

# ELECTRICITY INDUSTRY PARTICIPATION CODE DISTRIBUTOR AUDIT REPORT

For

**Horizon Networks**



Prepared by: Rebecca Elliot

Date audit commenced: 3 September 2019

Date audit report completed: 16 October 2019

Audit report due date: 16-Oct-19

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## TABLE OF CONTENTS

Executive summary .....	4
Audit summary .....	5
Non-compliances .....	5
Recommendations .....	6
Issues .....	6
1. Administrative .....	7
1.1. Exemptions from Obligations to Comply With Code (Section 11) .....	7
1.2. Structure of Organisation .....	7
1.3. Persons involved in this audit.....	7
1.4. Use of contractors (Clause 11.2A) .....	7
1.5. Supplier list.....	8
1.6. Hardware and Software .....	8
1.7. Breaches or Breach Allegations.....	8
1.8. ICP and NSP Data .....	9
1.9. Authorisation Received .....	10
1.10. Scope of Audit .....	10
1.11. Summary of previous audit .....	11
Table of Non-Compliance.....	11
Table of Recommendations .....	12
2. Operational Infrastructure.....	13
2.1. Requirement to provide complete and accurate information (Clause 11.2(1)).....	13
2.2. Requirement to correct errors (Clause 11.2(2)).....	14
3. Creation of ICPs.....	15
3.1. Distributors must create ICPs (Clause 11.4) .....	15
3.2. Participants may request distributors to create ICPs (Clause 11.5(3)) .....	15
3.3. Provision of ICP Information to the registry (Clause 11.7).....	16
3.4. Timeliness of Provision of ICP Information to the registry (Clause 7(2) of Schedule 11.1).....	16
3.5. Timeliness of Provision of Initial Electrical Connection Date (Clause 7(2A) of Schedule 11.1) .....	17
3.6. Connection of ICP that is not an NSP (Clause 11.17).....	18
3.7. Connection of ICP that is not an NSP (Clause 10.31)) .....	19
3.8. Temporary electrical connection of ICP that is not an NSP (Clause 10.31A) .....	20
3.9. Connection of NSP that is not point of connection to grid (Clause 10.30) .....	20
3.10. Electrical connection of NSP that is not a point of connection to the grid (Clause 10.30(2)) .....	21
3.11. Definition of ICP identifier (Clause 1(1) Schedule 11.1).....	22
3.12. Loss category (Clause 6 Schedule 11.1).....	22
3.13. Management of “new” status (Clause 13 Schedule 11.1).....	23
3.14. Monitoring of “new” & “ready” statuses (Clause 15 Schedule 11.1).....	23
3.15. Embedded generation loss category (Clause 7(6) Schedule 11.1) .....	24
3.16. Electrical connection of a point of connection (Clause 10.33A ) .....	25
4. Maintenance of registry information.....	27
4.1. Changes to registry information (Clause 8 Schedule 11.1) .....	27
4.2. Notice of NSP for each ICP (Clauses 7(1),(4) and (5) Schedule 11.1) .....	29

4.3.	Customer queries about ICP (Clause 11.31).....	30
4.4.	ICP location address (Clause 2 Schedule 11.1).....	30
4.5.	Electrically disconnecting an ICP (Clause 3 Schedule 11.1).....	31
4.6.	Distributors to Provide ICP Information to the Registry (Clause 7(1) Schedule 11.1) ....	32
4.7.	Provision of information to registry after the trading of electricity at the ICP commences (Clause 7(3) Schedule 11.1) .....	36
4.8.	GPS coordinates (Clause 7(8) and (9) Schedule 11.1) .....	36
4.9.	Management of “ready” status (Clause 14 Schedule 11.1) .....	37
4.10.	Management of “distributor” status (Clause 16 Schedule 11.1) .....	37
4.11.	Management of “decommissioned” status (Clause 20 Schedule 11.1) .....	38
4.12.	Maintenance of price category codes (Clause 23 Schedule 11.1).....	39
5.	Creation and maintenance of loss factors .....	40
5.1.	Updating table of loss category codes (Clause 21 Schedule 11.1) .....	40
5.2.	Updating loss factors (Clause 22 Schedule 11.1) .....	41
6.	Creation and maintenance of NSPs (including decommissioning of NSPs and transfer of ICPs).....	42
6.1.	Creation and decommissioning of NSPs (Clause 11.8 and Clause 25 Schedule 11.1) .....	42
6.2.	Provision of NSP information (Clause 26(1) and (2) Schedule 11.1) .....	42
6.3.	Notice of balancing areas (Clause 24(1) and Clause 26(3) Schedule 11.1) .....	43
6.4.	Notice of supporting embedded network NSP information (Clause 26(4) Schedule 11.1).....	43
6.5.	Maintenance of balancing area information (Clause 24(2) and (3) Schedule 11.1) .....	44
6.6.	Notice when an ICP becomes an NSP (Clause 27 Schedule 11.1) .....	44
6.7.	Notification of transfer of ICPs (Clause 1 to 4 Schedule 11.2) .....	45
6.8.	Responsibility for metering information for NSP that is not a POC to the grid (Clause 10.25(1)&(3)) .....	45
6.9.	Responsibility for metering information when creating an NSP that is not a POC to the grid (Clause 10.25(2)) .....	46
6.10.	Obligations concerning change in network owner (Clause 29 Schedule 11.1) .....	46
6.11.	Change of MEP for embedded network gate meter (Clause 10.22(1)(b)) .....	47
6.12.	Confirmation of consent for transfer of ICPs (Clauses 5 and 8 Schedule 11.2) .....	47
6.13.	Transfer of ICPs for embedded network (Clause 6 Schedule 11.2).....	48
7.	Maintenance of shared unmetered load .....	49
7.1.	Notification of shared unmetered load ICP list (Clause 11.14(2) and (4)) .....	49
7.2.	Changes to shared unmetered load (Clause 11.14(5)).....	49
8.	Calculation of loss factors .....	50
8.1.	Creation of loss factors (Clause 11.2).....	50
Conclusion	.....	51
Participant response	.....	52

## EXECUTIVE SUMMARY

This Distributor audit was performed at the request of **Horizon Networks (Horizon)** 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 Horizon's premises in Whakatane on September 17<sup>th</sup>, 2019.

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

This audit found 11 non-compliances and makes two recommendations. Whilst the number of non-compliances found is the same as found in the last audit, overall controls have improved which is evident in the reduction of audit risk rating score from 27 to 15.

Three of the non-compliances found relate to four backdated new connections. A further three non-compliances relate to the management of loss factors in relation to the site with large embedded generation. Loss factors had to be backdated to correct the non-compliance found in the last audit. The new loss factor was incorrectly applied to two ICPs rather than the ICP with greater than 10MW generation capacity. This was due to a misunderstanding that this should be applied to the site rather the ICP.

Overall compliance has improved during the audit period. Horizon intend to use the audit compliance reporting to further improve their compliance.

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

The next audit frequency table indicates that the next audit be due in 12 months. I have considered this result in conjunction Horizon's responses and I agree with this recommendation.

The matters raised are shown in the table below:

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Complete and accurate information	2.1	11.2(1)	Registry information not complete and accurate in all instances.	Strong	Low	1	Identified
Timeliness of Provision of ICP Information to the registry	3.4	7(2) of Schedule 11.1	Three ICPs not updated on the registry prior to commencement of trading.	Strong	Low	1	Identified
Population of IECD	3.5	7(2A) of Schedule 11.1	37 late initial electrical connection date updates.	Strong	Low	1	Identified
Connection of ICP that is not an NSP	3.6	11.17	One ICP connected without a trader having accepted responsibility for it on the registry.	Strong	Low	1	Identified
Embedded generator loss category code	3.15	7(6) Schedule 11.1	ICP 1000027549BP063 has embedded generation with a capacity greater than 10MW and does not have a unique loss category code.	Weak	Low	3	Identified
Changes to registry information	4.1	8 Schedule 11.1	Updates to registry backdated greater than 3 business days of the event.	Strong	Low	1	Identified
ICP addresses	4.4	2 of Schedule 11.1	93 duplicate addresses.	Strong	Low	1	Identified
Distributors to Provide ICP Information to the Registry manager	4.6	7(1)(p) of Schedule 11.1	One incorrect initial electrical connection date.	Strong	Low	1	Identified

Management of “decommissioned” status	4.11	20 Schedule 11.1	One ICP decommissioned but not updated on the registry.	Strong	Low	1	Investigating
Updating table of loss category codes	5.1	21 Schedule 11.1	Loss category code LF110 was not notified two months in advance.	Moderate	Low	2	Investigating
Updating loss factors	5.2	22 Schedule 11.1	Loss category code LF109 not updated two months in advance.	Moderate	Low	2	Investigating
<b>Future Risk Rating</b>						<b>15</b>	
<b>Indicative Audit Frequency</b>						<b>12 months</b>	

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
Provide ICP information to the registry	4.6	Confirm the unmetered load for two ICPs.
Notification of shared unmetered load	7.1	Liaise with WDC to investigate potential shared unmetered load.

## ISSUES

Subject	Section	Recommendation	Description

## 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

I checked the Authority's website to identify any exemptions in place.

#### Audit commentary

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

### 1.2. Structure of Organisation

Horizon provided an organisation chart.

### 1.3. Persons involved in this audit

Auditor:

**Rebecca Elliot**

**Veritek Limited**

**Electricity Authority Approved Auditor**

Horizon personnel assisting in this audit were:

Name	Title
Allan Murphy	Control Room Supervisor
Shane Piaray	Operations 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

Horizon subcontracts contractors to conduct connection and energisation activities on their network. This matter was discussed during the audit to ensure Horizon understands their responsibilities under this clause.

### Audit commentary

Horizon has maintained responsibility for all of their obligations during the audit period. Compliance is confirmed.

## 1.5. Supplier list

The list of contractors is shown below:

- Horizon Services Limited
- Electriserv
- Electrical Inspection Services Ltd.

## 1.6. Hardware and Software

Horizon provided the following information detailing hardware and software used in the processes to be audited.

The system used is called “NMS Billing”, which is an MS Access application linked to an SQL Server database.

All software resides on an IBM X3650 M3 server with redundant PSU, redundant CPU's, and large raid array for maximum hardware redundancy / failover.

Horizon's backup arrangements are in accordance with normal industry protocols.

Horizon is still evaluating system changes. This may or may not affect the registry updating functions. They are aware of the material change obligations should this change affect Horizon's code obligations.

## 1.7. Breaches or Breach Allegations

Horizon confirmed they have no breach allegations recorded by the Electricity Authority, which are relevant to this audit.



## 1.8. ICP and NSP Data

The table below lists the relevant NSPs and their associated balancing areas:

Distributor	NSP POC	Description	Parent POC	Parent Network	Balancing Area	Network type	Start date	No of ICPs
HEDL	ANI0331	ANIWHENUA	EDG0331	EDG0331	BALANC1HEDLG	I	01-05-08	0
HEDL	EDG0331	EDGECEMBE			BALANC1HEDLG	G	01-05-08	16,355
HEDL	KAW0111	KAWERAU			BALANC1HEDLG	G	01-05-08	3,009
HEDL	WAI0111	WAIOTAHU			BALANC1HEDLG	G	01-05-08	4,284
HEDL	WAI0501	WAIOTAHU			WAI0501HEDL	G	02/07/18	1,036

Horizon has no embedded networks connected and one interconnection point. The certification of this interconnection point is discussed in **section 6.8**.

Horizon provided a list of all ICPs as at September 2019 by way of a registry “list file”. A summary of this data by “ICP status” is as follows:

Status	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)
New (999,0)	0	-	-
Ready (0,0)	7	-	-
Active (2,0)	24,664	24,664	24,453
Distributor (888,0)	0	-	-
Inactive – new connection in progress (1,12)	5	6	5
Inactive – electrically disconnected vacant property (1,4)	328	304	367
Inactive – electrically disconnected remotely by AMI meter (1,7)	57	34	41
Inactive – electrically disconnected at pole fuse (1,8)	53	41	114
Inactive – electrically disconnected due to meter disconnected (1,9)	30	26	12
Inactive – electrically disconnected at meter box fuse (1,10)	49	28	7
Inactive – electrically disconnected at meter box switch (1,11)	7	8	8
Inactive – electrically disconnected ready for decommissioning (1,6)	19	13	11
Inactive – reconciled elsewhere (1,5)	1	1	-

Status	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)
Decommissioned (3)	2,464	2,413	2,321

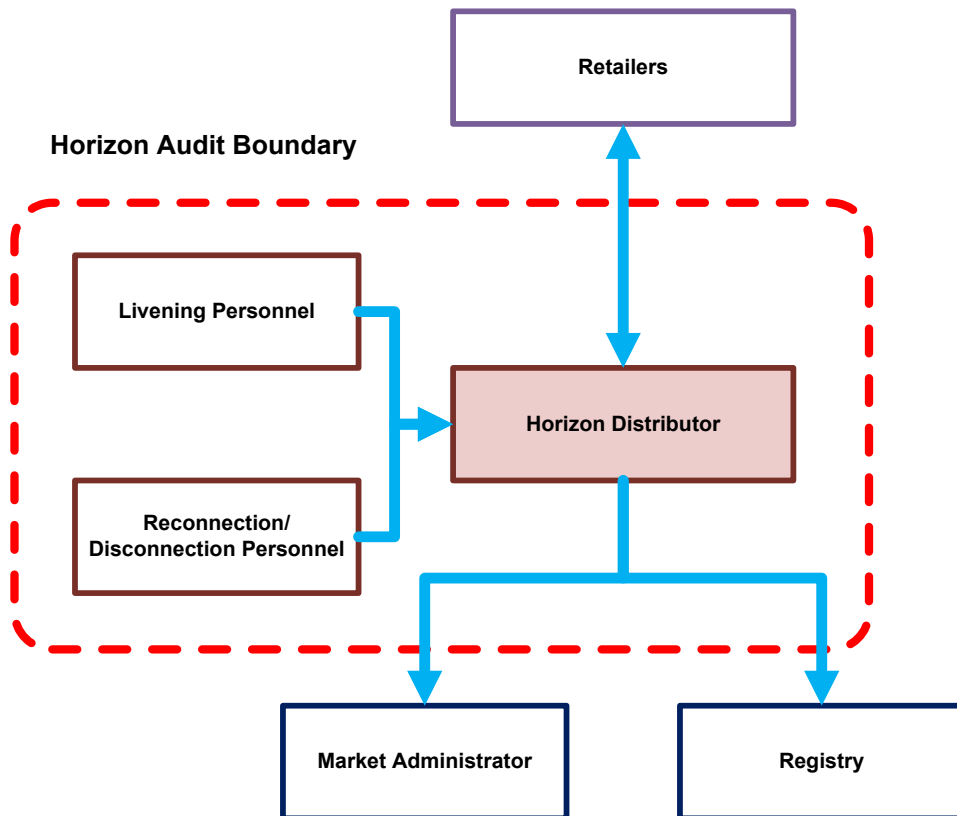
### 1.9. Authorisation Received

An email of authorisation was provided 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 Horizon 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 Horizon's premises in Whakatane on September 17<sup>th</sup>, 2019.

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



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

### 1.11. Summary of previous audit

Horizon provided a copy of their previous audit, conducted in September 2018 by Steve Woods of Veritek Ltd. The current status of the last audit's findings are detailed in the tables below:

#### Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Complete and accurate information	2.1	11.2(1)	Additional controls required to ensure "all practicable steps" taken to ensure registry data is complete and accurate.	Still existing
Provision of ICP information	3.3	11.7	Two initial energisation dates not populated.  165 of 170 incorrect event dates for IECD.	Still existing  Cleared
Population of IED	3.5	7(2A) of Schedule 11.1	10 late initial energisation date updates.	Still existing
Embedded generator loss category code	3.15	7(6) Schedule 11.1	ICP 1000027549BP063 has embedded generation with a capacity greater than 10MW and does not have a unique loss category code.	Still existing
Electrical connection of streetlights	3.16	10.33A(4)	Streetlight circuits electrically connected without permission being gained from the trader.	Cleared
Changes to registry information	4.1	8 Schedule 11.1	Updates to registry backdated greater than 3 business days of the event.	Still existing
Notice of NSP	4.2	7(1),(4) and (5) Schedule 11.1	3 incorrect NSPs.	Cleared
ICP addresses	4.4	2 of Schedule 11.1	52 duplicate addresses.	Still existing
Registry accuracy	4.6	7(1)(d)&(o) of Schedule 11.1	Five incorrect non-dedicated flags.  DG details not populated for five ICPs.	Cleared  Being investigated
Price category codes	4.7	Clause 7(3) of Schedule 11.1	13 backdated price category codes.	Cleared
Updating loss category table	5.1	21 Schedule 11.1	Loss category codes LF6 and LF109 not notified two months in advance.	Still existing

## Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
Hardware and software	1.6	16A.11	Ensure a material change audit is conducted prior to implementation of the new system.	Still to be scoped
DG validation	4.6	Clause 7(1)(o) of schedule 11.1	Report on ICPs with DG discrepancies, where one participant shows DG but the other does not and investigate each case to determine which information is correct and which is incorrect.	Adopted

## 2. OPERATIONAL INFRASTRUCTURE

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

#### Code reference

*Clause 11.2(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 Part 11 is:*

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

#### Audit observation

Horizon's data management processes were examined. The list file as at 5/9/19 and audit compliance report for the audit period of 1/10/18 to 31/8/19 were examined to confirm compliance.

#### Audit commentary

A discrepancy report is run weekly comparing the registry with Horizon's database and any discrepancies identified are investigated. A small number of discrepancies (duplicate addresses, one incorrect status, incorrect loss factor application for one ICP) indicate that whilst controls are strong there is room for improvement. Horizon intend to use the audit compliance reporting as a further tool to identify discrepancies and this will assist in identifying potential data discrepancies.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11.2(1)  From: 01-Oct-18 To: 31-Aug-19	Registry information not complete and accurate in all instances.  Potential impact: Low  Actual impact: Low  Audit history: Twice previously  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls have improved during the audit period making them strong.  The audit risk rating is low as the volume and impact of the discrepancies will have a minimal impact on settlement.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		12/09/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Introduction of a weekly Registry Audit Participation to highlight any discrepancies, these will then be investigated and corrected.		01/10/2019	

## 2.2. Requirement to correct errors (Clause 11.2(2))

### Code reference

Clause 11.2(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

Horizon's data management processes were examined. The list file as at 5/9/19 and audit compliance report for the audit period of 1/10/18 to 31/8/19 were examined to confirm compliance.

### Audit commentary

Any incorrect data is corrected upon discovery. I did not identify any examples where errors were not corrected 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** below. 10 new connection applications of the 129 created were checked from the point of application through to when the ICP was created.

##### Audit commentary

The process in place is robust and has good controls. 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. 10 new connection applications of the 129 created during the audit period were checked from the point of application through to when the ICP was created. These were selected using the typical characteristic methodology to confirm the process and controls worked in practice.

##### Audit commentary

An "application for service" (NC1) is received from the electrician or the retailer however this application is not considered the application for an ICP. This is then provided to the retailer for them to confirm they will accept the ICP. Once Horizon has this approval, plus confirmation that payment has been made by the customer (if required) and notification has been received that the installation is ready to connect, the ICP is created. Once the ICP is electrically connected, a copy of the livening notification is provided to Horizon and the retailer.

The records for 10 ICPs were examined and all 10 were created within three days of the application, which is considered to be the date all pre-conditions have been met.

## Audit outcome

Compliant

### 3.3. Provision of ICP Information to the registry (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 file for all ICPs created and the audit compliance reporting for 1/10/18 to 31/8/19 were examined.

#### Audit commentary

The registry is updated directly for all ICPs. There were 141 electrically connected new connections and all but one ICP had the required information provided. ICP 1000027850BP197 was updated to active by the trader on 23/8/19 but had no initial electrical connection date populated. This was in the post at the time of the list file being provided and has since been updated as part of BAU and is therefore compliant.

The accuracy of the information provided is detailed in **section 4.6**.

## Audit outcome

Compliant

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

#### Code reference

*Clause 7(2) of Schedule 11.1*

#### Code related audit information

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

#### Audit observation

The new connection process was examined. The registry list for 31/08/19 and the registry compliance audit report for 01/10/18 to 31/08/19 were examined to determine the timeliness of the provision of ICP information for new connections.

#### Audit commentary

The audit compliance reporting identified three ICPs (2%) of a total of 141 electrically connected new connections where the status “ready” was updated after the initial electrical connection date during the audit period. These were examined and two were large sites and not all the required information was provided:

- ICP 1000027782BP35F was created at “New” as not all the required information was known, and this was then electrically connected without authorisation;
- ICP 1000027713BP0FD was a large site and not all the required information was provided delaying the ICP creation; and
- ICP 1000027806BP810 was created late due to human error.



## Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.4 With: 7(2) of Schedule 11.1  From: 19-Nov-18 To: 31-Aug-19	Three ICPs not updated on the registry prior to commencement of trading.  Potential impact: Low  Actual impact: None  Audit history: None  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong as Horizon has robust controls in place to manage new connections with good visibility and close management of this activity.  The audit risk rating is low as there were only three late updates.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		12/09/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Introduction of a weekly Registry Audit Participation to highlight any discrepancies, these will then be investigated and corrected.		01/10/2019	

### 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 no later than 10 business days after the date on which the ICP is initially energised.*

#### Audit observation

The registry list for 31/08/19 and the registry compliance audit report for 01/10/18 to 31/08/19 were examined to determine the timeliness of the provision of ICP information for new connections. A diverse sample of ten ICPs were examined.

#### Audit commentary

There were 201 initial electrical connection date updates in the event detail report. The audit compliance report identified 37 (18%) late updates. 17 of the 37 updates were for an initial electrical connection date earlier than the audit period (October 2018). A sample of five of these were examined and found these were to corrections to populate missing dates. A sample of five of the remaining 20 late updates were examined and found these were all late due to late notification from the field.

## Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.5 With: Clause 7(2A) of Schedule 11.1  From: 16-May-11 To: 31-Aug-19	37 late initial electrical connection date updates.  Potential impact: Low  Actual impact: Low  Audit history: Multiple times  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Horizon has strong controls in place to ensure paperwork is provided by contractors in a timely manner.  There is no impact on settlement. The only potential impact is where a trader may wish to compare their Active date to the IECD, so the impact is considered minor, leading to an audit risk rating of low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		12/09/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Introduction of a weekly Registry Audit Participation to highlight any discrepancies, these will then be investigated and corrected.		01/10/2019	

### 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 also an NSP, follow the electrical connection process set out in Clause 10.31.*

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

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

#### Audit observation

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

The registry list for 31/08/19 and the audit compliance report for 01/10/18 to 31/08/19 were examined to determine the timeliness of the provision of ICP information for new connections.

### Audit commentary

Examination of the new connections process confirmed that the process includes a “trader responsibility” step.

All but one ICP (1000027782BP35F) electrically connected had a trader recorded in the registry as having accepted responsibility.

### Audit outcome

Non-compliant

Non-compliance	Description	
Audit Ref: 3.6 With: 11.17  From: 13-Nov-18 To: 13-Jun-19	One ICP connected without a trader having accepted responsibility for it on the registry.  Potential impact: Low  Actual impact: None  Audit history: None  Controls: Strong  Breach risk rating: 1	
Audit risk rating	Rationale for audit risk rating	
Low	Controls are rated as strong as Horizon has robust controls in place to manage new connections with good visibility and close management of this activity.  The audit risk rating is low as there was only one ICP affected.	
Actions taken to resolve the issue		Completion date
Updates/corrections completed prior or during audit		13/09/2019
Preventative actions taken to ensure no further issue will occur		Completion date
Introduction of a weekly Registry Audit Participation to highlight any discrepancies, these will then be investigated and corrected.		01/10/2019
		Remedial action status

### 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 electrically connected ICPs of the 141 electrically connected were checked to determine if the ICPs were connected at the request of the trader.

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

#### **Audit commentary**

Horizon's processes are robust in relation to this clause as an ICP will not be electrically connected without the agreement from the trader, who in turn has agreement with an MEP for the ICP. The list file confirmed that all ICPs at the "Ready" status had a trader nominated. There are no ICPs without a proposed trader recorded in the registry.

#### **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 registry list for 31/08/19 and the registry compliance audit report for 01/10/18 to 31/08/19 were examined to determine.

#### **Audit commentary**

Horizon has not identified any examples of temporary electrical connection and none were identified in the list file or the audit compliance report.

#### **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**

I checked whether Horizon had connected any NSPs during the audit period.

### **Audit commentary**

Horizon has not connected any NSPs during the audit period.

### **Audit outcome**

Compliant

## **3.10. Electrical connection of NSP that is not a point of connection to the grid (Clause 10.30(2))**

### **Code reference**

*Clause 10.30(2)*

### **Code related audit information**

*A distributor must, within five business days of electrically connecting an NSP that is not also a point of connection to the grid, notify the reconciliation manager of the following in the prescribed form:*

- *the NSP electrically connected*
- *the date of the electrical connection*
- *the participant identifier of each MEP*
- *the certification expiry date for each metering installation.*

### **Audit observation**

Horizon has not created any new NSPs during the audit period.

### **Audit commentary**

Horizon has not created any new NSPs 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 market administrator.*

#### Audit observation

The process for the creation of ICPs was examined.

#### Audit commentary

All ICPs are created in the appropriate format. The sample checked confirmed compliance.

#### 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 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 31/08/19 was examined to determine compliance.

#### Audit commentary

Horizon seldom uses the “New” status for new connections. There are currently no ICPs at “New”. ICP 1000027782BP35F was created at “New” as not all the required information was provided. This is discussed further in **section 3.4**.

#### Audit outcome

Compliant

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

#### Code reference

Clause 15 Schedule 11.1

#### Code related audit information

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

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

#### Audit observation

The process to monitor ICPs at “new” and “ready” status was reviewed. The registry list as at 31/08/19 and the audit compliance report for 01/10/18 to 31/08/19 were examined to determine compliance.

#### Audit commentary

There are no ICPs that have been at “new” or “ready” for more than 24 months. Horizon’s processes for monitoring ICPs at “New” or “Ready” for more than 24 months are compliant.

#### 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 list file was examined to identify any embedded generators with a capacity greater than 10MW.

#### Audit commentary

ICP 1000027549BP063 has a generation capacity of capacity of 28 MW. It had the LF3 loss category code assigned which was not unique. This was changed to loss category code LF109 on 21/11/18. This loss category code is also assigned to ICP 1000027253BP75D and is therefore not unique. This was applied to both ICPs as they relate to the same site. This is being corrected. This is recorded as non-compliance.

#### Audit outcome

Non-compliant



Non-compliance	Description		
Audit Ref: 3.15 With: Clause 7(6) Schedule 11.1  From: 08-Mar-18 To: 31-Aug-19	ICP 1000027549BP063 has embedded generation with a capacity greater than 10MW and does not have a unique loss category code.  Potential impact: Low  Actual impact: Low  Audit history: Once previously  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as weak as due to a misunderstanding of the code that the loss category code has been applied to two ICPs.  The audit risk rating is recorded as low as the loss category is correct but is incorrectly applied to two ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		13/09/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Review of the loss factor methodology and application thereof is currently underway.		01/11/2019	

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

#### Code reference

Clause 10.33A

#### Code related audit information

- (1) A reconciliation participant may electrically connect a point of connection, or authorise the electrical connection of a point of connection, only if—
- (a) the reconciliation participant is recorded in the registry as being responsible for the ICP; and
  - (b) 1 or more certified metering installations are in place at the ICP in accordance with this Part; and
  - (c) in the case of an ICP that has not previously been electrically connected, the owner of the network to which the point of connection is connected has given written approval of the electrical connection.
- (2) A reconciliation participant described in subclause (1)(a)—
- (a) may authorise the electrical connection of an ICP if—
    - (i) a metering installation is in place at the ICP; and
    - (ii) the metering installation is operational but not certified; and
    - (iii) the reconciliation participant arranges for the certification of the metering installation to be completed within 5 business days of the ICP being electrically connected:
  - (b) may electrically connect an ICP if the point of connection is solely for unmetered load.

- (3) A reconciliation participant must not authorise the electrical connection of a point of connection in either of the following circumstances:*
- (a) a distributor has electrically disconnected the point of connection for safety reasons, and has not subsequently approved the electrical connection of the point of connection:*
  - (b) electrically connecting the point of connection would breach the Electricity (Safety) Regulations 2010.*
- (4) No participant may electrically connect a point of connection, or authorise the electrical connection of a point of connection, other than a reconciliation participant in the circumstances described in subclause (1), (2), or (3).*

**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**

The connection of streetlight circuits was discussed. All new streetlight circuits are now required to have an application and the ICP to which the lights will be connected is recorded. Approval for the connection is sought from the council. Liveness dates of these circuits are provided by the contractor to both Horizon and the council.

**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 provide notice to the registry 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 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 registry list file, audit compliance reporting and the audit compliance report for 01/10/18 to 31/08/19 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

Horizon updates the registry directly. Their IT platform does not interface to the registry. The audit compliance report was analysed to identify backdated event updates, and found:

#### Address events

99.19% of all address updates were made on time with an average time to update the registry of 11.22 days (the average days to update is long as the backdated address updates go back some years). There were 407 late address updates. The sample checked of these found the event date was not changed causing the events to be 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 network updates was 8.66%. All late updates but one related to the population of distributed generation. The DUML unmetered load update was backdated. This load is reconciled via a DUML database therefore there the late update has no impact. The compliance reporting specifically measures distributed generation updates, so I have included these findings below as a subset of general network updates.

### Distributed Generation

The distributed generation process is described in **section 4.6**. 10% of all distributed generation network updates were made on time with an average time to update the registry of 139.88 days. There were 72 late network updates. The sample checked of these found that there was no notification received of these being electrically connected. Horizon monitor the EIEP1 file for distributed generation connections where they have none recorded. They then contact the applicant to request the COC. These delays cause Horizon to update the registry late.

### **NSP Changes**

Horizon does change the NSP that ICPs are connected to. The audit compliance report identified three late NSP changes. These were examined and found that due to an address change (same street name different town) the NSP was inadvertently changed. These were identified via discrepancy reporting and corrected upon discovery causing backdated events.

### **Pricing Changes**

The compliance reporting found 1,136 (49%) late pricing updates of a total of 2,673 pricing updates. The average time to update the registry late was 15.7 days. The sample checked of these found seven were due to late notification from the trader and three where the event date wasn't updated causing the event to be backdated.

### **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. The audit compliance reporting identified eight (15%) of 51 ICPs were updated late. All of these were after the code changed. These were examined and found:

- four of these were complex jobs that required confirmation of the work undertaken to be confirmed before they could be updated on the registry; and
- four were due to late paperwork back from the field.

### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 4.1 With: Clause 8 Schedule 11.1 From: 01-Oct-18 To: 31-Aug-19	Updates to registry backdated greater than 3 business days of the event. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Many of the late updates were as a result of late information from other parties; therefore, I have recorded the controls as strong. The audit risk rating is low as there is only a minor impact on participants with late updates.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		13/09/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Continuously working with other parties to improve timelines for the information required.		13/09/2019	

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

##### Code reference

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

##### Code related audit information

*The distributor must notify the registry of the NSP identifier of the NSP to which the ICP is usually connected under Clause 7(1)(b) of Schedule 11.1.*

*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 NSP assignment was discussed. The audit compliance reporting identified six ICPs with a particular NSP where all other ICPs on the same road had a different NSP. These were examined.

### Audit commentary

The NSP for each ICP is notified to the registry as part of the new connections process. Part of the engineering approval process is to ensure the correct transformer, and therefore NSP is identified for any particular ICP.

A check of the six ICPs identified in the audit compliance report found these all related to same address update issue that caused the backdated NSP changes recorded in **section 4.1**. All had the correct NSP recorded but had the incorrect town recorded and have since been corrected.

### 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 discussed to confirm policy.

### Audit commentary

Horizon confirms that they have not had any direct requests for ICPs however should this occur and there is no confusion regarding the installation address, then the ICP would be provided immediately. In some situations, these requests would be referred to the relevant retailer.

### 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 manage address accuracy was examined and the audit compliance report was examined. A typical sample of 12 ICPs were examined.

### Audit commentary

All addresses are expected to have GPS coordinates to enable them to be readily located. The audit compliance report recorded 93 active ICPs with duplicate addresses. All but eight of these had duplicated address and GPS co-ordinates. The remaining eight had no GPS co-ordinates but the address was a duplicate. Four of these were created during the audit period. Additional address property details have since been added to the 12 ICPs checked. The audit compliance reporting will be used going forward to monitor and manage these.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.4 With: Clause 2 of Schedule 11.1  From: 01-Oct-18 To: 31-Aug-19	93 duplicate addresses.  Potential impact: Low  Actual impact: Low  Audit history: Three times previously  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are now rated as strong as the audit compliance reporting will provide good visibility of this.  The audit risk rating is low as this has a minor impact on traders because addresses are relied on for meter reading and disconnection purposes.		
Actions taken to resolve the issue		Completion date	Remedial action status
Corrections to duplicate address complete		13/09/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Introduction of a weekly Registry Audit Participation to highlight any discrepancies, these will then be investigated and corrected.		01/10/2019	

## 4.5. Electrically disconnecting an ICP (Clause 3 Schedule 11.1)

### Code reference

Clause 3 Schedule 11.1

### Code related audit information

*E 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

I checked Horizon's policy and documentation in relation to this clause.

### Audit commentary

The AFS and the living notification both contain details of the network isolation point, which confirms compliance with this clause. Shared service mains are allowed, but individual isolation points are still required.

### Audit outcome

Compliant

## 4.6. Distributors to Provide ICP Information to the Registry (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):*
  - *the nameplate capacity of the generator; and*
  - *the fuel type*
- *the initial electrical connection date of the ICP (Clause 7(1)(p) of Schedule 11.1).*

### **Audit observation**

The management of registry information was reviewed. The registry list as at 31/08/19 and the audit compliance report for the audit period from 1/10/18 to 31/8/19 were reviewed to determine compliance. A typical sample of data discrepancies were checked.

### **Audit commentary**

Registry data validation processes are discussed in **section 2.1**. Horizon updates the registry manually. All ICP information was checked and confirmed compliant unless discussed below:

#### Initial Electrical Connection Date

201 ICPs have had the initial electrical connection date updated between 1/10/18 and 31/08/19. The audit compliance reporting identified six ICPs with date inconsistencies between the initial electrical connection date, the active date and the meter certification date:

ICP	Meter certification date	Initial Electrical Connection date	First Active date	Comments
1000027830BPE67	17/07/2019	17/07/2019	22/07/2019	Paperwork sighted and confirmed Horizon's date is correct.
1000027781BPF9F	23/05/2019	09/05/2019	16/05/2019	This is a large site therefore Horizon has recorded the connection date as they are often unaware of when such sites are electrically connected.
1000027807BP455	10/05/2019	10/05/2019	14/05/2019	Paperwork sighted and confirmed Horizon's date is correct.
1000027784BP2D0	12/04/2019	09/04/2019	12/04/2019	Data input error – this has been corrected.
1000027773BPF0D	15/03/2019	19/03/2019	15/03/2019	This is being queried with the trader to confirm the correct date but looks likely Horizon date is incorrect.
1000027830BPE67	17/07/2019	17/07/2019	22/07/2019	This is being queried with the trader to confirm the correct date but as the meter certification and Horizon's date agree it looks likely that Horizon's date is correct.

The timeliness of provision of information on initial electrical connection date is discussed in **section 3.5**.

The one incorrect initial electrical connection date is recorded as non-compliance below.

#### Distributed Generation

Horizon require an application for all distributed generation. All applications have to be approved before allowing distributed generation to be connected to their network, but Horizon is reliant on customers following the process. Horizon monitor the EIEP1 files to identify distributed generation where none is expected. They then contact the applicant to request the COC. Once these details have been received distributed generation will be recorded on the registry.

Examination of the list file found 242 active ICPs with generation capacity recorded by Horizon. All had the correct installation type, generation capacity and fuel type populated. The timeliness of these updates is discussed in **section 4.1**.

A check of list file found 43 ICPs where distributed generation is installed but the trader has not updated the profile from RPS to PV1. 33 of these relate to one trader who is known to have an issue with recording the correct profile on the registry. The ten remaining ICPs were examined and found:

- no application had been received in seven instances; and
- applications had been approved in three instances, but no paperwork had been provided advising these have been installed.

Horizon intend to investigate these where no application has been received with the trader, and the customer for those where an application has been approved.

I checked the distributed generation information populated on the registry against the paperwork provided for a sample of ten ICPs and confirmed that all had the correct generation capacity, fuel type and effective event date recorded.

### Unmetered Load

Horizon does not allow any new unmetered load connections on its network.

Horizon uses the recommended format for updating the registry where possible with 17 of the 19 ICPs recorded in the recommended format. I compared the daily kWh figures to the traders' daily unmetered kWh figures and found that all matched. The two ICPs with insufficient load descriptions to be able to be calculated were examined and found:

- ICP 1000014278BP710 is recorded as having an electric fence but the trader has no unmetered load details recorded; and
- ICP 1000023057BPAD0 is recorded by Horizon as "Street Light .09kW". The trader has a daily unmetered load figure of 0.96 kWh calculated from "80WATT;12HRS;STREETLIGHT".

I recommend that these loads are checked with the trader and updated once the load is confirmed.

Recommendation	Description	Audited party comment	Remedial action
Provide ICP information to the registry	Confirm the unmetered load for two ICPs.	Investigate, confirm and update records with the aid of trader	Investigating

### Audit outcome

#### Non-compliant

Non-compliance	Description		
Audit Ref: 4.6 With: Clause 7(1)(p) of Schedule 11.1 From: 09-Apr-19 To: 12-Apr-19	One incorrect initial electrical connection date.  Potential impact: Low  Actual impact: Low  Audit history: Multiple times  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as strong as discrepancy reporting has been improved during the audit period and the use of the audit compliance report will further strengthen controls.  The audit risk rating is low as there was only one incorrect initial electrical connection date identified.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		13/09/2019	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Introduction of a weekly Registry Audit Participation to highlight any discrepancies, these will then be investigated and corrected.		01/10/2019	

#### 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 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 new connection process was examined in detail. The registry list and audit compliance report for 01/10/18 to 31/08/19 were reviewed to determine compliance.

##### Audit commentary

The price and loss category are determined by the application details prior to electrical connection. Placeholder values are not used. No ICPs were identified in the audit compliance report with potential price changes relating to post electrical connection.

##### Audit outcome

Compliant

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

##### Code reference

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

##### Code related audit information

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

##### Audit observation

I checked the list file for ICPs with GPS coordinates recorded.

##### Audit commentary

GPS coordinates are in NZTM format. I checked this using Mobile Roads.

##### 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

Horizon’s current process is to create the majority of ICPs at the “ready” status.

The registry list showed seven ICPs currently at “ready” status, none have been at “ready” status for more than two years. This is discussed further in **section 3.14**.

All ICPs at “ready” status had a single price category assigned and proposed trader identified.

##### Audit commentary

The status of “Ready” is used once the ICP is ready for connection. The new connection process has a step to confirm the trader has taken responsibility. All ICPs only have one price category code.

##### 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

I checked the list file to confirm compliance.

##### Audit commentary

There are no ICPs with the distributor only status. There have been some potential private lights identified by Whakatane District Council. These may require shared unmetered load to be created. This is discussed in **section 7.1**.

##### 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 31/08/19 was reviewed to identify ICPs at the “decommissioned” or “ready for decommissioning” status.

A diverse sample of five “decommissioned” ICPs was examined. I also examined a diverse sample of five ICPs at “ready for decommissioning” status.

##### Audit commentary

The decommissioning process is managed by Horizon and includes a physical verification that service main, cables and meters are actually removed. The sample checked confirmed that the ICPs were decommissioned for the correct date.

The list file found 19 ICPs are at “ready for decommissioning”. The sample checked found no request has been received for two ICPs. One has since been decommissioned as part of BAU. ICP 1000008715BP1DF has been decommissioned on 17/06/2018 but has not been updated on the registry. The customer confirmed that they did not want ICP 1000008683BP6B3 to be decommissioned. The incorrect status for one ICP is recorded as non-compliance.

##### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.11 With: Clause 20 Schedule 11.1  From: 18-Jun-19 To: 31-Aug-19	One ICP decommissioned but not updated on the registry.  Potential impact: Low  Actual impact: Low  Audit history: None  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as strong as discrepancy reporting has been improved during the audit period and the use of the audit compliance report will further strengthen controls.  The audit risk rating is low as there was only one ICP decommissioned but not updated on the registry.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		13/09/2019	Investigating
Preventative actions taken to ensure no further issue will occur		Completion date	Note- ICP 1000008715BP1DF still to be decommissioned on the registry
Investigate improvements to current process with retailers		13/09/2019	

#### 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

I checked the price category code table for any new or changed codes during the audit period.

##### Audit commentary

There were no new price category codes.

##### 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

I checked the loss category code table for any new codes during the audit period.

#### Audit commentary

One new code was created during the audit period. The LF110 code was created on 14/03/2019 with an effective date of 1/04/2019. The loss factor was not applied to an ICP until 9/05/2019. This is recorded as non-compliance as it was not notified two months prior to coming into effect.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 5.1 With: Clause 21 Schedule 11.1  From: 14-Mar-19 To: 01-Apr-19	Loss category code LF110 was not notified two months in advance. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are recorded as moderate as this was updated as soon as it was identified. The audit risk rating is actually low as the loss factor code was only applied to an active ICP on 9/05/2019.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		13/09/2019	Investigating
Preventative actions taken to ensure no further issue will occur		Completion date	
Review of the loss factor methodology and application thereof is currently underway.		01/11/2019	



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

### Code reference

Clause 22 Schedule 11.1

### Code related audit information

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

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

### Audit observation

I checked the loss category code table for any changed factors during the audit period.

### Audit commentary

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

The LF109 code was changed on 21/11/2018 with a backdated effective date of 1/03/2018. This is recorded as non-compliance.

### Audit outcome

Compliant

Non-compliance	Description		
Audit Ref: 5.2 With: Clause 22 Schedule 11.1  From: 01-Mar-18 To: 21-Nov-18	Loss category code LF109 not updated two months in advance. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating:2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are recorded as moderate as this backdate occurred to apply a loss factor code for an ICP with greater than 10MW generation. The audit risk rating is low as any effect on reconciliation was within the 14 month revision cycle.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updates/corrections completed prior or during audit		13/09/2019	Investigating
Preventative actions taken to ensure no further issue will occur		Completion date	
Review of the loss factor methodology and application thereof is currently underway.		01/11/2019	

## 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 notify 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 notify 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 notify 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:*

- notify the reconciliation manager*
- notify the market administrator*
- notify each affected reconciliation participant*
- comply with Schedule 11.2.*

#### Audit observation

The NSP table on the registry was examined. No NSPs were created or decommissioned by Horizon during the audit period.

#### Audit commentary

The NSP table on the registry was examined. No NSPs were created or decommissioned by Horizon 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 calendar month before the NSP is electrically connected or the ICP is transferred.*

### Audit observation

The NSP table on the registry was examined. No NSPs were created or decommissioned by Horizon during the audit period.

### Audit commentary

The NSP table on the registry was examined. No NSPs were created or decommissioned by Horizon 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 notify the reconciliation manager of the following:*

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

### Audit observation

The NSP table on the registry was examined. No NSPs were created or decommissioned by Horizon during the audit period.

### Audit commentary

The NSP table on the registry was examined. No NSPs were created or decommissioned by Horizon 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 notify the reconciliation manager at least one calendar 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**

Horizon has not created any embedded networks.

#### **Audit commentary**

Horizon has not created any embedded networks.

#### **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 notify 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 on the registry was examined. No balancing areas were changed during the audit period.

#### **Audit commentary**

The NSP table on the registry was examined. No balancing areas were changed 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 notify any trader trading at the ICP of the transfer at least one calendar month before the transfer.*

#### **Audit observation**

The NSP table was reviewed.

#### **Audit commentary**

No existing ICPs became NSPs during the audit period.

#### **Audit outcome**

Compliant

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

##### **Code reference**

*Clause 1 to 4 Schedule 11.2*

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

*If the distributor wishes to transfer an ICP, the distributor must notify the market administrator in the prescribed form, no later than three business days before the transfer takes effect.*

##### **Audit observation**

The NSP table was reviewed.

##### **Audit commentary**

Horizon 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)&(3))

##### **Code reference**

*Clause 10.25(1)&(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)).*

##### **Audit observation**

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

##### **Audit commentary**

Horizon is not responsible for any metering installations in accordance with this clause.

##### **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

Horizon 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 notify:*

- *the previous network owner (Clause 29(1)(a) of Schedule 11.1)*
- *the reconciliation manager (Clause 29(1)(b) of Schedule 11.1)*
- *the market administrator (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 calendar month notification is required before the acquisition (Clause 29(2) of Schedule 11.1).*

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

### Audit observation

The NSP supply point table was reviewed.

### Audit commentary

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

### Audit outcome

Compliant

## 6.11. Change of MEP for embedded network gate meter (Clause 10.22(1)(b))

### Code reference

*Clause 10.22(1)(b)*

### Code related audit information

*If the MEP for an ICP which is also an NSP changes the participant responsible for the provision of the metering installation under Clause 10.25, the participant must notify the reconciliation manager and the gaining MEP.*

### Audit observation

The NSP supply point table was reviewed.

### Audit commentary

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

### 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 market administrator 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

Horizon 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**

Horizon 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 notify the registry 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 notify the registry 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

Horizon does not have any known shared unmetered load. The streetlight audits in the Horizon network were reviewed.

#### Audit commentary

Horizon does not have any known shared unmetered load. There have been some potential private lights identified by Whakatane District Council. These may require shared unmetered load to be created. I recommend that Horizon liaise with the Council to confirm the items of load.

Recommendation	Description	Audited party comment	Remedial action
Notification of shared unmetered load	Liaise with WDC to investigate potential shared unmetered load.	Requested meeting with Aidan Glynn of WDC – awaiting response.	Investigating

#### Audit outcome

Compliant

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

#### Code reference

*Clause 11.14(5)*

#### Code related audit information

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

#### Audit observation

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

#### Audit commentary

Horizon does not have any shared unmetered load.

#### Audit outcome

Compliant

## 8. CALCULATION OF LOSS FACTORS

### 8.1. Creation of loss factors (Clause 11.2)

#### Code reference

Clause 11.2

#### Code related audit information

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

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

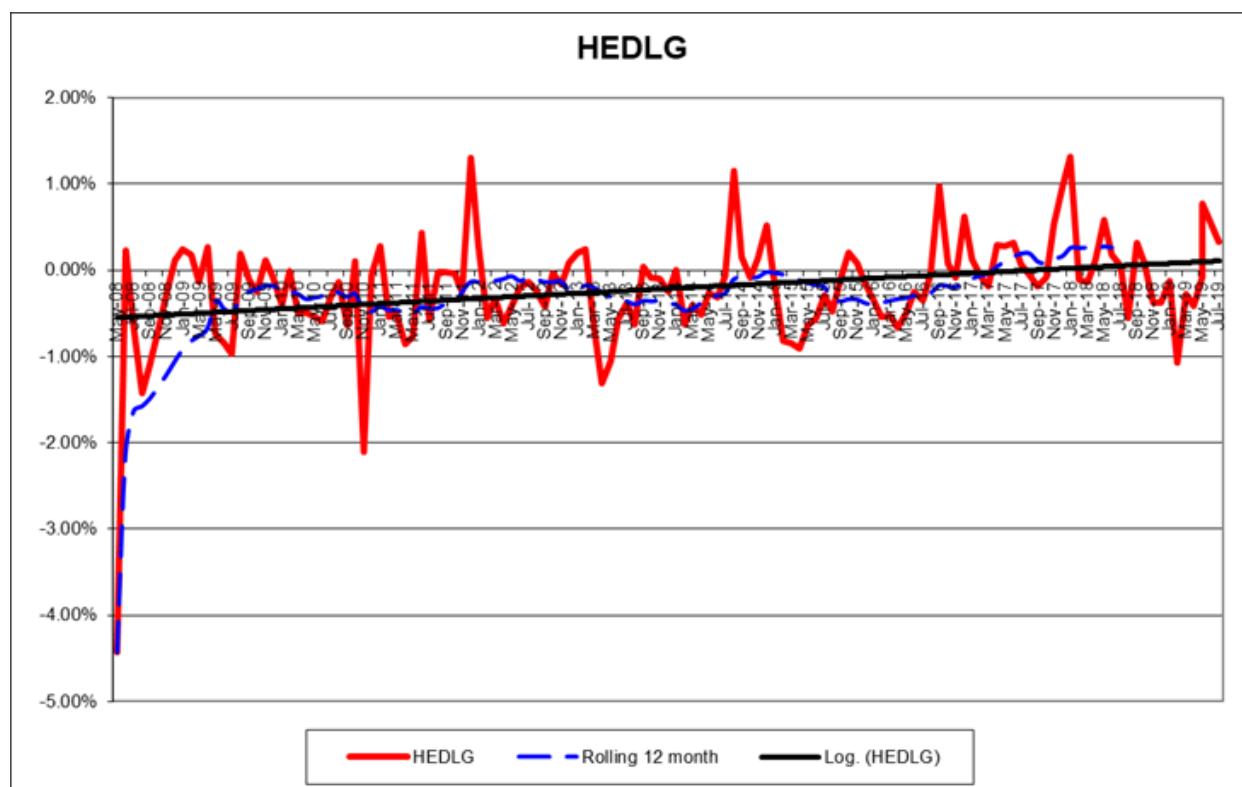
#### Audit observation

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

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

#### Audit commentary

The EA provided the following UFE graph indicating that losses for Horizon are running within the +/- 1% threshold:



Horizon’s loss factors are based on reconciliation losses and they regularly monitor the differences between their loss factors and reconciliation losses.

#### Audit outcome

Compliant

## CONCLUSION

This audit found 11 non-compliances and makes two recommendations. Whilst the number of non-compliances found is the same as found in the last audit, overall controls have improved which is evident in the reduction of audit risk rating score from 27 to 15.

Three of the non-compliances found relate to four backdated new connections. A further three non-compliances relate to the management of loss factors in relation to the site with large embedded generation. Loss factors had to be backdated to correct the non-compliance found in the last audit. The new loss factor was incorrectly applied to two ICPs rather than the ICP with greater than 10MW generation capacity. This was due to a misunderstanding that this should be applied to the site rather the ICP.

Overall compliance has improved during the audit period. Horizon intend to use the audit compliance reporting to further improve their compliance.

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

The next audit frequency table indicates that the next audit be due in 12 months. I have considered this result in conjunction Horizon's responses and I agree with this recommendation.

## PARTICIPANT RESPONSE

Horizon have reviewed this report and their comments are recorded in the body of the report. No further comments were provided.