

**ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTOR AUDIT REPORT**

For

VECTOR

Prepared by: Rebecca Elliot, Veritek Limited

Date audit commenced: 1 July 2020

Date audit report completed: 16 October 2020

Audit report due date: 19-Oct-20

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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 as required by clause 11.10 of part 11. The audit was carried out remotely on September 29th to October 1st, 2020 due to COVID-19 restrictions.

The audit was conducted in accordance with the Guideline for Distributor Audits version 7.2, which was produced by the Electricity Authority.

This audit found 16 non-compliances and makes three recommendations.

Vector are working with traders to populate the missing initial electrical connection dates. These have been bulk uploaded, and this has caused some other data errors where network details have been overwritten. Vector are correcting these as they are discovered, and changes have been made to the bulk upload process to prevent future occurrences. These updates are being correctly backdated to the effective date, but this has caused an overall decline in timeliness of updates to the registry. Providing correct and accurate information must take precedence in this instance. Vector had hoped to have had the new connection process review completed with warranted people providing them directly with the initial electrical connection date information but this is taking longer than expected and it is hoped to have this in place in the near future.

Vector have continued to focus on data accuracy and use the audit compliance reporting as part of their BAU processes. Data accuracy overall has improved. This was particularly noticeable with a high level of accuracy found in relation to unmetered load details. This is still not always being captured for new connections and I recommend this is added to the new connection application form. Address accuracy continues to be worked on. GPS co-ordinates have been added to all but 100,000 ICPs.

The new connection and registry update process where field work is required were automated during the audit period. Siebel is used to manage these activities from the receipt of the request through to updating Gentrack once the work is completed which then writes to the registry. If validation fails at any step these are sent to a work queue to be reviewed and resolved. Such changes could have had a material impact on Vector's ability to comply with their code obligations and impact other participants, therefore a material change audit should have been undertaken. Fortunately, only two issues arose as a result of these changes. All LE ICPs created via this process were created with an incorrect ICP dedication flag of "N" and two ICPs had their unmetered load details stripped out as a result of a network update processed. Both of these issues have been resolved and are not expected to occur again.

The Distributed generation process is generally well managed but is reliant on the applicant providing the COC. This can be slow to be returned. I recommend that the EIEP1 is used to detect unexpected distributed generation, as a further validation.

I thank Justine and the team for their assistance during the audit.

The indicative audit frequency table indicates the next audit should be in three months. I have considered this in conjunction with Vector's responses and recommend that the next audit be in 12 months as Vector is addressing the main areas of non-compliance and an earlier audit would not add any value to this. The matters raised are detailed in the table below.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Material Changes	1.12	16A.11	Material change audit not conducted for automation of the new connection and registry update processes.	Weak	Low	3	Identified
Requirement to provide complete and accurate information	2.1	11.2(1) and 10.6(1)	<p>Registry information not complete and accurate:</p> <ul style="list-style-type: none"> • missing initial electrical connection dates; • incorrect event dates for some updates; • unmetered load details missing from eight ICPs electrically connected during the audit period, • LE ICPs created with the incorrect NSP dedication flag of "N"; and • 11 ICPs connected to the incorrect network not backdated to correct date. <p>Some 2019 audit discrepancies not corrected during the audit period.</p>	Moderate	Low	2	Identified
Requirement to correct errors	2.2	11.2(2)	Errors not corrected as soon as practicable.	Moderate	Low	2	Identified
Participants may request distributors to create ICPs	3.2	11.5(3)	No notification of delay to ICP creation for three ICPs requested by traders.	Strong	Low	1	Identified
Provision of ICP information to the registry	3.3	11.7	9,058 ICPs with no initial electrical connection date populated since this	Weak	Medium	6	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			requirement came into effect. Eight ICPs with unmetered load created during the audit period but where Vector has no unmetered load recorded.				
Timeliness of Provision of ICP Information to the registry manager	3.4	7(2) of Schedule 11.1	61 VECT ICPs not updated on the registry prior to commencement of trading. Five UNET ICPs not updated on the registry prior to commencement of trading.	Moderate	Low	2	Identified
Timeliness of provision of Initial Electrical Connection Date	3.5	7(2A) of Schedule 11.1	29,428 late initial electrical connection dates for VECT. 20,749 late initial electrical connection dates for UNET.	Weak	Low	3	Investigating
Connection of ICP that is not an NSP	3.6	11.17	Nine late proposed trader updates for VECT. One late proposed trader update for UNET.	Moderate	Low	2	Identified
Connection of ICP that is not an NSP	3.7	10.31	A proposed trader is not recorded for UNET ICPs 1002080470UN9A2 and 1002092185UNA5E, which are at the "Ready" status.	Moderate	Low	2	Identified
Changes to registry information	4.1	8 of Schedule 11.1	Registry event updates backdated greater than three days.	Moderate	Medium	4	Investigating
Notice of NSP for each ICP	4.2	7(1)(b) Schedule 11.1	35 of the 80 ICPs sampled mapped to the incorrect NSP.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
ICP location address	4.4	2 Schedule 11.1	1,655 ICPs with addresses that are not readily locatable.	Moderate	Low	2	Identified
Distributor to provide ICP information to the registry.	4.6	7 (1) (m)&(p) of Schedule 11.1	<p>Distributed generation details incorrect for a small number of ICPs.</p> <p>A small number of ICPs with an incorrect initial electrical connection date populated.</p> <p>Three incorrect unmetered load details.</p> <p>One "GN" ICP with an incorrect dedication flag of "Y".</p> <p>48 LE ICPs with the incorrect NSP dedication flag of "N".</p>	Moderate	Low	2	Investigating
GPS coordinates	4.8	7(8) and (9) Schedule 11.1)	Six ICPs with the incorrect GPS co-ordinates.	Moderate	Low	2	Investigating
Management of "Ready" status	4.9	14 Schedule 11.1	UNET ICPs 1002080470UN9A2 and 1002092185UNA5E are incorrectly recorded at the "ready" status without a proposed trader. These should be "decommissioned - set up in error".	Moderate	Low	2	Identified
Management of "decommissioned" status	4.11	20 schedule 11.1	ICPs decommissioned but not updated to decommissioned on the registry.	Moderate	Low	2	Identified
Notification of transfer of ICPs	6.7	4 & 10 schedule 11.2	Three ICPs with no permission from the Electricity Authority to backdate the transfer request.	Strong	Low	1	Identified
Future Risk Rating						39	

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Indicative Next Audit Frequency						3 months	

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

RECOMMENDATIONS

Subject	Section	Recommendation
Provision of ICP information to the registry	3.3	Capture unmetered load details at the time of application.
Distributor to provide of ICP information to the registry	4.6	Add "PV" to distributed generation validation reporting. Review EIEP1 file to identify injection where none is expected.
GPS co-ordinates	4.8	Liaise with MEPs to use meter GPS co-ordinates where no other details are available.

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:

Rebecca Elliot

Veritek Limited

Electricity Authority Approved Auditor

Vector personnel assisting in this audit were:

Name	Title
Anton Molloy	Customer Connections Specialist
Christopher Tuiloma	Customer Connections Specialist
Daniel Gandamalla	Customer Connections Specialist
Hayden Oswin	Information Specialist
Jacques de la Bat	Senior Planning Engineer
Justine Perks	Customer Connections Team Leader
Mary Diamond	Customer Connections Specialist
Michelle Gasson	Billing Team Leader
Naomi Achaval Macizo	Lead 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 sub-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. This updates directly to the registry on a daily basis. Siebel is used for work management with customers and traders. The GIS system used is called Small World. All systems are accessed by individual password.

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

1.7. Breaches or Breach Allegations

Vector has not had any breach allegations related to the scope of this audit recorded by the Electricity Authority during the audit period.

1.8. ICP and NSP Data

The NSP mapping table was examined. Vector has two participant codes covering two geographical areas. VECT is for the Auckland region south of the Harbour bridge and UNET is for north of the Harbour bridge and includes West Auckland. These are each detailed below:

VECT

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of active ICPs
VECT	HEP0331	HEPBURN ROAD			AUCKLNDVECTG	G	1/05/2008	4,897
VECT	HOB1101	HOBSON STREET			AUCKLNDVECTG	G	24/01/2014	10,493
VECT	MNG0331	MANGERE			AUCKLNDVECTG	G	1/05/2008	25,222
VECT	MNG1101	MANGERE			AUCKLNDVECTG	G	21/12/2015	1
VECT	OTA0221	OTAHUHU			AUCKLNDVECTG	G	1/05/2008	17,997
VECT	PAK0331	PAKURANGA			AUCKLNDVECTG	G	1/05/2008	44,699
VECT	PEN0221	PENROSE			AUCKLNDVECTG	G	1/05/2008	14,755
VECT	PEN0331	PENROSE			AUCKLNDVECTG	G	1/05/2008	67,259
VECT	PEN1101	PENROSE			AUCKLNDVECTG	G	1/11/2014	27,258
VECT	ROS0221	MT. ROSKILL			AUCKLNDVECTG	G	1/05/2008	45,288
VECT	ROS1101	MT. ROSKILL			AUCKLNDVECTG	G	1/04/2012	22,666
VECT	TAK0331	TAKANINI			AUCKLNDVECTG	G	1/05/2008	45,199
VECT	WIR0331	WIRI			AUCKLNDVECTG	G	1/05/2008	20,064

The list file as at was examined and found:

Status	Number of ICPs 2020	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017
New (999,0)	13	1	0	8
Ready (0,0)	939	1,117	553	728
Active (2,0)	345,798	341,060	336,352	332,328
Distributor (888,0)	134	121	105	103
Inactive – new connection in progress (1,12)	502	426	397	438
Inactive – electrically disconnected vacant property (1,4)	4,630	4,096	3,958	4616
Inactive – electrically disconnected remotely by AMI meter (1,7)	1170	1,039	851	614
Inactive – electrically disconnected at pole fuse (1,8)	12	13	19	9
Inactive – electrically disconnected due to meter disconnected (1,9)	1,234	1,195	1,168	201
Inactive – electrically disconnected at meter box fuse (1,10)	19	15	8	4
Inactive – electrically disconnected at meter box switch (1,11)	5	10	8	5
Inactive – electrically disconnected ready for decommissioning (1,6)	582	477	296	632
Inactive – reconciled elsewhere (1,5)	2	2	2	2
Inactive (1,0)	0	0	0	0
Decommissioned (3)	55,511	53,972	52,292	50,598

UNET

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of active ICPs
UNET	ALB0331	ALBANY			NORTHRNUNETG	G	1/05/2008	55,927
UNET	ALB1101	ALBANY			NORTHRNUNETG	G	1/05/2008	3,350
UNET	HEN0331	HENDERSON			NORTHRNUNETG	G	1/05/2008	41,595
UNET	HEP0331	HEPBURN RD			NORTHRNUNETG	G	1/05/2008	44,925
UNET	SVL0331	SILVERDALE			NORTHRNUNETG	G	1/05/2008	34,087
UNET	WEL0331	WELLSFORD			NORTHRNUNETG	G	1/05/2008	15,558
UNET	WRD0331	WAIRAU RD			NORTHRNUNETG	G	14/05/2013	40,303

The list file as at was examined and found:

Status	Number of ICPs 2020	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017
New (999,0)	3	1	3	6
Ready (0,0)	585	466	452	429
Active (2,0)	235,745	232,055	228,106	224,210
Distributor (888,0)	50	50	47	46
Inactive – new connection in progress (1,12)	360	273	341	392
Inactive – electrically disconnected vacant property (1,4)	3,206	3,171	3,097	3,164
Inactive – electrically disconnected remotely by AMI meter (1,7)	781	793	796	588
Inactive – electrically disconnected at pole fuse (1,8)	4	7	3	1
Inactive – electrically disconnected due to meter disconnected (1,9)	254	240	236	52
Inactive – electrically disconnected at meter box fuse (1,10)	6	9	7	1
Inactive – electrically disconnected at meter box switch (1,11)	7	4	6	2
Inactive – electrically disconnected ready for decommissioning (1,6)	276	242	180	614
Inactive – reconciled elsewhere (1,5)	0	0	0	0
Inactive (1,0)	0	1	3	2
Decommissioned (3)	22,455	21,591	20,769	19,550

There are 124 embedded networks connected to the Vector network. Nine of these were connected to VECT from September 2019 onwards and are discussed in **section 4.10**. No new networks were embedded under UNET. The new networks are detailed in the table below:

Distributor	NSP POC	Description	Parent Network	Parent POC	Balancing Area	Network Type	Start Date
SMRT	KUA0011	70 Kuaka Drive Takanini Auckland	VECT	TAK0331	KUA0011SMRTE	E	20/09/2019
SMRT	TKV0011	30 Walters Rd Takanini Auckland	VECT	TAK0331	TKV0011SMRTE	E	1/10/2019
SMRT	TKV0012	30 Walters Rd Takanini Auckland	VECT	TAK0331	TKV0012SMRTE	E	21/02/2020
PPNZ	PCB0011	6 Albert Street Auckland Central	VECT	PEN1101	PCB0011PPNZE	E	15/03/2020
TENC	TOM0011	226-240 Ormiston Rd Flatbush	VECT	OTA0221	TOM0011TENCE	E	1/05/2020
TENC	TFS0012	155 Fanshawe St Akld	VECT	HOB1101	TFS0012TENCE	E	1/06/2020
TENC	TFS0013	136 Fanshawe Street AUCKLAND	VECT	HOB1101	TFS0013TENCE	E	1/09/2020
TENC	TGW0011	31 Galway St AUCKLAND	VECT	PEN1101	TGW0011TENCE	E	1/09/2020
PPNZ	PWC0013	8-14 Madden St Auckland	VECT	HOB1101	PWC0013PPNZE	E	1/11/2020

1.9. Authorisation Received

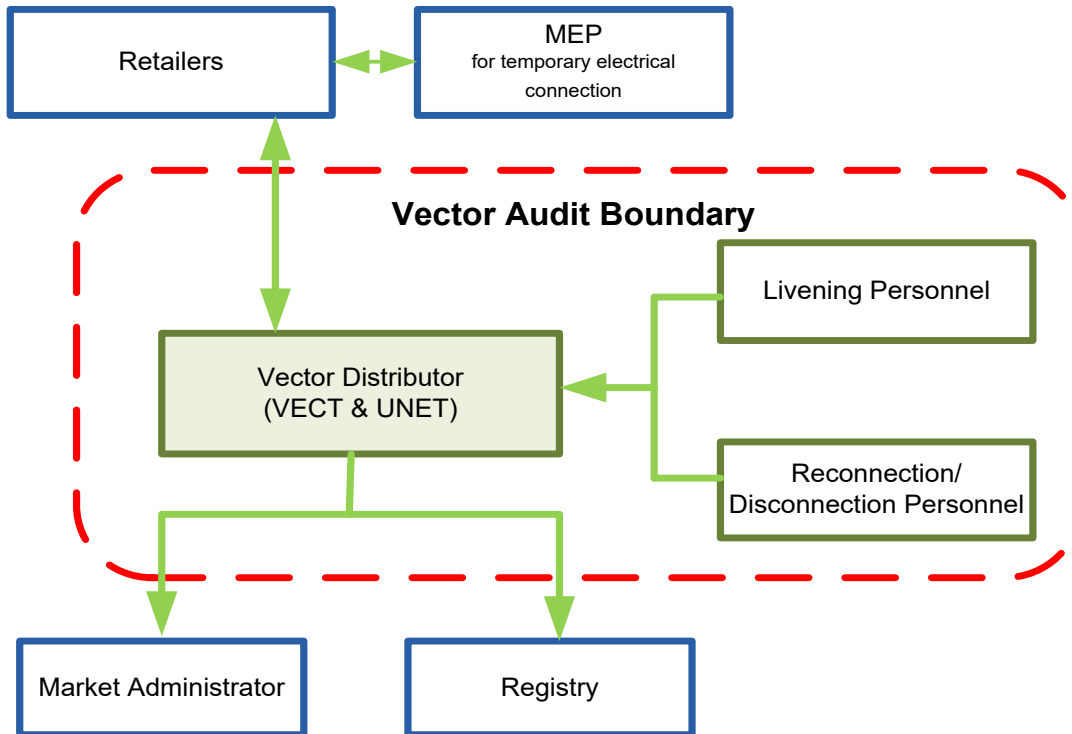
Vector provided a letter of authorisation to Veritek, permitting the collection of data from other parties for matters directly related to the audit.

1.10. Scope of Audit

This Distributor audit was performed at the request of **Vector Limited (Vector)** to encompass the Electricity Industry Participation Code requirement for an audit as required by clause 11.10 of part 11. The audit was carried out remotely on September 29th to October 1st, 2020 due to COVID-19 restrictions.

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 Rebecca Elliot of Veritek Limited in October 2019. This found 15 non-compliances and made nine recommendations. The current status of these has been updated below:

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Requirement to provide complete and accurate information	2.1	11.2(1) and 10.6(1)	Registry information not complete and accurate in all instances specifically in relation to the capturing of the initial electrical connection date and the accuracy of unmetered load details.	Still existing
Requirement to correct errors	2.2	11.2(2)	Errors not corrected as soon as practicable.	Still existing
Provision of ICP information to the registry	3.3	11.7	10,160 ICPs with no initial electrical connection date populated since this requirement came into effect. 14 ICPs with unmetered load created during the audit period but where Vector has no unmetered load recorded.	Still existing
Timeliness of Provision of ICP Information to the registry manager	3.4	7(2) of Schedule 11.1	27 ICPs not updated on the registry prior to commencement of trading.	Still existing
Timeliness of provision of IECD	3.5	7(2A) of Schedule 11.1	9,251 late initial electrical connection dates.	Still existing
Connection of ICP that is not an NSP	3.6	11.17	26 ICPs connected without a trader having accepted responsibility for them on the registry.	Still existing
Management of “new” status	3.13	13 Schedule 11.1	ICPs in the “New” status not managed.	Cleared
Monitoring of “new” & “ready” statuses	3.14	15 Schedule 11.1	ICPs at new and ready not monitored.	Cleared
Embedded generation loss category	3.15	7(6) Schedule 11.1	Unique loss factor code not recorded from the date generation is recorded.	Cleared
Changes to registry information	4.1	8 of Schedule 11.1	Registry event updates backdated greater than three days.	Still existing

Subject	Section	Clause	Non-compliance	Status
Notice of NSP for each ICP	4.2	7(1)(b) Schedule 11.1	52 ICPs mapped to the incorrect NSP.	Still existing
ICP location address	4.4	2 Schedule 11.1	2,244 ICPs with addresses that are not readily locatable.	Still existing
Distributor to provide ICP information to the registry.	4.6	7 (1) (m)&(p) of Schedule 11.1	<p>Distributed generation details incorrect for a small number of ICPs.</p> <p>13 ICPs with an incorrect initial electrical connection date populated.</p> <p>Incorrect unmetered load recorded for potentially 55% (based on the sample) of those with a variance between the traders daily kWh figure and the Vector unmetered load description.</p> <p>Four "GN" ICPs with an incorrect dedication flag of "Y".</p> <p>43 LE ICPs with the incorrect NSP dedication flag of "N".</p>	Still existing
Management of "decommissioned" status	4.11	20 schedule 11.1	ICPs decommissioned but not updated to decommissioned on the registry.	Still existing
Updating table of loss category codes	5.1	21 Schedule 11.1	One loss factor code not applied from the correct start date and not notified two months in advance.	Cleared

Table of Recommendations

Subject	Section	Recommendation	Status
Provide complete and accurate information	2.1	Run and review the audit compliance report monthly for data discrepancies.	Cleared
Provision of ICP information to the registry	3.3	Capture unmetered load details at the time of application.	Repeated
		Adopt the Electricity Authority's recommended unmetered load format.	Not adopted

Subject	Section	Recommendation	Status
Timeliness of provision of ICP information to the registry	3.4	Daily Gentrack update to the registry occur prior to midnight.	Cleared
Monitoring of “new” & “ready” statuses	3.14	Review process to ensure it is being followed.	Cleared
Embedded generation loss category	3.15	Confirm the consumption loss factor is correct.	Cleared
Distributor to provide ICP information to the registry.	4.6	Check that the load for ICPs with multiple items of load are associated with one NSP only.	Cleared
		Confirm cell phone unmetered load with trader.	Cleared
		Investigate why LE ICP dedication flag was changed from “Y” to “N”.	Cleared

1.12. Material Change Audits (Clause 16A.11)

Code reference

Clause 16A.11

Code related audit information

If there is a material change to any of a participant's systems or processes that are the subject of regular audits under clause 10.17A, 11.8B, 11.10, 15.37A or 15.37B, the participant must arrange for an additional audit, which must be completed in accordance with this Part no later than 5 business days before the change is implemented.

A material change to a system or process is a change that is likely to affect the ability of the participant to comply with any relevant provision of this Code.

Audit observation

I checked whether any material changes had occurred during the audit period.

Audit commentary

Vector automated the new connection process and the registry update process during the audit period. At a high level, Siebel validates the information provided and if it meets the validation will update Gentrack, issue a service request (where appropriate) and complete the service order and update Gentrack upon completion from the field. If any of the validations fail these are sent as an exception to a work queue to be reviewed and resolved. This has largely worked effectively but this audit found that all LE ICPs created were with the incorrect NSP dedication flag. This has now been corrected for those created and the process has been corrected in Siebel. This is recorded as non-compliance in **section 4.6**.

Both of these processes could have materially impact Vector's ability to comply with the code and should have been subject to a material change prior to being put into production. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 1.12 With: Clause 16A.11 From: 01-Sep-19 To: 22-Aug-20	Material change audit not conducted for automation of the new connection and registry update processes. Potential impact: Medium Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as weak because this development was put into production without undertaking a material audit to confirm Vector can meet their code obligations. The automation of these processes has largely worked as expected but one minor error was found in relation to the creation of LE ICPs therefore the audit risk rating is assessed to be low.		
Actions taken to resolve the issue		Completion date	Remedial action status
All LE ICPs have had the Dedicated NSP flag updated to Y.		24/09/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The automation of the ICP creation has now been updated with an additional validation rule. Where an ICP is created for an embedded gateway, the NSP flag will always be set to Y upon creation. The requirement for a material change audit to be conducted has been recorded and will be undertaken for any future material changes.		14/09/2020 29/09/2020	

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 11.2(1) and 10.6(1)

Code related audit information

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

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

Audit observation

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

The registry list file as at 31/07/20 and the audit compliance reports for the audit period from 11/09/19 to 22/08/20 were examined to confirm compliance.

Audit commentary

Vector monitors the registry NOT files on a weekly basis.

The report suite detailed below is used to provide an overview of data discrepancies:

Reason for Difference
In Gentrack but Missing in Registry or Siebel :
Retailer In Gentrack Different to Registry (and > 10 Days old) :
ICP unclaimed by retailer after 24 months :
Network Owner different between Gentrack and Registry :
Loss Factor Code different between Gentrack and Registry :
Price Plan different between Gentrack and Registry :
Status : DZ in Gentrack but Connected in Registry (Elec) :
Status : Disconnected in Registry but CO in Gentrack (Elec) :
Status : Inactive/Vacant in Registry but Not DI in Gentrack (Elec) :
Status : Inactive/Ready To Decom in Registry but Not DI in Gentrack (Elec) :
Status : CO in Gentrack but Not Active in Registry (Elec) :
Status : DI in Gentrack but Active in Registry (Elec) :

In addition to the above reporting the audit compliance reporting is run on a regular basis to identify and correct data discrepancies.

Vector automated the ICP creation process during the audit period, this included the creation of LE ICPs which were previously managed via email. All were created with an incorrect NSP dedication of “N”. This was discovered during this audit and all have been rectified. This is recorded as non-compliance below and in **sections 1.12** and **4.6**.

As detailed in **sections 3.5** and **4.1**, analysis of the updating of the registry found that the incorrect event date is being applied in some instances. I identified 255 VECT and 180 UNET initial electrical connection date updates where the event date was the day of, or the day after the event update date, instead of the correct event date. The data dictionary in the registry defines the event date as follows:

The Event Date defines the date from which the attribute values of the event should apply.

The event date or effective date should be the same date as the initial electrical connection date. This was discussed and was found to be due to three causes:

- some of the bulk uploads to populate the missing initial electrical connection dates were sent with the incorrect event date,
- some of the bulk upload files stripping out the initial electrical connection date and then being repopulated but with an incorrect event date; this is recorded as non-compliance in **section 2.1**, and
- changes made directly in the registry but not updated in Gentrack, the change made in the registry is then overwritten when the next update is sent from Gentrack (there are not many updates made directly in the registry, so this is not expected to affect many ICPs).

Vector are aware of this and have corrected these upon discovery. This is recorded as non-compliance below.

Eight ICPs were electrically connected during the audit period with unmetered load and no unmetered load details recorded by Vector are discussed and recorded as non-compliant in **section 3.3** and below.

There were 11 ICPs connected to the incorrect network. These should have been backdated correct any incorrect information on the registry. This is detailed in **section 6.7** and recorded as non-compliance below.

Eight ICPs from the 2019 audit with the incorrect initial electrical connection dates and one incorrect distributed generation value were not corrected during the audit period. These have now been corrected. These are detailed in **section 4.6**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: 11.2(1) & 10.6(1) From: 01-Sep-19 To: 22-Aug-20	Registry information not complete and accurate: <ul style="list-style-type: none"> missing initial electrical connection dates; incorrect event dates for some updates; unmetered load details missing from eight ICPs electrically connected during the audit period, LE ICPs created with the incorrect NSP dedication flag of "N"; and 11 ICPs connected to the incorrect network not backdated to correct date. Some 2019 audit discrepancies not corrected during the audit period. 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 overall but some opportunities for further improvements are in progress which will strengthen controls once in place. 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
Missing IECD: please refer comments in section 3.5 Incorrect event dates: refer to comments in section 4.6 Missing UML: refer to comments in section 3.3 LE ICPs: refer to comments in section 1.12			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above			

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 file as at 31/07/20 was examined to confirm compliance.

Audit commentary

Vector have processes in place to identify and resolve registry discrepancies as described in **section 2.1**. Not all discrepancies are being corrected as soon as practicable. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.2 With: 11.2(2) From: 01-Sep-19 To: 22-Aug-20	Errors not corrected as soon as practicable. Potential impact: Low Actual impact: Low Audit history: Once 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 identify most potential discrepancies but not all. The audit risk rating is low as the incorrect initial electrical connection dates are not used directly in the reconciliation process.		
Actions taken to resolve the issue		Completion date	Remedial action status
The issues identified in the 2019 audit have now been corrected where found to be incorrect		15/10/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Vector have already updated the majority of data errors identified in this audit and will be completing a double check of each ICP identified to ensure none have been missed.		30/10/2020	

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 30 new connection applications per code of the 11,873 ICPs (VECT 7,022 and UNET 4,851) created since 1/09/2019 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.

Audit commentary

Vector creates ICPs as required by clause 1 of schedule 11.1. The sample checked confirmed that they were created compliantly.

The distributor is responsible for creating the ICP for the point of connection for an embedded network to its parent network. There have been nine new embedded networks created during the audit period and I confirmed that all had at least one LE ICP created.

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 30 new connection applications of the 11,873 ICPs (VECT 7,022 and UNET 4,851) created since 01/09/2019 were checked to determine whether the ICPs had been created within three business days of a request by a trader.

Audit commentary

The vast majority of requests for new connections (excluding LE ICPs requested which are discussed below) are received from the customer's agent not the trader. These are either lodged via the online portal or via Vector's contact centre (outsourced to Telnet). Once received each job is assessed. If the request is for more than five ICPs or is a three-phase connection or greater, these are treated as projects. All jobs are managed via Siebel with a service request assigned. Vector works to a 3-business day SLA for ICP creations. Customers are advised if further information is required before an ICP can be created. Once all the required information is provided the customer and the nominated trader are advised of the ICP. Traders advise if they wish to reject, acceptance is assumed. If the trader rejects the ICP, Vector contact the customer to nominate another trader. The registry is updated to reflect the new nominated trader accordingly. The sample checked were all requested by the customer or the customer's agent.

Vector identified a list of 124 ICPs that were requested by the trader. These were examined and found 59 of the 124 ICPs were not created within three business days of application. In all but three cases the customer and trader were advised. In three instances the applicant was advised but not the trader. This is recorded as non-compliance.

The creation of LE ICPs was discussed. This process has been managed via email requests from the embedded network or their nominated agent. Going forward these applications are expected to largely be received via the Siebel portal. The ten LE ICPs created during the audit period were reviewed (one network is not yet connected), none were able to be created within the three business days of the request as these generally require engineering approval. However, this was communicated to the participant (or their designated agent) in all instances.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: 11.5(3) From: 24-Sep-19 To: 09-Dec-19	No notification of delay to ICP creation for three ICPs requested by traders. 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 the process is driven to create ICPs in three business days. The applicant was notified in all instances. The audit risk rating is assessed to be low to none as notifications were provided to the applicant in the first instance.		
Actions taken to resolve the issue		Completion date	Remedial action status
For all new ICP applications received from a trader, Vector will ensure we notify both the trader and customer where we are unable to issue the ICP within 3 business days with details of the reason.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
When ICP requests are received via email from any party (including embedded network owners and traders), Vector are notifying the requestor that all ICP applications must be logged through our website. This ensures that all necessary information required to process the application is received first time and enables jobs to be tracked and easily monitored for compliance.		Ongoing	

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

Code reference

Clause 11.7

Code related audit information

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

Audit observation

The new connection process for populating all required registry fields was examined. The list files as at 31/07/20 and the audit compliance reporting for 1/09/19 to 22/08/20 were examined to determine compliance.

Data populated on the registry was checked for all new connections during the audit period, to confirm that required fields were populated.

Audit commentary

As detailed in **section 3.2**, an application is received for all new connections. Unmetered load connections are allowed. The unmetered load details are expected to be noted in the free form text field, but this is not always supplied, and the unmetered load is then provided to Vector post electrical connection. I recommend that the new connection application include a section requiring the applicant to provide the unmetered load using the recommended format:

Information	Format
Connected load	Watts, 4 digits, zero decimal places. Eg 1565
Semi colon separator	;
Running hours per day	Hours to 2 digits, and decimal hours to 1 decimal place Eg 02.5 (ie two and one half hours)
Semi colon separator	;
Other text	Free form as required

E.g. 1565;11.5 streetlight

Recommendation	Description	Audited party comment	Remedial action
Provision of ICP information to the registry	Capture unmetered load details at the time of application.	Vector agree with this recommendation and will investigate updating the application form to obtain the UML details.	Investigating

The process for updating the registry is automated for all fields. The frequency of updates to the registry has been increased during the audit period to twice daily, once at midday and once in the evening.

11,873 ICPs (VECT 7,022 and UNET 4,851) were created during the audit period. All the required information for these ICPs was populated excluding the population of the initial electrical connection date and unmetered load details. This is discussed below.

Initial electrical connection date

The audit compliance report recorded 9,058 ICPs which had been moved to active status after 29/08/13 which did not have an initial electrical connection date populated.

Code	2020	2019
VECT	5,399	6,276
UNET	3,659	3,884
Total	9,058	10,160

I checked a sample of 15 ICPs with missing initial electrical connection dates for each network (five from 2020 and two for each for years 2015-2019 and found:

Code	2020	2015-2019
VECT	<ul style="list-style-type: none"> • Four have since been updated as part of BAU. • One is still to be provided. 	<ul style="list-style-type: none"> • No data has been received for seven ICPs. • Data is unable to be located for two ICPs as the process was different prior to 2017. • Data has been provided by the trader and updated on the registry for ICP 1001276917LC7CB electrically connected in 2015.
UNET	<ul style="list-style-type: none"> • No data has been received for four ICPs. • One has since been updated as part of BAU. 	<ul style="list-style-type: none"> • No data has been received for six ICPs. • Data is unable to be located for three ICPs as the process was different prior to 2017. • Data has been provided by the trader and updated on the registry for ICP 1002037992UNCFC electrically connected in 2018.

Vector are working with the traders to populate the historic missing initial electrical connection dates. The responses from traders is variable with some being very helpful and others are refusing to assist. The volume of ICPs with missing initial electrical connection dates is expected to decline as the information is provided.

Vector intend to warrant livening agents directly and will require them to provide Vector directly with electrical connection dates. This should improve the capturing of this data once in place.

Unmetered load

Examination of the list files identified 80 UNET and 15 VECT ICPs which had trader unmetered load details recorded. Of those 74 UNET and 13 VECT ICPs had unmetered load details recorded by Vector. All unmetered load details are passed to a specific person in Vector to get these added. I checked the eight ICPs without distributor unmetered load details recorded and found that:

- as the unmetered load details are not captured on the application form in a consistent manner in these instances this had not been provided and Vector have requested the trader to provide the details for four ICPs,
- the details were provided but were not passed to the relevant person within Vector to add these to the ICP for two ICPs, and
- for two ICPs the unmetered load details were populated but a subsequent network change stripped this data out. These have been repopulated.

The newly connected ICPs with missing unmetered load details are recorded as non-compliance below.

The process to capture, and the accuracy of the initial electrical connection dates and unmetered loads is discussed in **section 4.6**. The timeliness of these updates is discussed in **sections 3.4** and **3.5**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.3 With: 11.7 From: 29-Aug-13 To: 22-Aug-20	9,058 ICPs with no initial electrical connection date populated since this requirement came into effect. Eight ICPs with unmetered load created during the audit period but where Vector has no unmetered load recorded. Potential impact: Medium Actual impact: Unknown Audit history: Once previously Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	Controls are rated as weak as the process in place to capture the initial electrical connection date is not independent of the trader and the capturing of unmetered load details is weak. The audit risk rating is medium due to the volume of ICPs with no initial electrical connection date populated since this requirement came into effect, preventing validation of the first active date to be confirmed.		
Actions taken to resolve the issue		Completion date	Remedial action status
Six ICPs where unmetered load was not recorded have been updated. Vector are in contact with the retailer for the remaining two ICPs to obtain the UML details.		23/10/2020	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Vector's Retailer Authorisation to work on Assets Agreement is currently under review. Vector is considering changing the process and warrant the living Agent directly and this is currently in a Management of Change process review. Vector agree with the recommendation to obtain the necessary UML details upon application and will review our application form accordingly.		Process to be confirmed by 17/12/2020 to include in DDA TBA – needs assessment	

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

Code reference

Clause 7(2) of Schedule 11.1

Code related audit information

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

Audit observation

The registry lists for 31/07/20 and the audit compliance reports for 01/09/19 to 22/08/20 were examined to determine the timeliness of the provision of ICP information for new connections.

Audit commentary

The ICP creation process has been automated during the audit period. Previously all new applications had to be reviewed and then once complete the process to create the ICP was triggered in Gentrack. Now, applications are reviewed in Siebel and providing all the information is provided the request for a new ICP is sent directly to Gentrack from Siebel, and then notification is issued to the applicant and the proposed trader from Siebel.

In the last audit I recorded that the updates to registry were occurring in the early hours of the morning causing ICPs to be backdated in some instances. This frequency has been increased during the audit period to twice daily, once at midday and once in the evening.

I assessed the timeliness of pricing and ready status updates using the AC020 report, and the timeliness of address and proposed trader updates using the registry list and event detail reports. I found some ICPs had initial information populated after initial electrical connection:

UNET

Update type	Late updates	Comment
Ready status	5	Four ICPs were created in Gentrack but due to human error they did not flow to the registry causing these to be backdated. The original ICP for this site was decommissioned in error. Rather than reversing that event Vector created a new ICP (1002071416UN3E1) and this was backdated to the first active date.
Pricing category	-	No late updates
Network including proposed trader	1	This is the same ICP 1002071416UN3E1 as detailed above.
Address	1	This is the same ICP 1002071416UN3E1 as detailed above.

VECT

Update type	Late updates	Comment
Ready status	59	50 of the late updates related to ICPs created before 01/09/19, and nine related to ICPs created from 01/09/19 onwards. I checked the late updates for the ICPs created from 01/09/19 and the five latest updates for older ICPs. For those created post 01/09/19: <ul style="list-style-type: none">For five ICPs, an error in a file caused all of the ICPs in the affected file from being updated. This issue was an event that was created prior to the start date of an ICP (the current version of Gentrack allows this) and this stopped the whole file from going to the registry. The event creation process has been automated in Siebel and does not allow an event to be created prior the ICP

Update type	Late updates	Comment
		<p>creation date, therefore this is not expected to reoccur. The automation of this process is discussed in section 1.12;</p> <ul style="list-style-type: none"> The remaining four ICPs were created in Gentrack but due to human error they did not flow to the registry causing these to be backdated. <p>Review of the five latest updates for older ICPs created prior to 01/09/19 found that these were all due to BCPL not requesting ICPs for electrical connection until post the ICP being electrically connected. There were originally requested to be created on 20/12/19 and were made active from 01/01/20. BCPL then found that they had been electrically connected on 01/08/19. This was corrected on 31/03/20 and affected 49 of the 50 ICPs backdated to prior to 01/09/19.</p>
Pricing category	33	All of the late updates related to ICPs created before 01/09/19. I checked the five latest updates and found they were the same BCPL backdated created ICPs. All backdated pricing events related to the BPCL associated ICPs.
Network including proposed trader	9	These were the same ICPs that were backdated to ready - all events for creation will be backdated in this instance.
Address	9	These were the same ICPs that were backdated to ready - all events for creation will be backdated in this instance.

The backdated events are recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.4 With: 7(2) of Schedule 11.1 From: 03-Oct-19 To: 07-Jul-20	59 VECT ICPs not updated on the registry prior to commencement of trading. Five UNET ICPs not updated on the registry prior to commencement of trading. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate as there can be incidents that require Vector to create backdated ICPs in rare instances. The audit risk rating is assessed to be low especially when the 49 BCPL corrections are excluded.		
Actions taken to resolve the issue		Completion date	Remedial action status
All noted issues were corrected at the time they were identified.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Vector’s automation of ICPs updates has validation built in to prevent events earlier than the ICP creation date. This has helped resolve the issue where human error resulted in ICPs not flowing to the registry.		July 2020	

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 lists for 31/07/20 and the audit compliance reports for 01/09/19 to 22/08/20 were examined to identify all ICPs not updated within ten business days of electrical connection. A sample of 15 ICPs created during the audit period and five ICPs created before the audit period were selected for each code using the typical case methodology.

Audit commentary

Vector's process requires the trader to warrant the livening personnel and to provide Vector with the initial electrical connection date. This is loaded to Gentrack and this then writes to the registry. They are working to change this so that they warrant the livening agents directly and require them to provide this information directly to Vector.

Examination of the audit compliance report found 50,177 initial electrical connection dates were updated more than ten business days after initial electrical connection:

Code	2020	2019
VECT	29,428	5,098
UNET	20,749	4,153
Total	50,177	9,251

The increase in the volume of updates is reflective of Vector populating the missing initial electrical connection dates. 5,929 (2,496 for UNET and 3,513 for VECT) of the late updates for 2020 related to ICPs created from 01/09/19 onwards. The remainder were updates to initial electrical connection dates for ICPs created prior to 01/09/19. This has caused a large increase in backdated updates, but this is necessary for Vector to provide complete and accurate information.

The sample of 15 late updates for each code were checked and found that all were due to the delay in the trader providing the information to Vector.

Analysis of the updating of the registry found that the incorrect event date is being applied in some instances. I identified 255 VECT and 180 UNET initial electrical connection date updates where the event date was the day of, or the day after the event update date, instead of the correct event date. The data dictionary in the registry defines the event date as follows:

The Event Date defines the date from which the attribute values of the event should apply.

The event date or effective date should be the same date as the initial electrical connection date. This was discussed and was found to be due to three causes:

- some of the bulk uploads to populate the missing initial electrical connection dates were sent with the incorrect event date,
- some of the bulk upload files stripping out the initial electrical connection date and then being repopulated but with an incorrect event date; this is recorded as non-compliance in **section 2.1**, and
- changes made directly in the registry but not updated in Gentrack, the change made in the registry is then overwritten when the next update is sent from Gentrack (there are not many updates made directly in the registry, so this is not expected to affect many ICPs).

Vector are aware of this and have corrected these upon discovery. This is recorded as non-compliance in **section 2.1**.

Any ICPs with a missing initial electrical connection date are discussed in **section 3.3**. The accuracy of the initial electrical connection dates is recorded in **section 4.6**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.5 With: 7(2A) of Schedule 11.1 From: 01-Sep-19 To: 22-Aug-20	29,428 late initial electrical connection dates for VECT. 20,749 late initial electrical connection dates for UNET. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as weak as Vector is still reliant on the trader to provide this data. This is being reviewed with the intention that the livening agent will provide this information directly to Vector. The audit risk rating is low as this has no direct impact on reconciliation.		
Actions taken to resolve the issue		Completion date	Remedial action status
Vector are continuing to work with traders and livening agents to obtain and populate the missing energisation dates.		Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Vector's Retailer Authorisation to work on Assets Agreement is currently under review. Vector is considering changing the process and warrant the livening Agent directly and this is currently in a Management of Change process review. The automation of ICP updates will now ensure the initial energisation dates are populated with the correct effective date.		17/12/2020 July 2020	

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

Code reference

Clause 11.17

Code related audit information

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

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

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

Audit observation

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

The registry lists for 31/07/20 and the audit compliance reports for 01/09/19 to 22/08/20 were examined to determine the timeliness of the provision of ICP information for new connections.

Vector has no known shared unmetered load recorded and does not allow shared unmetered load to be connected.

Audit commentary

For all ICPs examined electrical connection occurred after acceptance by a trader with the exception of ten (nine VECT and one UNET) ICPs which did not have a proposed trader recorded in the registry prior to electrical connection.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.6 With: 11.17 From: 03-Oct-19 To: 08-Jul-20	Nine late proposed trader updates for VECT. One late proposed trader update for UNET. Potential impact: Low Actual impact: None Audit history: Three times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate as there can be incidents that require Vector to backdate create ICPs in rare instances. The audit risk rating is volume of ICPs affected is very small.		
Actions taken to resolve the issue		Completion date	Remedial action status
ICPs were corrected and backdated at the time.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Vector's automation of ICPs updates has validation built in to prevent events earlier than the ICP creation date. This has helped resolve the issue where the date error resulted in ICPs not flowing to the registry. The remaining issues caused by human error will be monitored to determine if any further checks can be put in place to help prevent these.		July 2020 Ongoing	

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

Code reference

Clause 10.31

Code related audit information

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

Audit observation

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

A diverse characteristics sample of 30 new connection applications per code of the 11,873 ICPs (VECT 7,022 and UNET 4,851) created since 1/09/2019 were checked to determine if the ICPs were connected at the request of the trader.

The registry lists as at 31/8/19 was reviewed to confirm that all active ICPs had a trader recorded.

Audit commentary

As discussed in **section 3.2**, Vector notifies traders of ICP nominations and traders advise if they wish to reject, acceptance is assumed unless the trader advises otherwise.

Review of the VECT registry list confirmed that a trader is recorded for all active and inactive ICPs, and a proposed trader is recorded for all ICPs at “ready” status.

Review of the UNET registry list confirmed that a trader is recorded for all active and inactive ICPs. Two ICPs at “ready” status did not have a proposed trader recorded:

- 1002080470UN9A2 originally had the proposed trader recorded as MERI but the record was replaced on 11/05/20 and the proposed trader was removed, and
- 1002092185UNA5E originally had the proposed trader recorded as GEOL but the record was replaced on 06/07/20 and the proposed trader was removed.

In both cases the ICP was rejected by the proposed trader and is no longer required. The proposed traders were removed whilst the ICPs were in the “Inactive -new connection in progress” status. The traders have both since reversed this event and the ICPs are now at “Ready” and should be set to “Decommissioned- set up in error”. This is recorded as non-compliance below.

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 a registry lists confirmed there is no shared unmetered load connected to any ICP.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.7 With: 10.31 From: 11-May-20 To: 25-Aug-20	A proposed trader is not recorded for UNET ICPs 1002080470UN9A2 and 1002092185UNA5E, which are at the "Ready" status. Potential impact: Low Actual impact: None Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate as the new connection process requires a proposed trader to be populated before the update will flow to the registry. The audit risk rating is assessed to be low to none as there were only two ICPs affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
Both ICPs have now been corrected and set to decommissioned setup in error.		15/10/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Vector will generate a report to identify where an ICP has reverted to a ready status without a proposed trader recorded.		Estimated Dec 2020	

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

Code reference

Clause 10.31A

Code related audit information

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

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

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

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

Audit observation

The new connection process was examined in **section 3.2**. The registry lists for 31/07/20 and the registry compliance audit report for 01/09/19 to 22/08/20 were examined to determine compliance.

Audit commentary

The majority of new connections are permanent connections. Vector does not carry out any electrical connections but has approved warranted people who are engaged by the traders to this. Analysis of temporarily electrically connected sites found none.

Audit outcome

Compliant

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

Code reference

Clause 10.30

Code related audit information

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

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

the NSP that has been connected

the date of the connection

the participant identifier of the MEP for each metering installation for the NSP

the certification expiry date of each metering installation for the NSP.

Audit observation

The NSP table was reviewed.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 10.30(A)

Code related audit information

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

has been authorised to make the request by the reconciliation participant responsible for the NSP; and

the MEP has an arrangement with that reconciliation participant to provide metering services.

Audit observation

The NSP table was reviewed.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 1(1) Schedule 11.1

Code related audit information

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

xxxxxxxxxxccc where:

xxxxxxxxxx is a numerical sequence provided by the distributor

xx is a code that ensures the ICP is unique (assigned by the Authority to the issuing distributor)

ccc is a checksum generated according to the algorithm provided by the Authority.

Audit observation

The process for the creation of ICPs was examined.

Audit commentary

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 list files as at 31/07/20 were examined to confirm all active ICPs have a single loss category code.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 13 Schedule 11.1

Code related audit information

*The ICP status of “New” must be managed by the distributor to indicate:
the associated electrical installations are in the construction phase (Clause 13(a) of Schedule 11.1)
the ICP is not ready for activation (Clause 13(b) of Schedule 11.1).*

Audit observation

The ICP creation process was reviewed. The registry list file as at 31/07/20 was examined to determine compliance.

Audit commentary

The vast majority of requests for new connections are received from the customer’s agent not the trader.

Examination of the UNET list file found three ICPs at the “new” status. One was a timing difference and the ICP became active prior to the audit. The remaining two ICPs found that work is required to be done on the network before these will be ready for connection to the network.

Examination of the VECT list file found 13 ICPs at the “new” status. Four were timing differences and the ICPs became active or ready prior to the audit. The remaining four ICPs found that work is required to be done on the network before these will be ready for connection to the network.

The management of ICPs at this status for greater than 24 months is discussed in **section 3.14**.

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.1

Code related audit information

*If an ICP has had the status of “New” or has had the status of “Ready” for 24 months or more:
the distributor must ask the trader who intends to trade at the ICP whether the ICP should continue to have that status (Clause 15(2)(a) of Schedule 11.1)
the distributor must decommission the ICP if the trader advises that the ICP should not continue to have that status (Clause 15(2)(b) of Schedule 11.1).*

Audit observation

The process to monitor ICPs at “new” and “ready” status was reviewed. The registry lists for 31/07/20 and the registry compliance audit report for 01/09/19 to 22/08/20 were examined to determine compliance. An extreme example of ten ICPs for each code were checked.

Audit commentary

Vector uses the audit compliance reporting to manage these ICPs. An email is sent to the nominated trader to confirm if the ICP is still required at least annually. Not all traders to respond to these requests.

Examination of the registry compliance audit report found some ICPs have been at “new” or “ready” status for more than 24 months.

Number of ICPs at “Ready” status for more than 24 months		
Code	2020	2019
VECT	20	55
UNET	18	60
Total	38	115

A sample of ten ICPs at the “Ready” status for each code were checked. A request to the trader had been sent for all examples checked.

Audit outcome

Compliant

3.15. Embedded generation loss category (Clause 7(6) Schedule 11.1)

Code reference

Clause 7(6) Schedule 11.1

Code related audit information

If the ICP connects the distributor's network to an embedded generating station that has a capacity of 10 MW or more (clause 7(1)(f) of Schedule 11.1):

The loss category code must be unique; and

The distributor must provide the following to the reconciliation manager:

- *the unique loss category code assigned to the ICP*
- *the ICP identifier of the ICP*
- *the NSP identifier of the NSP to which the ICP is connected*
- *the plant name of the embedded generating station.*

Audit observation

The EMI wholesale data set as at 25/08/20 and registry lists as at 31/07/20 were reviewed to identify any generation stations with capacity of 10 MW or more to determine compliance.

Audit commentary

No VECT ICPs have generation capacity over 10 MW.

UNET has one ICP with generation capacity over 10 MW, which has an individual loss factor. The 2019 audit found that UNET ICP 0001442868UN4DC had more than 10MW generation capacity but did not have a unique loss factor code. A new unique “RDVL” loss category code was uploaded on 27/05/19 with a backdated effective date of 1/11/18 but should have been applied from the date generation commenced. The loss category code start date was corrected following the 2019 audit.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(4)

Code related audit information

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

Audit observation

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

Audit commentary

Vector's project contract requires developers to liaise with Auckland Transport (who in this instance are acting as an agent to their trader) to get streetlights electrically connected. Auckland Transport add these to the RAMM database with the electrical connection date. The Auckland Transport DUML audit examines this process in detail. Vector is meeting its requirements in relation to this clause.

Audit outcome

Compliant

4. MAINTENANCE OF REGISTRY INFORMATION

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

Code reference

Clause 8 Schedule 11.1

Code related audit information

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

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

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

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

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

Audit observation

The management of registry updates was reviewed.

The registry lists, audit compliance reporting and the event detail reports for 1/09/19 to 22/08/20 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

ICP changes are updated in Gentrack. The frequency of updates to the registry has been increased during the audit period to twice daily, once at midday and once in the evening. and these write to the registry overnight. A small number are updated directly in the registry as required.

The process to update the registry has been automated during the audit period for those changes that are actioned in the field and are managed via Siebel. At a high level, Siebel validates the information provided and if it meets the validation, issues a service request (where appropriate) and completes the service order and updates Gentrack upon completion from the field. If any of the validations fail these are sent as an exception to a work queue to be reviewed and resolved.

The audit compliance report was analysed to identify backdated event updates, and found:

Address events

81.89% of all VECT address updates were made on time with an average time to update the registry of less than a day. There were 18,175 late address updates. The sample checked of these found all related to a bulk update adding the GPS co-ordinates to ICPs and in these instances the bulk upload file was defaulting to the last effective event date causing these to appear backdated.

92.34% of all UNET address updates were made on time with an average time to update the registry of less than a day. There were 6,671 late address updates. The sample checked of these found all related to a bulk update adding the GPS co-ordinates to ICPs and in these instances the bulk upload file was defaulting to the last effective event date causing these to appear backdated.

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 (discussed below) and the initial network events relating to the creation of ICPs.

Overall compliance of VECT network updates was 35.67% with 32,004 late network update events with an average of 395.15 days to update. 7,505 updates were more than 1,000 business days after the event date and 25,719 were more than 100 business days after the event date.

A sample of ten of these updates were checked and found:

- four related to network updates sent to the registry with no change to the network values except for the addition of “VE” to the unmetered load details. This appears to be a system issue and is being investigated;
- four related to the correction of the initial electrical connection date errors discussed in **section 3.5**, and
- the remaining two late network events were corrections to data.

Overall compliance of UNET network updates was 16.84% with 22,777 late network update events with an average of 496.12 days to update. 4,069 updates were more than 1,000 business days after the event date and 18,846 were more than 100 business days after the event date.

A sample of ten of these updates were checked and found:

- eight related to the correction of the initial electrical connection date errors discussed in **section 3.5**, and
- two examples of the same network updates sent to the registry with no change to the network values except for the addition of “VE” to the unmetered load details. This appears to be a system issue and is being investigated.

Distributed Generation

14.69% of all VECT distributed generation network updates were made on time with an average time to update the registry of 263.91 days. There were 360 late network updates. The sample checked of these found:

- five were late due to late notification of the installation from the field, and
- five were corrections to fix data which were correctly backdated to the effective date.

16.84% of all UNET distributed generation network updates were made on time with an average time to update the registry of 234.22 days. There were 390 late network updates. The sample checked of these found:

- nine were late due to late notification of the installation from the field, and
- one was a correction to fix data which was correctly backdated to the effective date.

The distributed generation process is discussed in **section 4.6**.

Change of NSP

The process of NSP changes was examined and has not changed during the audit period. The operations team provide notifications of NSP changes that are for longer than 14 days. These are then updated in GIS and then this is uploaded to Gentrack which updates to the registry. The audit compliance report is used to identify potential discrepancies, and these are investigated on a regular basis.

The audit compliance report identified 126 (52 VECT and 74 UNET late NSP changes). A sample of ten late updates for each network code were examined and found these were all corrections required due to three causes:

- 17 were due to the corrections to the initial electrical connection dates causing the earlier NSP change to be overwritten; these are being corrected upon discovery and are backdated to the correct event date,
- two were due to corrections to the solar details that caused the earlier NSP change to be overwritten; these are being corrected upon discovery and are backdated to the correct event date, and
- ICP 1001260549LCD75 had two NSP events for the same day; the system chose the incorrect NSP event which has now been reversed.

The accuracy of NSP mapping is discussed in **section 4.2**.

Pricing events

Traders send price change requests through and these are processed at the end of each month. Vector's UoSA allows pricing to be backdated.

The compliance reporting found 70,553 late VECT and 34,083 late UNET pricing updates. The sample checked of these found that this was largely due to the updating of the initial electrical connection date and these updates incorrectly included pricing details to be repopulated which overwrote subsequent pricing changes. This was prior to the automation of updates. Pricing updates can no longer be backdated more than one year and if there is a subsequent price change, the later price change will be retained.

Decommissioning Status events

The decommissioning process is discussed in **section 4.11**. The code changed on 1/11/18 in relation to the Distributor updating an ICP to decommissioned. I have assessed the activity in relationship to this in accordance with the code effective at the time the event occurred.

The audit compliance report recorded that 78.95% of all VECT status updates to decommissioned were made on time with an average time to update the registry of 5.74 days, and 80.67% of all UNET status updates to decommissioned were made on time with an average time to update the registry of 4.88 days. There were 289 late VECT updates and 138 late UNET updates. The sample checked of these showed that this was due to a service request not being logged in Siebel. This process was included in the change automation. Once a service request is logged, if it passes validation a service request is raised and issued to the field. Job progress is tracked in Siebel. Once completed and validation confirms that all the required details have been provided and match as expected, Siebel completes the service request and updates Gentrack which then writes to the registry. This includes prompting the trader to move the ICP to the "inactive- ready for decommissioning" status if required. If any of the validations fail these are sent as an exception to a work queue to be reviewed and resolved.

The backdating of events to the registry is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.1</p> <p>With: clause 8 schedule 11.1</p> <p>From: 01-Sep-19</p> <p>To: 22-Aug-20</p>	<p>Registry event updates backdated greater than three days.</p> <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 4</p>		
Audit risk rating	Rationale for audit risk rating		
Medium	<p>The controls are rated as moderate as the checks in place will mitigate risk most of the time.</p> <p>The audit risk rating is assessed to be medium due to the number of backdated pricing events found in this audit as this will have a direct impact on participants.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Please refer to preventative actions below			Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Address:</p> <p>The issue with backdating of bulk GPS updates is currently being investigated by our IT team. No further bulk GPS updates will be carried out until the issue has been resolved.</p> <p>Network:</p> <p>The issue of VE being added to the UML is also being investigated to determine cause.</p> <p>The majority of late network backdates were due to population of missing IECD. Please refer comments in section 3.5</p> <p>Pricing:</p> <p>Vector have changed our rules for updating the price plan after energisation data is received. We will now only back date as far as a year or to the latest price plan change event (which ever is the most recent).</p> <p>Decommission: refer to comments in section 4.11</p>		<p>Estimated Oct/Nov 2020</p> <p>July 2020</p>	

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 audit compliance reports for 1/09/19 to 22/08/20 were reviewed to determine compliance. A typical sample of 40 ICPs per code were checked.

Audit commentary

The process for allocating new ICPs to the correct transformer was examined. Each ICP is reviewed in GIS to determine the correct transformer based on the ICPs surrounding it. The transformer maps back to the NSP. Vector use the audit compliance reporting to monitor potential NSP discrepancies.

The audit compliance report found some 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	2020	2019
VECT	179	308
UNET	110	250
Total	289	558

The sample of 40 ICPs per code checked found:

- VECT-14 were mapped incorrectly and are being corrected (35%); and
- UNET-21 were mapped incorrectly and are being corrected (53%).

The overall volume of potentially mis-mapped ICPs has reduced by almost half during the audit period. These are historical as the new connection process has robust controls in this respect. The volume on these lists continues to change as older ICPs are made active again which makes them visible. Vector continues to work through the historic ICPs to resolve these. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.2 With: Clause 7(1)(b) Schedule 11.1 From: 01-Sep-19 To: 22-Aug-20	35 of the 80 ICPs sampled mapped to the incorrect NSP. Potential impact: Low Actual impact: None Audit history: Once previously Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong as the mapping for new ICPs is robust and historic ICPs that are potentially mis-mapped are continually being worked through. 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
To mitigate the number of errors, the EA "Registry Audit Comparison Report – NSP Discrepancies" report is run for VECT and UNET on a monthly basis and the remediation's required are completed. There are other reports set up by Vector that show ICPs on Pending Transformers. These reports are run on a weekly basis and the remediations required are completed		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above		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 audit compliance reports for 1/09/19 to 22/08/20 were reviewed to determine compliance.

Audit commentary

The address information provided by the customer is used to locate the ICP. Gentrack does not stop duplicate addresses being created but operators are expected to manually check for duplicate addresses before an ICP is created. 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**. Vector continues to work through the historically hard to locate addresses and the volume of these continues to decrease.

	Duplicate addresses		Unlocatable addresses	
Code	2020	2019	2020	2019
VECT	99	90	805	1,060
UNET	198	92	850	1,184
Total	297	182	1,655	2,244

A typical sample of ten duplicate and unlocatable ICPs per network code were checked.

Duplicated Addresses

This found 11 ICPs had duplicated GPS co-ordinates as well. This process is discussed in **section 4.8**. The majority of the 20 addresses examined required additional information to make them readily locatable and this was being requested from the trader. There were two examples where the operator missed the check for duplication step when creating the ICP causing these to be duplicated.

Unlocatable Addresses

This found none of the 20 ICPs checked had GPS co-ordinates recorded. Half of the sample checked were relatively new connections that were recorded with a Lot number and had not been updated with the street number. The other half were due to human error putting address details into the incorrect field e.g. property number entered in the unit number field.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.4 With: Clause 2 Schedule 11.1 From: 01-Sep-19 To: 22-Aug-20	1,655 ICPs with addresses that are not readily locatable. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate as they will mitigate risk most of the time but there is room for errors to occur. The risk rating is low as this has no direct impact on reconciliation.		
Actions taken to resolve the issue		Completion date	Remedial action status
Vector continue to work on identifying and correcting historical address information on our ICPs and are obtaining assistance from traders where necessary. This is an ongoing project.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Vector run the Registry Audit Compliance report on a monthly basis to identify address issues for correction. This will be used to identify any human errors for correction.		Ongoing	

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 has required that all ICPs created since 7 October 2002 will comply with this clause.

Audit outcome

Compliant

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

Code reference

Clause 7(1) Schedule 11.1

Code related audit information

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

- *the location address of the ICP identifier (Clause 7(1)(a) of Schedule 11.1)*
- *the NSP identifier of the NSP to which the ICP is usually connected (Clause 7(1)(b) of Schedule 11.1)*
- *the installation type code assigned to the ICP (Clause 7(1)(c) of Schedule 11.1)*
- *the reconciliation type code assigned to the ICP (Clause 7(1)(d) of Schedule 11.1)*
- *the loss category code and loss factors for each loss category code assigned to the ICP (Clause 7(1)(e) of Schedule 11.1)*
- *if the ICP connects the distributor's network to an embedded generating station that has a capacity of 10MW or more (Clause 7(1)(f) of Schedule 11.1):*
 - a) *the unique loss category code assigned to the ICP*
 - b) *the ICP identifier of the ICP*
 - c) *the NSP identifier of the NSP to which the ICP is connected*
 - d) *the plant name of the embedded generating station*
- *the price category code assigned to the ICP, which may be a placeholder price category code only if the distributor is unable to assign the actual price category code because the capacity or volume information required to assign the actual price category code cannot be determined before electricity is traded at the ICP (Clause 7(1)(g) of Schedule 11.1)*
- *if the price category code requires a value for the capacity of the ICP, the chargeable capacity of the ICP as follows (Clause 7(1)(h) of Schedule 11.1):*
 - a) *a placeholder chargeable capacity if the distributor is unable to determine the actual chargeable capacity*
 - b) *a blank chargeable capacity if the capacity value can be determined for a billing period from metering information collected for that billing period*
 - c) *if there is more than one capacity value at the ICP, and at least one, but not all, of those capacity values can be determined for a billing period from the metering information collected for that billing period-*
 - (i) *no capacity value recorded in the registry field for the chargeable capacity; and*
 - (ii) *either the term "POA" or all other capacity values, recorded in the registry field in which the distributor installation details are also recorded*
 - d) *if there is more than one capacity value at the ICP, and none of those capacity values can be determined for a billing period from the metering information collected for that billing period-*
 - (i) *the annual capacity value recorded in the registry field for the chargeable capacity; and*
 - (ii) *either the term "POA" or all other capacity values, recorded in the registry field in which the distributor installation details are also recorded*
 - e) *the actual chargeable capacity of the ICP in any other case*

- *the distributor installation details for the ICP determined by the price category code assigned to the ICP (if any), which may be placeholder distributor installation details only if the distributor is unable to assign the actual distributor installation details because the capacity or volume information required to assign the actual distributor installation details cannot be determined before electricity is traded at the ICP (Clause 7(1)(i) of Schedule 11.1)*
- *the participant identifier of the first trader who has entered into an arrangement to sell or purchase electricity at the ICP (only if the information is provided by the first trader) (Clause 7(1)(j) of Schedule 11.1)*
- *the status of the ICP (Clause 7(1)(k) of Schedule 11.1)*
- *designation of the ICP as "Dedicated" if the ICP is located in a balancing area that has more than one 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 audit compliance reports for 1/09/19 to 22/08/20 and registry lists as at 31/07/20 were reviewed to determine compliance. A typical sample of data discrepancies were checked.

Registry data validation processes are discussed in **section 2.1**.

Audit commentary

All ICP information was checked and confirmed compliant unless discussed below:

Distributed Generation

Vector require an application for all distributed generation. All applications have to be approved before allowing distributed generation to be connected to their network, but Vector is reliant on customers following the process. Once the application has been received a service request is created in Siebel and this is used to manage the workflow. This includes automated reminders sent to the applicant after ten business days of approval (as required by Part 6 of the code). This is only loaded to Gentrack once the code of compliance (COC) has been received back from the contractor to confirm that compliant export/import metering has been installed. As noted in **section 4.1**, this can be slow in being returned and causes Vector to be late in updating this information to the registry.

Examination of the list files found 5,425 (2,541 VECT and 2,884 UNET) active ICPs with generation capacity. Four VECT and four UNET ICPs had generation capacity recorded and an installation type of L, and one UNET ICP also had no fuel type recorded. These were examined and found that a network event had changed the "B" back to "L". These have been corrected. This is recorded as non-compliance.

The audit compliance reporting identified 369 ICPs (149 VECT and 220 UNET) where the trader has indicated that distributed generation is present, and Vector have none recorded.

Vector has reporting in place using the trader's profile to identify ICPs with distributed generation indicated where Vector has none recorded. This is still set to only look for profiles with "EG" and therefore not all ICPs were being identified. I recommend that Vector add a check for "PV" profiles to this report. I also recommend that the EIEP1 file is reviewed monthly to identify injection where none is expected.

Recommendation	Description	Audited party comment	Remedial action
Distributor to provide of ICP information to the registry	<p>Add "PV" to distributed generation validation reporting.</p> <p>Review EIEP1 file to identify injection where none is expected.</p>	<p>Vector will investigate and look to implement a review of EIEP1 files to help identify injection.</p> <p>We will also review our reporting to include the PV profile.</p>	Investigating

A sample of ten ICPs per network code were examined and found:

- an application has been approved for ten (six VECT & four UNET) ICPs but no COC has been received,
- an application has never been received for the five (two VECT & three UNET) ICPs and the trader has been contacted to request details,
- three (one VECT & two UNET) were not updated due to human error,
- the generation has been removed from ICP 0478662904LC4B8 as advised by the customer, and
- the COC has since been received for ICP 0000168378UN198 and has been updated as part of BAU.

The three ICPs with distributed generation installed but not recorded on the registry is recorded as non-compliance.

A check of the list files identified 1,571 (933 VECT and 638 UNET) active ICPs where Vector has distributed generation is present, but the trader's profile does not indicate this. There is a known issue with one trader's system not recording the correct distributed generation profile on the registry and when their code is excluded it reduces the number to 81 (38 VECT and 43 UNET) ICPs. A sample of ten ICPs per network code were checked and found all had injection metering present and distributed generation has been confirmed as present indicating that the trader's profile is incorrect.

I checked that generation fuel types were consistent with the profiles applied by the trader and identified eight exceptions (two VECT and six UNET) and found:

- four ICPs with the incorrect fuel type recorded; this was due to the incorrect fuel type being selected in the drop-down list and these have been corrected, and
- four were confirmed as correct indicating that the trader's profile is incorrect.

I checked the distributed generation information populated on the registry against the paperwork provided for a sample of 20 ICPs and found:

VECT

ICP	Registry effective distributed generation connected date	Installation paperwork High risk register certification date	Registry kW capacity	Installation paperwork kW capacity	Comments
0107324032LC346	13/04/2018	None	6	-	No record on high risk register. Vector's detail's correct.
0113877767LCF32	15/02/2017	None	6.4	-	No record on high risk register. This is part of Vector's solar project. All information recorded as provided.
0130444243LC9B7	17/02/2019	1/04/19	8	Not indicated	COC paperwork indicates Vector is correct.
0137702698LCDE1	28/07/2020	None	5	-	No record on high risk register. COC paperwork indicates Vector is correct.
0180007106LCE5E	17/07/2020	None	3.68	-	No record on high risk register. COC paperwork indicates Vector is correct.
0198021097LCFA8	4/11/2019	None	4.6	-	No record on high risk register. Vector's detail's correct.
0203233749LCBF4	21/04/2017	None	6.4	-	No record on high risk register. This is part of Vector's solar project. Information is recorded as provided.
0350499004LC9BB	3/04/2017	26/04/17	1.44	Not indicated	COC paperwork found Vector's date is incorrect. This has been corrected.
0352874831LCBE0	6/04/2017	None	6.4	-	No record on high risk register.

ICP	Registry effective distributed generation connected date	Installation paperwork High risk register certification date	Registry kW capacity	Installation paperwork kW capacity	Comments
					This is part of Vector's solar project. Information is recorded as provided.

UNET

ICP	Registry effective distributed generation connected date	Installation paperwork High risk register certification date	Registry kW capacity	Installation paperwork kW capacity	Comments
0000228795UNF59	11/06/2018	25/07/18	3	Not indicated	COC paperwork indicates Vector is correct.
0000162919UN667	8/11/2017	None	6.4	-	No record on high risk register. COC paperwork indicates Vector is correct.
0000161629UNC70	12/06/2017	16/06/17	6.4	Not indicated	This is part of Vector's solar project. Date is recorded as provided.
0000131828UN54A	12/06/2017	None	3.68	-	No record on high risk register. COC paperwork indicates Vector is correct.
0000134166UNA5D	16/08/2017	21/08/17	4.32	5	COC paperwork indicates Vector's date is correct but kVa value was recorded instead of kW.
0000149689UN0A2	8/12/2017	12/01/18	2.07	Not indicated	COC paperwork indicates Vector's date is correct.
0000158209UN0A8	28/03/2011	None	1.7	-	No record on high risk register.

ICP	Registry effective distributed generation connected date	Installation paperwork High risk register certification date	Registry kW capacity	Installation paperwork kW capacity	Comments
					COC paperwork indicates Vector is correct.
0000158402UN87A	29/05/2017	8/12/16	6.4	5kW	This is part of Vector's Tesla battery project. Information recorded as provided.
0000161496UNB1B	9/03/2017	None	6.4	-	No record on high risk register. This is part of Vector's solar project. Information recorded as provided.
0000162174UN6C1	19/04/2017	26/04/17	4.35	5kW	COC paperwork indicates Vector's date is correct but kVa value was recorded instead of kW.

The 2019 audit found that the kW capacity for 0128821035LC789 was recorded incorrectly as 2 but should be 1.5. This appears to have been missed being corrected post the last audit but has now been corrected.

I checked the generation fleet listings from the EMI site with the list files and this was discussed during the site audit:

Station_Name	ICP	2020 Comments
Ascot Ave	1001116687LC9CF	Had a generation capacity of 1 kW but this should be 100kW. This was corrected in the last audit, but a subsequent network event reverted it to 1kW. This has now been corrected.
Auckland District Hospital	0800539060LCBFF	Vector have confirmed that this is correctly recorded in the registry as connected to PEN1101. Vector are advising the Electricity Authority to correct the EMI spreadsheet from PEN0331 to PEN1101.

Station_Name	ICP	2020 Comments
Mansons Developments		Vector have been in touch with the trader but without an ICP little progress was made. Vector are going back to the trader to request a list of all ICPs associated with Mansons Developments in an attempt to identify the ICP/s associated with this generation. The generation capacity is recorded as 0.002 MW on the EMI spreadsheet.
Pacific Steel	1001283553LCAD4	This has been confirmed as back up generation that is not connected to the grid therefore it is not required to be recorded on the registry.
Watercare Clevedon	0201189083LC007	This has been confirmed as back up generation that is not connected to the grid therefore it is not required to be recorded on the registry.
Watercare Mangere	0286447869LCCF5	This has no generation recorded on the registry. Vector checked with the trader recorded on the EMI spreadsheet. This ICP has switched to a different trader. Vector is checking with the current trader to confirm what is present.
Whitford Landfill	0206259429LCF4D	The value of 5300 kW recorded in the registry is believed to be correct but is different to that recorded in the EMI spreadsheet of 3MW. This is with the Key Account Manager to confirm which value is correct.
Redvale Landfill	1001249913UN499	No application for distributed generation has been received for this site. This is not the correct ICP associated with this generation. Vector are checking with the trader to find the correct ICP and confirm the load.
Rosedale Landfill	0001264837UNE60	No application for distributed generation has been received for this site. This is not the correct ICP associated with this generation. Vector are checking

Station_Name	ICP	2020 Comments
		with the trader to find the correct ICP and confirm the load.
Watercare Waitakere		No application for distributed generation has been received for this site. Vector are checking with the trader to find the correct ICP and confirm the load.

The one ICP with the incorrect details recorded on the registry is recorded as non-compliance below.

Initial Electrical Connection Date

As discussed in **section 3.5**, Vector rely on the trader or their agent to provide them with the initial electrical connection date. This is loaded to Gentrack and this then writes to the registry. They are working to change this so that they warrant the livening agents directly and require them to provide this information directly to Vector.

The audit compliance reports identified 111 (68 VECT & 43 UNET) ICPs where the initial electrical connection date is different to that of the first active date and/or the meter certification date. These volumes are small as Vector is effectively using the trader's first active date to populate this. These were examined and found:

VECT

- 28 ICPs where the first active date and the initial electrical connection date matched but the meter certification was later were confirmed to be correct. 20 of these related to the BCPL ICPs that were livened (01/08/19) earlier than they were requested and did not have certified metering until 10/03/20.
- Three ICPs where the first active date and the initial electrical connection date matched but the meter certification was earlier found two were correct and one incorrect. These are detailed in the table below.
- 29 where the first active date matches the meter certification date but has a different initial electrical connection date recorded appears that Vector has the incorrect initial electrical connection date. Vector are checking these with the test house.
- Eight ICPs where the meter certification matched Vectors initial electrical connection date but the first active date was later. Vector's date was confirmed to be correct.

ICP	Meter Certification date	Initial Electrical Connection date	First Active date	Days variance	2020 Comments
1002068714LCE32	21/08/2019	29/10/2019	29/10/2019	-69	Incorrect meter certification date recorded. The technician incorrectly closed the service request. ICP confirmed to be electrically connected 29/10/19.

ICP	Meter Certification date	Initial Electrical Connection date	First Active date	Days variance	2020 Comments
1002071084LCA96	05/12/2019	6/12/2019	6/12/2019	-1	Incorrect meter certification date recorded.
1002066509LC903	25/07/2019	26/07/2019	26/07/2019	-1	Initial electrical connection date incorrect.

UNET

- Four ICPs where the first active date and the initial electrical connection date matched but the meter certification was later were confirmed to be correct.
- Seven ICPs where the first active date and the initial electrical connection date matched but the meter certification was earlier were confirmed to be incorrect. These are detailed in the table below.
- 28 where the first active date matches the meter certification date but has a different initial electrical connection date recorded appears that Vector has the incorrect initial electrical connection date. Vector are checking these with the test house.
- Four ICPs where the meter certification matched Vectors initial electrical connection date but the first active date was later. Vector's date was confirmed to be correct.

ICP	Meter Certification date	Initial Electrical Connection date	First Active date	Days variance	2020 Comments
1002072061UN597	1/11/2019	2/11/2019	2/11/2019	-1	Initial electrical connection date incorrect.
1002070500UN067	30/09/2019	1/10/2019	1/10/2019	-1	Initial electrical connection date incorrect.
1002053364UN3B6	9/07/2019	10/07/2019	10/07/2019	-1	Initial electrical connection date incorrect.
1002092100UN25B	10/06/2020	12/06/2020	12/06/2020	-2	Initial electrical connection date incorrect.
1002073487UN303	18/11/2019	20/11/2019	20/11/2019	-2	Initial electrical connection date incorrect.
1002071694UNC29	18/10/2019	22/10/2019	22/10/2019	-4	Initial electrical connection date incorrect.
1002091423UN42B	21/05/2020	28/05/2020	28/05/2020	-7	Initial electrical connection date incorrect.

Initial electrical connection dates which were not confirmed to be correct or found to be incorrect during the 2019 audit were rechecked. All were cleared except:

VECT

ICP	Meter Certification date	Initial Electrical Connection date	First Active date	2019 Comments	2020 Comments
1002050559LC5E7	27/06/2019	1/07/2019	12/07/2019	Trader's agent has provided the initial electrical connection date. Vector are following this up with the trader.	Initial electrical connection date and first active date updated to 27/06/19.
1002050553LC776	28/06/2019	1/07/2019	15/07/2019	Trader's agent has provided the initial electrical connection date. Vector are following this up with the trader.	Initial electrical connection date and first active date updated to 28/06/19.
1002050557LC67C	28/06/2019	1/07/2019	12/07/2019	Trader's agent has provided the initial electrical connection date. Vector are following this up with the trader.	Initial electrical connection date and first active date updated to 28/06/19.
1002050554LCABC	28/06/2019	1/07/2019	9/07/2019	Trader's agent has provided the initial electrical connection date. Vector are following this up with the trader.	Initial electrical connection date and first active date updated to 28/06/19.
1002052144LCF50	1/10/2018	18/09/2018	1/10/2018	Trader's agent has provided the initial electrical connection directly. Vector are following this up with the trader.	Initial electrical connection date and first active date updated to 01/10/18.

UNET

ICP	Meter Certification date	Initial Electrical Connection date	First Active date	2019 Comments	2020 Comments
1002059146UNA21	14/02/2019	31/01/2019	14/02/2019	Trader's agent has provided the initial electrical connection date. Vector are	Initial electrical connection date updated to 14/02/19.

ICP	Meter Certification date	Initial Electrical Connection date	First Active date	2019 Comments	2020 Comments
				following this up with the trader.	
1002058213UNDC5	18/01/2019	16/01/2019	18/01/2019	Trader's agent has provided the initial electrical connection date. Vector are following this up with the trader.	Initial electrical connection date updated to 18/01/19.
1002061434UN6D0	Unmetered supply	19/06/19	15/04/19	Made active by the trader for 1/04/2019 but Vector were advised the initial electrical connection date was 19/06/2019 - this is an unmetered supply and is being queried with the trader.	Initial electrical connection date updated to 15/04/19.

This is recorded as non-compliance in **section 2.1**.

The audit compliance report identified 17 (12 VECT & five UNET) ICPs that are not yet active but have an initial electrical connection date recorded. These were examined and found:

- nine (six VECT and three UNET) ICPs were timing differences and have since been decommissioned or moved to the active status,
- six (four VECT and two UNET) ICPs where the trader has provided incorrect livening information via Siebel; these will either be reversed or decommissioned set up in error once the correct status is confirmed by the trader, and
- two (VECT) ICPs where the trader provided the incorrect initial electrical connection date, both have been corrected.

ICPs that have not had an electrical connection date populated are recorded as non-compliant in **section 3.3**.

Unmetered Load

Vector allow unmetered load connections on the network but as noted in **section 3.3**, there is often not captured on the new connection application form, and the unmetered load is then provided to Vector post electrical connection.

Gentrack has a "drop down" selection of unmetered load types. The format of these is:

- kW value,
- available hours, and
- load type

If the descriptor contains “MultUNMLoad” this indicates multiple items of load are connected and these could indicate distributed unmetered load.

Comparison between trader and distributor unmetered load details

The list files identified 2,421 (1,712 VECT & 709 UNET) active ICPs with unmetered load details recorded by Vector. I was able to compare the loads for 1,637 ICPs (1,183 VECT & 454 UNET). I found the load matched within +/- 0.1 kWh for 1,588 (1,162 VECT & 426 UNET) ICPs (96.9%). All (49) ICPs with variances were checked and found:

- Vector had the correct load recorded and the trader’s load was incorrect for 26 ICPs,
- Vector have updated their unmetered load to be recorded to three decimal points whilst the traders have theirs recorded to two decimal places which has caused a small variance between the figures for six ICPs,
- 14 ICPs have either a load description variance or Vector have set these up as per the unmetered load description provided which is different to that recorded with the trader; Vector believe their load to be correct, and
- the load was aligned with the traders for three ICPs.

Individual ICPs have been created for the two ICPs that had multiple telco cabinets recorded found in the last audit. ICP 0001416960UNA38 has been decommissioned and ICP 0001416958UNFD4 is now ready for decommissioning.

The two ICPs related to unmetered cell phone towers detailed in the last audit have had their unmetered loads confirmed and the loads match the traders for both.

Unmetered load recorded by the distributor and not the trader

There was one UNET ICP which had unmetered load recorded by the distributor and not the trader. This has now been metered and the unmetered load has been removed.

Unmetered load recorded by the trader and not the distributor

There were 42 ICPs (eight VECT and 34 UNET) which had unmetered load recorded by the distributor and not the trader. These are historic and the unmetered load is not known by Vector, however Vector have requested the traders confirm the unmetered load details and if confirmed these details will be added.

ICPs with unmetered load created during the audit period but where Vector has none recorded are recorded as non-compliance in **section 3.3**.

Dedicated vs non-dedicated NSPs

The application of dedicated vs non-dedicated flag was examined. All of Vector’s GN ICPs are expected to be set to “N”. Examination of the list files identified one VECT ICP 1002077046LC83C with the flag set to “Y”. This was changed in error and been corrected.

The LE ICPs were examined and found 48 (35 VECT & 13 UNET) of the LE ICPs had the flag incorrectly set to “N”. 12 of these were created during the audit period. The automated ICP creation process resulted these in being created with the incorrect flag. This is discussed in **sections 1.12**. The remaining 36 ICPs were correct but were incorrectly updated to “N” due to either:

- a correction on the registry but not corrected in Gentrack so the next network change made overwrote the correction, or
- the correction was made for the incorrect event date resulting in the subsequent incorrect flag remaining.

These are being corrected in both Gentrack and the registry so this will not occur again. Additionally, the LE creation process is being reviewed to ensure these are created correctly. The flag is expected to be corrected for these ICPs. The incorrect NSP dedication flags are recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.6</p> <p>With: Clause 7(1) Schedule 11.1</p> <p>From: 01-Sep-19</p> <p>To: 22-Aug-20</p>	<p>Distributed generation details incorrect for a small number of ICPs.</p> <p>A small number of ICPs with an incorrect initial electrical connection date populated.</p> <p>Three incorrect unmetered load details.</p> <p>One "GN" ICP with an incorrect dedication flag of "Y".</p> <p>48 LE ICPs with the incorrect NSP dedication flag of "N".</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are rated as moderate and continue to be improved.</p> <p>The audit risk rating is assessed to be low as the discrepancies have only a minor impact to the market.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Issues identified with the distributed generation details have been corrected.		15/10/2020	Investigating
Vector have contacted the licensing agent or traders to investigate the ICPs with incorrect initial electrical connection dates. These will be updated once correct details are confirmed.		Investigating	
All LE ICPs have had the Dedicated NSP flag updated to Y.		24/09/2020	
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Vector will continue to run the Registry Audit Compliance report to identify potential incorrect initial electrical connection dates and follow up these discrepancies with the traders.</p> <p>LE ICPs: refer to comments in section 1.12</p>		Ongoing	

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

Code reference

Clause 7(3) Schedule 11.1

Code related audit information

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

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

Audit observation

The management of registry information was reviewed. The registry lists as at 31/07/20 and audit compliance reporting for 1/09/19 to 22/08/20 were reviewed to determine compliance.

Audit commentary

Vector has confirmed these details are known prior to electrical connection of the ICP. If any changes are required these are updated as soon as possible. The backdated price category changes were checked in **section 4.1** and relate to corrections. Placeholder values are not used.

Audit outcome

Compliant

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

Code reference

Clause 7(8) and (9) Schedule 11.1

Code related audit information

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

Audit observation

The registry lists as at 31/07/20 were 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.

Vector have worked with external agencies to match their addresses to GPS co-ordinates. This has largely worked well and there are only approximately 100,000 ICPs still to have co-ordinates added. Some of the addresses are proving difficult to determine. I recommend liaising with the MEPs who are capturing meter GPS co-ordinates as this may assist in resolving these.

Recommendation	Description	Audited party comment	Remedial action
GPS co-ordinates	Liaise with MEPs to use meter GPS co-ordinates where no other details are available.	Vector agree to make contact with the MEPs for co-ordinates where appropriate.	Identified

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 six exceptions for UNET and none for VECT. These were examined and whilst Vector have carried out multiple levels of validation three of these were mapped incorrectly. The remaining three were due to address changes made but the GPS co-ordinates were not updated. The processes for the updating of addresses is still being worked through and the GPS co-ordinates will be removed for address changes until this process has been defined. Overall, the accuracy of the GPS co-ordinates was high.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.8</p> <p>With: Clause 7(8) and (9) Schedule 11.1</p> <p>From: 31-Jul-20</p> <p>To: 31-Jul-20</p>	<p>Six ICPs with the incorrect GPS co-ordinates.</p> <p>Potential impact: Low</p> <p>Actual impact: None</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as moderate as the population controls are robust but not all processes are in place to manage the accuracy of GPS co-ordinates.</p> <p>The audit risk rating is assessed to be low as there were only six ICPs found with the incorrect co-ordinates recorded.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Three of the six ICPs that had not had the coordinates updated when the addresses were changed have been remediated and the remaining three that had been populated with the incorrect coordinates provided by Corelogic have had the coordinates updated to align with our GIS record.		28/09/2020	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>At the point an address is being changed the old coordinates will be removed if the new address is in a different physical location.</p> <p>Following on, Vector will investigate the address change process to enable the updated coordinates to be entered at the point the data is changed.</p> <p>As an initial measure, exception reporting and validation will be investigated to capture coordinate errors (as there are instances where the source data from Corelogic has been identified as incorrect) and, also to ensure there is a process for reviewing valid ICPs that are missing coordinates (excluding streetlights, traffic lights, bus stops etc).</p>		<p>Ongoing</p> <p>Investigation required</p> <p>Investigation required</p>	

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

Vector’s current process is to create all ICPs at the “ready” status.

The registry lists showed 1,524 (939 VECT & 585 UNET) ICPs currently at “ready” status, 115 (55 VECT & 60 UNET) have been at “ready” status for more than two years. This is discussed further in **section 3.14**.

Audit commentary

As noted in **section 3.2**, the vast majority of ICP requests come directly from customers or their agents and are received either via the online portal or via the contact centre. Once all the details have been gathered the ICP is provided to the applicant and the trader.

The ICP creation process has been automated during the audit period. Previously all new applications had to be reviewed and then once complete the process to create the ICP was triggered in Gentrack. Now, applications are reviewed in Siebel and providing all the information is provided the request for a new ICP is sent directly to Gentrack from Siebel, and then notification is issued to the applicant and the proposed trader from Siebel.

The price category field in Gentrack ensures each ICP can only have a single price category. Examination of the list file confirmed that all ICPs at “ready” status had a single price category assigned and proposed trader identified, except for two UNET ICPs discussed in **section 3.7** which do not have a proposed trader recorded. The timeliness of this information being populated is discussed in **section 3.4**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.9 With: Clause 14 Schedule 11.1 From: 11-May-20 To: 25-Aug-20	UNET ICPs 1002080470UN9A2 and 1002092185UNA5E are incorrectly recorded at the “ready” status without a proposed trader. These should be “decommissioned - set up in error”. Potential impact: Low Actual impact: None Audit history: Three times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate as the new connection process requires a proposed trader to be populated before the update will flow to the registry. The audit risk rating is assessed to be low to none as there were only two ICPs affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
Refer comments in section 3.7			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Refer comments in section 3.7			

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 files as at 31/07/20 were reviewed to identify ICPs at the “distributor” status and check compliance.

Audit commentary

Vector has 184 (134 VECT and 50 UNET) ICPs 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 new embedded networks created during the audit period and confirmed all had at least one LE ICP recorded.

Audit outcome

Compliant

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

Code reference

Clause 20 Schedule 11.1

Code related audit information

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

Decommissioning only occurs when:

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

Audit observation

The registry list as at 31/07/20 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

Vector’s decommissioning process has been automated as much as possible. All ICPs to be decommissioned are expected to have an application for decommissioning to be submitted via Siebel which raises a service request. These can be lodged by the customer directly or via the contact centre. All details are verified before the decommissioning is progressed. The job is issued to Electrix or Northpower. The trader and MEP are notified via email. The trader is expected to close their task in Siebel, but this is not essential as the system monitors ICPs that are set to “Ready for decommissioning” in the registry and if detected the job is closed. Either way once the job is closed in Siebel, Gentrack gets updated and this then flows to the registry. If there are details missing a work queue is created and Vector review these on a case by case basis to close them. The timeliness of these updates is discussed in **section 4.1**.

The sample of ICPs decommissioned confirmed that all were decommissioned for the correct date.

Ready for decommissioning

Vector’s system checks for an open job in Siebel for any ICPs that are set to “ready for decommissioning” in the registry. If no request has been lodged a notification is issued to the trader to lodge the service request. If no response is received from the trader these are followed up with the trader to action.

The number of ICPs at ready for decommissioning status has increased over the past two years. This was discussed and found not to be due to a backlog but an increase in decommissioning activity as development continues in the Auckland region:

Code	Number of ICPs 2020	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017
VECT	582	477	296	632
UNET	276	242	180	614
Total	858.	719	476	1,246

A sample of ten ICPs per network code were checked and found:

- 12 ICPs have been decommissioned but cannot be completed as no service request has been lodged by the trader, the trader has been requested to do this in all instances,
- two ICPs have had a registry event dated after the decommissioning date that need to be reversed before the decommissioning event can be processed,
- two ICPs were not decommissioned due to human error preventing the service request to be completed,
- two ICPs have since been decommissioned as part of BAU, and
- two ICPs are being investigated with the trader as further details are required before the decommissioning can be completed.

The ICPs not decommissioned due to events Vector can reverse are recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.11 With: clause 20 schedule 11.1 From: 01-Sep-19 To: 31-Aug-20	ICPs decommissioned but not updated to decommissioned on the registry. 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 they are still hindered by traders not actioning tasks in Siebel which prevents Vector from completing. The audit risk rating is low this has no direct impact on reconciliation.		
Actions taken to resolve the issue		Completion date	Remedial action status
ICPs not decommissioned due to human error and ICPs where later events prevented update have now all been fixed.		15/10/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The automation of the ICP updates is expected to prevent the human errors from occurring. Vector continue to follow up with traders where ICPs are set to a ready to decommission status where decommission requests have not been logged. Vector continue to run the status comparison reports to pick up where later registry events have prevented updates.		July 2020 Ongoing	

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

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

Distributor	Code	Start Date	Last Updated
VECT	ARHSC	1/04/2020	9/01/2020 9:45
VECT	ARHLC	1/04/2020	9/01/2020 9:44
UNET	WRHSC	1/04/2020	9/01/2020 9:41
UNET	WRHLC	1/04/2020	9/01/2020 9:32

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.

The 2019 audit recorded non-compliance because RDVL was updated on 27/08/19 with a backdated effective date of 1/11/18, but the code should have been active since at least 14/06/13 when generation commenced. A backdated correction to clear this issue was processed on 09/12/19.

Vector reviewed the distributed generation process for loss factors >10MW. Any such connections will be sent to the billing team to create a unique loss factor code as required.

Audit outcome

Compliant

5.2. Updating loss factors (Clause 22 Schedule 11.1)

Code reference

Clause 22 Schedule 11.1

Code related audit information

Each loss category code must have a maximum of 2 loss factors per calendar month. Each loss factor must cover a range of trading periods within that month so that all trading periods have a single applicable loss factor.

If the distributor wishes to replace an existing loss factor on the table in the registry, the distributor must enter the replaced loss factor on the table in the registry.

Audit observation

The loss category code table on the registry was examined.

Audit commentary

No loss factors were updated, apart from the backdated correction for RDVL described in **section 5.1**.

Audit outcome

Compliant

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

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

Code reference

Clause 11.8 and Clause 25 Schedule 11.1

Code related audit information

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

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

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

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

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

Audit observation

The NSP table was examined.

Audit commentary

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

Audit outcome

Compliant

6.2. Provision of NSP information (Clause 26(1) and (2) Schedule 11.1)

Code reference

Clause 26(1) and (2) Schedule 11.1

Code related audit information

If the distributor wishes to create an NSP or transfer an ICP as described above, the distributor must request that the reconciliation manager create a unique NSP identifier for the relevant NSP.

The request must be made at least 10 business days before the NSP is electrically connected, in respect of an NSP that is an interconnection point between two local networks. In all other cases, the request must be made at least one month before the NSP is electrically connected or the ICP is transferred.

Audit observation

The NSP table was examined.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

Audit observation

The NSP table was reviewed.

Audit commentary

No balancing area changes have occurred during the audit period.

Audit outcome

Compliant

6.4. Notice of supporting embedded network NSP information (Clause 26(4) Schedule 11.1)

Code reference

Clause 26(4) Schedule 11.1

Code related audit information

If a participant notifies the creation of an NSP, or the transfer of an ICP to an NSP that is a point of connection between a network and an embedded network owned by the distributor, the distributor must give notice to the reconciliation manager at least 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 for Vector's NSPs.

Audit outcome

Compliant

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

Code reference

Clause 27 Schedule 11.1

Code related audit information

If a transfer of an ICP results in an ICP becoming an NSP at which an embedded network connects to a network, or in an ICP becoming an NSP that is an interconnection point, in respect of the distributor's network, the distributor must give written notice to any trader trading at the ICP of the transfer at least 1 month before the transfer.

Audit observation

The NSP table was reviewed.

Audit commentary

No existing ICPs became NSPs during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 1 to 4 Schedule 11.2

Code related audit information

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

Audit observation

The NSP supply point table was reviewed, and no changes were made. Vector identified 11 ICPs that have been transferred during the audit period. These were examined.

Audit commentary

There were six ICPs transferred between the UNET and VECT networks and five ICPs transferred from AIAL to the VECT network. These were corrections as detailed below:

ICP	Electrical Connection date	Original NSP & Network	Correct NSP & Network	Date notified	Date Transferred	Comments
1002044796LC9B0	4/07/18	PAK0331 VECT	ALB1101 UNET	17/06/19	1/08/20	Forward dated transfer agreed with trader
0000962197TU921	01/03/13	HEP0331 UNET	HEP0331 VECT	25/05/19	1/05/19	No permission granted by EA to backdate
1002065815LC758	12/06/19	TAK0331 VECT	SVL0331 UNET	8/04/20	1/12/19	No permission granted by EA to backdate
1002052450UNBE6	16/08/18	ALB1101 UNET	TAK0331 VECT	25/02/20	1/12/19	No permission granted by EA to backdate
1002062854LCDD8	16/04/19	HOB1101 VECT	HEN0331 UNET	13/11/19	1/11/19	Permission given by the EA to backdate. Notifications were for a transfer to HEN0331 but the ICP was transferred to ALB1101 (UNET) in error from 1/11/19 -22/12/20. It was then moved to HEN0331. Vector are correcting this.
0180674909LC8B3	24/03/05	TAK0331 VECT	HEP0331 UNET	14/11/19	8/12/19	
0003133694AAA55	22/04/15	AKL0331 AIAL	MNG0331 VECT	29/11/19	3/12/19	
0003133704AACB6	24/06/15	AKL0331 AIAL	MNG0331 VECT	29/11/19	3/12/19	
0003133695AA610	22/04/15	AKL0331 AIAL	MNG0331 VECT	29/11/19	3/12/19	
0003133700AADBC	24/06/15	AKL0331 AIAL	MNG0331 VECT	29/11/19	3/12/19	

ICP	Electrical Connection date	Original NSP & Network	Correct NSP & Network	Date notified	Date Transferred	Comments
0003133701AA1F9	24/06/15	AKL0331 AIAL	MNG0331 VECT	29/11/19	3/12/19	

These should have been backdated to correct any incorrect information on the registry. This is recorded as non-compliance in **section 2.1**.

Notification was given three days in advance of the change for eight ICPs. Four ICPs were backdated, this requires permission from the Electricity Authority. Permission was granted for ICP 1002062854LCDD8 but not for the remaining three ICPs. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.7 With: clause 4 & 10 schedule 11.2 From: 01-May-19 To: 08-Apr-20	Three ICPs with no permission from the Electricity Authority to backdate the transfer request. 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 the processes in place are identifying these ICPs and corrections are processed. The new connection process also has robust controls to ensure that ICPs are allocated to the correct transformer and therefore the correct NSP and network. The volume found to be incorrect indicate that these are exceptions and mostly historical. The audit risk rating is low as there only a small; number of ICPs affected which will have a minor effect on reconciliation.		
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	
Vector will update our procedures to obtain approval from EA for backdating of any ICPs transfers.			

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

Code reference

Clause 10.25(1) and 10.25(3)

Code related audit information

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

- *there is one or more metering installations (Clause 10.25(1)(a)); and*
- *the electricity is conveyed and quantified in accordance with the Code (Clause 10.25(1)(b))*

For each NSP covered in 10.25(1) the network owner must, no later than 20 business days after a metering installation at the NSP is recertified advise the reconciliation manager of:

- *the reconciliation participant for the NSP*
- *the participant identifier of the metering equipment provider for the metering installation*
- *the certification expiry date of the metering installation*

Audit observation

The NSP supply point table was examined.

Audit commentary

All Vector's NSPs are grid connected.

Audit outcome

Not applicable

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

Code reference

Clause 10.25(2)

Code related audit information

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

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

Audit observation

The NSP supply point table was reviewed.

Audit commentary

All Vector's NSPs are grid connected.

Audit outcome

Not applicable

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

Code reference

Clause 29 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The NSP supply point table was reviewed.

Audit commentary

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 has no embedded networks.

Audit outcome

Not applicable

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

Code reference

Clauses 5 and 8 Schedule 11.2

Code related audit information

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

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

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

Audit observation

The NSP supply point table was reviewed, and no changes were made. Vector identified 11 ICPs that have been transferred during the audit period. These were examined.

Audit commentary

Permission from the trader was gained in all instances prior to the transfer of the ICP.

Audit outcome

Compliant

6.13. Transfer of ICPs for embedded network (Clause 6 Schedule 11.2)

Code reference

Clause 6 Schedule 11.2

Code related audit information

If the notification relates to an embedded network, it must relate to every ICP on the embedded network.

Audit observation

The NSP supply point table was reviewed.

Audit commentary

Vector has initiated the transfer of 11 ICPs during the audit period. There were six ICPs transferred between the UNET and VECT networks and five ICPs transferred from AIAL to the VECT network. These were all corrections and not a transfer of an embedded network.

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. The streetlight audits of the network were assessed.

Audit commentary

No shared unmetered load is known or has been identified as part of the streetlight audits undertaken.

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. The streetlight audits of the network were assessed.

Audit commentary

No shared unmetered load is known or has been identified as part of the streetlight audits undertaken.

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

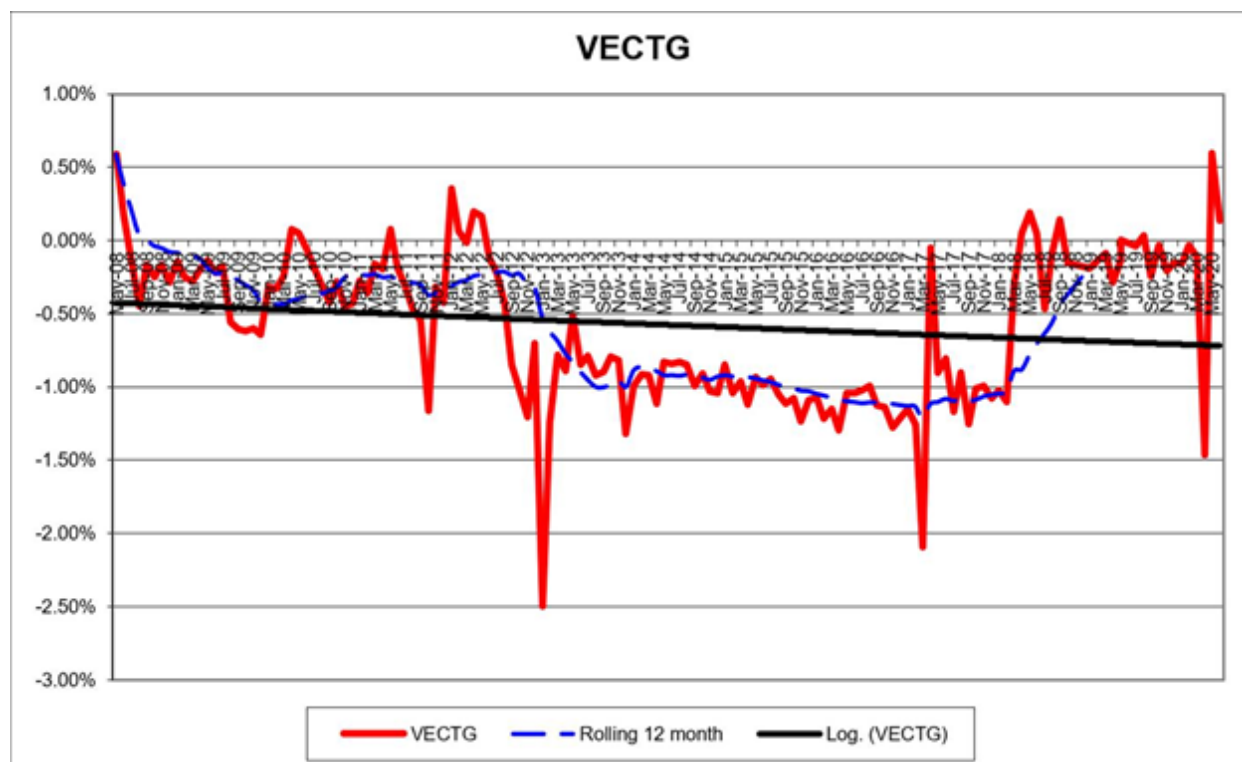
The “Guidelines on the calculation and the use of loss factors for reconciliation purposes” was published on 26 June 2018. I have assessed EA Networks’ process and compliance against the guideline’s recommended thresholds.

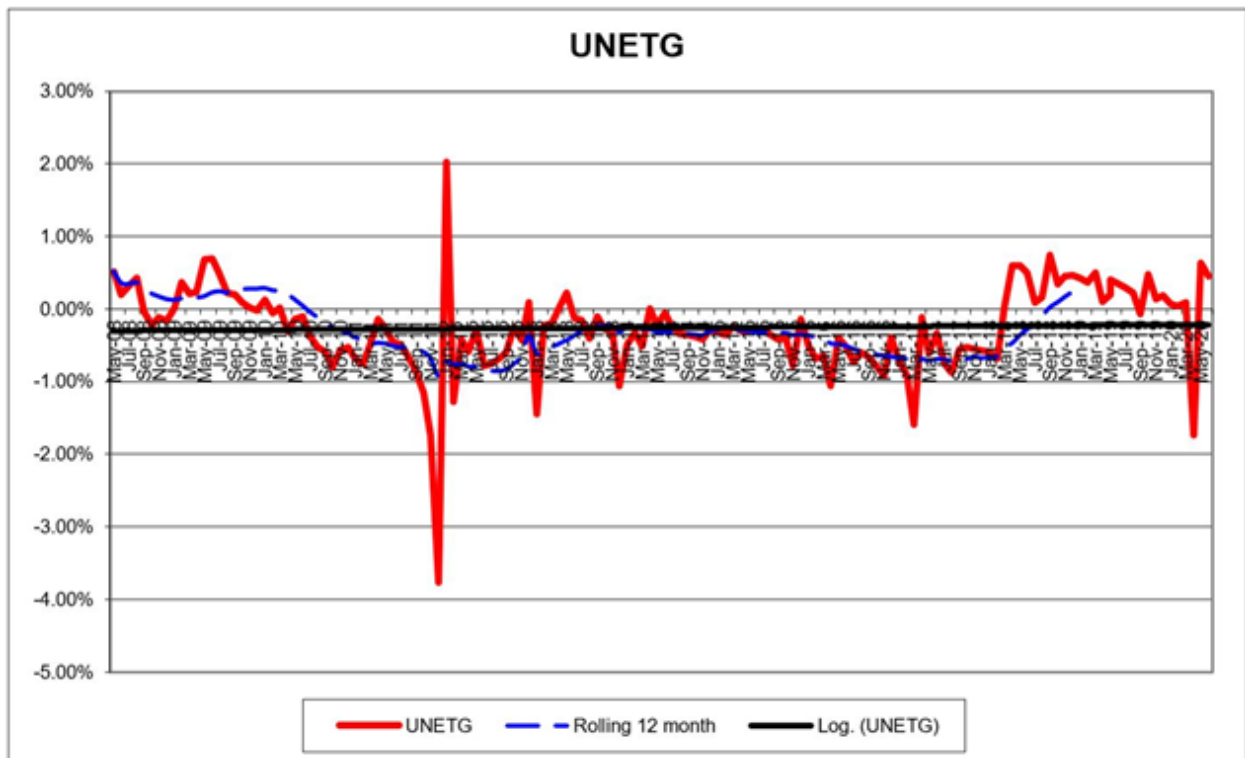
I reviewed the documentation relating to the loss factor review methodology.

Audit commentary

Vector have a loss factor methodology in place and loss factors are reviewed in October each year.

The EA provided the following UFE graphs for the VECT and UNET networks, which showed both were within the $\pm 1\%$ threshold.





The 2019 audit recommendation to update the loss factor for RDVL has been cleared.

Audit outcome

Compliant

CONCLUSION

This audit found 16 non-compliances and makes three recommendations.

Vector are working with traders to populate the missing initial electrical connection dates. These have been bulk uploaded, and this has caused some other data errors where network details have been overwritten. Vector are correcting these as they are discovered, and changes have been made to the bulk upload process to prevent future occurrences. These updates are being correctly backdated to the effective date, but this has caused an overall decline in timeliness of updates to the registry. Providing correct and accurate information must take precedence in this instance. Vector had hoped to have had the new connection process review completed with warranted people providing them directly with the initial electrical connection date information but this is taking longer than expected and it is hoped to have this in place in the near future.

Vector have continued to focus on data accuracy and use the audit compliance reporting as part of their BAU processes. Data accuracy overall has improved. This was particularly noticeable with a high level of accuracy found in relation to unmetered load details. This is still not always being captured for new connections and I recommend this is added to the new connection application form. Address accuracy continues to be worked on. GPS co-ordinates have been added to all but 100,000 ICPs.

The new connection and registry update process where field work is required were automated during the audit period. Siebel is used to manage these activities from the receipt of the request through to updating Gentrack once the work is completed which then writes to the registry. If validation fails at any step these are sent to a work queue to be reviewed and resolved. Such changes could have had a material impact on Vector's ability to comply with their code obligations and impact other participants. Fortunately, only two issues arose as a result of these changes. All LE ICPs created via this process were created with an incorrect ICP dedication flag of "N" and two ICPs had their unmetered load details stripped out as a result of a network update processed. Both of these issues have been resolved and are not expected to occur again.

The Distributed generation process is generally well managed but is reliant on the applicant providing the COC. This can be slow to be returned. I recommend that the EIEP1 is used to detect unexpected distributed generation as a further validation.

I thank Justine and the team for their assistance during the audit.

The indicative audit frequency table indicates the next audit should be in three months. I have considered this in conjunction with Vector's responses and recommend that the next audit be in 12 months as Vector is addressing the main areas of non-compliance and an earlier audit would not add any value to this.

PARTICIPANT RESPONSE

Vector thanks Rebecca for her assistance with the audit and the recommendations provided which we intend to take onboard. We are committed to improving our processes and will continue to correct issues identified and populate missing information.

While unfortunately we were not able to implement the change to the warranted persons process within the previously estimated timeframe, this is currently going through a management of change process review within Vector.

We believe that the automation we have implemented to update ICPs will have a positive impact and help prevent human errors in various areas going forward.

While we understand the risk rating indicates a need for a further audit in 3 months, Vector would appreciate consideration being given for the corrections that have already been cleared and the changes implemented since the last audit. We request additional time be provided to allow the warranted persons process to be finalised.