

**ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTOR AUDIT REPORT**



For

**NELSON ELECTRICITY**

Prepared by: Rebecca Elliot, Veritek Limited

Date audit commenced: 28 May 2019

Date audit report completed: 1 October 2018

Audit report due date: 30-Sep-19

---

## TABLE OF CONTENTS

Executive summary .....	4
Audit summary .....	5
Non-compliances .....	5
Recommendations .....	5
Issues 5	
1. Administrative .....	6
1.1. Exemptions from Obligations to Comply with Code (Section 11) .....	6
1.2. Structure of Organisation .....	6
1.3. Persons involved in this audit .....	7
1.4. Use of contractors (Clause 11.2A) .....	7
1.5. Supplier list .....	7
1.6. Hardware and Software .....	7
1.7. Breaches or Breach Allegations .....	7
1.8. ICP and NSP Data .....	8
1.9. Authorisation Received .....	9
1.10. Scope of Audit .....	9
1.11. Summary of previous audit .....	10
Table of non-compliance .....	10
Recommendations .....	11
2. Operational Infrastructure .....	12
2.1. Requirement to provide complete and accurate information (Clause 11.2(1) and 10.6(1)) .....	12
2.2. Requirement to correct errors (Clause 11.2(2) and 10.6(2)) .....	12
3. Creation of ICPs .....	13
3.1. Distributors must create ICPs (Clause 11.4) .....	13
3.2. Participants may request distributors to create ICPs (Clause 11.5(3)) .....	13
3.3. Provision of ICP Information to the registry manager (Clause 11.7) .....	14
3.4. Timeliness of Provision of ICP Information to the registry manager (Clause 7(2) of Schedule 11.1) .....	14
3.5. Timeliness of Provision of Initial Electrical Connection Date (Clause 7(2A) of Schedule 11.1) .....	15
3.6. Connection of ICP that is not an NSP (Clause 11.17) .....	15
3.7. Connection of ICP that is not an NSP (Clause 10.31) .....	16
3.8. Temporary electrical connection of ICP that is not an NSP (Clause 10.31A) .....	16
3.9. Connection of NSP that is not point of connection to grid (Clause 10.30) .....	17
3.10. Temporary electrical connection of NSP that is not point of connection to grid (Clause 10.30(A)) .....	17
3.11. Definition of ICP identifier (Clause 1(1) Schedule 11.1) .....	18
3.12. Loss category (Clause 6 Schedule 11.1) .....	18
3.13. Management of “new” status (Clause 13 Schedule 11.1) .....	19
3.14. Monitoring of “new” & “ready” statuses (Clause 15 Schedule 11.1) .....	19
3.15. Embedded generation loss category (Clause 7(6) Schedule 11.1) .....	20
3.16. Electrical connection of a point of connection (Clause 10.33A) .....	20
4. Maintenance of registry information .....	21

4.1.	Changes to registry information (Clause 8 Schedule 11.1) .....	21
4.2.	Notice of NSP for each ICP (Clauses 7(1),(4) and (5) Schedule 11.1) .....	23
4.3.	Customer queries about ICP (Clause 11.31).....	24
4.4.	ICP location address (Clause 2 Schedule 11.1).....	24
4.5.	Electrically disconnecting an ICP (Clause 3 Schedule 11.1).....	25
4.6.	Distributors to Provide ICP Information to the Registry manager (Clause 7(1) Schedule 11.1) .....	25
4.7.	Provision of information to registry after the trading of electricity at the ICP commences (Clause 7(3) Schedule 11.1) .....	28
4.8.	GPS coordinates (Clause 7(8) and (9) Schedule 11.1) .....	29
4.9.	Management of “ready” status (Clause 14 Schedule 11.1) .....	29
4.10.	Management of “distributor” status (Clause 16 Schedule 11.1) .....	30
4.11.	Management of “decommissioned” status (Clause 20 Schedule 11.1) .....	30
4.12.	Maintenance of price category codes (Clause 23 Schedule 11.1).....	31
5.	Creation and maintenance of loss factors .....	32
5.1.	Updating table of loss category codes (Clause 21 Schedule 11.1) .....	32
5.2.	Updating loss factors (Clause 22 Schedule 11.1) .....	32
6.	Creation and maintenance of NSPs (including decommissioning of NSPs and transfer of ICPs)33	
6.1.	Creation and decommissioning of NSPs (Clause 11.8 and Clause 25 Schedule 11.1).....	33
6.2.	Provision of NSP information (Clause 26(1) and (2) Schedule 11.1).....	33
6.3.	Notice of balancing areas (Clause 24(1) and Clause 26(3) Schedule 11.1) .....	34
6.4.	Notice of supporting embedded network NSP information (Clause 26(4) Schedule 11.1)34	
6.5.	Maintenance of balancing area information (Clause 24(2) and (3) Schedule 11.1) .....	35
6.6.	Notice when an ICP becomes an NSP (Clause 27 Schedule 11.1) .....	35
6.7.	Notification of transfer of ICPs (Clause 1 to 4 Schedule 11.2) .....	36
6.8.	Responsibility for metering information for NSP that is not a POC to the grid (Clause 10.25(1) and 10.25(3)) .....	36
6.9.	Responsibility for metering information when creating an NSP that is not a POC to the grid (Clause 10.25(2)).....	37
6.10.	Obligations concerning change in network owner (Clause 29 Schedule 11.1) .....	37
6.11.	Change of MEP for embedded network gate meter (Clause 10.22(1)(b)) .....	38
6.12.	Confirmation of consent for transfer of ICPs (Clauses 5 and 8 Schedule 11.2) .....	38
6.13.	Transfer of ICPs for embedded network (Clause 6 Schedule 11.2).....	39
7.	Maintenance of shared unmetered load .....	40
7.1.	Notification of shared unmetered load ICP list (Clause 11.14(2) and (4)) .....	40
7.2.	Changes to shared unmetered load (Clause 11.14(5)).....	40
8.	Calculation of loss factors .....	41
8.1.	Creation of loss factors (Clause 11.2).....	41
	Conclusion .....	43
	Participant response .....	44

## EXECUTIVE SUMMARY

This Distributor audit was performed at the request of **Nelson Electricity (NELS)**, to encompass the Electricity Industry Participation Code requirement for an audit, in accordance with clause 11.10 of part 11. The audit was carried out at the Nelson Electricity's premises in Nelson, on July 15<sup>th</sup>, 2018.

The audit was conducted in accordance with the Guideline for Distributor Audits V7.2, which was produced by the Electricity Authority.

NELS run a small network in Nelson city. The network has a small number of new connections each year. They effectively use the registry as their database but also have an access database to manage ICP changes. Due to the small nature of the network NELS have a good understanding and visibility of the activity on the network. All processes are documented and whilst largely manual these processes work.

NELS have adopted all of the recommendations made in the last audit and cleared seven of the eight non-compliances found in the last audit. a high level of compliance was found in this audit.

I have raised one issue in relation to the calculation of loss factors. Network Tasman and Nelson Electricity's loss factor calculations both appear to be reasonable but the UFE graphs indicate that losses for both networks are outside the expected +/- 1% threshold. This variance appears to have started when Nelson Electricity moved to a grid connection. I raise this as an issue. This is discussed in **section 8.1**.

This audit found two non-compliances, makes no recommendations and raises one issue (detailed above). NELS have robust well documented processes in place and a high level of compliance was found in this audit. The indicative audit frequency table indicates the next audit should be in 24 months and I agree with this recommendation.

The matters raised are shown in the tables below.

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Changes to registry information	4.1	8 Schedule 11.1	A small number of price, network, status, and address changes were backdated.	Strong	Low	1	
ICP location address	4.4	2 Schedule 11.1	107 duplicate addresses identified.	Strong	Low	1	
Future Risk Rating						2	

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

### RECOMMENDATIONS

Subject	Section	Recommendation	Description
		Nil	

### ISSUES

Subject	Section	Issue	Description
Loss factors	8.1	UFE losses appear to be greater than +/-1%	Investigation required into the UFE calculations used by the Reconciliation Manager system.

## 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

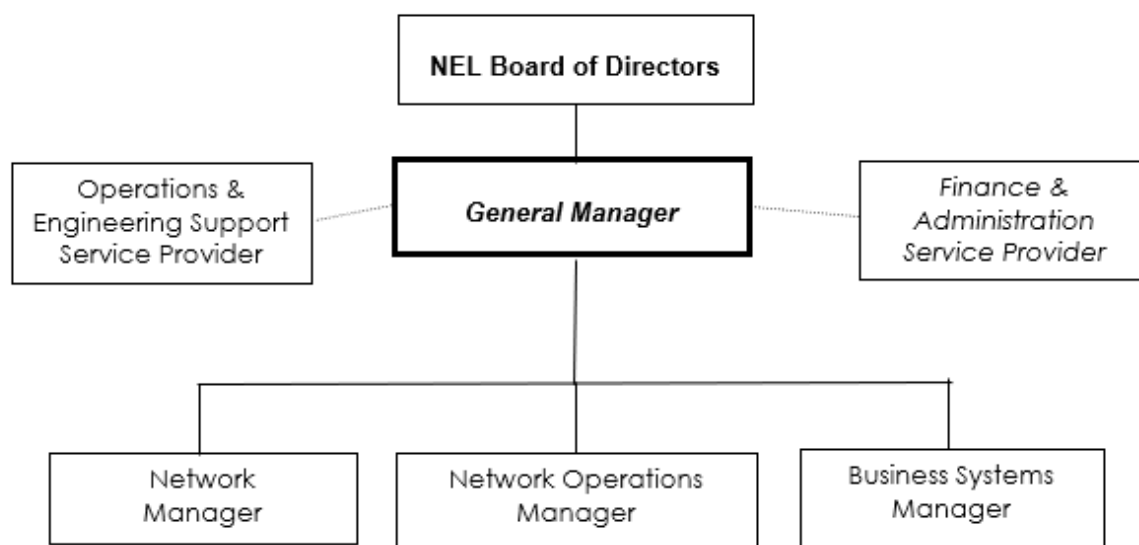
The Authority website was checked to determine whether there are code exemptions in place.

#### Audit commentary

NELS have exemption no.228. This exempts NELS from having a metering installation for the network supply point FND0112. This exemption expires on 3/7/2020.

### 1.2. Structure of Organisation

NELS provided their organisation structure:



Network Tasman and Marlborough Lines have been contracted to provide professional support services to NELS through the General Manager since October 2013. These services primarily relate to the financial management of NELS and technical and engineering services. The General Manager will utilise these services to the maximum practical extent but may also seek independent advice in consultation with the Board. The General Manager of Network Tasman and the Chief Financial Officer of Marlborough Lines are the designated supervisory managers for the provision of these services and have a staff management relationship to the NELS General Manager. They provide advice and services with the objective of maximising the efficiency of NELS whilst maintaining NELS as an independent company.

### 1.3. Persons involved in this audit

Auditor:

**Rebecca Elliot**

**Veritek Limited**

**Electricity Authority Approved Auditor**

NELS personnel assisting in this audit were:

Name	Title
Phil Goodall	General Manager
Katie Homan	Business Systems Manager

### 1.4. Use of contractors (Clause 11.2A)

#### Code reference

*Clause 11.2A*

#### Code related audit information

*A participant who uses a contractor:*

- remains responsible for the 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

Vircom EMS and Powertech Nelson are the approved contractors that work on the NELS network.

### 1.5. Supplier list

As detailed in **section 1.4**, Vircom EMS and Powertech Nelson are the approved contractors.

### 1.6. Hardware and Software

NELS use the registry as their ultimate data source. For the day to day management of ICPs they use an Access database which links to their GIS system, and a Microsoft spreadsheet is used for the tracking of distributed generation applications.

All data is backed up to industry standards. There is a robust disaster recovery process in place.

### 1.7. Breaches or Breach Allegations

The Electricity Authority confirmed that there have been no alleged breaches related to this audit scope for NELS for the audit period.

## 1.8. ICP and NSP Data

NELS has responsibility for the Nelson city area, which has one NSP and two interconnecting NSPs and one balancing area. There have been no changes during the audit period. The table below sets out the details.

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of ICPs
NELS	FND0112	Founders	STK0331	NELS	STK0331NELSG	I	1/02/2014	-
NELS	HVN0331	HAVEN RD	STK0331	NELS	STK0331NELSG	I	1/02/2014	-
NELS	STK0331	STOKE	STK0331	NELS	STK0331NELSG	G	1/09/2013	9,134

There are no embedded networks connected to the NELS network.

A list file detailing the ICP statuses was provided as at 31/05/19:

Status	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)
New (999,0)	0	1	-
Ready (0,0)	1	0	-
Active (2,0)	9,168	9,134	9,120
Distributor (888,0)	0	0	-
Inactive – new connection in progress (1,12)	2	1	4
Inactive – electrically disconnected vacant property (1,4)	58	64	63
Inactive – electrically disconnected remotely by AMI meter (1,7)	5	5	11
Inactive – electrically disconnected at pole fuse (1,8)	0	0	0
Inactive – electrically disconnected due to meter disconnected (1,9)	0	0	0
Inactive – electrically disconnected at meter box fuse (1,10)	0	1	0
Inactive – electrically disconnected at meter box switch (1,11)	0	1	0
Inactive – electrically disconnected ready for decommissioning (1,6)	3	4	4
Inactive – reconciled elsewhere (1,5)	0	0	-
Decommissioned (3)	1,115	1,082	1,053



### 1.9. Authorisation Received

An authorisation email was provided.

### 1.10. Scope of Audit

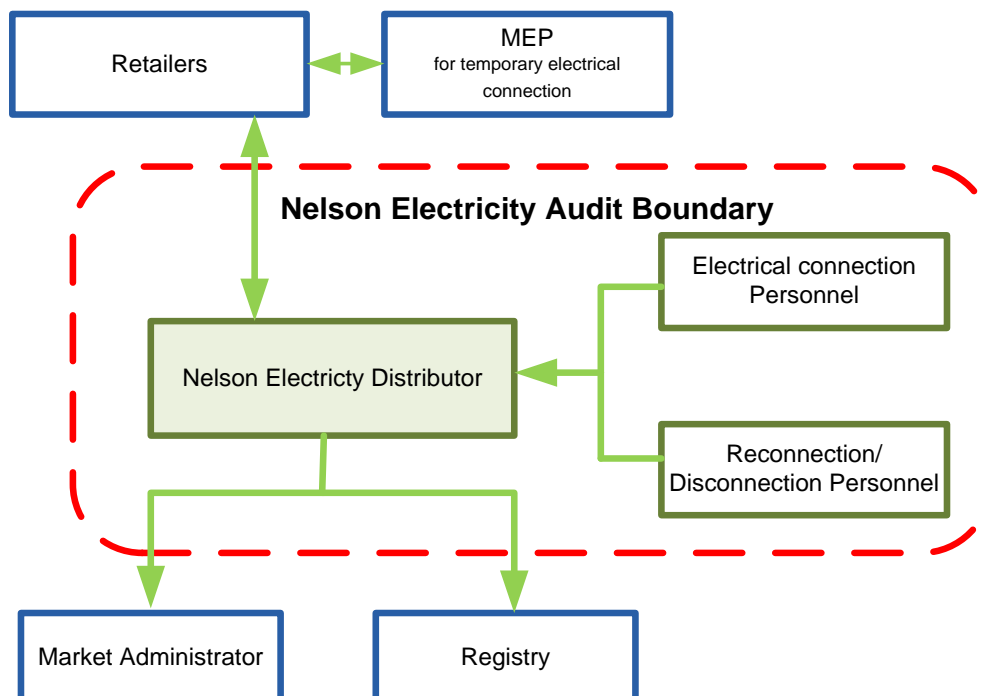
This Distributor audit was performed at the request of NELS, to encompass the Electricity Industry Participation Code requirement for an audit, in accordance with clause 11.10 of part 11.

The audit was conducted in accordance with the Guideline for Distributor Audits V7.2, which was produced by the Electricity Authority.

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

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

The scope of the audit below is shown in the diagram below:



### 1.11. Summary of previous audit

NELS provided a copy of their previous audit, conducted in June 2018 by Rebecca Elliot of Veritek Limited. The audit found eight non-compliances and made five recommendations. The current status of these are detailed in the table 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.	Cleared
Requirement to correct errors	2.2	11.2(2)	Errors not corrected as soon as practicable.	Cleared
Provision of ICP Information to the registry manager	3.3	11.7	Nominated trader information missed being populated for 1 ICP.	Cleared
Timeliness of Provision of ICP Information to the registry manager	3.4	7(2) of Schedule 11.1	Nominated trader not supplied for 1 ICP.	Cleared
Connection of ICP that is not an NSP	3.6	11.17	1 ICP connected without a trader being recorded as accepting responsibility for the ICP.	Cleared
Management of "New" status	3.13	15 Schedule 11.1	1 ICP incorrectly recorded at the "new" status.	Cleared
Changes to registry information	4.1	8 Schedule 11.1	Some price, network, status, and address changes were backdated.	Still existing
Provide ICP Information to the Registry manager	4.6	7(1)(m) & (p) Schedule 11.1	6 ICPs with the initial electrical connection date missing. 44 ICPs with an incorrect initial electrical connection date populated.	Cleared

## RECOMMENDATIONS

Subject	Section	Recommendation	Status
Provide complete and accurate information	2.1	Carry out data validation between access database and the registry monthly.	Adopted
		Compare the PR255 monthly with the registry information to identify potential distributed generation.	Adopted
Provision of ICP information	3.3	Update the new connection form to capture the unmetered load details in the recommended format.	Adopted
Provide ICP Information to the Registry manager	4.6	Update registry for ICP 0000200190CTC63 to indicate this is a DUML ICP.	Adopted
Creation of loss factors	8.1	Liaise with the Electricity Authority to compare their loss factor calculations vs NELS own analysis to confirm if losses are set correctly.	Adopted and is raised as an issue in this audit.

## 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 31/05/19 was examined to confirm compliance.

#### Audit commentary

NELS run weekly checks between the Access ICP management access database and the registry. This is used to track new connections and changes to ICPs. The registry is updated directly for any changes as there is no automated interface between the database and the registry. The volume of change is small, and this manual process generally works well. All processes are documented. The registry ICP information continues to be used for billing. Overall, I found a high level of accuracy.

#### Audit outcome

Compliant

### 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

NELS's data management processes were examined. The registry list file as at 31/05/19 was examined to confirm compliance.

#### Audit commentary

As detailed in **section 2.1**, NELS have good controls in place to provide correct and accurate information. Corrections are carried out as soon as practicable.

#### Audit outcome

Compliant

### 3. CREATION OF ICPS

#### 3.1. Distributors must create ICPs (Clause 11.4)

##### Code reference

Clause 11.4

##### Code related audit information

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

##### Audit observation

The new connection process was examined in detail and is described in **section 3.2**. A diverse characteristics sample of ten new connection applications of the 59 created during the audit period from 15/5/18 to 31/5/19 were checked from the point of application through to when the ICPs were created. The sample included any ICPs with unmetered load recorded. There were no ICPs with distributed generation present at the time of being electrically connected but the process to capture this was discussed.

##### Audit commentary

NELS creates ICPs as required by clause 1 of schedule 11.1.

The process in place is robust and has good controls in place. The sample checked in **section 3.2** below confirms this.

##### 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 10 new connection applications of the 59 created during the audit period from 15/5/18 to 31/5/19 were checked to determine whether the ICPs had been created within three business days of a request by a trader. The sample included any ICPs with unmetered load recorded. There were no ICPs with distributed generation present at the time of being electrically connected but the process to capture this was discussed.

### Audit commentary

Applications for ICPs are received from the electrician or the property owner. The ICP is created once all the required information is provided. If an ICP cannot be created within three days of the request this is communicated to the applicant. Of the ten examples examined, six required work to be carried out on the network. This was communicated in all instances. The ICP is sent to the nominated trader and the ICP is created at the “Ready” status as soon as acceptance is received from the trader.

### Audit outcome

Compliant

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

### Code reference

*Clause 11.7*

### Code related audit information

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

### Audit observation

The new connection process was examined in detail and is described in **section 3.2**. The list file was checked and a diverse characteristics sample of ten new connection applications of the 59 created during the audit period from 16/5/18 to 31/5/19 were checked from the point of application through to when the ICPs were created to confirm the process and controls worked in practice. The sample included a sample of ICPs with unmetered load recorded. There were no new connections with distributed generation but the process of capturing of this was discussed.

### Audit commentary

The process for updating the registry is manual. All ICPs created during the audit period had the correct information populated as required by this clause.

Review of the sample of new connections confirmed that the ICP information provided to the registry by NELS was correct.

### Audit outcome

Compliant

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

### Code reference

*Clause 7(2) of Schedule 11.1*

### Code related audit information

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

### Audit observation

The list file as at 31/5/19 and event detail report was examined for the period from 16/5/18 to 31/5/19 to determine the timeliness of the provision of ICP information for new connections.

### Audit commentary

The process is described in **section 3.3**. The event detail report identified 52 new ICPs that were electrically connected during the audit period and all were created as soon as practicable. NELS provided the required information for all ICPs prior to electricity being traded at the ICP.

### Audit outcome

Compliant

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

### Code reference

*Clause 7(2A) of Schedule 11.1*

### Code related audit information

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

### Audit observation

The event detail report and the registry list were examined to determine the timeliness and accuracy of initial electrical connection dates for the 52 completed new connections identified. Any ICPs with an initial electrical connection populated where the trader has not recorded active status were checked and none were found.

### Audit commentary

The event detail report was examined, and I found that all 52 ICPs were updated within ten business days of the initial electrical connection date.

### Audit outcome

Compliant

## 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 event detail file and registry list were examined to determine compliance for the audit period from 16/5/18 to 31/5/19.

### Audit commentary

NELS does not conduct electrical connection; however, the design of the new connections process includes a step where the trader accepts responsibility in accordance with this clause. NELS creates all ICPs at “Ready” with a proposed trader. As discussed in **sections 3.2** and **3.3** above all ICPs were recorded in the registry with a trader prior to electrical connection.

### Audit outcome

Compliant

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

### Code reference

*Clause 10.31*

### Code related audit information

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

### Audit observation

The new connection process was examined in **section 3.2**. A diverse characteristics sample of ten new connection applications of the 59 created during the audit period from 15/5/18 to 31/5/19 were checked from the point of application through to when the ICPs were created..

### Audit commentary

NELS creates all ICPs at “Ready” with a proposed trader. The sample checked confirmed that ICPs were connected at the request of the trader.

### Audit outcome

Compliant

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

### Code reference

*Clause 10.31A*

### Code related audit information

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

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

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

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

### Audit observation

The new connection process was examined in **section 3.2**. The event detail file and registry list were examined to determine compliance.



### Audit commentary

The NELS process ensures that an ICP will not be electrically connected without the agreement from the trader, who in turn has agreement with an MEP for the ICP. No temporarily connected ICPs were identified.

### Audit outcome

Compliant

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

### Code reference

*Clause 10.30*

### Code related audit information

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

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

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

### Audit observation

The NSP table was reviewed.

### Audit commentary

No new NSPs were created by NELS 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 NELS 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**

ICP numbers are created in the ICP access management database. 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 file was examined to confirm all active ICPs have a single loss category code.

#### **Audit commentary**

Each active ICP 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 event detail file and registry list were examined to determine compliance.

#### Audit commentary

NELS creates all ICPs at the “Ready” status. There were no ICPs at the “New” status.

Monitoring of ICPs with the “New” and “Ready” status is discussed in **section 3.14**.

#### Audit outcome

Compliant

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

#### Code reference

Clause 15 Schedule 11.1

#### Code related audit information

*If an ICP has had the status of “New” or has had the status of “Ready” for 24 months or more:*

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

#### Audit observation

The process to monitor ICPs at “new” and “ready” status was reviewed. The event detail file and registry list were examined to determine compliance.

#### Audit commentary

All new connections are managed via work files. The volume of these (50 new connections on average annually) is such that the business has good visibility and management of new connections.

Examination of the list file found no ICPs at the “New” or “Ready” statuses for more than 24 months.

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

#### Audit observation

The list file as at 31/5/2019 was examined.

#### Audit commentary

NELS does not supply any embedded generation stations with a capacity of 10 MW or more.

#### 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

NELS require an application for all new streetlight connections as there is only one streetlight ICP the ICP is not recorded on the form but there is no confusion as to which ICP the load will be recorded under. NELS intend to revise this process and request that the standard new connection form which does require the ICP to be recorded be used for such requests.

#### 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 13<sup>th</sup> 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 3 business days after the registry manager has advised the distributor that the ICP is ready to be decommissioned, or 3 business days after the distributor has decommissioned the ICP.*

#### Audit observation

The management of registry updates was reviewed.

The event detail file from 16/5/18 to 31/5/19 was reviewed to determine compliance. An extreme case sample of 10 backdated events (or less if there were no more than ten) by type were reviewed to determine the reasons for the late updates. This included address, network (excluding the updating of the initial electrical connection date which is discussed in **section 3.5**), pricing, and status events. No NSP changes were made as NELS has only one NSP for the ICPs it is responsible for.

#### Audit commentary

NELS updates the registry directly for any changes to an ICP.

#### Address events

4,070 address updates were identified. 4,063 (99%) were updated within three business days. Seven ICPs were updated late. These were checked and found that this was due to a postcode change.

#### Network events

158 network events not relating to population of initial electrical connection dates or ICP creation were identified. The timeliness of the initial electrical connection updates is discussed in **section 3.5**.

119 (75%) of these were updated more than three days after the event. 61 of these updates relate to the updating of distributed generation. This process is discussed in **section 4.6**. The remaining 58 updates were corrections as a result of the last audit.

### **Pricing events**

NELS will backdate pricing events, but only if it is found that the customer has been billed incorrectly.

934 pricing updates were identified. 925 (99%) were updated within three business days of the event date. Nine of these were updated more than three business days after the event. This is an improvement from the 24% that were backdated in the last audit. This is because NELS are now using the correct effective date in the registry. The nine late updates were examined and found seven were due to a backlog due to annual leave and the remaining two were due to corrections.

### **Status events**

The code changed on 1/11/18 for the requirement the decommissioning of ICPs for networks. The network is required to update the ICP to decommissioned within three days of the event of the date that the trader changes the status to "Inactive - ready to decommission", whichever is later. I assessed the decommissioned ICPs dependant on which rule was in effect at the time of decommissioning.

The process is discussed in **section 4.11**. 33 status updates to decommissioned were identified. 22 (66%) of these were updated more than three business days after the event. Three of these occurred after the code changed and were not updated within three days of the traders' update and were therefore still late. The sample checked included seven ICPs prior to the code change and the three late updates post the code change and found:

- the seven ICPs checked prior to the code change were late due to the trader being late to update the registry; and
- the three ICPs checked post the change to the code were late due to investigation that had to be undertaken to confirm all details before the decommissioning event could be completed.

The backdating of events to the registry is recorded as non-compliance but I note that NELS are meeting the requirement to provide correct and accurate information in all instances.

### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 4.1 With: Clause 8 Schedule 11.1  From: 16-May-18 To: 31-May-19	A small number of price, network, status, and address changes were backdated. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as strong as NELS has robust controls in place to mitigate risk. The risk rating is low as the volume of late changes that directly affect reconciliation are small.		
Actions taken to resolve the issue		Completion date	Remedial action status
Non-Compliance accepted. Nelson Electricity recognises the requirement to update the registry within three days of an event but if a correction to meet the requirements of this clause is identified then the event should be backdated.		1/10/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Staff reminded that if a correction to meet the requirements of this clause is identified then the event should be backdated Supporting information will continue to be retained for any backdated events.		1/10/2019	

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

##### Code reference

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

##### Code related audit information

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

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

##### Audit observation

The process to determine the correct NSP was examined. The registry list and event detail report were reviewed to determine compliance.

##### Audit commentary

There is no uncertainty regarding NSP and ICP relationships on the NELS network, as there is only one NSP on which the ICPs are connected and one balancing area. The NSP for each ICP is notified to the registry as part of the new connections process.

#### **Audit outcome**

Compliant

### **4.3. Customer queries about ICP (Clause 11.31)**

#### **Code reference**

*Clause 11.31*

#### **Code related audit information**

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

#### **Audit observation**

The management of customer queries was examined.

#### **Audit commentary**

NELS seldom receives direct requests for ICP identifiers. ICP identifiers can be provided immediately on request once the address has been confirmed.

#### **Audit outcome**

Compliant

### **4.4. ICP location address (Clause 2 Schedule 11.1)**

#### **Code reference**

*Clause 2 Schedule 11.1*

#### **Code related audit information**

*Each ICP identifier must have a location address that allows the ICP to be readily located.*

#### **Audit observation**

The process to determine correct and unique addresses was examined. The registry list was reviewed to determine compliance for all active and inactive ICPs.

#### **Audit commentary**

Analysis of the list file found 107 ICPs with duplicated addresses. These were not identified in the previous audit as the ICP had been populated into the property name field. A sample of 11 of these addresses were examined and found they were all historic. NELS are aware of these and are investigating these to make the addresses readily locatable.

#### **Audit outcome**

Non-compliant



Non-compliance	Description		
Audit Ref: 4.4 With: Clause 2 Schedule 11.1 From: 01-Apr-99 To: 31-May-19	107 duplicate addresses identified. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are rated as strong as the processes in place ensure that new ICP connections are readily locatable and NELS are working through the ICPs with duplicate addresses to fix these. The audit risk is rated as low as the volume of ICPs not readily locatable is small.		
Actions taken to resolve the issue		Completion date	Remedial action status
Nelson Electricity working through the duplicate addresses to resolve issues		31/12/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
No new ICP's created will have a duplicate address		1/10/2019	

#### 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

For new connections, this clause is well understood, and their new connection process requires that each ICP has one set of fuses.

##### Audit outcome

Compliant

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

## Code reference

### Clause 7(1) Schedule 11.1

## Code related audit information

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

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

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

#### **Audit observation**

The management of registry information was reviewed. The registry list and event detail reports were reviewed to confirm that all the ICP information is populated as required by this clause.

A typical sample of ten ICPs, or the whole population of data discrepancies found were checked and are detailed below.

#### **Audit commentary**

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

#### **Distributed generation**

NELS require all customers who wish to install distributed generation to complete an online application form for all installations under 10kW. Any applications over 10kW need to make contact directly with NELS in addition to completing the online application to get these connected. Once these have been approved by NELS the customer is advised and told to get in touch with their retailer. Once the installation has been completed the customer is required to sign a declaration of the installation and provide this back to NELS. Vircom EMS, on behalf of NELS, then carry out a final inspection and the metering is changed at the same time (this is done on behalf of the trader). NELS update the registry when the completed paperwork returned from the field. The timeliness of this is discussed in **section 4.1**.

Examination of the list file found ICPs with generation capacity have continued to grow as detailed in the table below:

Year	ICPs with distributed generation
2018	117
2019	148

All have generation capacity and fuel type recorded correctly in the registry.

The list file found ICP 0000183097CT9DC with an RPS PV1 profile and injection channels recorded on the meter, but the distributed generation fields were not populated. NELS have received an application but have confirmed that the distributed generation has not been electrically connected as yet and no generation is present in the EIEP1 file. It appears that the trader has the incorrect profile applied.

### Unmetered load

Part 11 states the distributors must provide unmetered load type and capacity of the unmetered load to the registry "if known".

NELS has an unmetered load recorded for all active ICPs with the UML flag set to Y with the exception of ICP 0000181817CTFDB. This was examined and found that these lights are no longer electrically connected. NELS is communicating with the trader to correct their record.

I compared the load values against the traders recorded values and found that all matched except one of the 35 ICPS with unmetered load recorded by both the trader and NELS. NELS has the correct UML load for ICP 0000201848CTB9C. The trader's value is recorded incorrectly. Compliance is confirmed.

### Initial electrical connection date

52 ICPs were electrically connected during the audit period and all had an initial electrical connection date recorded. These were checked and confirmed to match that of the traders first active event in all instances. All dates since this requirement came into effect have been populated and the accuracy of these has been confirmed.

### Audit outcome

Compliant

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

### Code reference

*Clause 7(3) Schedule 11.1*

### Code related audit information

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

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

### Audit observation

The management of registry information was reviewed. The event detail report and registry list were reviewed to determine compliance.

### Audit commentary

NELS is able to confirm these details prior to electrical connection of the ICP. 52 new connections were completed and made active during the period reviewed. The backdated price category changes were checked and confirmed that none were related to new connections.

### Audit outcome

Compliant

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

### Code reference

*Clause 7(8) and (9) Schedule 11.1*

### Code related audit information

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

### Audit observation

The registry list was reviewed to determine compliance.

### Audit commentary

NELS do not populate GPS co-ordinates but all ICPs are plotted in NELS GIS system and therefore the GPS co-ordinates are known.

### Audit outcome

Compliant

## 4.9. Management of "ready" status (Clause 14 Schedule 11.1)

### Code reference

*Clause 14 Schedule 11.1*

### Code related audit information

*The ICP status of "Ready" must be managed by the distributor and indicates that:*

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

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

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

### Audit observation

Processes to manage the “ready” status were reviewed.

The event detail report and registry list were reviewed to identify and check ICPs at the “Ready” status.

### Audit commentary

NELS creates all ICPs at the “Ready” status with a proposed trader recorded, and only one price category code exists.

The records of 10 recently created ICPs were examined and compliance is confirmed.

### Audit outcome

Compliant

## 4.10. Management of “distributor” status (Clause 16 Schedule 11.1)

### Code reference

Clause 16 Schedule 11.1

### Code related audit information

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

### Audit observation

The event detail report and registry list were reviewed to identify ICPs at distributor status.

### Audit commentary

NELS does not have any embedded networks or shared unmetered load; therefore, there are no ICPs with a “Distributor” status. This was confirmed by checking the list file.

### 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 process for decommissioning ICPs was examined. The event detail report and registry list were reviewed to identify ICPs at the “decommissioned” status and ICPs that are at the “Ready for decommissioning” status.

### **Audit commentary**

NELS receives requests for decommissioning from traders, local contractors or customers. They have a well-documented process in place for the management of decommissioning. Customers are advised to contact their retailer to arrange the removal of meters etc before a decommissioning can be completed. All decommissions require a signed decommissioning form confirming that the NELS contractor has completed the required checks before a site is deemed to be decommissioned. A sample of ten decommissioned ICPs were checked to confirm that the process was followed.

There were three ICPs at “Ready for decommissioning” status when the list file was provided, and all have been decommissioned since the list file was provided.

The timeliness of updates to decommissioned status are discussed in **section 4.1**.

### **Audit outcome**

Compliant

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

### **Code reference**

*Clause 23 Schedule 11.1*

### **Code related audit information**

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

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

*A price category code takes effect on the specified date.*

### **Audit observation**

The price category code table on the registry was examined.

### **Audit commentary**

No new pricing codes have been entered since 1/04/2010.

### **Audit outcome**

Compliant

## 5. CREATION AND MAINTENANCE OF LOSS FACTORS

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

#### Code reference

*Clause 21 Schedule 11.1*

#### Code related audit information

*The distributor must keep the registry up to date with the loss category codes that may be assigned to ICPs on the distributor's network.*

*The distributor must specify the date on which each loss category code takes effect.*

*A loss category code takes effect on the specified date.*

#### Audit observation

The loss category code table on the registry was examined.

#### Audit commentary

No new loss factors have been created during the audit period.

#### Audit outcome

Compliant

### 5.2. Updating loss factors (Clause 22 Schedule 11.1)

#### Code reference

*Clause 22 Schedule 11.1*

#### Code related audit information

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

*If the distributor wishes to replace an existing loss factor on the table 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 changed during the audit period.

#### Audit outcome

Compliant



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

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

#### Code reference

*Clause 11.8 and Clause 25 Schedule 11.1*

#### Code related audit information

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

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

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

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

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

#### Audit observation

The NSP table was reviewed.

#### Audit commentary

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

#### Audit outcome

Compliant

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

#### Code reference

*Clause 26(1) and (2) Schedule 11.1*

#### Code related audit information

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

*The request must be made at least 10 business days before the NSP is electrically connected, in respect of an NSP that is an interconnection point between 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 reviewed.

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

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

#### **Code related audit information**

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

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

#### **Audit observation**

The NSP table was reviewed.

#### **Audit commentary**

No balancing area changes have occurred during the audit period.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 26(4) Schedule 11.1*

#### **Code related audit information**

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

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 24(2) and (3) Schedule 11.1*

#### **Code related audit information**

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

#### **Audit observation**

The NSP table was reviewed.

#### **Audit commentary**

No balancing area changes have occurred during the audit period.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 27 Schedule 11.1*

#### **Code related audit information**

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

#### **Audit observation**

The NSP table was reviewed.

#### **Audit commentary**

No existing ICPs became NSPs during the audit period.

#### **Audit outcome**

Compliant

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

##### Code reference

Clause 1 to 4 Schedule 11.2

##### Code related audit information

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

##### Audit observation

The NSP table was reviewed.

##### Audit commentary

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

##### Audit outcome

Compliant

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

##### Code reference

Clause 10.25(1) and 10.25(3)

##### Code related audit information

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

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

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

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

##### Audit observation

The NSP supply point table was examined and evidence of all updates made to the Reconciliation Manager via the portal.

##### Audit commentary

NELS have responsibility for two interconnection points. The NSP table supply point table was reviewed:

Distributor	NSP POC	Description	MEP	Certification Expiry
NELS	FND0112	Founders		Exemption in place
NELS	HVN0331	HAVEN RD	FCLM	6/06/2022

As detailed in **section 1.1**, NELS have an exemption to not have the FND0112 NSP metered. The Haven Road interconnection point has been recertified during the audit period. This was notified to the Reconciliation Manager within the required timeframe.

### Audit outcome

Compliant

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

### Code reference

*Clause 10.25(2)*

### Code related audit information

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

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

### Audit observation

The NSP supply point table was reviewed.

### Audit commentary

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

### Audit outcome

Compliant

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

### Code reference

*Clause 29 Schedule 11.1*

### Code related audit information

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

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

*at least 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**

NELS 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 reviewed.

#### **Audit commentary**

There have been no MEP changes to the NELS interconnection points.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clauses 5 and 8 Schedule 11.2*

#### **Code related audit information**

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

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

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

#### **Audit observation**

The NSP supply point table was reviewed.

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 6 Schedule 11.2*

#### **Code related audit information**

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

#### **Audit observation**

The NSP supply point table was reviewed.

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

## 7. MAINTENANCE OF SHARED UNMETERED LOAD

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

#### Code reference

*Clause 11.14(2) and (4)*

#### Code related audit information

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

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

#### Audit observation

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

#### Audit commentary

NELS does not have any shared unmetered load connections. The previous audit noted that there were 19 private lights that weren't being reconciled. I have checked the most recent streetlight audit and confirmed that all private lights are being reconciled by the council so there is no shared unmetered load to be created.

#### Audit outcome

Compliant

### 7.2. Changes to shared unmetered load (Clause 11.14(5))

#### Code reference

*Clause 11.14(5)*

#### Code related audit information

*If the distributor becomes aware of a change to the capacity of a shared unmetered load ICP or if a shared unmetered load ICP is decommissioned, it must give written notice to all traders affected by that change or decommissioning as soon as practicable after the change or decommissioning.*

#### Audit observation

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

#### Audit commentary

As detailed in **section 7.1**, NELS have no shared unmetered load connections on their network.

#### 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.

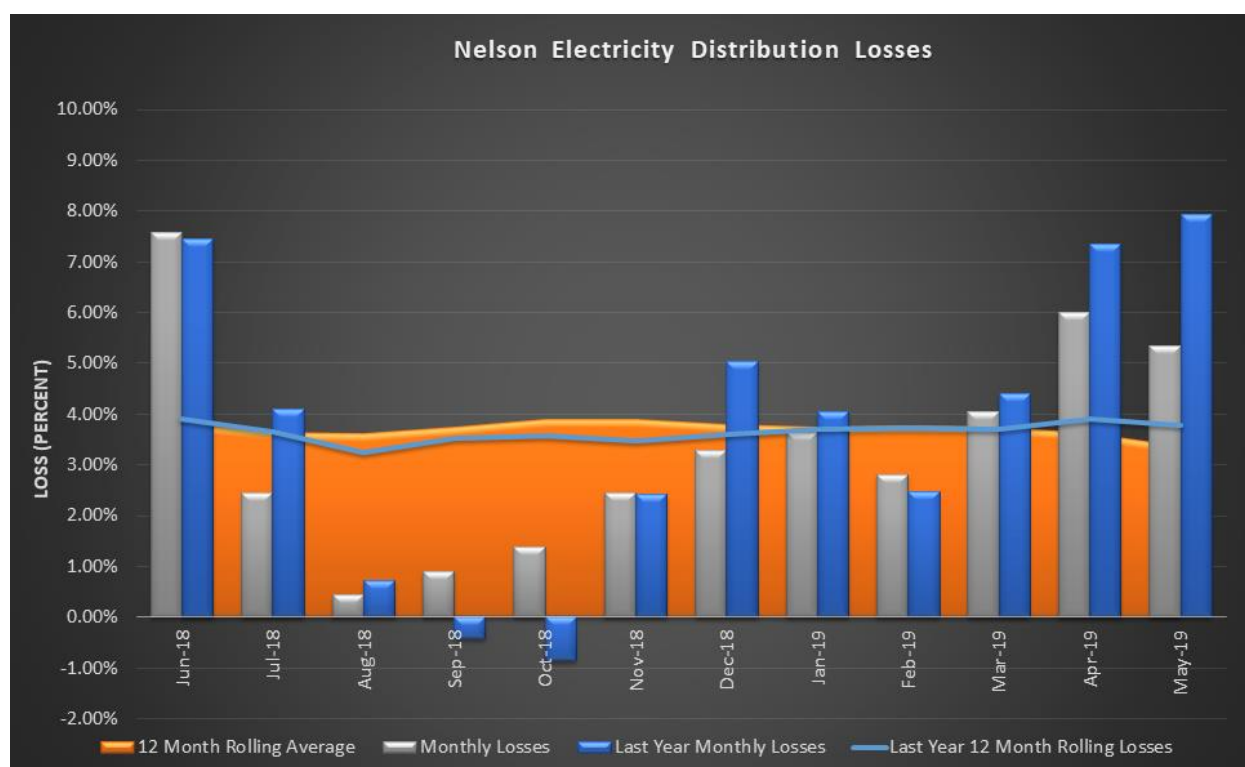
#### Audit observation

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.

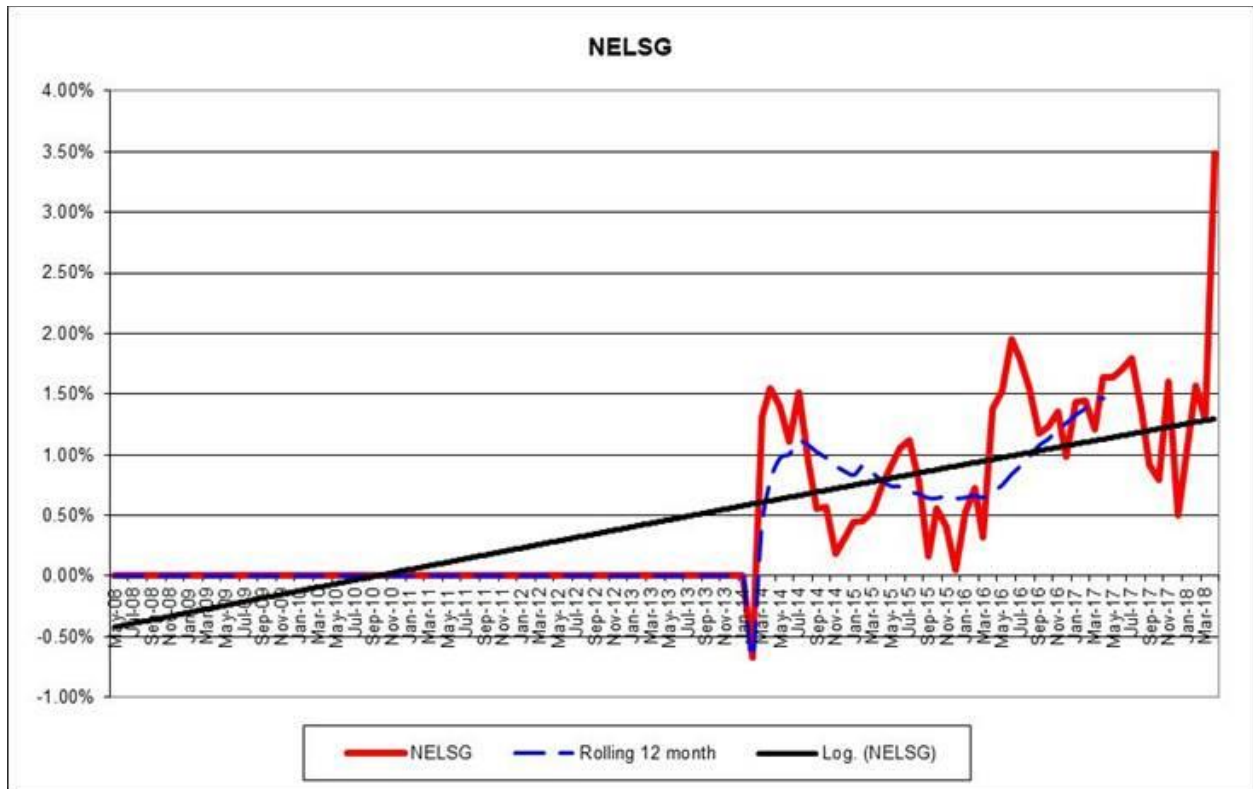
I reviewed correspondence and documentation relating to the loss factor review.

#### Audit commentary

NELS’s has changed its loss factors review methodology to align with the Electricity Authority’s guidelines. In addition to this a monthly review of losses using NEL billed information is undertaken and reported to the NEL Board. The next loss factor review is planned for 2020 unless losses deviate prior to this. The table below indicates that the losses are stable at 3.5% +/-0.5%



I was provided by the Electricity Authority the reconciliation losses which indicate that losses are potentially too low by 1%. This is detailed in the graph below.



The losses for Network Tasman appear also appear to be running outside of the +/- 1% expected threshold. This was investigated by Bernie Cross (Contact Energy) and Steve Woods (Electricity Authority approved auditor). They came to the conclusion that the Network Tasman loss calculations appeared to be correct and that potentially the losses being calculated by the Reconciliation Manager’s system needed to be reviewed. As reported in the Network Tasman audit, the Reconciliation Manager indicated in an email dated December 17, 2018 to Network Tasman, that this was going to be investigated in conjunction with Ron Beatty from the Electricity Authority. That Reconciliation Manager has since left and there has been no further communication in relation to this. I raised this as an issue to be investigated in the Network Tasman Distributor audit and raise it here too. The losses appear to track outside of the expected thresholds for both networks since the grid connection for NELS was established in 2014.

Issue	Description	Remedial action
Loss factors	Investigation required into the UFE calculations used by the Reconciliation Manager system.	NELS has reviewed loss factors for the network using the methodology for determining reconciliation loss factors as outlined in the “Guidelines on the calculation and use of loss factors for reconciliation purposes”. The result is that losses are within the +/- 1% threshold.

#### Audit outcome

Compliant

## CONCLUSION

NELS have adopted all of the recommendations made in the last audit and cleared seven of the eight non-compliances found in the last audit. a high level of compliance was found in this audit.

I have raised one issue in relation to the calculation of loss factors. Network Tasman and Nelson Electricity's loss factor calculations both appear to be reasonable but the UFE graphs indicate that losses for both networks are outside the expected +/- 1% threshold. This variance appears to have started when Nelson Electricity moved to a grid connection. I raise this as an issue. This is discussed in **section 8.1**.

This audit found two non-compliances, makes no recommendations and raises one issue (detailed above). NELS have robust well documented processes in place and a high level of compliance was found in this audit. The indicative audit frequency table indicates the next audit should be in 24 months and I agree with this recommendation.

## PARTICIPANT RESPONSE

NELS have reviewed the report and no further comments were provided.