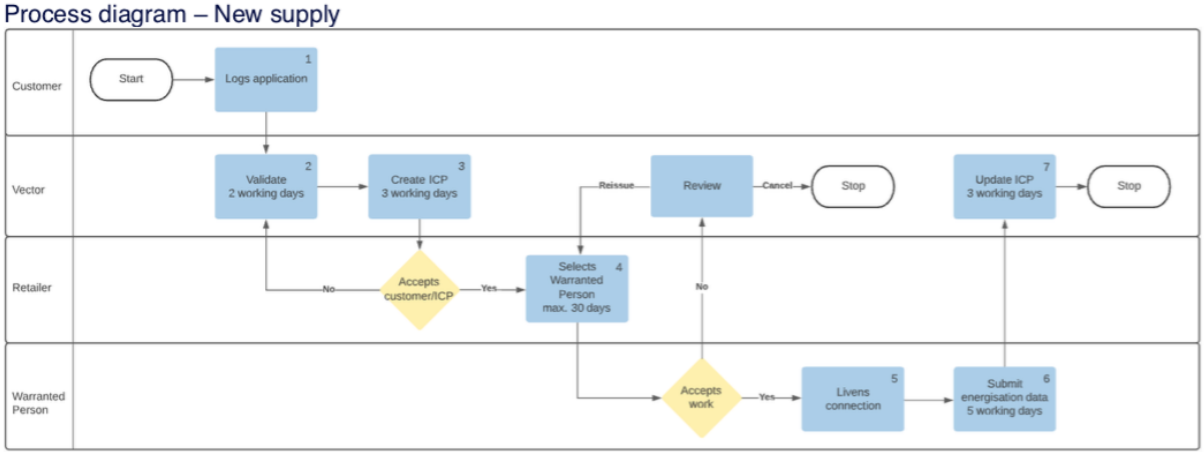
The new connection process was examined in detail. A diverse characteristics sample of 50 new connection applications of the 12,965 ICPs (VECT 7,503 and UNET 5,462) created since 1 October 2022

were checked to determine whether the ICPs had been created within three business days of a request by a trader.

Audit commentary

The majority of new ICP requests are received directly from customers or their agents via the Vector website or call centre. Applications are reviewed by Vector to determine if all required information has been provided. Vector checks the address in its GIS system to determine if supply is available or if network extension work is required. If the application information is complete and supply is available, the ICP is created at "ready" status and the customer and trader are notified. The trader updates Siebel to advise that it has accepted or declined the ICP and selects a Vector warranted person to complete the connection. The warranted person accepts the job and arranges connection with the customer. Upon completion of the connection the warranted person updates Siebel with energisation information. Vector provided the process diagram below which describes this process:

3. Process diagram – New supply



If network extension is work is required the customer and trader are notified, and the job is put on hold until the work is completed. The ICP is then created once the work is completed, and the connection process continues as described above.

In some cases where category 2 and above metering is required the ICP is created in the "new" status if the trader requires an ICP for the allocation of current transformers to the customer.

I checked a sample of 50 new ICPs and found 49 were requested by the customer or customer's agent and one was requested by the trader (ICP 1002174103UN24A). The ICP requested by the trader was not created within three business days as network extension work was required. I confirmed that Vector advised the trader at the time of application.

I checked the 15 LE ICPs which were created for embedded networks connected to the Vector network during the audit period. All 15 LE ICPs were requested by the embedded network owner and were not able to be created within three business days. In all 15 cases the participant was notified of the reasons for the delays. Ten required further information from the participant and five required completion of network extension work.

Audit outcome

Compliant

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

Code reference

Clause 11.7

Code related audit information

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

Audit observation

A diverse characteristics sample of 50 new connection applications of the 12,965 ICPs (VECT 7,503 and UNET 5,462) created since 1 October 2022 were checked from the point of application through to when the ICP was created, to confirm the process and controls worked in practice. The registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were examined to determine compliance of all ICPs created during the audit period.

Audit commentary

The process for updating the registry is automated for all fields. The accuracy of this information is discussed in **section 4.6.** Information was provided as required by this clause for all ICPs created during the audit period, except for 360 electrically connected ICPs with no initial electrical connection dates recorded (184 VECT and 176 UNET). I checked a sample of 20 and found:

- 17 were due to the information not being received from the warranted person, and
- three were recorded in the Vector database, but the updates did not flow to the registry.

As detailed in **section 3.2**, the new connection process requires the warranted person to provide the connection details including initial electrical connection date through Siebel once a new connection is completed. Vector has improved its processes during the audit period for identifying missed dates and follows up with the warranted person requesting missing information. This has seen the number of missed initial electrical connection dates reduce from the 1,029 recorded in the last audit. The timeliness of initial electrical connection date updates is discussed in **section 3.5**.

There were 55 new unmetered load ICPs created and connected during the audit period. I confirmed that details of the unmetered load were correctly recorded on the registry for all 55 ICPs. Vector has added unmetered load detail fields to the new ICP application form and follows up with customers if the details are not provided at the time of application.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 11.7 From: 01-Oct-22 To: 11-Jul-23	360 ICPs became “active” but had no initial electrical connection date populated. 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 there is room for improvement in the monitoring of missing dates. The audit risk rating is low as the missing dates have little or no direct impact on reconciliation.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**
IECD: Refer to notes on audit ref 2.1		30/11/2023	Identified
Preventative actions taken to ensure no further issues will occur		**Completion date**	
Refer to notes on audit ref 2.2		30/11/2023	

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

Code reference

Clause 7(2) of Schedule 11.1

Code related audit information

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

Audit observation

The new connection process was examined. The registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were examined to determine the timeliness of the provision of ICP information for new connections.

Audit commentary

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

The process is described in **section 3.3**. ICPs are only created at "new" status if a network extension is required where category 2 and above metering is required, and the trader requires an ICP for the allocation of current transformers to the customer.

The registry audit compliance reports identified nine ICPs which were made "ready" after electrical connection, and therefore trading, had occurred. This was examined and found that in all nine cases the Vector new connections team did not receive notification that the network extension work was completed and the ICP was "ready" until after the connection was made. Vector is reliant on being updated by the Vector projects team prior to connection being made but in these nine cases this step was missed, and the status was not updated to "ready" until after the time of connection. This is also recorded as non-compliance in **section 3.6**.

ICP	Status "ready" input date	Status "active" event date	Business days to update to "ready"	Initial electrically connected date
1002175808LCE23	18 May 2023	26 April 2023	16	26 April 2023

ICP	Status "ready" input date	Status "active" event date	Business days to update to "ready"	Initial electrically connected date
1002175928LCA72	28 March 2023	23 March 2023	3	23 March 2023
1002167123LCF0A	3 March 2023	8 February 2023	17	8 February 2023
1002169040LCDFE	9 January 2023	16 December 2022	12	16 December 2022
1002169038LCAB7	9 January 2023	9 December 2022	17	8 December 2022
1002169039LC6F2	9 January 2023	14 December 2022	14	8 December 2022
1002169037LC569	9 January 2023	9 December 2022	17	8 December 2022
1002168127LC760	14 October 2022	13 October 2022	1	13 October 2022
1002174468UN66B	22 June 2023	12 April 2023	49	Not populated

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 3.4
With: Clause 7(2) of Schedule 11.1

From: 13-Oct-22
To: 18-May-23</td><td colspan="3">Nine ICPs were made "ready" after electrical connection, and therefore trading, had occurred.
Potential impact: Low
Actual impact: Low
Audit history: Three times
Controls: Strong
Breach risk rating: 1</td></tr>
<tr><th>Audit risk rating</th><th colspan="3">Rationale for audit risk rating</th></tr>
<tr><td>Low</td><td colspan="3">The controls are recorded as strong as they will eliminate risk to an acceptable level.
The impact on settlement and participants is minor; therefore, the audit risk rating is low.</td></tr>
<tr><th colspan="2">Actions taken to resolve the issue</th><th>Completion date</th><th>Remedial action status</th></tr>
<tr><td colspan="2">N/A</td><td></td><td rowspan="3">Identified</td></tr>
<tr><th colspan="2">Preventative actions taken to ensure no further issues will occur</th><th>Completion date</th></tr>
<tr><td colspan="2">The current process implemented is an ongoing piece of work. Further training will be provided to staff to ensure these scenarios are avoided and better monitored.</td><td>30/11/2023</td></tr>
</table>

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 registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were examined to determine the timeliness of the provision of the initial electrical connection date. A sample of 20 late updates were checked.

Audit commentary

The Vector process requires the warranted person to arrange and complete new connections on behalf of the trader. Once the work is completed the warranted person updates Siebel with connection information including the date of energisation. Vector has reporting in place for identifying missed dates and follows up with the warranted person requesting missing information.

The audit compliance reports identified 3,273 (2,079 VECT and 1,194 UNET) late initial electrical connection updates were made during the audit period. 696 (410 VECT and 286 UNET) of the late updates were for ICPs connected prior to this audit period.

Initial electrical connection date updates were made for 11,764 (6,614 VECT and 5,150 UNET) ICPs that were connected during the audit period. Of these updates 2,577 (1,669 VECT and 908 UNET) or 21.9% were updated late.

The table below compares the total number of late updates against previous audits.

Network participant code	Number of late IECD updates				
	2023	**2022**	**2021**	**2020**	**2019**
VECT	**2,079**	1,535	1,795	29,428	5,098
UNET	**1,194**	1,289	1,063	20,479	4,153
Total	**3,273**	2,824	2,858	50,177	9,251

Examination of a sample of 20 late updates found that 17 of the late updates were due to late provision of connection information by the warranted person and three were corrections to re-enter the initial electrical connection date when a previously entered date was inadvertently removed by a subsequent network update.

Missing initial electrical connection dates are discussed in **sections 3.3** and **4.6**.

Audit outcome

Non-compliant

Non-compliance	Description

Audit Ref: 3.5 With: 7(2A) of Schedule 11.1 From: 01-Oct-22 To: 18-May-23	3,273 ICPs did not have initial electrical connection dates populated within ten business days of being electrically connected. Potential impact: None Actual impact: None Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are moderate as Vector is reliant on the timely return of connection information from the warranted person and whilst reporting is in place to identify missed information, it does not always ensure timeliness. The audit risk rating is low because there is no direct impact on submission.

Actions taken to resolve the issue	Completion date	Remedial action status
Refer to audit reference 2.1 and 2.2	30/11/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
N/A		

3.6. Connection of ICP that is not an NSP (Clause 11.17)

Code reference

Clause 11.17

Code related audit information

A distributor must, when connecting an ICP that is not an NSP, follow the connection process set out in Clause 10.31.

The distributor must not connect an ICP (except for an ICP across which unmetered load is shared) unless a trader is recorded in the registry as accepting responsibility for the ICP.

In respect of ICPs across which unmetered load is shared, the distributor must not connect an ICP unless a trader is recorded in the registry as accepting responsibility for the shared unmetered load, and all traders that are responsible for an ICP on the shared unmetered load have been advised.

Audit observation

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

The registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were examined to determine compliance. There are no ICPs with shared unmetered load on the Vector network.

Audit commentary

As described in **section 3.2**, the majority of new ICPs are created at "ready" status and traders are automatically notified and requested to confirm acceptance of the ICPs via Siebel. The trader updates Siebel to advise that it has accepted the ICP and selects a Vector warranted person to complete the connection. If network extension work is required the customer and trader are notified, and the job is put on hold until the work is completed. The ICP is then created once the work is completed, and the connection process continues as described in **section 3.2**. In some cases where category 2 and above metering is required the ICP is created in the "new" status if the trader requires an ICP for the allocation of current transformers to the customer.

The audit compliance report identified nine ICPs that were electrically connected, and therefore connected, prior to being made "ready" on the registry and therefore a trader was not recorded in the registry as accepting responsibility for the ICP prior to connection. This was examined and found that in all nine cases the ICPs had been created at "new" status as network extension work was needed and the trader required an ICP for the allocation of current transformers to the customer. The Vector new connections team did not receive notification that the network extension work was completed and the ICP was "ready" until after the connection was made. Vector is reliant on being updated by the Vector projects team prior to connection is made, but in these nine cases this step was missed, and the status was not updated to "ready" until after the time of connection. This is also recorded as non-compliance in **section 3.4**.

ICP	Status "ready" input date	Status "active" event date	Business days to update to "ready"	Initial electrically connected date
1002175808LCE23	18 May 2023	26 April 2023	16	26 April 2023
1002175928LCA72	28 March 2023	23 March 2023	3	23 March 2023
1002167123LCF0A	3 March 2023	8 February 2023	17	8 February 2023
1002169040LCDFE	9 January 2023	16 December 2022	12	16 December 2022
1002169038LCAB7	9 January 2023	9 December 2022	17	8 December 2022
1002169039LC6F2	9 January 2023	14 December 2022	14	8 December 2022
1002169037LC569	9 January 2023	9 December 2022	17	8 December 2022
1002168127LC760	14 October 2022	13 October 2022	1	13 October 2022
1002174468UN66B	22 June 2023	12 April 2023	49	Not populated

No new connections for shared unmetered load were created.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: Clause 11.17 From: 13-Oct-22 To: 18-May-23	Nine ICPs were connected prior to recording of the accepting trader in the registry. Potential impact: Low Actual impact: None Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**

Low	The controls are recorded as strong as they will eliminate risk to an acceptable level. The audit risk rating is assessed to be low as the volume of ICPs affected is small.

Actions taken to resolve the issue	Completion date	Remedial action status
N/A		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Please refer to audit reference 3.4	30/11/2023	

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

Code reference

Clause 10.31

Code related audit information

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

Audit observation

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

A diverse characteristics sample of 50 new connection applications per code of the 12,965 ICPs (VECT 7,503 and UNET 5,462) created since 1 October 2022 were checked to determine if the ICPs were connected at the request of the trader.

The registry list as of 11 July 2023 was reviewed to confirm that all active ICPs had a trader recorded.

Audit commentary

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

The new connections process is designed to include a "trader responsibility" step, the process requires the trader to accept the ICP in Siebel and select the warranted person to conduct the connection. The registry list showed that all active ICPs had a trader recorded on the registry.

This clause requires that a distributor must not connect an ICP across which unmetered load is shared unless a trader is recorded in the registry as accepting responsibility for the shared unmetered load. Vector does not allow or intend to allow any new shared unmetered load connections. Review of the registry lists confirmed there is no shared unmetered load connected to any ICP.

Audit outcome

Compliant

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

Code reference

Clause 10.31A

Code related audit information

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

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

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

- *advising all traders would impose a material cost on the distributor, and*
- *in the distributor's reasonable opinion, the advice would not result in any material benefit to any of the traders.*

Audit observation

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

Audit commentary

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

No temporary electrical connections were identified during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 10.30

Code related audit information

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

The distributor that initiates the connection under Part 11 and connects the NSP must, within 5 business days of connecting the NSP that is not a point of connection to the grid, advise the reconciliation manager of the following in the prescribed form:

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

Audit observation

The NSP table was reviewed.
A new NSP that is an interconnection point between the Vector and Counties networks was connected during the audit period. I reviewed the notifications and certification records associated with this NSP.

Audit commentary

A new NSP that is an interconnection point between the Vector and Counties networks was connected during the audit period, details of the new NSP are as follows:

NSP POC	Description	Parent POC	Parent Network	Network type	Start date	MEP	Metering installation expiry date
WHA0221	461 East Coast Rd Whakatiwai	TAK0331	VECT	I	1 May 2023	AMCI	2 May 2033

The MEP and metering certification information was first provided to the reconciliation manager on 22 May 2023, 14 days after the connection of the NSP on 2 May 2023. The initial update incorrectly recorded the MEP identifier as ACCL, this was corrected to AMCI in a subsequent update on 28 July 2023.

Non-compliance is recorded as the information was not updated within the required five business days.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.9 With: Clause 10.30 From: 10-May-23 To: 22-May-23	The MEP identifier and meter installation certification expiry date advised after 14 business days for NSP WHA0221. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	**Rationale for audit risk rating**		
Low	The controls are rated as strong, as an agreement was in place with AMCI as MEP and the metering installation was certified at the time of connection. There is no impact on settlement and participants; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**
Please refer to audit reference 6.9			Cleared
Preventative actions taken to ensure no further issues will occur		**Completion date**	

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

Code reference

Clause 10.30A and 10.30B

Code related audit information

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

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

A distributor may only electrically connect an NSP if:

- *each distributor connected to the NSP agrees,*
- *the trader responsible for delivery of submission information has requested the electrical connection,*

the metering installations for the NSP are certified and operational metering.

Audit observation

The NSP table was reviewed.

A new NSP that is an interconnection point between the Vector and Counties networks was connected during the audit period. I reviewed the notifications and certification records associated with this NSP.

Audit commentary

A new NSP that is an interconnection point between the Vector and Counties networks was connected during the audit period, details of the new NSP are as follows:

NSP POC	Description	Parent POC	Parent Network	Network type	Start date	MEP	Metering installation expiry date
WHA0221	461 East Coast Rd Whakatiwai	TAK0331	VECT	I	1 May 2023	AMCI	2 May 2033

The metering installation was certified at the time of connection of the NSP and Counties Energy had agreed to the connection.

Audit outcome

Compliant

3.11. Definition of ICP identifier (Clause 1(1) Schedule 11.1)

Code reference

Clause 1(1) Schedule 11.1

Code related audit information

Each ICP created by the distributor in accordance with Clause 11.4 must have a unique identifier, called the "ICP identifier", determined in accordance with the following format:

yyyyyyyyyyxxccc where:

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

Audit observation

The process for the creation of ICPs was examined.

Audit commentary

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 registry list as of 11 July 2023 was examined to confirm all active ICPs have a single loss category code.

A diverse characteristics sample of 50 new connections were checked to confirm that loss factors were correctly assigned.

Audit commentary

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

Loss factors are determined based on location on the network and pricing code information, which is confirmed as part of the ICP creation process. I confirmed that the sample of 50 new connections checked had correct loss categories applied.

Audit outcome

Compliant

3.13. Management of "new" status (Clause 13 Schedule 11.1)

Code reference

Clause 13 Schedule 11.1

Code related audit information

The ICP status of "new" must be managed by the distributor to indicate:

- *the associated electrical installations are in the construction phase (Clause 13(a) of Schedule 11.1),*
- *the ICP is not ready for activation (Clause 13(b) of Schedule 11.1).*

Audit observation

The ICP creation process was reviewed. The registry list files for 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were examined to determine compliance.

Audit commentary

ICPs are only created at "new" status in cases where network extension work is required for new connections with category 2 or above metering where the trader requires an ICP for the allocation of current transformers to the customer. The Vector new connections team update the ICP to "ready" when they are notified by the Vector projects tam that the network extension work is completed and

the ICP Is ready for connection. As detailed in **section 3.4**, there were nine cases where notification was not received until after connection and the change to "ready" was late.

The registry list recorded three ICPs at "new" status. One was created at "new" as described above and has since been moved to the "ready" and then "active" status. The remaining two have been followed up with the traders who confirmed that they are no longer required and will be moved to "decommissioned - set up in error". Both ICPs were originally created at "ready" and then moved to "new" when the trader confirmed they were no longer required and therefore acceptance was withdrawn.

Audit outcome

Compliant

3.14. Monitoring of "new" & "ready" statuses (Clause 15 Schedule 11.1)

Code reference

Clause 15 Schedule 11.1

Code related audit information

If an ICP has had the status of "new" or has had the status of "ready" for 24 months or more:

- *the distributor must ask the trader who intends to trade at the ICP whether the ICP should continue to have that status (clause 15(2)(a) of schedule 11.1),*
- *the distributor must decommission the ICP if the trader advises that the ICP should not continue to have that status (clause 15(2)(b) of schedule 11.1).*

Audit observation

The process to monitor ICPs at "new" and "ready" status was reviewed. The registry list files as of 11 July 2023, and the combined registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were examined to determine compliance.

Audit commentary

Vector uses the registry audit compliance reports monthly to identify ICPs at "new" and "ready" for more than 24 months and communicates with the traders to determine if the ICPs are still required. At the time of audit, there were 150 ICPs (90 VECT and 60 UNET) with a status of "ready" for longer than 24 months. I checked a sample of 20 ICPs that had been at "ready" for more than 20 months and confirmed that the retailer had been contacted for all 20 as follows,

- three have been confirmed as not required and will be decommissioned,
- one is awaiting the trader to confirm with the customer,
- eight are awaiting confirmation from trader, and
- eight where the trader is yet to respond.

The table below compares the total number of ICPs at "ready" for more than 24 months against previous audits.

Network participant code	READY (2023)	READY (2022)	READY (2021)	READY (2020)	READY (2019)	READY (2018)	READY (2017)
UNET	**60**	38	20*	18	60	9	22
VECT	**90**	83	26	20	55	19	30

There was one ICP (1001284127LC6E2) with the status "new" for longer than 24 months, Vector confirmed that the trader has been contacted and responded advising the ICP is no longer required so will be decommissioned.

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 registry list as of 11 July 2023 was reviewed to identify any generation stations with capacity of 10 MW or more and determine compliance.

Audit commentary

There is one ICP (0001442868UN4DC) with generation capacity over 10 MW. This ICP has a unique loss category code of RDVL.

Audit outcome

Compliant

3.16. Electrical connection of a point of connection (Clause 10.33A)

Code reference

Clause 10.33A(4)

Code related audit information

No participant may electrically connect a point of connection or authorise the electrical connection of a point of connection, other than a reconciliation participant.

Audit observation

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

Audit commentary

Metered and standard unmetered load

Electrical connections are conducted by Vector warranted persons on behalf of the trader as detailed in **section 3.2**.

Distributed unmetered load

Auckland Transport approves the addition of streetlights in new subdivisions which are added to existing DUML ICPs. The electrical connections are conducted by Vector warranted persons on behalf of the trader. New streetlights are recorded in the Auckland Transport RAMM database from the date of electrical connection and the details are provided to Vector by Auckland Transport on a monthly basis.

Audit outcome

Compliant

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

Code reference

Clause 10.30C and 10.31C

Code related audit information

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

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

Audit observation

Processes were examined for the disconnection and electrical disconnection of ICPs.

Audit commentary

Vector understand their responsibilities in relation to this clause. They only conduct electrical disconnection for safety, and only conduct disconnection where ICPs are to be decommissioned. In both instances Vector liaises with the trader.

Audit outcome

Compliant

3.18. Meter bridging (Clause 10.33C)

Code reference

Clause 10.33C

Code related audit information

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

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

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

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

Audit observation

The Vector process for bridging control devices was examined.

Audit commentary

Vector advised that they do not undertake any bridging of meters. It is Vector's policy not to undertake any work on a customer's electrical installation or metering installations. If there are any issues found with meters the customer is advised to contact their retailer.

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 ten business days, the notification must be provided no later than the 13th business day and be backdated to the date the change took effect.

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

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

Audit observation

The management of registry updates was reviewed.

The registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were reviewed to determine compliance. A diverse sample of a minimum of ten (or all if there were less than ten examples) backdated events by event type were reviewed to determine the reasons for the late updates.

The management of NSP changes was examined.

Audit commentary

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

The process for updating ICPs has not changed during the audit period, ICP changes are updated in Gentrack. Updates to the registry occur twice daily, once at midday and once in the evening. A small number are updated directly in the registry as required.

The tables below detail the quantity and compliance of registry updates.

VECT				
Update	**Audit/Audit period**	**Late**	**% Compliance**	**Average Days**
Address	2022	29	99.80	0.14
	1 October 2022 to 11 July 2023	**43**	**97.95**	**1.44**
Price Code	2022	0	100	N/A
	1 October 2022 to 11 July 2023	**17,037**	**N/A**	**N/A**

VECT				
Update	**Audit/Audit period**	**Late**	**% Compliance**	**Average Days**
Status	2022	N/A	94.62	5.45
	1 October 2022 to 11 July 2023	**100**	**91.97**	**13.14**
Network (Other)	2022	5,347	62.25	49.50
	1 October 2022 to 11 July 2023	**196**	**N/A**	**N/A**
Distributed Generation	2022	575	14.05	71.85
	1 October 2022 to 11 July 2023	**944**	**4.16**	**115.2**
NSP Changes	2022	447	N/A	N/A
	1 October 2022 to 11 July 2023	**781**	**N/A**	**N/A**

UNET				
Update	**Audit/Audit period**	**Late**	**% Compliance**	**Average Days**
Address	2022	19	99.83	0.09
	1 October 2022 to 11 July 2023	**10**	**99.49**	**0.20**
Price Code	2022	-	100	N/A
	1 October 2022 to 11 July 2023	**11,257**	**N/A**	**N/A**
Status	2022	N/A	95.95	4.28
	1 October 2022 to 11 July 2023	**30**	**94.25**	**10.11**
Network (Other)	2022	3,963	65.79	36.7
	1 October 2022 to 11 July 2023	**122**	**N/A**	**N/A**
Distributed Generation	2022	547	13.72	58.79
	1 October 2022 to 11 July 2023	**895**	**4.28**	**130.45**
NSP Changes	2022	411	N/A	N/A
	1 October 2022 to 11 July 2023	**501**	**N/A**	**N/A**

Address events

The audit compliance reports identified 53 ICPs (43 VECT and ten UNET) where addresses were updated more than three business days after the event date. A sample of ten of the VECT updates and all of the UNET updates were examined and found,

- 12 were due to late receipt of energisation information which included confirmation of the address,
- one where the permanent address was confirmed at the date of change from a builder's temporary supply to permanent address and backdated to the initial connection date,
- one where the trader advised a correction to the address which was identified at the time of distributed generation installation,
- two ICPs were initially incorrectly setup by an incorrect distributor, the addresses were corrected at the time of transfer, and
- three where the reasons were unable to be determined and were being investigated.

Pricing events

The audit compliance reports identified 28,298 (17,037 VECT and 11,257 UNET) pricing updates that were backdated by more than three business days. Pricing updates are usually only backdated at the trader's request and the majority of these relate to backdated trader switches. A sample of 20 of these events (ten each from VECT and UNET) were examined and found that all ten were agreed with the trader and updated within three business days of agreement being reached. Vector is compliant with

Clause 8 of Schedule 11.1 which requires the distributor to update the registry within three business days of the distributor and the trader agreeing to the backdated pricing change.

Status events

The decommissioning process is discussed in **section 4.11**. The network is required to update the ICP to "decommissioned" within three days of the event, or the date that the trader changes the status to "inactive - ready to decommission", whichever is later.

The audit compliance reports identified 130 (100 VECT and 30 UNET) late status updates. A sample of 20 of these events (ten each from VECT and UNET) were examined and found,

- five were due to late metering events preventing the update from going to the registry,
- eight were due to a systems error which prevented Vector from identifying ICPs at the "ready for decommissioning" status,
- one was updated within three business days, but the audit compliance report hadn't accounted for the Auckland anniversary public holiday,
- one was originally updated on time then reversed at the request of the trader for a correction to be applied but Vector was not notified of the new event date,
- four were due to operator errors inputting incorrect information, and
- one was due to delays over the summer holiday period.

Network events

The network events evaluated excluded those relating to the population of the initial electrical connection dates (discussed in **section 3.5**), NSP changes and the addition of distributed generation (discussed below). The audit compliance reports identified 318 (196 VECT and 122 UNET) late network updates. 316 of the late updates were related to the updating of unmetered load details for DUML ICPs. Vector receives monthly updates from Auckland Transport towards the end of each month of all changes to load that have occurred in the month. Vector updates the distributor unmetered load details field in the registry backdated to the start of the month. The remaining two late network updates related to the removal of "distributor" from the "direct billed status" field due to backdated changes in the pricing option for two ICPs.

Distributed Generation events

The distributed generation process is described in **section 4.6**. Vector requires the installer to provide a copy of the certificate of compliance (COC) on connection of distributed generation systems. Vector does not update the registry until the COC is received. The audit compliance report identified 1,839 (944 VECT and 895 UNET) of the 1,920 ICPs with distributed generation added, had the registry updated after three business days. A sample of 20 were examined and all were due to late provision of the COC by the installer.

NSP changes

The audit compliance report identified 1,282 ICPs (781 VECT and 501 UNET) where NSP changes were updated more than three business days after the event date. A sample of 20 of these events (ten each from VECT and UNET) were examined. When new ICPs are created the NSP is determined by establishing which transformer the ICP is supplied from using the GIS information. In cases were the transformer or network extension is new and the details have not yet been added to GIS the ICP is assigned to a "pending platform" with a default NSP. In all of the 20 examples checked the NSP changes were due to the selected "pending platform" having the incorrect NSP and being subsequently corrected when the GIS was updated with the new transformer details. Vector has improved this process by adding "pending platforms" for all available NSPs and uses the audit compliance reporting and a report which identifies ICPs that are more than 1 km away from the transformer to identify incorrect NSP assignment.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: clause 8 schedule 11.1 From: 01-Oct-22 To: 11-Jul-23	53 late address updates. 130 late updates to decommissioned status. 318 late other network updates. 1,839 late distributed generation updates. 1,282 late NSP changes. 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 as the checks in place will mitigate risk most of the time. There is a potential minor impact on settlement, hence the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Address: Please refer to audit reference 2.1 and 2.2. Decommission: To mitigate the number of errors, the registry "ready to decom" report is run for VECT and UNET monthly and the required remediations will be addressed and fixed. Distributed Generation: Please refer to audit reference 2.1 NSP: Please refer to audit reference 4.2	30/11/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were reviewed to determine compliance.

Audit commentary

NSP assignment

When new ICPs are created the NSP is determined by establishing which transformer the ICP is supplied from using the GIS information. Each transformer is mapped to an NSP in GIS. In cases were the transformer or network extension is new and the details have not yet been added to GIS the ICP is assigned to a "pending platform" with a default NSP. Vector has improved this process during the audit period by adding "pending platforms" for all available NSPs.

NSP accuracy

Vector uses the audit compliance reporting and a report which identifies ICPs that are more than 1 km away from the transformer to monitor potential NSP discrepancies. A reactive process also identifies incorrectly mapped ICPs if complaints are received from customers who were not notified of planned outages.

The audit compliance report found 614 active ICPs where 10% or fewer ICPs on a street have a different NSP and there are fewer than three ICPs with a different NSP:

Code	**2023**	2022	2021	2020	2019
VECT	**357**	176	110	179	308
UNET	**257**	161	99	110	250
Total	**614**	337	209	289	558

A sample of 30 ICPs were examined and found:

- six were confirmed to be correct,
- 21 were mapped to the incorrect NSP due to being assigned to a "pending platform" when created,
- one has been corrected, and
- two had been identified as incorrect due to an incorrect address but the update had not gone to the registry due to a mismatch in event dates.

Non-compliance is recorded for the 24 found to be assigned to the incorrect NSP.

Audit outcome

Non-compliant

Non-compliance	Description

Audit Ref: 4.2 With: Clause 7(1)(b) Schedule 11.1 From: 01-Oct-22 To: 11-Jul-23	24 of the 30 ICPs sampled mapped to the incorrect NSP. 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 as the checks in place will mitigate risk most of the time but there is room for improvement in the assignment of NSPs to new ICPs. The risk rating is low as Vector has one balancing area per network and therefore an incorrect NSP has no direct impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
"Pending" Platforms have been created in Gentrack for each of the NSPs along with instructions provided on how to allocate a new ICP to the required "Pending" Platform (where no valid Platform exists).	Beginning of 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The Registry Audit Comparison Report for NSP Discrepancies is run monthly, and this is regularly reviewed and ICP's are remediated, where required. A report is run regularly to identity ICPs that are located more than 1km away from their expected location. This report is regularly reviewed and ICP's are remediated, where required.	Ongoing Ongoing	

4.3. Customer queries about ICP (Clause 11.31)

Code reference

Clause 11.31

Code related audit information

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

Audit observation

The management of customer queries was examined.

Audit commentary

Vector does receive direct requests for ICP identifiers, and these are provided immediately.

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 lists and audit compliance reports for 1 October 2022 to 11 July 2023 were reviewed to determine compliance.

Audit commentary

When new ICPs are created the address details are provided by the applicant and Vector verifies the address against its GIS and checks for duplicate addresses. Addresses for builder's temporary supplies are not always able to be verified at the time of creation and the permanent address is confirmed at the date of change from a builder's temporary supply to permanent address and backdated to the initial connection date. The timeliness of address updates is discussed in **section 4.1**. GPS co-ordinates have been added to the majority of the ICPs. The accuracy of the GPS co-ordinates is discussed in **section 4.8**.

The audit compliance reporting identified 1,502 with duplicate or insufficient address information, all except nine were historic addresses that were created prior to the audit period:

	VECT	UNET
Duplicate addresses	72	164
Addresses without street number or property name	684	582
Total	756	746

A sample of 20 (ten each from VECT and UNET) duplicates and 20 (ten each from VECT and UNET) with insufficient information were examined.

Duplicate addresses

Vector has emailed the traders requesting more information for 16 ICPs. Four ICPs were corrected at the time of the audit.

Insufficient address information

All 20 have no numbers in the "Physical Address Number" field and no GPS co-ordinates recorded. 11 have information in the "Physical Address Unit" field but the information is insufficient to locate the ICP.

ICP Identifier	Unit	Number	Street	Suburb	Town
0301841047LCA5F	A		WIRI STATION ROAD	MANUKAU CENTRAL	AUCKLAND
0301844046LC13A	F		WIRI STATION ROAD	MANUKAU CENTRAL	AUCKLAND
0540696624LCDA5	CNR		ST MARKS ROAD	REMUERA	AUCKLAND

ICP Identifier	Unit	Number	Street	Suburb	Town
0823864778LCD6F	CNR		PITT STREET	AUCKLAND CENTRAL	AUCKLAND
0700738061LC80E	TRAFFIC LIGHTS		GREYS AVENUE	AUCKLAND CENTRAL	AUCKLAND
0700795065LC5CC	TRAFFIC LIGHTS		STANLEY STREET	AUCKLAND CENTRAL	AUCKLAND
0000100419UN277	CNR		SUNNYNOOK ROAD	SUNNYNOOK	AUCKLAND
1001114895UNCB8	STREETLIGHTS		UPPER HARBOUR DRIVE	GREENHITHE	AUCKLAND
1001300567UNF9B	CORNER		HOBSONVILLE ROAD	HOBSONVILLE	AUCKLAND
0000221300UND50	TRAFFIC LIGHTS		UPPER HARBOUR DRIVE	GREENHITHE	AUCKLAND
0000638556UNF2F	CNR		TRIANGLE ROAD	MASSEY	AUCKLAND

Vector has emailed the traders requesting more information for all 20 ICPs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 2 Schedule 11.1 From: 01-Oct-22 To: 11-Jul-23	1,502 ICPs with addresses that are not readily locatable or are duplicates. 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 whilst the process for new connections is robust there are still a high number of historic addresses to be confirmed. The risk rating is low as this has no direct impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
This is an ongoing piece of work. Vector continues to work on trying to identify and correct these historical address issues and are requesting help from the traders to resolve these.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

N/A		

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

Vector requires all new ICPs created to comply with this clause. The requirements are detailed in Vector's "Electricity connection standard" document which is available on Vector's website. The new connection process requires a site plan to be uploaded which confirms the installation design will meet this requirement.

Audit outcome

Compliant

4.6. Distributors to Provide ICP Information to the Registry manager (Clause 7(1) Schedule 11.1)

Code reference

Clause 7(1) Schedule 11.1

Code related audit information

For each ICP on the distributor's network, the distributor must provide the following information to the registry manager:

- *the location address of the ICP identifier (clause 7(1)(a) of schedule 11.1),*
- *the NSP identifier of the NSP to which the ICP is usually connected (clause 7(1)(b) of Schedule 11.1),*
- *the installation type code assigned to the ICP (clause 7(1)(c) of schedule 11.1),*
- *the reconciliation type code assigned to the ICP (clause 7(1)(d) of schedule 11.1),*
- *the loss category code and loss factors for each loss category code assigned to the ICP (clause 7(1)(e) of schedule 11.1),*
- *if the ICP connects the distributor's network to an embedded generating station that has a capacity of 10MW or more (clause 7(1)(f) of schedule 11.1):*
  - *a) the unique loss category code assigned to the ICP,*
  - *b) the ICP identifier of the ICP,*
  - *c) the NSP identifier of the NSP to which the ICP is connected,*
  - *d) the plant name of the embedded generating station,*

- *the price category code assigned to the ICP, which may be a placeholder price category code only if the distributor is unable to assign the actual price category code because the capacity or volume information required to assign the actual price category code cannot be determined before electricity is traded at the ICP (clause 7(1)(g) of schedule 11.1),*
- *if the price category code requires a value for the capacity of the ICP, the chargeable capacity of the ICP as follows (clause 7(1)(h) of schedule 11.1):*
  - *a) a placeholder chargeable capacity if the distributor is unable to determine the actual chargeable capacity,*
  - *b) a blank chargeable capacity if the capacity value can be determined for a billing period from metering information collected for that billing period,*
  - *c) if there is more than one capacity value at the ICP, and at least one, but not all, of those capacity values can be determined for a billing period from the metering information collected for that billing period-*

    (i) no capacity value recorded in the registry field for the chargeable capacity; and

    (ii) either the term "POA" or all other capacity values, recorded in the registry field in which the distributor installation details are also recorded,
  - *d) if there is more than one capacity value at the ICP, and none of those capacity values can be determined for a billing period from the metering information collected for that billing period-*

    (i) the annual capacity value recorded in the registry field for the chargeable capacity; and

    (ii) either the term "POA" or all other capacity values, recorded in the registry field in which the distributor installation details are also recorded
  - *e) the actual chargeable capacity of the ICP in any other case,*
- *the distributor installation details for the ICP determined by the price category code assigned to the ICP (if any), which may be placeholder distributor installation details only if the distributor is unable to assign the actual distributor installation details because the capacity or volume information required to assign the actual distributor installation details cannot be determined before electricity is traded at the ICP (clause 7(1)(i) of schedule 11.1)*
- *the participant identifier of the first trader who has entered into an arrangement to sell or purchase electricity at the ICP (only if the information is provided by the first trader) (clause 7(1)(j) of schedule 11.1),*
- *the status of the ICP (clause 7(1)(k) of schedule 11.1),*
- *designation of the ICP as "Dedicated" if the ICP is located in a balancing area that has more than 1 NSP located within it, and the ICP will be supplied only from the NSP advised under clause 7(1)(b) of Schedule 11.1, or the ICP is a point of connection between a network and an embedded network (clause 7(1)(l) of schedule 11.1),*
- *if unmetered load, other than distributed unmetered load, is associated with the ICP, the type and capacity in kW of unmetered load (clause 7(1)(m) of schedule 11.1),*
- *if shared unmetered load is associated with the ICP, a list of the ICP identifiers of the ICPs that are associated with the unmetered load (clause 7(1)(n) of schedule 11.1),*
- *if the ICP is capable of generating into the distributors network (clause 7(1)(o) of schedule 11.1):*
  - *a) the nameplate capacity of the generator; and*
  - *b) the fuel type,*
- *the initial electrical connection date of the ICP (clause 7(1)(p) of schedule 11.1).*

Audit observation

The management of registry information was reviewed. The registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were reviewed to determine compliance. A typical sample of data discrepancies were checked.

Audit commentary

Registry data validation processes are discussed in **section 2.1**. All ICP information was checked and confirmed compliant unless discussed below.

Initial Electrical Connection Dates

Initial electrical connection date discrepancies

The audit compliance reports identified 364 (280 VECT and 84 UNET) ICPs with IECD discrepancies where there were differences between metering certification date, active status date and/or Initial electrical connection date.

Discrepancy	Qty VECT	Qty UNET
IECD = active date and IECD ≠ MCD	7	4
IECD ≠ active date and IECD = MCD	14	8
IECD ≠ active date and MCD	254	60
IECD ≠ active date, IECD ≠ MCD and MCD ≠ active date	5	12
Total	**280**	**84**

A sample of 20 (ten each from VECT and UNET) were examined and found:

- one did not have the original BTS metering recorded on the registry and the IECD was correct,
- four were confirmed as having the correct IECDs recorded on the registry,
- one where the warranted person has provided an incorrect IECD, and
- 14 where Vector is awaiting a response from the MEP and trader to verify dates.

IECD Populated but not "active"

The audit compliance reports identified 61 (39 VECT and 22 UNET) ICPs where the initial electrical connection date had been recorded but the status was not "active". A sample of 20 (ten each from VECT and UNET) were examined and found:

- 16 have since been made "active" by the trader, and
- Vector have emailed the traders for the remaining four to determine why they are not "active".

I have recorded compliance for Vector as these are all cases of delays in updating the status to "active".

Missing initial electrical connection dates

The audit compliance reports identified a total of 11,691 (7,064 VECT and 4,627 UNET) "active" ICPs with no initial electrical connection date recorded since this become a requirement on 29 August 2013. Of these 360 (184 VECT and 176 UNET) became "active" during the audit period. I checked a sample of 20 and found:

- 17 were due to the information not being received from the warranted person,
- and three were recorded in the Vector database, but the updates did not flow to the registry.

As detailed in **section 3.2**, the new connection process requires the warranted person to provide the connection details including initial electrical connection date through Siebel once a new connection is completed. Vector has improved its processes for identifying missed dates and follows up with the

warranted person requesting missing information during the audit period. This has seen the number of missed initial electrical connection dates reduce from the 1,029 recorded in the last audit. The timeliness of initial electrical connection date updates is discussed in **section 3.5**.

Distributed Generation

Distributed generation processes

The registry list files recorded 9,912 (4,857 VECT and 5,055 UNET) "active" ICPs with distributed generation.

Vector requires an application for all distributed generation; the application process is detailed on the Vector website and the application form is downloaded and returned to Vector via email. Applicants are required to check that their inverter is included on an approved list and submit details of the system including the generation type and capacity. Vector reviews applications and aims to respond within 30 days advising if approved. Systems up to 10kW are approved promptly if all required information is submitted. For systems above 10kW payment of an application fee is required and there is an engineering review conducted by Vector prior to approval. Once applications are approved a job is created in Siebel and an automated email reminder is sent to the applicant after ten business days advising of the requirement for return of a Certificate of Compliance (COC) after connection of the system. Vector does not update the registry until the COC is received. Vector monitors the list of open jobs and reminders are sent to applicants advising of the requirement to send in COCs for completed jobs. The audit compliance reports are used to monitor ICPs where the trader's profile indicates generation is present but no distributed generation details have been added by Vector. The timeliness of updates is discussed in **section 4.1**.

Distributed generation accuracy

The audit compliance reports identified a 349 (152 VECT and 197 UNET) ICPs where the trader's profile indicated generation was present but no distributed generation details were recorded by Vector. A sample of 20 ICPs (ten each from VECT and UNET) were examined and found:

ICPs	Comment
0478662904LC4B8, 0414128044LC7CD, 0000131652UN48D	Vector confirmed the distributed generation has been removed.
0329560042LC91F, 1001300558LCDA9, 0001444926UN926	ICPs have since had distributed generation details added after email reminders were sent to the applicants and COCs were returned.
0489969399LC8CB, 0410572063LC132, 0321651022LCF01, 0140998020LCC42, 0000219232UNF05, 0000248905UN4ED, 0001443999UN02A, 1001297576UNEBB	Email reminders have been sent to applicants requesting COCs and no responses have been received.
1001298654UN908	ICP had not been updated due to later events preventing the registry update, this has now been manually updated.
1001159613UNFC3	ICP has now been updated, the COC was received after the report was run.
0140753036LC626	Vector has not received or approved an application for distributed generation.

0000246740UN5CC	Solar has been installed but no application was received or approved. Vector have identified the installer from the High-Risk Database and emailed them requesting an application.
1001301708LCE06	Distributed generation details have been added after a date discrepancy was resolved.
1001158274UN058	ICP was a part of Vector solar project, a 6.4kW battery was installed and has now been added to the registry.

Unmetered Load

Part 11 states the distributors must provide unmetered load type and capacity of the unmetered load to the registry "if known". If distributor unmetered load is populated, it is required to be accurate.

The registry list files recorded 2,530 (1,760 VECT and 770 UNET) active ICPs with unmetered load. The distributor unmetered load fields were populated for all 1,760 VECT ICPs and 746 of the 770 UNET ICPs. I was able to compare the loads for 1,747 ICPs (1,249 VECT and 498 UNET). I found the load matched within +/- 0.1 kWh for 1,691 (1,219 VECT and 472 UNET) ICPs (96.8%). All 56 ICPs with variances were checked and found:

- Vector had the correct load recorded and the trader's load was incorrect for 49 ICPs, and
- Vector had the incorrect details recorded for seven ICPs, these were all corrected before the audit was completed.

There were 55 (43 VECT and 12 UNET) new unmetered load ICPs created and connected during the audit period. I confirmed that details of the unmetered was correctly recorded on the registry for all 55 ICPs. Vector has added unmetered load detail fields to the new ICP application form and follows up with customers if the details are not provided at the time of application.

Dedicated vs non-dedicated NSPs

The dedicated and non-dedicated flag recorded for each ICP in the registry was checked. All of Vector's GN ICPs are expected to be set to "N" and LE ICPs are expected to be set to "Y". The table below shows some irregularities that were identified.

ICP	Reconciliation Type	Dedicated Flag	Comments
1002146220LC8A4	GN	Y	Flag incorrectly updated due to operator error; registry has been corrected.
1002170852LC39A	GN	Y	Vector acknowledged flag was updated in error and needs correcting, but registry is not yet updated.
1002150167UN3FD	GN	Y	Flag incorrectly updated due to operator error; registry has been corrected.
1002154647UN72A	GN	Y	Flag incorrectly updated due to operator error; registry has been corrected.
1002161299UN3FE	GN	Y	Flag incorrectly updated due to operator error; registry has been corrected.
1002161300UNB4C	GN	Y	Flag incorrectly updated due to operator error; registry has been corrected.
1002174684UN5C8	GN	Y	Flag incorrectly updated due to operator error; registry has been corrected.
1001300254UNBA1	LE	N	Vector acknowledged flag was updated in error and needs correcting, but registry not updated.

1002157610UN008	LE	N	Flag incorrectly updated due to operator error; registry has been corrected.
1002157611UNC4D	LE	N	Vector acknowledged flag was updated in error and needs correcting, but registry is not yet updated.
1002165121UN6DB	LE	N	Flag incorrectly updated due to operator error; registry has been corrected.
1002166080UN965	LE	N	Flag incorrectly updated due to operator error; registry has been corrected.
1002170322UNFDD	LE	N	Flag incorrectly updated due to operator error; registry has been corrected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.6 With: Clause 7(1) Schedule 11.1 From: 01-Oct-22 To: 11-Jul-23	11,691 ICPs had missing initial electrical connection dates. 359 ICPs with potentially incorrect initial electrical connection dates on the registry. Distributed generation details not populated for ten of a sample of 20 ICPs. Seven ICPs with incorrect unmetered load details. Seven "GN" ICP with an incorrect NSP dedication flag of "Y". Six LE ICPs with the incorrect NSP dedication flag of "N". 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 there is room for improvement. The audit risk rating is assessed to be low as the discrepancies have only a minor impact to the market.

Actions taken to resolve the issue	Completion date	Remedial action status
NSP Flag: All errors have been fixed	Completed	Identified
Distributed Generation: Please refer to audit reference 2.1.	Ongoing	
IECD discrepancies: Checking with warranted persons and traders to confirm the correct date and will update registry where necessary. Vector will continue to use compliance report to identify IECD discrepancies and will be addressed monthly.	30/11/2023	

Preventative actions taken to ensure no further issues will occur	Completion date	
NSP Flag: Further training will be provided for staff to identify and allocate the correct NSP flag for each ICP.	30/11/2023	

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 registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were reviewed to determine compliance.

Audit commentary

As a part of the new connections process, Vector assigns the actual price category code and the actual chargeable capacity of the ICP at the time an ICP is created. The price category code is assigned based on capacity information given by the customer.

The audit compliance report found one ICP where the price code update was entered after the ICP became “active”.

ICP	Pricing Event input date	Pricing Event Date	Business Days to update Pricing Code	Initial Electrically Connected and Active Date
1002175808LCE23	18 May 2023	26 April 2023	16	26 April 2023

This was examined and found that the ICP was initially created in the “new” status as network extension work was required and the price code was not entered. The price code was entered when the ICP was changed to “ready” but in this case the Vector new connections team did not receive notification that the network extension work was completed until after the connection was made. Vector is reliant on being updated by the Vector projects team prior to connection is made but in this case this step was missed, and the status was not updated to “ready” and price code not added until 16 business days after the ICP became active.

Audit outcome

Non-compliant

Non-compliance	Description

Audit Ref: 4.7 With: Clause 7(3) Schedule 11.1 From: 26-Apr-23 To: 18-May-23	Price category code was updated 16 business days after trading commenced for one ICP. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong as Vector has updated the price code prior to trading for all but one ICP. The audit risk rating is recorded as low as only one ICP was affected.

Actions taken to resolve the issue	**Completion date**	**Remedial action status**
Please refer to audit reference 3.4	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
N/A		

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

Code reference

Clause 7(8) and (9) Schedule 11.1

Code related audit information

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

Audit observation

The registry list as of 11 July 2023 was examined. I checked that the GPS coordinates used meet the NZTM2000 standard; and mapped a sample to check accuracy.

Audit commentary

Vector have used the NZTM2000 standard to record the GPS co-ordinates, and I confirmed this by checking the range of GPS coordinates applied.

I checked the minimum and maximum easting and northing coordinates and all outlying coordinates by mapping them using Mobile Roads and comparing the locations to the ICP address. I identified 93 (62 VECT and 31 UNET) ICPs with incorrect coordinates. All 93 were reviewed by Vector during the audit and the coordinates were corrected on the registry. The incorrect information related to coordinates for addresses on streets with a similar name in a different suburb being selected at the time of initial bulk updating of GPS coordinates in 2019.

The new connection process includes checks to verify the address and GPS coordinates of new ICPs and there were no errors found in the ICPs created in the audit period.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.8 With: Clause 7(8) and (9) Schedule 11.1 From: 01-Oct-22 To: 11-Jul-23	93 ICPs with the incorrect GPS co-ordinates recorded in the registry. Potential impact: Low Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	**Rationale for audit risk rating**		
Low	The controls are rated as strong as the new connection process includes steps to ensure the accuracy of GPS coordinates. The audit risk rating is assessed to be low due to the number of ICPs found with the incorrect co-ordinates recorded.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**
Validate process to be reviewed and updated to include GPS checks for addresses.		30/11/2023	Identified
Preventative actions taken to ensure no further issues will occur		**Completion date**	
Further staff training is required to help identify in the validation process checks of the GPS co-ordinates for addresses		30/11/2023	

4.9. Management of “ready” status (Clause 14 Schedule 11.1)

Code reference

Clause 14 Schedule 11.1

Code related audit information

The ICP status of “ready” must be managed by the distributor and indicates that:

- *the associated electrical installations are ready for connecting to the electricity supply (clause 14(1)(a) of schedule 11.1); or*
- *the ICP is ready for activation by a trader (clause 14(1)(b) of schedule 11.1)*

Before an ICP is given the "Ready" status in accordance with clause 14(1) of schedule 11.1, the distributor must:

- *identify the trader that has taken responsibility for the ICP (clause 14(2)(a) of schedule 11.1)*
- *ensure the ICP has a single price category (clause 14(2)(b) of schedule 11.1).*

Audit observation

The management of ICPs in relation to the use of the "ready" status was examined. The registry list files as of 11 July 2023, and the registry audit compliance reports covering the period from 1 October 2022 to 11 July 2023 were reviewed to determine compliance.

Audit commentary

As recorded in **section 3.2**, the majority of new ICP requests come directly from customers or their agents and ICPs are created at "ready". ICPs are only created at "new" status in cases where network extension work is required for new connections with category 2 or above metering where the trader requires an ICP for the allocation of current transformers to the customer.

All 1,655 ICPs (1,044 VECT and 611 UNET) at "ready" status had a single price code and proposed trader recorded.

Audit outcome

Compliant

4.10. Management of "distributor" status (Clause 16 Schedule 11.1)

Code reference

Clause 16 Schedule 11.1

Code related audit information

The ICP status of "distributor" must be managed by the distributor and indicates that the ICP record represents a shared unmetered load installation or the point of connection between an embedded network and its parent network.

Audit observation

Processes to manage the "distributor" status were reviewed.

The registry list for 11 July 2023 was reviewed to identify ICPs at the "distributor" status and check compliance.

Audit commentary

Vector has 228 ICPs (159 VECT and 69 UNET) that have a status of "distributor." All distributor ICPs are points of connection between embedded networks and the Vector network. There is no known shared unmetered load, and none has been identified as part of the streetlight audits.

I checked the mapping of LE ICPs for all 15 (12 VECT and three UNET) new embedded networks created during the audit period and confirmed all had at least one LE ICP recorded.

There is no shared unmetered load connected to Vector's network.

Audit outcome

Compliant

4.11. Management of "decommissioned" status (Clause 20 Schedule 11.1)

Code reference

Clause 20 Schedule 11.1

Code related audit information

The ICP status of "decommissioned" must be managed by the distributor and indicates that the ICP is permanently removed from future switching and reconciliation processes (Clause 20(1) of Schedule 11.1).

Decommissioning only occurs when:

- *electrical installations associated with the ICP are physically removed (Clause 20(2)(a) of Schedule 11.1); or*
- *there is a change in the allocation of electrical loads between ICPs with the effect of making the ICP obsolete (Clause 20(2)(b) of Schedule 11.1); or*
- *in the case of a distributor only ICP for an embedded network, the embedded network no longer exists (Clause 20(2)(c) of Schedule 11.1).*

Audit observation

The registry list as of 11 July 2023 was reviewed to identify ICPs at the "decommissioned" or "ready for decommissioning" status.

A diverse sample of ten "decommissioned" ICPs for each network code were examined. I also examined a diverse sample of ten ICPs at "ready for decommissioning" status.

Audit commentary

Decommissioning process

Customers request permanent disconnection by completing a form on Vector's website which includes details of the ICP, type of installation, address, date, and reason for disconnection. The information received is validated and a job is created in Siebel. The job is a picked up by one of Vectors network contractors who book a date and time to complete the work. Once the work is completed the contractors adds any notes and the date of completion in Siebel. The trader is notified of the date and requested to change the ICP status to "inactive - ready for decommissioning". Once the trader has updated the status to "inactive - ready for decommissioning" Gentrack picks up the status change and looks for an open job in Siebel, if found the activity is completed and Gentrack updates the registry to the "decommissioned" status. If there has been no job the trader is followed up to verify the status change.

Ready for decommissioning

Examination of the list file found 1,744 ICPs are at "ready for decommissioning" status:

Code	**Number of ICPs 2023**	Number of ICPs 2022	Number of ICPs 2021	Number of ICPs 2020	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017
VECT	**1,160**	979	745	582	477	296	632
UNET	**584**	478	331	276	242	180	614
Total	**1,744**	1,457	1,076	858	719	476	1,246

A sample of 20 ICPs (ten each from VECT and UNET) that were moved to "inactive - ready for decommissioning" in 2022 were examined and found:

- the request was cancelled and the ICP was not decommissioned at ICP 1001157880UN22F,
- Vector have not received a decommissioning request for ICP 0454054041LC5FB,
- 12 updates to decommissioned status had not updated to the registry due to a later meter event blocking the event, these have since been updated,
- three ICPs had a second status update which caused the activity to be cancelled in Gentrack, these have since been updated,
- an internal system issue prevented Gentrack from picking up the initial status update for one ICP, this has since been updated, and

- operator error caused one update to be reversed and one to be closed in error, both have since been updated.

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

Audit outcome

Compliant

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

Code reference

Clause 23 Schedule 11.1

Code related audit information

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

Each entry must specify the date on which each price category code takes effect, which must not be earlier than 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 for the VECT and UNET network codes.

Audit commentary

Vector created 34 new price codes during the audit period; and all were entered more than two months before they came into effect.

Audit outcome

Compliant

5. CREATION AND MAINTENANCE OF LOSS FACTORS

5.1. Updating table of loss category codes (Clause 21 Schedule 11.1)

Code reference

Clause 21 Schedule 11.1

Code related audit information

The distributor must keep the registry up to date with the loss category codes that may be assigned to ICPs on the distributor's network. The distributor must specify the date on which each loss category code takes effect. A loss category code takes effect on the specified date.

Audit observation

The loss category code table on the registry was examined.

Audit commentary

Vector has not created any new loss category codes for UNET or VECT during the audit period.

Audit outcome

Compliant

5.2. Updating loss factors (Clause 22 Schedule 11.1)

Code reference

Clause 22 Schedule 11.1

Code related audit information

Each loss category code must have a maximum of two loss factors per calendar month. Each loss factor must cover a range of trading periods within that month so that all trading periods have a single applicable loss factor. If the distributor wishes to replace an existing loss factor on the table in the registry, the distributor must enter the replaced loss factor on the table in the registry.

Audit observation

The loss category code table on the registry was examined.

Audit commentary

Vector has updated the loss factors for eight loss category codes during the audit period; these were all notified within the required period. There was only one loss factor per category code per month.

Distributor	Loss Code	Loss Factor	Start Date	Updated
VECT	VECA1	1.0558	1 April 2023	17 January 2023
VECT	VECA2	1.0395	1 April 2023	17 January 2023
VECT	VECA3	1.0395	1 April 2023	17 January 2023
VECT	VECA4	1.0193	1 April 2023	17 January 2023
UNET	VECW1	1.0568	1 April 2023	17 January 2023
UNET	VECW2	1.0430	1 April 2023	17 January 2023
UNET	VECW3	1.0430	1 April 2023	17 January 2023
UNET	VECW4	1.0234	1 April 2023	17 January 2023

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.

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

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

If the distributor wishes to change the record in the registry of an ICP that is not recorded as being usually connected to an NSP in the distributor's network, so that the ICP is recorded as being usually connected to an NSP in the distributor's network, the distributor must:

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

Audit observation

The NSP table was examined.

A new NSP that is an interconnection point between the Vector and Counties networks was created during the audit period. I reviewed the notifications and certification records associated with this NSP.

Audit commentary

A new NSP that is an interconnection point between the Vector and Counties networks was created during the audit period, details of the new NSP are as follows:

NSP POC	Description	Parent POC	Parent Network	Network type	Start date	RM updated	Days
WHA0221	461 East Coast Rd Whakatiwai	TAK0331	VECT	I	1 May 2023	4 April 2023	27

The notification was first provided to the reconciliation manager on 4 April 2023, 27 days prior to the NSP's intended start date of 1 May 2023. Non-compliance is recorded as the information was not provided within 30 days of the intended start date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 11.8 and Clause 25 Schedule 11.1 From: 01-Apr-23 To: 04-Apr-23	Reconciliation manager notified late of the creation of NSP WHA0221. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, as notification was provided within 27 days. There is no impact on settlement and participants; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
AMCI's standard process is to send new certification paperwork to the RM for a NSP as soon as paperwork is available from the certifying test house and where possible within the EA Code required timeframes. In this case paperwork was not sent. In mitigation there was still a review underway by the RM and Vector Metering regarding this interconnection point and AMCI had not actually formally accepted to be the MEP until the 7th of August 2023. AMCI also did not receive any separate requests from the RM to provide certification paperwork. Going forward AMCI will send certification paperwork to the RM irrespective whether AMCI has formally accepted MEP responsibility on a NSP or not		Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 ten business days before the NSP is electrically connected, in respect of an NSP that is an interconnection point between two local networks. In all other cases, the request must be made at least one month before the NSP is electrically connected or the ICP is transferred.

Audit observation

The NSP table was examined.

A new NSP that is an interconnection point between the Vector and Counties networks was created during the audit period. I reviewed the notifications and certification records associated with this NSP.

Audit commentary

A new NSP that is an interconnection point between the Vector and Counties networks was created during the audit period, details of the new NSP are as follows:

NSP POC	Description	Parent POC	Parent Network	Network type	Start date	RM updated	Days
WHA0221	461 East Coast Rd Whakatiwai	TAK0331	VECT	I	1 May 2023	4 April 2023	27

The notification was first provided to the reconciliation manager on 4 April 2023, 27 days prior to the NSP's intended start date of 1 May 2023.

Audit outcome

Compliant

6.3. Notice of balancing areas (Clause 24(1) and Clause 26(3) Schedule 11.1)

Code reference

Clause 24(1) and Clause 26(3) Schedule 11.1

Code related audit information

If a participant has notified the creation of an NSP on the distributor's network, the distributor must give written notice to the reconciliation manager of the following:

- *if the NSP is to be located in a new balancing area, all relevant details necessary for the new balancing area to be created and notification that the NSP to be created is to be assigned to the new balancing area,*
- *in all other cases, notification of the balancing area in which the NSP is located.*

Audit observation

The NSP table was examined.

A new NSP that is an interconnection point between the Vector and Counties networks was created during the audit period. I reviewed the notifications and certification records associated with this NSP.

Audit commentary

A new NSP that is an interconnection point between the Vector and Counties networks was created during the audit period, details of the new NSP are as follows:

NSP POC	Description	Parent POC	Parent Network	Network type	Start date	Balancing area
WHA0221	461 East Coast Rd Whakatiwai	TAK0331	VECT	I	1 May 2023	AUCKLNDVECTG

The notification provided to the reconciliation manager on 4 April 2023, included details of the balancing area.

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 reviewed.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 24(2) and (3) Schedule 11.1

Code related audit information

The distributor must give written notice to the reconciliation manager of any change to balancing areas associated with an NSP supplying the distributor's network. The notification must specify the date and trading period from which the change takes effect and be given no later than 3 business days after the change takes effect.

Audit observation

The NSP table was reviewed.

Audit commentary

No balancing area changes have occurred during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 27 Schedule 11.1

Code related audit information

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

Audit observation

The NSP table was reviewed.

Audit commentary

No existing ICPs became NSPs during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 1 to 4 Schedule 11.2

Code related audit information

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

Audit observation

The NSP table was reviewed, and Vector were asked if any ICPs were transferred during the audit period.

Audit commentary

Vector 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 table was reviewed.
A new NSP that is an interconnection point between the Vector and Counties networks was connected during the audit period. I reviewed the notifications and certification records associated with this NSP.

Audit commentary

A new NSP that is an interconnection point between the Vector and Counties networks was connected during the audit period, details of the new NSP are as follows:

NSP POC	Description	Parent POC	Parent Network	Network type	Start date	MEP	Metering installation expiry date
WHA0221	461 East Coast Rd Whakatiwai	TAK0331	VECT	I	1 May 2023	AMCI	2 May 2033

Compliance is recorded with this clause as Vector has ensured that there is a metering installation, and the electricity is conveyed and quantified in accordance with the Code.

No NSP metering was recertified during the audit period.

Audit outcome

Compliant

6.9. Responsibility for metering information when creating an NSP that is not a POC to the grid (Clause 10.25(2))

Code reference

Clause 10.25(2)

Code related audit information

If the network owner proposes the creation of a new NSP which is not a point of connection to the grid it must:

- *assume responsibility for being the metering equipment provider (clause 10.25(2)(a)(i)); or*
- *contract with a metering equipment provider to be the MEP (clause 10.25(2)(a)(ii)); and*
- *no later than 20 business days after identifying the MEP advise the reconciliation manager in the prescribed form of the reconciliation participant for the NSP (clause 10.25(2)(b)); and*
- *no later than five business days after the date of certification of each metering installation, advise the reconciliation manager of*
  - *a) the MEP for the NSP (clause 10.25(2)(c)(i)); and*
  - *b) the NSP of the certification expiry date(clause 10.25(2)(c)(ii)).*

Audit observation

The NSP table was reviewed.
A new NSP that is an interconnection point between the Vector and Counties networks was connected during the audit period. I reviewed the notifications and certification records associated with this NSP.

Audit commentary

A new NSP that is an interconnection point between the Vector and Counties networks was connected during the audit period, details of the new NSP are as follows:

NSP POC	Description	Parent POC	Parent Network	Network type	Start date	MEP	Metering installation expiry date

WHA0221	461 East Coast Rd Whakatiwai	TAK0331	VECT	I	1 May 2023	AMCI	2 May 2033

The MEP and metering certification information was first provided to the reconciliation manager on 22 May 2023, 14 days after the connection of the NSP on 2 May 2023. The initial update incorrectly recorded the MEP identifier as ACCL, this was corrected to AMCI in a subsequent update on 28 July 2023. Non-compliance is recorded as the information was not updated within the required five business days.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: Clause 10.25(2) From: 10-May-23 To: 22-May-23	The MEP identifier and meter installation certification expiry date advised after 14 business days for NSP WHA0221. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, as an agreement was in place with AMCI as MEP and the metering installation was certified at the time of connection. There is no impact on settlement and participants; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status

AMCI had not formally accepted MEP responsibility on this interconnection point until the 7th of August 2023. This was partly due to AMCI requiring clear confirmation that the Code requirements regarding data provisioning had been met. This clarification was provided by Provera on the 7th of August 2023 and in response to Provera we advised that AMCI would accept MEP responsibility for this NSP. AMCI updated our system to reflect this. At that stage AMCI did not forward any certification paperwork to the RM or Provera. Vector initially applied for a Code exemption from becoming a Certified Reconciliation Participant for the purposes of volume submissions to the RM. That exemption process was discussed extensively with the Electricity Authority Compliance Team and upon advice as to the appropriate course of action, Vector became certified as a CRP and the audit by Provera was then completed. ***Note: Certification paperwork for the NSP was already loaded up in AMCI's system from the 15th of May 2023 but it was not sent to the RM at that stage due to the outstanding review which was underway.***	Complete	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

Code reference

Clause 29 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The NSP supply point table was reviewed.

Audit commentary

Vector 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

Vector is not responsible for any embedded networks.

Audit outcome

Compliant

6.12. Confirmation of consent for transfer of ICPs (Clauses 5 and 8 Schedule 11.2)

Code reference

Clauses 5 and 8 Schedule 11.2

Code related audit information

The distributor must give the Authority confirmation that it has received written consent to the proposed transfer from:

- *the distributor whose network is associated with the NSP to which the ICP is recorded as being connected immediately before the notification (unless the notification relates to the creation of an embedded network) (clause 5(a) of schedule 11.2),*
- *every trader trading at an ICP being supplied from the NSP to which the notification relates (clause 5(b) of schedule 11.2).*

The notification must include any information requested by the Authority (clause 8 of schedule 11.2).

Audit observation

The NSP table was reviewed, and Vector were asked if any ICPs were transferred during the audit period.

Audit commentary

Vector 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 table was reviewed, and Vector were asked if any ICPs were transferred during the audit period.

Audit commentary

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

Audit outcome

Compliant

7. MAINTENANCE OF SHARED UNMETERED LOAD

7.1. Notification of shared unmetered load ICP list (Clause 11.14(2) and (4))

Code reference

Clause 11.14(2) and (4)

Code related audit information

The distributor must give written notice to the registry manager and each trader responsible for the ICPs across which the unmetered load is shared of the ICP identifiers of those ICPs.

A distributor who receives notification from a trader relating to a change under Clause 11.14(3) must give written notice to the registry manager and each trader responsible for any of the ICPs across which the unmetered load is shared of the addition or omission of the ICP.

Audit observation

The registry list file was reviewed to identify any ICPs with shared unmetered load connected.

Audit commentary

There is no shared unmetered load connected to the Vector network. Vector does not allow new ICPs to have shared unmetered load.

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 file was reviewed to identify any ICPs with shared unmetered load connected.

Audit commentary

There is no shared unmetered load connected to the Vector network. Vector does not allow new ICPs to have shared unmetered load.

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

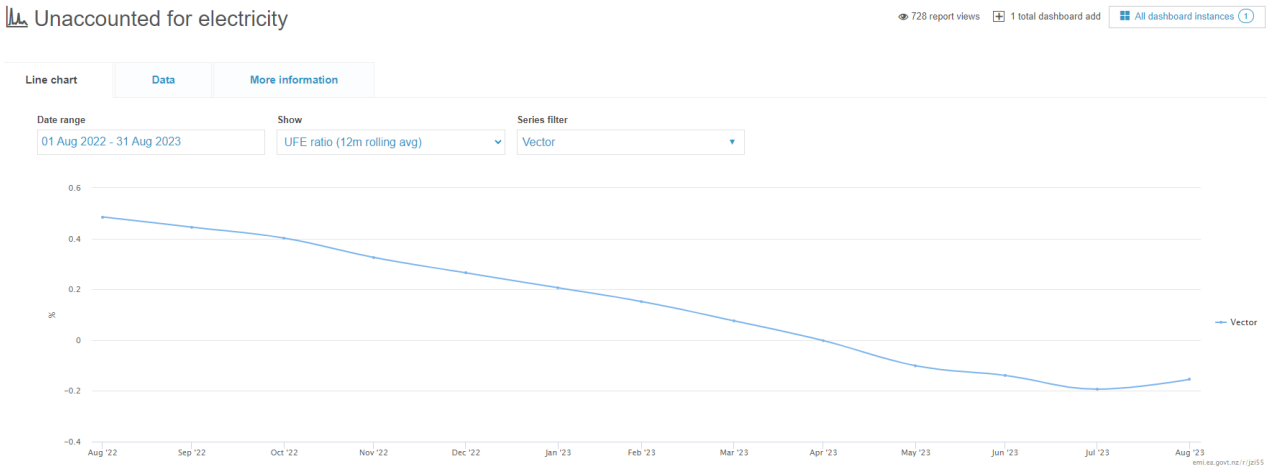
The "Guidelines on the calculation and the use of loss factors for reconciliation purposes" was published on 26 June 2018. I have assessed Vector's process and compliance against the guideline's recommended thresholds.

I reviewed correspondence and documentation relating to the June 2023 loss factor review.

Audit commentary

Vector conducts an annual review of loss factors with the most recent review completed in June 2023. Details of the June 2023 review were provided, and a walk through of the methodology was conducted. Vector conducts analysis of the load flow at each level of the network using DigSILENT PowerFactory software in the calculation of technical losses. The process meets the requirements of the guidelines and is published as required.

I obtained the latest UFE information from the EMI website (see chart below) which confirms that UFE is tracking within the accepted +/-1% threshold.



As recorded in **section 5.2** Vector updated the loss factors for eight loss category codes on 17 January 2023 effective 1 April 2023 as a result of the 2022 loss factor review.

Audit outcome

Compliant

CONCLUSION

Vector is the distributor for the Auckland area and has two participant codes covering two geographical areas, UNET and VECT. UNET is used for ICPs north of the Waitemata Harbour and in West Auckland and VECT is used for ICPs south of the Waitemata Harbour.

This audit has found a similar level of compliance to previous audits. The main areas of non-compliance relate to the timeliness and accuracy of registry updates. Vector relies on third parties to provide information related to initial electrical connection and the addition of distributed generation. This has led to a high number of late or missing registry updates. There are robust processes in place to identify missed and late updates, and reminders are sent to the third parties requesting the information.

Vector installed an interconnection point between its network and the neighbouring Counties Energy network in May 2023 which will provide an emergency backup supply in the area. The information and notifications regarding setting up the NSP and ensuring a metering installation was in place and an MEP contracted were examined in this audit. Non-compliance is recorded for late notifications in three sections of the audit.

The audit found fifteen non-compliances and makes no recommendations. The audit risk rating is 23, and the next audit frequency table indicates that the next audit be due in 6 months. I have considered this in conjunction with Vector's responses and I recommend that the next audit is in 12 months.

PARTICIPANT RESPONSE

Vector thanks Brett for his assistance with the audit. We are committed to improving our processes and will continue to correct and populate missing information identified.

We will continue to work on further improvements and more frequent monitoring data to enable us to improve on data accuracy and reduce instances of missing information.