

ELECTRICITY INDUSTRY PARTICIPATION CODE  
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

HUNET LIMITED

Prepared by: Rebecca Elliot

Date audit commenced: 23 April 2018

Date audit report completed: 24 May 2018

Audit report due date: 31-May-18

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## EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Hunet Ltd (Hunet)**, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1.

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.1.

This audit found 24 non-compliances, makes seven recommendations and raises one issue.

Hunet have made good progress to address the area of reconciliation during the audit period. They have created a new submission system due to staff changes as too much critical knowledge of how the existing system was structured was unknown. They have sought John Candy Consulting's guidance in this work. A material change audit has been completed in relation to this new system in parallel with this audit. I recommend that that audit be read in conjunction with this audit when determining Hunet's next audit date.

Although the number of non-compliances has increased from the last audit where not all areas were able to be assessed, in this audit compliance has been determined for all areas assessed. Therefore the overall the level of compliance has improved and Hunet are working hard to address the non-compliances found. I recommend that Hunet engage John Candy to peer review the first two months of submission files to confirm that the submission system works as expected once in production. With this confirmed, a longer audit period could be considered for Hunet.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The non-compliances found have a future risk rating score of 65, which gives an indicative audit frequency of three months. I have considered this result in conjunction with the Hunet's responses and my comments above and I recommend a further audit be carried out in eight months to confirm that compliance is maintained post the material change. This will still be within the revision period.

The matters raised are detailed in the tables below.

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	11.2 & 15.2	Information is not complete or accurate for the ICPs with distributed generation. Submission file contains incorrect information.	Moderate	High	6	Identified
Electrical Connection of Point of Connection	2.11	10.33A	Not recorded as responsible for one ICP on the registry at the time of electrical connection.	Moderate	Low	2	Identified
Changes to registry information	3.3	10 Schedule 11.1	Registry information not updated within 5 business days of the event for 27 ICPs.	Moderate	Low	2	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	1 ICP not updated within five business days of electrical connection.	Moderate	Low	2	Identified
ANZSIC Codes	3.6	9 (1(k) of Schedule 11.1	12 incorrect ANZSIC codes assigned.	Moderate	Low	2	Identified
Switching	4.2	3 and 4 Schedule 11.3	Two late AN files sent.	Strong	Low	1	Cleared
	4.3	5 Schedule 11.3	CS file content incorrect for 4 out of 6 examples checked.	Moderate	Low	2	Identified
	4.8	10(1) Schedule 11.3	Six late CS files.	Moderate	Low	2	Identified
	4.9	10(2) Schedule 11.3	One event date set earlier than the gaining traders requested date.	Strong	Low	1	Cleared
	4.10	11 Schedule 11.3	CS file content incorrect.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
	4.11	12 Schedule 11	One RR file sent not derived from two actual reads.  One late AC file.	Moderate	Low	2	Identified
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	Generation volumes incorrectly treated as load for the 4 ICPs with distributed generation.	Weak	Low	3	Identified
Derivation of meter readings	6.6	5 of Schedule 15.2	Datacol does not identify and report phase failure to Hunet.	Moderate	Low	2	Identified
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	One ICP not read during period of supply.	Moderate	Low	2	Identified
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	Incorrect monthly meter reading report being provided to the Electricity Authority.	Weak	Low	3	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	Incorrect monthly meter reading report being provided to the Electricity Authority.	Weak	Low	3	Identified
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	Corrections have not been submitted during the audit period. .	Moderate	Low	2	Identified
Meter data used to derive volume information	9.3	3(5) Schedule 15.2	Meter reading data rounded for Metrix reads and truncated for AMS reads.	Weak	Low	3	Identified
Calculation of ICP days	11.2	15.6	ICP days report double counting ICPs with multiple meters or registers.	Weak	Low	3	Identified
Accuracy of submission information	12.7	15.12	Corrections not processed since the last audit.  NHH submission files inaccurate.	Weak	High	9	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Some FE still exists at 14 months.	Weak	Low	3	Identified
Historical estimate process	12.11	4 and 5 Schedule 15.3	HE scenarios not working correctly in the current submission system.	Weak	Low	3	Identified
Reporting resolution	13.2	9 Schedule 15.3	Submission is rounded to whole numbers.	Weak	Low	3	Cleared
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Moderate	Low	2	Identified
<b>Future Risk Rating</b>						<b>65</b>	
<b>Next indicative audit frequency</b>						<b>3 months</b>	

Future risk rating	0	1-3	4-15	16-40	41-55	55+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

## RECOMMENDATIONS

Subject	Section	Recommendation	Description
Electrical connection of point of connection	2.11	Confirm meter certification is current for all reconnections.	Identified
ANZSIC Codes	3.6	Check validity of ANZSIC codes assigned for commercial ICPs gained prior to new process.	Identified
Collection of information by certified reconciliation participant	6.5	Add a further validation step for the 23 ICPs read by FCLM.	Identified
Derivation of meter readings	6.6	Liaise with Datacol to confirm data exchange is working as expected	Identified
Interrogate meters once	6.8	Develop a no read process for those ICPs not read where an AMI	Identified



Subject	Section	Recommendation	Description
		meter install is refused or cannot be installed.	
		Review ICPs not read during period of supply report to correctly capture this.	Investigating
Electronic meter readings and estimated readings	9.6	Check with AMS and FCLM to confirm event logs are being sent.	Identified

## ISSUES

Subject	Section	Issue	Remedial Action
Connection of an ICP	2.9	ICP not created by the distributor for the electrical connection date.	To be raised in the Distributor's next audit.

## 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 Electricity Authorities website was checked for current exemptions.

#### Audit commentary

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

### 1.2. Structure of Organisation

Hunet's organisational structure was provided:

#### **Board**

Name	Position
Jakob Inho Lee	Managing Director
JJ Jang	General Manager

#### **Operations**

Name	Position	Job Description
Ria Na	Operations Manager	-General operation review -Price review and management -General operation task -Risk Management -Reading management

## **System Development and Data**

<b>Name</b>	<b>Position</b>	<b>Job Description</b>
Louis Kwon	System Development and Data Team Manager	-Managing reports and billing invoices -Reading management -Website management
YJ Moon	Programmer	-IPBMS development and maintenance
Jin Moon	Network engineer	-Network engineering

### **1.3. Persons involved in this audit**

Auditors:

<b>Name</b>	<b>Company</b>	<b>Role</b>
Rebecca Elliot	Veritek Limited	Lead Auditor
Steve Woods	Veritek Limited	Supporting Auditor

Personnel assisting in this audit were:

<b>Name</b>	<b>Title</b>
Ria Na	Operations Manager
Joon Moon	Senior Software Developer

### **1.4. Use of Agents (Clause 15.34)**

#### **Code reference**

*Clause 15.34*

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

*A reconciliation participant who uses an agent*

- *remains responsible for the contractor's fulfilment of the participant's Code obligations*
- *cannot assert that it is not responsible or liable for the obligation due to something the agent has or has not done.*

#### **Audit observation**

The agents used by Hunet were identified and their agent reports assessed as a part of this audit.

#### **Audit commentary**

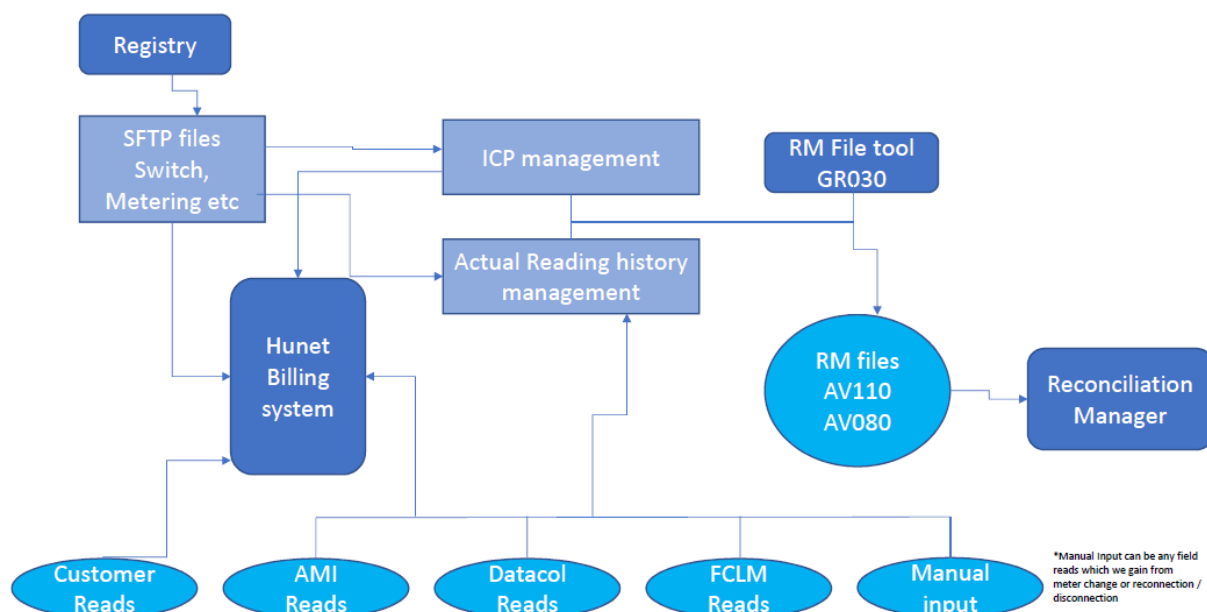
Hunet continues to use Datacol's services as an NHH data collection agent. The audit report for Datacol is attached as an appendix. The audit was conducted in May 2018 and therefore the agent audit is within seven months.

MEPs AMS, Metrix and FCLM (from 31/8/17) provide NHH AMI data. Their compliance with the code is examined as part of their MEP audits.

All other activities are performed “in-house”.

### 1.5. Hardware and Software

Hunet has a bespoke MySQL database on a Linux operating system. Daily backups are performed to a remotely hosted server.



### 1.6. Breaches or Breach Allegations

Hunet has had no alleged breaches within the scope of this audit during the audit period.

### 1.7. ICP Data

Hunet provided a list file as at March 2018. The list file was examined by status:

Status	Number of ICPs March 2018	Number of ICPs August 2017	Number of ICPs March 2017
Active (2,0)	5,194	4,897	4,288
Inactive – new connection in progress (1,12)	0	0	1
Inactive – electrically disconnected vacant property (1,4)	18	12	26
Inactive – electrically disconnected remotely by AMI meter (1,7)	37	32	28
Inactive – electrically disconnected at pole fuse (1,8)	0	0	0

Inactive – electrically disconnected due to meter disconnected (1,9)	12	12	1
Inactive – electrically disconnected at meter box fuse (1,10)	0	0	0
Inactive – electrically disconnected at meter box switch (1,11)	2	2	0
Inactive – electrically disconnected ready for decommissioning (1,6)	0	1	0
Inactive – reconciled elsewhere (1,5)	0	0	0
Decommissioned (3)	32	16	14

The active ICPs are summarised by category in the table below:

Metering Category	March 2018	October 2017	March 2017
1	5179	4,828	4,274
2	15	15	14
3	0	0	0
4	0	0	0
5	0	0	0
9	0	0	0
Blank	0	0	0

### 1.8. Authorisation Received

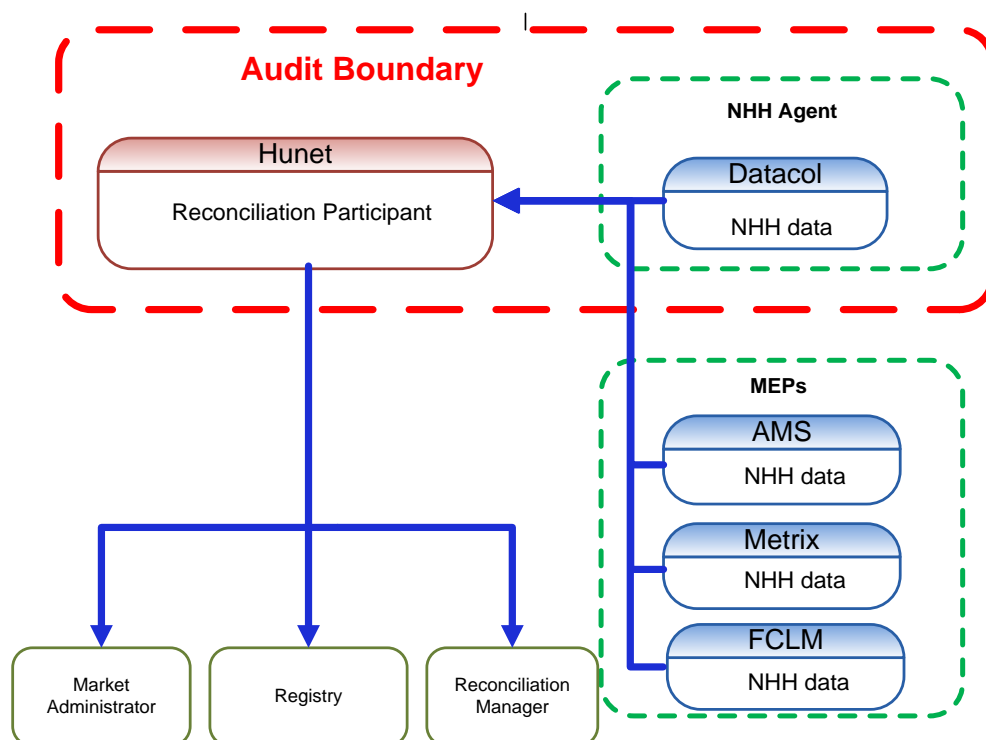
Hunet provided an email authorisation to collect information in relation to this audit.

## 1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Hunet Limited, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1.

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.1.

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



The table below shows the tasks under clause 15.38 of part 15 for which Hunet requires certification. This table lists the agents and MEPs who assist with these tasks:

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data	Datacol – NHH	AMS - NHH Metrix – NHH FCLM- NHH
(c)(ii) - Creation and management of NHH volume information		
(d) – Calculation of ICP days		

(da) - delivery of electricity supplied information under clause 15.7		
(e) – Provision of submission information for reconciliation		

Datacol has been audited in May 2018 in accordance with the Guidelines for Reconciliation Participant Audits V7.1. Their audit report is expected to be submitted with this audit.

#### 1.10. Summary of previous audit

Hunet provided a copy of the report from the audit conducted in October 2017 by Rebecca Elliot of Veritek Limited. The summary tables below indicates the current status of the previous non-compliances and I note that the material change undertaken in parallel with this audit is expected to resolve the six non-compliances related to submission. Further comment is made in the relevant sections of this report.

#### NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Status
Changes to registry information	3.3	10 Schedule 11.1	Registry information not updated within 5 business days of the event.	Still existing
ANZSIC Codes	3.6	9 (1(k) of Schedule 11.1	4 invalid ANZSIC codes assigned.	Still existing
Switching	4.2	3 and 4 Schedule 11.3	Two incorrect AN codes sent.	Cleared
	4.3	5 Schedule 11.3	CS file content incorrect.	Still existing
	4.8	10(1) Schedule 11.3	No AN file sent for 205 move switches.	Cleared
	4.9	10(2) Schedule 11.3	Two event dates set earlier than the gaining traders requested date.	Still existing- 1 instance
	4.10	11 Schedule 11.3	CS file content incorrect.	Still existing
	4.11	12 Schedule 11	One late RR file and one late AC file.	Still existing
	4.15	17 Schedule 11.3	Six late switch withdrawals.	Cleared

Subject	Section	Clause	Non-Compliance	Status
Derivation of meter readings	6.6	5 of Schedule 15.2	Meter condition notifications not being actioned. Datacol does not identify and report phase failure to Hunet.	Still existing
NHH meter reading application	6.7	6 Schedule 15.2	One midnight read incorrectly applied for MI switch.	Cleared
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Five ICPS not read during period of supply.	Cleared
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	Exceptional circumstances not proven for all ICPS sampled. Incorrect monthly meter reading report being provided to the Electricity Authority.	Still existing
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	Exceptional circumstances not proven for all ICPS sampled. Incorrect monthly meter reading report being provided to the Electricity Authority.	Still existing
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	Corrections for 2 ICPS with bridged meters not submitted.	Still existing
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	Event logs not monitored for 16 ICPS read by FCLM.	Still existing
Calculation of ICP days	11.2	15.6	One ICP duplicated in the ICP day report.	Cleared
Allocation of submission information	12.3	15.5	Submission not allocated correctly.	Still existing
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Some FE still exists at 14 months.	Still existing
Historical estimate process	12.11	4 and 5 Schedule 15.3	HE scenarios not working correctly for two out of three scenarios checked. Volumes for corrections are not allocated across the affected period.	Still existing
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Still existing



## RECOMMENDATIONS

Subject	Section	Recommendation	Description
Changes to registry information	3.3	Tracking of service requests issued be put in place to manage all service requests that do not get returned.	Cleared
		Develop reporting to identify any MEP nominations that are not accepted.	Cleared
ANZSIC Codes	3.6	Check validity of ANZSIC codes assigned.	Still existing
NHH metering information data validation	9.5	Refine AMI zero read process to better identify zero usage.	Cleared

## SECTIONS UNABLE TO DETERMINE COMPLIANCE

Subject	Section
Relevant information	2.1
Creation of submission information	12.2
Reconciliation participants to prepare information	12.9
Provision of submission information to the RM	13.1

The above areas have been assessed for compliance in this audit and the findings are recorded in the relevant sections of the report.

## 2. OPERATIONAL INFRASTRUCTURE

### 2.1. Relevant information (Clause 10.6, 11.2, 15.2)

#### Code reference

Clause 10.6, 11.2, 15.2

#### Code related audit information

*A participant must take all practicable steps to ensure that information that the participant is required to provide is:*

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

*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

The process to find and correct incorrect information was examined and observed. The list file for the audit period was examined to confirm that all information was correct and not misleading. The registry validation process was examined in detail in relation to the achievement of this requirement. The list file was examined to identify any registry discrepancies.

#### Audit commentary

Hunet monitors the registry notification files to update their database when registry information changes. The ICP management report is run monthly and this identifies any consumption on active vacant or disconnected vacant, any meter mismatches, blank or "T9" coded ANZSIC codes. In addition to this, Hunet have deployed a robotic tool called the "Disco Reco Manager" which automatically updates the ICPs status once the service request is returned. This process is described in **section 3.3**. The operations manager checks that all jobs processed in the "Disco Reco Manager" have been processed as expected and this is achievable with the current volumes of jobs being processed. I recommend that a check for status mismatches regardless of consumption volume is added to the monthly validation check.

The analysis of the list file returned the following findings:

Item No.	Issue	March 2018	October 2017	Comments
1	ICP not managed in Hunet's system	0	0	Compliance confirmed
2	Status mismatch between registry and Hunet	0	0	Compliance confirmed
3	Active with no MEP	0	-	Compliance confirmed
4	Incorrect submission flag	0	-	Compliance confirmed
5	Blank ANZSIC codes	0	-	Compliance confirmed
6	ANZSIC "T9.." coded	0	7	Compliance confirmed

Item No.	Issue	March 2018	October 2017	Comments
7	Category 9 but Active with MEP and UML "N"	0	-	Compliance confirmed
8	ICPs with Distributor unmetered load populated but retail unmetered load is blank	0	-	Compliance confirmed - Hunet do not accept ICPs with unmetered load
9	ICPs with unmetered load flag Y but load is recorded as zero	-	-	Compliance confirmed - Hunet do not accept ICPs with unmetered load
10	ICPs with incorrect shared unmetered load	-	-	Compliance confirmed - Hunet do not accept ICPs with unmetered load
11	ICPs with Distributed Generation indicated but no DG profile	4	0	See <b>section 6.1</b>

The management of the registry information continues to be well managed over the audit period. Hunet started accepting ICPs with distributed generation in December 2017.

As discussed in **section 6.5**, one example was found of meter reading being incorrectly entered into Hunet's system for an FCLM meter. This was keyed in incorrectly. This read did not fall outside of the validation checks in place hence it was not found, so I recommend in **section 6.5**, that a further validation is added to confirm these have been entered correctly.

As discussed in the **Executive Summary** and **section 6.1**, the new submission system will correctly manage generation volumes. Currently these ICPs do not have the correct profile assigned.

As recorded in **sections 6.1 and 8.1**, there are errors in the current submission files and therefore correct and accurate information is not being provided. As discussed in the **Executive Summary**, Hunet have engaged John Candy to advise in developing a new submission system and this has been assessed as part of this audit and it is expected to address the current errors. The incorrect information being submitted over the audit period will be addressed through the revision process but is recorded as non-compliance below.

#### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 2.1</p> <p>With: 11.2 &amp; 15.2</p> <p>From: 04-Dec-17</p> <p>To: 31-Mar-18</p>	<p>Information is not complete or accurate for the ICPs with distributed generation.</p> <p>Submission file contains incorrect information.</p> <p>Potential impact: High</p> <p>Actual impact: High</p> <p>Audit history: Three times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
High	<p>The controls are rated as moderate as controls will mitigate risk most of the time but there is room for errors to occur.</p> <p>The audit risk is rated as high because submission information is inaccurate (over submission) for at least January 2018 by 70,000 kWh and is likely to be inaccurate for other months.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Hunet worked closely with John Candy to accurately obtain data, calculation formula and the output from the two in each scenario, and it has already proven that they are compliant with section 6.1. Distributed generation volumes was tested and have been confirmed that the new submission system accurately reports the volumes. The incorrect information submitted over the past 14month period will be addressed during the new revision process.</p>		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We have made excellent progress with our new submission system and the compliance that we follow, and we are pleased that our HE and FE consumption have been correctly implemented. The submission files will also be monitored for the next two months through the peer review by John Candy to ensure that the new submission system works as per expectation in production.</p> <p>We will also establish a SFTP connection to our hosting account to ensure that data is securely transmitted via our AMI reading management process, which will be same as our working Metrix and NGCM process.</p>		31/05/2018	

## 2.2. Data transmission (Clause 20 Schedule 15.2)

### Code reference

Clause 20 Schedule 15.2

### Code related audit information

*Transmissions and transfers of data related to metering information between reconciliation participants or their agents, for the purposes of the Code, must be carried out electronically using systems that ensure the security and integrity of the data transmitted and received.*

### Audit observation

I reviewed the method to receive meter reading information.

Manual NHH data is provided by Datacol via SFTP.

NHH AMI data is provided by AMS, Metrix and FCLM via SFTP. All other AMI meters are read manually by Datacol.

The AMI reads are collected twice daily from AMS and Metrix, and on a daily basis from FCLM. These reads are imported into a separate meter reading database (actual reading history management module as detailed in the hardware diagram).

I traced a diverse sample of reads for 20 NHH ICPs from the source files to Hunet's system. Readings for five ICPs were checked for each of the following meter reading providers:

- AMS
- Metrix
- Datacol
- FCLM.

### Audit commentary

NHH meter data is transmitted to Hunet using SFTP.

I traced reads for a sample of 20 ICPs from the source files to Hunet's system. All the reads were recorded and labelled correctly.

### Audit outcome

Compliant

## 2.3. Provision of information (Clause 15.35)

### Code reference

Clause 15.35

### Code related audit information

*If an obligation exists to provide information in accordance with Part 15, a participant must deliver that information to the required person within the timeframe specified in the Code, or, in the absence of any such timeframe, within any timeframe notified by the Authority. Such information must be delivered in the format determined from time to time by the Authority.*

### Audit observation

Processes to provide information were reviewed and observed throughout the audit.

### Audit commentary

This area is discussed in a number of sections in this report.

## Audit outcome

Compliant

### 2.4. Audit trails (Clause 21 Schedule 15.2)

#### Code reference

*Clause 21 Schedule 15.2*

#### Code related audit information

*Each reconciliation participant must ensure that a complete audit trail exists for all data gathering, validation, and processing functions of the reconciliation participant.*

*The audit trail must include details of information:*

- *provided to and received from the registry manager*
- *provided to and received from the reconciliation manager*
- *provided and received from other reconciliation participants and their agents.*

*The audit trail must cover all archived data in accordance with clause 18.*

*The logs of communications and processing activities must form part of the audit trail, including if automated processes are in operation.*

*Logs must be printed and filed as hard copy or maintained as data files in a secure form, along with other archived information.*

*The logs must include (at a minimum) the following:*

- *an activity identifier (clause 21(4)(a))*
- *the date and time of the activity (clause 21(4)(b))*
- *the operator identifier (clause 21(4)(c)).*

#### Audit observation

A complete audit trail was checked for all data gathering, validation and processing functions. I reviewed audit trails for a small sample of events. Large samples were not necessary because audit trail fields are expected to be the same for every transaction of the same type.

#### Audit commentary

The logs for the following activities were reviewed:

- **meter readings:** an audit trail is available for all meter readings
- **registry notifications:** a compliant audit trail is recorded within the registry and within Hunet's system
- **switching files:** a compliant audit trail is recorded within the registry, and within Hunet's system
- **reconciliation reports:** a compliant audit trail is recorded within the allocation portal.

## Audit outcome

Compliant

## 2.5. Retailer responsibility for electricity conveyed - participant obligations (Clause 10.4)

### Code reference

Clause 10.4

### Code related audit information

*If a participant must obtain a consumer's consent, approval, or authorisation, the participant must ensure it:*

- *extends to the full term of the arrangement*
- *covers any participants who may need to rely on that consent.*

### Audit observation

I reviewed Hunet's current terms and conditions.

### Audit commentary

Hunet's current terms and conditions with their customers includes consent to access for authorised parties for the duration of the contract.

### Audit outcome

Compliant

## 2.6. Retailer responsibility for electricity conveyed - access to metering installations (Clause 10.7(2),(4),(5) and (6))

### Code reference

Clause 10.7(2),(4),(5) and (6)

### Code related audit information

*The responsible reconciliation participant must, if requested, arrange access for the metering installation to the following parties:*

- *the Authority*
- *an ATH*
- *an auditor*
- *an MEP*
- *a gaining metering equipment provider.*

*The trader must use its best endeavours to provide access:*

- *in accordance with any agreements in place*
- *in a manner and timeframe which is appropriate in the circumstances.*

*If the trader has a consumer, the trader must obtain authorisation from the customer for access to the metering installation, otherwise it must arrange access to the metering installation.*

*The reconciliation participant must provide any necessary facilities, codes, keys or other means to enable the party to obtain access to the metering installation by the most practicable means.*

### Audit observation

I reviewed Hunet's current terms and conditions, and discussed compliance with these clauses.

### Audit commentary

Hunet's contract with their customers includes consent to access for authorised parties for the duration of the contract. Hunet confirmed that they have been able to arrange access for other parties when requested.

### Audit outcome

Compliant

## 2.7. Physical location of metering installations (Clause 10.35(1)&(2))

### Code reference

*Clause 10.35(1)&(2)*

### Code related audit information

*A reconciliation participant responsible for ensuring there is a category 1 metering installation or category 2 metering installation must ensure that the metering installation is located as physically close to a point of connection as practical in the circumstances.*

*A reconciliation participant responsible for ensuring there is a category 3 or higher metering installation must:*

- a) if practical in the circumstances, ensure that the metering installation is located at a point of connection; or*
- b) if it is not practical in the circumstances to locate the metering installation at the point of connection, calculate the quantity of electricity conveyed through the point of connection using a loss compensation process approved by the certifying ATH.*

### Audit observation

The physical meter location point is not specifically mentioned in the Terms and Conditions, but the existing practices in the electrical industry achieve compliance.

Hunet was requested to provide details of any installations with loss compensation.

### Audit commentary

Hunet deals with category one and two sites only, therefore they do not deal with installations with loss compensation.

### Audit outcome

Compliant



## 2.8. Trader contracts to permit assignment by the Authority (Clause 11.15B)

### Code reference

Clause 11.15B

### Code related audit information

*A trader must at all times ensure that the terms of each contract between a customer and a trader permit:*

- *the Authority to assign the rights and obligations of the trader under the contract to another trader if the trader commits an event of default under paragraph (a) or (b) or (f) or (h) of clause 14.41 (clause 11.15B(1)(a)); and*
- *the terms of the assigned contract to be amended on such an assignment to—*
- *the standard terms that the recipient trader would normally have offered to the customer immediately before the event of default occurred (clause 11.15B(1)(b)(i)); or*
- *such other terms that are more advantageous to the customer than the standard terms, as the recipient trader and the Authority agree (clause 11.15B(1)(b)(ii)); and*
- *the terms of the assigned contract to be amended on such an assignment to include a minimum term in respect of which the customer must pay an amount for cancelling the contract before the expiry of the minimum term (clause 11.15B(1)(c)); and*
- *the trader to provide information about the customer to the Authority and for the Authority to provide the information to another trader if required under Schedule 11.5 (clause 11.15B(1)(d)); and*
- *the trader to assign the rights and obligations of the trader to another trader (clause 11.15B(1)(e)).*

*The terms specified in sub-clause (1) must be expressed to be for the benefit of the Authority for the purposes of the Contracts (Privacy) Act 1982, and not be able to be amended without the consent of the Authority (clause 11.15B(2)).*

### Audit observation

I reviewed Hunet's current terms and conditions.

### Audit commentary

Hunet's terms and conditions contain the appropriate clauses to achieve compliance with this requirement.

### Audit outcome

Compliant

## 2.9. Connection of an ICP (Clause 10.32)

### Code reference

Clause 10.32

### Code related audit information

*A reconciliation participant must only request the connection of a point of connection if they:*

- *accept responsibility for their obligations in Parts 10, 11 and 15 for the point of connection; and*
- *have an arrangement with an MEP to provide one or more metering installations for the point of connection.*

### Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The list file and event detail report for the audit period from 01/10/2017 to 31/3/18 were analysed to confirm process compliance and controls are functioning as expected.

### Audit commentary

Hunet does not deal with many new connections. They only trade on the Vector and some embedded networks. The new connection process is manual with all requests for new connections made directly to Vector via their service portal or to the embedded network owner in the rare instance a new connection occurs (no examples were found of this occurring in the audit period). The normal process is to take the ICP to the “new connection in progress” status once it has been created in the registry and nominate the MEP at this point. They then await notification by way of the metering paperwork being returned from the MEP to then change the status to “Active”. There is no automated interface between Hunet’s system and the registry. All changes are loaded directly to the registry by the operator. This process is discussed in more detail in **section 3.5**. Whilst the process is manual, due to the small volume handled, the process works.

Two new connections have been completed during the audit period for ICPs 1002036494LC3CF & 1002040580LCE15. Both were taken to active from ready on the registry and the MEP was nominated at the same time. This was completed within the required timeframe for ICP 1002036494LC3CF but not for ICP1002040580LCE15. This meter was originally recorded against ICP 0766592896LC50D with an installation date of 8/6/16. This was identified as a cross metered site. Hunet liaised with Vector and Metrix and once confirmed that this was a separate point of connection they requested a new ICP as a paperwork only job. The existing ICP was switched out to the correct trader for an effective date of 5/8/16. Vector would only create the new ICP from the point in time that the ICP was confirmed to be a separate point of connection which was 18/10/17 rather than to the date the meter was installed. The meter was reversed off the original ICP (0766592896LC50D) and recertified for the new ICP. Therefore, due to the refusal of the network to create the ICP for the correct date there is no ICP to reconcile the volume against for this meter for the period of 8/6/16 to 18/10/17. I raise this as an issue to be reviewed in the distributors next audit.

Description	Issue	Remedial action
Connection of an ICP	ICP not created by the distributor for the electrical connection date.	To be raised in the Distributor’s next audit.

This ICP was already connected and therefore for the purposes of this clause I confirm compliance but have recorded non-compliance in relation to the new ICP in **section 2.11**.

### Audit outcome

Compliant

## 2.10. Temporary Electrical Connection of an ICP (Clause 10.33(1))

### Code reference

*Clause 10.33(1)*

### Code related audit information

*A reconciliation participant may temporarily electrically connect a point of connection, or authorise an MEP to temporarily electrically connect a point of connection, only if:*

- *they are recorded in the registry as being responsible for the ICP; and*
- *one or more certified metering installations are in place at the ICP in accordance with Part 10; and*
- *for an ICP that has not previously been electrically connected, the network owner has given written approval.*

### Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The list file and event detail report for the audit period from 1/10/17 to 31/3/18 were analysed to confirm process compliance and controls are functioning as expected.

### Audit commentary

Hunet's normal new connections process ensures that all ICPs are claimed and taken to the inactive - new connection in progress" status. The MEP is decided at this point and nominated in the registry. None of the new connections were temporarily electrically connected, and this is unlikely to occur for Hunet.

### Audit outcome

Compliant

## 2.11. Electrical Connection of Point of Connection (Clause 10.33A)

### Code reference

*Clause 10.33A(1)*

### Code related audit information

*A reconciliation participant may electrically connect or authorise the electrical connection of a point of connection only if:*

- *they are recorded in the registry as being responsible for the ICP; and*
- *one or more certified metering installations are in place at the ICP in accordance with Part 10; and*
- *for an ICP that has not previously been electrically connected, the network owner has given written approval.*

### Audit observation

The list file and event detail report for the period from 1/4/17 to 30/9/17 were analysed to confirm process compliance and controls are functioning as expected. I checked all new connections and reconnections from the event detail report comparing the meter certification date, certification expiry date and the active date.

## Audit commentary

### New Connections

Two new connections have occurred during the audit period, as detailed in **section 2.9**; both were taken straight to active on the registry. ICP 1002036494LC3CF had certified metering installed and was certified within five days of electrical connection. ICP 1002040580LCE15 was updated to active on 22/12/17 for an active date of 18/10/17. The meter was certified within five business days of electrical connection. This was a cross metered site and therefore was already electrically connected against ICP 0766592896LC50D and was a paperwork new connection only. However, Hunet were not recorded as responsible in the registry when electrical connection was recorded in the registry against ICP 1002040580LCE15. This is recorded as non-compliance below.

### Reconnected ICPs

I checked all ICPs reconnected during the audit period and all had current certification. Hunet are not specifically checking meter certification when reconnecting ICPs and I recommend that a check be added into their process.

Description	Recommendation	Audited party comment	Remedial action
Electrical connection of point of connection	Confirm meter certification is current for all reconnections.	Hunet have enhanced several validation features on our internal switching panel and new features can easily be added on to check meter certification expiry date when we gain ICPs.	Identified

## Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 2.11</p> <p>With: 10.33A</p> <p>From: 18-Oct-17</p> <p>To: 22-Dec-17</p>	<p>Not recorded as responsible for one ICP on the registry at the time of electrical connection.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as moderate as controls will mitigate risk most of the time but there is room for errors to occur.</p> <p>The audit risk is low as only one ICP was affected.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>This is an exceptional case and it wasn't our intention to breach the code. On 08/06/2016 metering at a new point of connection to the Vector network was electrically connected. Due to a misunderstanding the metering was associated with ICP# 0766592896LC50D even though it was separate customer and separate point of connection to the Vector network and should never have been with Hunet / associated with this ICP identifier. Metrix identified this and worked with us to get an ICP identifier created from the date the ICP was created (08/06/2016) Vector have created the ICP identifier of 1002040580LCE15 for this point of connection to the network, however have set a creation date of 18/10/2017 (the date the point of connection was confirmed to be a separate connection to the Vector network).</p> <p>As a result we do not have an ICP number to reconcile the volumes consumed at this point of connection between 08/06/2016 – 18/10/2017.</p> <p>EA requested Vector to give ICP#1002040580LCE15 the correct 'ready' date of 08/06/2016 to enable us to claim the ICP from this date and reconcile the metered volumes they have for this point of connection.</p>		30/06/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Metrix advised us that they are implementing processes to prevent this occurring going forward. Vector will also be able to move the ICP creation date to an earlier date by DM-010 process.</p>		ongoing	

## 2.12. Arrangements for line function services (Clause 11.16)

### Code reference

Clause 11.16

### Code related audit information

*Before providing the registry manager with any information in accordance with clause 11.7(2) or clause 11.18(4), a trader must ensure that it, or its customer, has made any necessary arrangements for the provision of line function services in relation to the relevant ICP.*

*Before providing the registry manager with any information in accordance with clause 11.7(2) or clause 11.18(4), a trader must have entered into an arrangement with an MEP for each metering installation at the ICP.*

### Audit observation

A registry list with history was reviewed to confirm the networks Hunet traded on during the audit period.

### Audit commentary

Hunet trades only on the Vector network and 11 embedded networks. Arrangements were confirmed to be in place in all instances.

### Audit outcome

Compliant

## 2.13. Arrangements for metering equipment provision (Clause 10.36)

### Code reference

Clause 10.36

### Code related audit information

*A reconciliation participant must ensure it has an arrangement with the relevant MEP prior to accepting responsibility for an installation.*

### Audit observation

A registry list with history was reviewed to confirm all MEPs for Hunet ICPs during the audit period.

### Audit commentary

Hunet confirmed there are arrangements in place with all MEPs. All active ICPs have an MEP recorded.

### Audit outcome

Compliant

### 3. MAINTAINING REGISTRY INFORMATION

#### 3.1. Obtaining ICP identifiers (Clause 11.3)

##### Code reference

*Clause 11.3*

##### Code related audit information

*The following participants must, before assuming responsibility for certain points of connection on a local network or embedded network, obtain an ICP identifier for the point of connection:*

- a) a trader who has agreed to purchase electricity from an embedded generator or sell electricity to a consumer*
- b) an embedded generator who sells electricity directly to the clearing manager*
- c) a direct purchaser connected to a local network or an embedded network*
- d) an embedded network owner in relation to a point of connection on an embedded network that is settled by differencing*
- e) a network owner in relation to a shared unmetered load point of connection to the network owner's network*
- f) a network owner in relation to a point of connection between the network owner's network and an embedded network.*

*ICP identifiers must be obtained for points of connection at which any of the following occur:*

- a consumer purchases electricity from a trader 11.3(3)(a)*
- a trader purchases electricity from an embedded generator 11.3(3)(b)*
- a direct purchaser purchases electricity from the clearing manager 11.3(3)(c)*
- an embedded generator sells electricity directly to the clearing manager 11.3(3)(d)*
- a network is settled by differencing 11.3(3)(e)*
- there is a distributor status ICP on the parent network point of connection of an embedded network or at the point of connection of shared unmetered load 11.3(3)(f).*

##### Audit observation

The list file was analysed and found that two ICPs have been requested since the last audit.

##### Audit commentary

Hunet applied for these ICPs in accordance with the Code.

##### Audit outcome

Compliant

#### 3.2. Providing registry information (Clause 11.7(2))

##### Code reference

*Clause 11.7(2)*

##### Code related audit information

*Each trader must provide information to the registry manager about each ICP at which it trades electricity in accordance with Schedule 11.1.*

### Audit observation

The new connection process was examined in detail. The list file was analysed in conjunction with the event detail report for the audit period to evaluate the updating of the registry in relation to new connections. This clause links directly to **Section 3.5**. The findings for the timeliness of updates is detailed there.

### Audit commentary

The new connection process is detailed in **Sections 2.9, 2.11 and 3.5**. The process in place ensures that the trader required information is populated as required by this clause.

### Audit outcome

Compliant

## 3.3. Changes to registry information (Clause 10 Schedule 11.1)

### Code reference

*Clause 10 Schedule 11.1*

### Code related audit information

*If information provided by a trader to the registry manager about an ICP changes, the trader must provide written notice to the registry manager of the change no later than five business days after the change.*

### Audit observation

The process to manage status changes is discussed in detail in **Sections 3.8 and 3.9**. In this section I have examined the event detail report for the audit period of 1/10/17 to 31/3/18 to determine the overall performance for that period. I used the extreme case methodology to sample the ten ICPs that were updated greater than 20 days (or the whole population if less than 10 ICPs) from the event date for each of the status type updates.

The process to manage MEP changes was examined. The event detail analysis identified 15 MEP nomination events. The nomination date was compared to the metering event effective date to identify any ICPs that were not nominated within five business days.

### Audit commentary

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Changes to active - reconnections	Mar 2017	78	69	9	20.85	89%
	Oct 2017	106	89	17	6.2	84%
	Mar 2018	143	125	18	4.7	83%
Change to electrically disconnected other than reason 12 & 6	Mar 2017	141	119	18	48.8	84%
	Oct 2017	147	122	25	24.9	83%
	Mar 2018	138	129	9	7.6	94%



Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Change to de-energised ready for decommissioning	Mar 2017	1	0	1	6	0%
	Oct 2017	2	1	1	10	50%
	Mar 2018	0	n/a	n/a	n/a	n/a
New connection in progress status updates	Oct 2017	1	0	1	37	100%
	Mar 2018	0	n/a	n/a	n/a	n/a
Changes of MEP	Oct 2017	24	20	4	7	83%
	Mar 2018	15	15	0	*-10.7	

\*The average notification days includes ICPs where the nomination has been sent well in advance of the meter being recertified hence it is a negative number.

As noted in **Section 2.1**, Hunet have an ICP Management report in place and this is run monthly, and any discrepancies are investigated. They have deployed a robotic tool called the “Disco Reco Manager” which automatically updates the ICPs status once the service request is returned. This went live on 7/2/18. The operator raises a work request via the excel form provided by MEPs to reconnect or disconnect an ICP. This lodges a task in the “Disco Reco” management file. Once the job is complete the robot completes the task updating both Hunet’s system and the registry overnight. The operations manager checks that all jobs have been processed as expected. This is achievable with the current volumes of jobs being processed but I recommend in **section 2.1**, that a check for status mismatches regardless of consumption volume is added to the monthly validation check.

### Reconnections

Hunet issue service requests to the field and the service provider returns the completed service request to Hunet via email. These are then updated in their system and onto the registry.

The percentage completed within five business days is similar to that found in the last audit and the average time to notify the registry has continued to reduce and is now an average of 4.7 days. This is due to the automated “Disco Reco” robotic updating and the cycle time is expected to further reduce. In the last audit I recommended that service requests are tracked, and this is now carried out within the “Disco Reco” tool where any outstanding jobs are easily identified and followed up with the service provider.

There were eight ICPs that were not updated within 20 days of being reconnected and these were all checked and found:

- Six were ICPs where consumption was detected on disconnected ICPs. The status was correctly backdated to the date consumption was detected.
- Two were due to backdated switches. In both instances Hunet updated the status as soon as the switch completed.

### Inactive - “Vacant” or similar

These tasks are processed in the same way as the reconnected ICPs. Hunet have completed the data cleaning exercise to investigate all the long term unread sites with the exception of three ICPs where they are awaiting the outcome of the site investigation. The MEP has been sent to each site to determine the correct status and Hunet have then updated their system and the registry as a result of this. Status management is now part of the business as usual processes. The reduced average cycle time from 24.9 days to 7.6 is evidence of this process working.

The sample checked using the extreme case methodology found four ICPs not updated within 20 business days. These were examined and found:

- two were updated once confirmed from the MEP field visit of the correct status
- ICP 0000179863UNFAE inactive status was accidentally reversed by the operator and was restored within minutes of the reversal
- ICP 0001432715UNB6C was a correction of one day to the effective inactive date to ensure consumption could be reconciled for the part day.

### Inactive – “New Connection in Progress”

Hunet’s new connection process is manual. ICPs are normally claimed using the inactive status of (1,12) “New connection in progress” in the first instance. This status wasn’t used in this audit period, but I confirmed that this is the normal process. The ICPs are discussed in **section 2.9**.

### Inactive - “Ready for Decommissioning”

Hunet trades on the Vector network and some embedded networks. The MEP is contacted in the first instance to remove the meters and gain final reads. They then lodge a service request with Vector to decommission the site and update the ICP to “ready for decommissioning” once Vector have advised the service request is complete. No ICPs have been decommissioned during the audit period.

### Changes to MEP

Hunet use Metrix in the first instance for metering services. When an MEP change is required, Hunet nominates the MEP on the registry and logs a job for meter replacement at the same time. All meter change requests are now tracked through the WIP file. All jobs in progress are recorded and tracked through to completion. This will capture any MEP rejections received. I note that none have been received during the audit period. Meter mismatches are also identified through the registry discrepancy process. All MEP changes were notified in advance of the meter change occurring. Compliance is confirmed.

### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 3.3 With: 10 Schedule 11.1 From: 15-Aug-16 To: 31-Mar-18	Registry information not updated within 5 business days of the event for 27 ICPs. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate as controls will mitigate risk most of the time but there is room for errors to occur. The audit risk rating is low due to the small number of ICPs backdated greater than five days.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has deployed a robotic tool called the "Disco Reco Manager" which automatically updates the ICPs status once the service request is returned. This went live on 07/02/2018. The operator raises a work request via the excel form provided by MEPs to reconnect or disconnect an ICP. This lodges a task in the "Disco Reco" management file. Once the job is complete and its paperwork is received, the robot completes the task updating both Hunet's system and the registry overnight. It usually takes 1 day for remote job and 3-5 days for manual job. Total 244 disco and reco jobs have been raised with our new process since 07/02/2018 and there has been no delay in update reported.		07/02/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The operations manager also checks that all jobs have been processed and consumption has stopped as expected. We also review consumption increase for old inactive ICPs on a monthly basis from ICP management tool to keep track of the status changes. We consider that the controls in place are strong and are adequate to ensure that the compliance is met.		ongoing	

### 3.4. Trader responsibility for an ICP (Clause 11.18)

#### Code reference

*Clause 11.18*

#### Code related audit information

*A trader becomes responsible for an ICP when the trader is recorded in the registry as being responsible for the ICP.*

*A trader ceases to be responsible for an ICP if:*

- *another trader is recorded in the registry as accepting responsibility for the ICP (clause 11.18(2)(a)); or*
- *the ICP is decommissioned in accordance with clause 20 of Schedule 11.1 (clause 11.18(2)(b)).*
- *if an ICP is to be decommissioned, the trader who is responsible for the ICP must (clause 11.18(3)):*
  - o *arrange for a final interrogation to take place prior to or upon meter removal (clause 11.18(3)(a)); and*
  - o *advise the MEP responsible for the metering installation of the decommissioning (clause 11.18(3)(b)).*

*A trader who is responsible for an ICP (excluding UML) must ensure that an MEP is recorded in the registry for that ICP (clause 11.18(4)).*

*A trader must not trade at an ICP (excluding UML) unless an MEP is recorded in the registry for that ICP (clause 11.18(5)).*

#### Audit observation

##### ICP Decommissioning

The process for the decommissioning of ICPs was examined. No ICPs have been set to ready for decommissioning during the audit period. 15 ICPs have been decommissioned by the distributor during the audit period. A sample of ten of these selected using the typical case methodology were checked to confirm the process and confirm controls are in place.

##### Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process was discussed and the list file, as at March 2018, was examined to identify that all active ICPs have an MEP recorded. This analysis found all active ICPs have an MEP recorded in the registry. MEP rejections were analysed from the event detail report and none have been received during the audit period.

#### Audit commentary

##### ICP Decommissioning

The process is detailed in **Section 3.3**. Hunet continues with their obligations under this clause. ICPs that are vacant and active, or inactive are still maintained in the database. Hunet makes an attempt to read the meter at the time of removal and if this is not possible then the last actual meter reading is used. The MEP responsible is made aware that the site is to be decommissioned. The sample confirmed that compliance.

### Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process ensures that all ICPs are taken to “inactive - new connection in progress” and the MEP nomination is sent at the same time. A check of the list file and found all active ICPs had an MEP recorded.

#### **Audit outcome**

Compliant

### **3.5. Provision of information to the registry manager (Clause 9 Schedule 11.1)**

#### **Code reference**

*Clause 9 Schedule 11.1*

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

*Each trader must provide the following information to the registry manager for each ICP for which it is recorded in the registry as having responsibility:*

- a) the participant identifier of the trader, as approved by the Authority (clause 9(1)(a))*
- b) the profile code for each profile at that ICP, as approved by the Authority (clause 9(1)(b))*
- c) the metering equipment provider for each category 1 metering or higher (clause 9(1)(c))*
- d) the type of submission information the trader will provide to the RM for the ICP (clause 9(1)(ea))*
- e) if a settlement type of UNM is assigned to that ICP, either:*
  - the code ENG if the load is profiled through an engineering profile in accordance with profile class 2.1 (clause 9(1)(f)(i)); or*
  - in all other cases, the daily average kWh of unmetered load at the ICP (clause 9(1)(f)(ii)).*
  - the type and capacity of any unmetered load at each ICP (clause 9(1)(g))*
  - the status of the ICP, as defined in clauses 12 to 20 (clause 9(1)(j))*
  - except if the ICP exists for the purposes of reconciling an embedded network or the ICP has distributor status, the trader must provide the relevant business classification code applicable to the customer (clause 9(1)(k)).*

*The trader must provide information specified in (a) to (j) above within five business days of trading (clause 9(2)).*

*The trader must provide information specified in 9(1)(k) no later than 20 business days of trading (clause 9(3)).*

#### **Audit observation**

The event detail report was examined to confirm that information is provided to the registry within five business days of commencement of trading at each ICP. Two new connections have been completed during the audit period.

#### **Audit commentary**

As detailed in **sections 2.9, 2.11 and 3.2**, Hunet’s new connection process is that they will only take an ICP to active once they receive the metering paperwork from the MEP confirming metering has been certified and energised.

Analysis of the event detail report showed that one of the two new connections was updated to active within five days after electrical connection:

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Changes to active - new connections	Mar 17	82	55	27	6.1	67%
	Oct 17	5	5	0	3.5	100%
	Mar 18	2	1	1	24	50%

As discussed in **sections 2.9** and **2.11**, ICP 1002040580LCE15 was updated late and is recorded as non-compliance below.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.5 With: 9 Schedule 11.1 From: 18-Oct-17 To: 22-Dec-17	1 ICP not updated within five business days of electrical connection. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate as controls will mitigate risk most of the time but there is room for errors to occur. The audit risk is low as only one ICP was affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
This is an exceptional case and it wasn't our intention to breach the code. On 08/06/2016 metering at a new point of connection to the Vector network was electrically connected. Due to a misunderstanding the metering was associated with ICP# 0766592896LC50D even though it was separate customer and separate point of connection to the Vector network and should never have been with Hunet / associated with this ICP identifier. Metrix identified this and worked with us to get an ICP identifier created from the date the ICP was created (08/06/2016) Vector have created the ICP identifier of 1002040580LCE15 for this point of connection to the network, however have set a creation date of 18/10/2017 (the date the point of connection was confirmed to be a separate connection to the Vector network). As a result we do not have an ICP number to reconcile the volumes consumed at this point of connection between 08/06/2016 – 18/10/2017. EA requested Vector to give ICP#1002040580LCE15 the correct 'ready' date of 08/06/2016 to enable us to claim the ICP from this date and reconcile the metered volumes they have for this point of connection.		30/06/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Metrix advised us that they are implementing processes to prevent this occurring going forward. Vector will also be able to move the ICP creation date to an earlier date by DM-010 process.		Ongoing	

### 3.6. ANZSIC codes (Clause 9 (1(k) of Schedule 11.1)

#### Code reference

*Clause 9 (1(k) of Schedule 11.1*

#### Code related audit information

*Traders are responsible to populate the relevant ANZSIC code for all ICPs for which they are responsible.*

#### Audit observation

The process to capture and manage ANZSIC codes was examined. A Registry list file was reviewed to check ANZSIC codes. This was checked for:

- no ANZSIC codes
- “T99” codes
- accuracy of ANZSIC code applied.

The accuracy was checked by selecting a random sample of 50 active ICPs using the diverse characteristics methodology and checking them on the registry.

#### Audit commentary

The ANZSIC code is captured when the customer registers. As discussed in **Section 2.1**, validation reporting has been put in place to check for any ICPs with the “T9” code range. This is run twice monthly. In addition to this all commercial customers are credit checked upon registration and the service provider used also records the ANZSIC code. Hunet use this code therefore going forward the quality of ANZSIC codes should be improved. Analysis of the list file found all ICPs had an ANZSIC code assigned and no ICPs were found with “T9” codes.

The random sample of 50 ICPs were checked. This included 20 ICPs with the residential code applied. All of these were found to be correct. 30 commercially coded ICPs were checked and this found 12 ICPs with incorrect codes applied. I recommend that the commercial ICPs gained prior to when the new ANZSIC code process was put in place be reviewed to ensure their validity.

Description	Recommendation	Audited party comment	Remedial action
ANZSIC codes	Check validity of ANZSIC codes assigned for commercial ICPs gained prior to new process.	Hunet has already deployed a new ANZSIC code validation tool for all the new gaining ICPs since March 2018. We will examine all the existing business ICPs for their ANZSIC codes assigned to ensure their validity.	Identified

#### Audit outcome

Non-compliant



Non-compliance	Description		
Audit Ref: 3.6  With: 9 (1(k) of Schedule 11.1  From: 01-Oct-17  To: 31-Mar-18	12 incorrect ANZSIC codes assigned.  Potential impact: None  Actual impact: None  Audit history: Multiple  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls for the audit period are rated as moderate and I note that the commercial sign up process going forward has strong controls.  The audit risk rating is low as this has no direct impact on submission accuracy.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has already deployed a new ANZSIC code validation tool for all the new gaining ICPs since March 2018. Our new tool determines the correct ANZSIC code for a business from its business classification registered in Equifax as part of a customer registration process. Equifax gathers business data from ‘Companies office’, and registers and updates business information. The information on Equifax is very reliable.		01/03/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet has already deployed a new ANZSIC code validation tool for all the new gaining ICPs since March 2018. We will examine all the existing business ICPs for their ANZSIC codes assigned to ensure their validity. Hunet will also continue to focus on optimizing our standard by identifying and monitoring our own performance and ways for improvement, and to ensure business classification is matching with the business name.		30/06/2018	

### 3.7. Changes to unmetered load (Clause 9(1)(f) of Schedule 11.1)

#### Code reference

*Clause 9(1)(f) of Schedule 11.1*

#### Code related audit information

*if a settlement type of UNM is assigned to that ICP, the trader must populate:*

- the code ENG - if the load is profiled through an engineering profile in accordance with profile class 2.1 (clause 9(1)(f)(i)); or
- the daily average kWh of unmetered load at the ICP - in all other cases (clause 9(1)(f)(ii)).

#### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has not supplied any ICPs with unmetered load.

### Audit commentary

Hunet has not supplied any unmetered load during the audit period. This is checked before the customers application is accepted, and is checked for all existing ICPs as part of the regular ICP management registry validation.

### Audit outcome

Not applicable

## 3.8. Management of “active” status (Clause 17 Schedule 11.1)

### Code reference

*Clause 17 Schedule 11.1*

### Code related audit information

*The ICP status of “active” is be managed by the relevant trader and indicates that:*

- *the associated electrical installations are electrically connected (clause 17(1)(a))*
- *the trader must provide information related to the ICP in accordance with Part 15, to the reconciliation manager for the purpose of compiling reconciliation information (clause 17(1)(b)).*

*Before an ICP is given the “active” status, the trader must ensure that:*

- *the ICP has only one customer, embedded generator, or direct purchaser (clause 17(2)(a))*
- *the electricity consumed is quantified by a metering installation or a method of calculation approved by the Authority (clause 17(2)(b)).*

### Audit observation

The new connection process was examined in detail as discussed in **sections 2.9, 2.11 & 3.5** above. The event detail report and list file report were checked for any variances between the initial electrical connection date and the active date.

The process for the management of ICP reconnection was examined. The event detail report for the audit period was analysed and the findings in relation to the timeliness of updates to registry are recorded in **section 3.3**.

### Audit commentary

Hunet’s system will not allow more than one party per ICP, nor will it allow an ICP to be set up without both a meter and Metering Equipment Provider. Hunet’s processes ensure that there is only one customer associated with any ICP and that there is a method of quantification. Both new connections were checked, and the correct active date was used.

As discussed in **section 3.3**, Hunet have deployed a robotic tool called the “Disco Reco Manager” which automatically updates the ICPs status once the service request is returned. This went live on 7/2/18. The operator raises a work request via the excel form provided by MEPs to reconnect or disconnect an ICP. This lodges a task in the “Disco Reco” management file. Once the job is complete the robot completes the task updating both Hunet’s system and the registry overnight. The operations manager checks that all jobs have been processed as expected.

### Audit outcome

Compliant

### 3.9. Management of “inactive” status (Clause 19 Schedule 11.1)

#### Code reference

Clause 19 Schedule 11.1

#### Code related audit information

*The ICP status of “inactive” must be managed by the relevant trader and indicates that:*

- *electricity cannot flow at that ICP (clause 19(a)); or*
- *submission information related to the ICP is not required by the reconciliation manager for the purpose of compiling reconciliation information (clause 19(b)).*

#### Audit observation

The inactive status of “new connections in progress” is used for all new connections. The list file was examined to identify any ICPs that had been at the “Inactive - new connection in progress” with an initial electrical connection date was populated and for any of these ICPs that had been at this status for greater than 24 months. None were found.

The process to manage ICPs at the other inactive statuses was examined. A sample of five ICPs at each inactive status (or less if there were not five) using the typical characteristics methodology were checked. The findings in relation to the timeliness of updates to registry is recorded in **Section 3.3**.

#### Audit commentary

##### Inactive - New Connection in progress

No ICPs were found at the status “Inactive - new connection in progress” with an initial electrical connection date populated and none have been at this status for more than 24 months. As discussed in **section 3.5**, this status has not been used during the audit period but is normally used.

##### Inactive Status (excluding new connection in progress)

The status of “Inactive” is only used once Hunet’s approved contractor has confirmed that the ICP has been disconnected. As discussed in **section 3.3**, Hunet have deployed a robotic tool called the “Disco Reco Manager” which automatically updates the ICPs status once the service request is returned. This went live on 7/2/18. The operator raises a work request via the excel form provided by MEPs to reconnect or disconnect an ICP. This lodges a task in the “Disco Reco” management file. Once the job is complete the robot completes the task updating both Hunet’s system and the registry overnight. The operations manager checks that all jobs have been processed as expected. The sample checked of the “inactive” statuses confirmed the statuses aligned between the registry and Hunet’s database.

#### Audit outcome

Compliant

### 3.10. ICPs at new or ready status for 24 months (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 “Ready” for 24 calendar months or more, the distributor must ask the trader whether it should continue to have that status and must decommission the ICP if the trader advises the ICP should not continue to have that status.*

#### **Audit observation**

Whilst this is a Distributor's code obligation, I investigated whether any queries had been received from Distributors in relation to ICPs at the "New" or "Ready" status for more than 24 months and what process is in place to manage and respond to such requests.

#### **Audit commentary**

Hunet only trades on the Vector network and 11 embedded networks in the Auckland area. All new connections are taken to the "inactive - new connection in progress" status so it is unlikely that there will be any ICPs at the "Ready" status. There are not expected to be any new connections on the embedded networks. Hunet have not received any requests from Vector or the embedded network owners.

#### **Audit outcome**

Not applicable

## 4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

### 4.1. Inform registry of switch request for ICPs - standard switch (Clause 2 Schedule 11.3)

#### Code reference

*Clause 2 Schedule 11.3*

#### Code related audit information

*The standard switch process applies where a trader and a customer or embedded generator enters into an arrangement in which the trader commences trading electricity with the customer or embedded generator at a non-half hour or unmetered ICP at which another trader supplies electricity, or the trader assumes responsibility for such an ICP.*

*If the uninvited direct sale agreement applies to an arrangement described above, the gaining trader must identify the period within which the customer or embedded generator may cancel the arrangement in accordance with section 36M of the Fair Trading Act 1986. The arrangement is deemed to come into effect on the day after the expiry of that period.*

*A gaining trader must advise the registry manager of a switch no later than two business days after the arrangement comes into effect and include in its advice to the registry manager that the switch type is TR and one or more profile codes associated with that ICP.*

#### Audit observation

The switch gain process was examined to determine when Hunet deem all conditions to be met. A sample of five ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

#### Audit commentary

Hunet's processes are compliant with the requirements of the Section 36M of the Fair Trading Act 1986. Hunet hold all switches sold via door to door for the cooling off period rather than use the withdrawal process. Customers are advised of their responsibilities in relation to this matter.

The event detail report was examined in relation to Hunet as the gaining trader for a sample of five NHH standard switches. The registry was informed via the NT file within two business days of all conditions in relation to the agreement being met for all ICPs.

#### Audit outcome

Compliant

### 4.2. Losing trader response to switch request and event dates - standard switch (Clauses 3 and 4 Schedule 11.3)

#### Code reference

*Clauses 3 and 4 Schedule 11.3*

#### Code related audit information

*Within three business days after receiving notice of a switch from the registry manager, the losing trader must establish a proposed event date. The event date must be no more than 10 business days after the date of receipt of such notification, and in any 12 month period, at least 50% of the event dates must be no more than five business days after the date of notification. The losing trader must then:*

- *provide acknowledgement of the switch request by (clause 3(a) of Schedule 11.3):*
- *providing the proposed event date to the registry manager and a valid switch response code (clause 3(a)(i) and (ii) of Schedule 11.3); or*
- *providing a request for withdrawal of the switch in accordance with clause 17 (clause 3(c) of Schedule 11.3).*

*When establishing an event date for clause 4, the losing trader must disregard every event date established by the losing trader for a customer who has been with the losing trader for less than two calendar months (clause 4(2) of Schedule 11.3).*

#### **Audit observation**

An event detail report for the audit period was reviewed to identify AN files issued by Hunet during the audit period. A sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach report was examined for the audit period of 1/10/17 to 31/3/18.

The event detail report was analysed to assess compliance with the requirement to meet the setting of event dates requirement.

#### **Audit commentary**

Hunet have deployed the switching module which was assessed during the last audit. This went live on 16/10/17. The AN code is now determined by a hierarchy and these are updated to the registry via Hunet's switching module. The sample checked confirmed compliance.

The switch breach history report for the audit period was reviewed and recorded two late AN files. Both of these were due to human error and prior to the switching module going live. There have been no instances of this happening since 16/10/17.

There have been 358 transfer switches out during the audit period; all occurred within ten business days and 357 (99.7%) occurred within five business days.

#### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 4.2 With: 3 and 4 Schedule 11.3 From: 27-Sep-16 To: 18-Oct-17	Two late AN files sent. Potential impact: None Actual impact: None Audit history: Twice Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong as the automated process will eliminate risk to an acceptable level. The audit risk rating is low as this has no direct impact on submission accuracy.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet have deployed the switching module which was assessed during the last audit. This went live on 16/10/17. The AN code is now determined according to a hierarchy and these are updated to the registry via Hunet's switching module. The sample checked confirmed that the compliance was met, and no delayed or invalid AN code found since the new progress went live.		16/10/2017	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
We consider that the controls in place are strong and are adequate to ensure that the compliance is met. Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways for improvement.		ongoing	

#### 4.3. Losing trader must provide final information - standard switch (Clause 5 Schedule 11.3)

##### Code reference

Clause 5 Schedule 11.3

##### Code related audit information

*If the losing trader provides information to the registry manager in accordance with clause 3(a) of Schedule 11.3 with the required information, no later than five business days after the event date, the losing trader must complete the switch by:*

- *providing event date to the registry manager (clause 5(a)); and*
- *provide to the gaining trader a switch event meter reading as at the event date, for each meter or data storage device that is recorded in the registry with accumulator of C and a settlement indicator of Y (clause 5(b)); and*
- *if a switch event meter reading is not a validated reading, provide the date of the last meter reading (clause 5(c)).*

### Audit observation

An event detail report for the audit period was reviewed to identify CS files issued by Hunet during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of six records. These were selected using the diverse characteristics methodology. The content checked included:

- correct identification of meter readings and correct date of last meter reading
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

The process to manage the sending of the CS file within five business days of the event date was examined.

The switch breach history report for the audit period was reviewed and found three late CS files recorded. All were checked.

### Audit commentary

The accuracy of the content of CS files was checked and all were correct with the exception of the following:

- Average daily consumption has been corrected for sites with single meters but is not calculating correctly for those sites with more than one meter or register (two of four examples checked with multiple meters or registers). This has been corrected in the new submission system and is discussed in the material change audit. Average daily consumption is working correctly for ICPs with one meter.
- Two examples where the meter reading for the second register or meter was sent as an estimate when an actual read was available. These were due to human error.

Hunet's switch management console provides staff with good visibility of switch file due dates.

The review of the three late CS files found all were withdrawn switches, but these were not withdrawn until after the CS file was due to be sent, therefore they are valid breaches. This is recorded as non-compliance below.

### Audit outcome

Non-compliant



Non-compliance	Description		
Audit Ref: 4.3 With: 5 Schedule 11.3 From: 01-Oct-17 To: 31-Mar-18	CS file content incorrect for 4 out of 6 examples checked. Three late CS files. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are rated as moderate as controls will mitigate risk most of the time but there is room for errors to occur. The audit risk is low as the errors only affects ICPs with two meters or registers and I note that this is expected to be corrected as part of the material change.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet deployed a new switching breach report and it reports list of ICPs twice a day when any switch due within the same day or next day arrives. We also enhanced our date validation tool in the switching module on 22.01.2018 and our system no longer allows end users to send late CS files for NTTRs. The three late CS files found in the audit were the cases that occurred prior to when the new breach report process was put in place.		22/01/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We consider that the controls in place are strong and are adequate to ensure that the compliance is met. Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways for improvement.		Ongoing	

#### 4.4. Retailers must use same reading - standard switch (Clause 6(1) and 6A Schedule 11.3)

##### Code reference

Clause 6(1) and 6A Schedule 11.3

##### Code related audit information

The losing trader and the gaining trader must both use the same switch event meter reading as determined by the following procedure:

- if the switch event meter reading provided by the losing trader differs by less than 200 kWh from a value established by the gaining trader, the gaining trader must use the losing trader's validated meter reading or permanent estimate (clause 6(a)); or
- the gaining trader may dispute the switch meter reading if the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more (clause 6(b)).

*If the gaining trader disputes a switch meter reading because the switch event meter reading provided by the losing trader differs by 200 kWh or more, the gaining trader must, within four calendar months of the actual event date, provide to the losing trader a changed switch event meter reading supported by two validated meter readings.*

- *the losing trader can choose not to accept the reading, however must advise the gaining trader no later than five business days after receiving the switch event meter reading from the gaining trader (clause 6A(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader (clause 6A(b)).*

#### **Audit observation**

The process for the management of read requests was examined.

The event detail report and switch breach report were analysed to identify all read change requests and acknowledgements during the audit period.

The event detail report identified only one RR request issued and this was examined.

One transfer read change rejection was identified and this was examined. A sample of five read change acceptances were selected from the event detail report using the diverse sample methodology. The sample covered both transfer and gaining trader read requests, and files exchanged with different traders.

The switch breach history report for the audit period was reviewed, and no late read change requests or acknowledgements were identified for transfer switches.

#### **Audit commentary**

When a high or low read is identified through the read validation process for a new ICP switched in, the ICP is investigated to determine whether a read change is required. Only one transfer read request was issued during the audit period. This was examined and confirmed that the request was derived from two actual reads.

There was one read rejection in relation to transfer switches for the audit period. This was examined and found this it was rejected in the first instance due to a metering issue that needed to be resolved by Hunet and the subsequent read request was accepted. The sample of read requests accepted were examined and all were correctly accepted.

No late read change requests or acknowledgements were identified for transfer switches.

#### **Audit outcome**

Compliant

### **4.5. Non-half hour switch event meter reading - standard switch (Clause 6(2) and (3) Schedule 11.3)**

#### **Code reference**

*Clause 6(2) and (3) Schedule 11.3*

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

*If the losing trader trades electricity from a non-half hour meter, with a switch event meter reading that is not from an AML certified meter flagged Y in the registry: and*

- *the gaining trader will trade electricity from a meter with a half hour submission type in the registry (clause 6(2)(b));*
- *the gaining trader within five business days after receiving final information from the registry manager, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading.*

### Audit observation

The process for the management of read requests was examined. The event detail report and switch breach report were analysed to identify:

- other retailer's request accepted by Hunet
- other retailer's request rejected by Hunet.

None were identified in relation to transfer switches. One was found in relation to a move switch. This is discussed in **section 4.11**.

The switch breach history report for the audit period was reviewed to identify late read change acknowledgement files.

### Audit commentary

These RR requests are processed in the same way as those received for greater than 200 kWh. Each request is evaluated and validated against the ICP information. There were no NHH switch event meter reading requests received for transfer switches for the audit period.

The switch breach report confirmed that all read requests were sent within the required timeframe.

### Audit outcome

Compliant

## 4.6. Disputes - standard switch (Clause 7 Schedule 11.3)

### Code reference

*Clause 7 Schedule 11.3*

### Code related audit information

*A losing trader or gaining trader may give written notice to the other that it disputes a switch event meter reading provided under clauses 1 to 6. Such a dispute must be resolved in accordance with clause 15.29 (with all necessary amendments).*

### Audit observation

Confirm with Hunet whether any disputes have needed to be resolved in accordance with this clause.

### Audit commentary

Hunet confirms that no disputes have needed to be resolved in accordance with this clause.

### Audit outcome

Compliant

#### 4.7. Gaining trader informs registry of switch request - switch move (Clause 9 Schedule 11.3)

##### Code reference

Clause 9 Schedule 11.3

##### Code related audit information

*The switch move process applies where a gaining trader has an arrangement with a customer or embedded generator to trade electricity at an ICP using non half-hour metering or an unmetered ICP, or to assume responsibility for such an ICP, and no other trader has an agreement to trade electricity at that ICP, this is referred to as a switch move and the following provisions apply:*

*If the “uninvited direct sale agreement” applies, the gaining trader must identify the period within which the customer or embedded generator may cancel the arrangement in accordance with section 36M of the Fair Trading Act 1986. The arrangement is deemed to come into effect on the day after the expiry of that period.*

*In the event of a switch move, the gaining trader must advise the registry manager of a switch and the proposed event date no later than two business days after the arrangement comes into effect.*

*In its advice to the registry manager the gaining trader must include:*

- *a proposed event date (clause 9(2)(a)); and*
- *that the switch type is "MI" (clause 9(2)(b)); and*
- *one or more profile codes of a profile at the ICP (clause 9(2)(c)).*

##### Audit observation

The switch gain process was examined to determine when Hunet deem all conditions to be met. A sample of five ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

##### Audit commentary

Hunet’s processes are compliant with the requirements of the Section 36M of the Fair Trading Act 1986. Hunet hold all switches sold via door to door for the cooling off period rather than use the withdrawal process. Customers are advised of their responsibilities in relation to this matter.

The event detail report was examined in relation to Hunet as the gaining trader for a sample of five NHH standard switches. The registry was informed via the NT file within two business days of all conditions in relation to the agreement being met for all ICPs.

##### Audit outcome

Compliant

#### 4.8. Losing trader provides information - switch move (Clause 10(1) Schedule 11.3)

##### Code reference

Clause 10(1) Schedule 11.3

##### Code related audit information

*10(1) Within five business days after receiving notice of a switch move request from the registry manager—*

- *10(1)(a) If the losing trader accepts the event date proposed by the gaining trader, the losing trader must complete the switch by providing to the registry manager:*
  - o *confirmation of the switch event date; and*

- *a valid switch response code; and*
  - *final information as required under clause 11; or*
- *10(1)(b) If the losing trader does not accept the event date proposed by the gaining trader, the losing trader must acknowledge the switch request to the registry manager and determine a different event date that—*
  - *is not earlier than the gaining trader’s proposed event date, and*
  - *is no later than 10 business days after the date the losing trader receives notice; or*
- *10(1)(c) request that the switch be withdrawn in accordance with clause 17.*

#### **Audit observation**

An event detail report for the audit period was reviewed, to identify AN files issued by Hunet during the audit period. A sample of two ANs (or all if less than three were available) with each acknowledgement code were reviewed to determine whether the codes had been correctly applied.

The switch breach history report for the audit period was reviewed and found no AN breaches.

The process to manage the sending of the CS file within five business days of the event date was examined.

The switch breach history report for the audit period was reviewed and found 92 late CS files recorded. I reviewed the switch withdrawal requests received from the event detail report and confirmed two of these switches were withdrawn and no CS was ever sent. Of the remaining 91 late CS files reported I matched 63 of these to the NT received. These were analysed.

#### **Audit commentary**

As noted in **Section 4.2**, Hunet have deployed the switching module which was assessed during the last audit. This went live on 16/10/17. The AN code is now determined by a hierarchy and these are updated to the registry via Hunet’s switching module. The sample checked confirmed compliance.

The issue of no AN being sent for move switches identified in the last audit has been resolved.

Analysis of the 63 late CS files found only six were late CS files. The file due dates are visible in the switching file. These were sent late due to human error. This equates to 2.8% of the CS files being sent. This is recorded as non-compliance below.

#### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 4.8 With: 10(1) Schedule 11.3  From: 01-Oct-17 To: 31-Mar-18	Six late CS files.  Potential impact: Low  Actual impact: Low  Audit history: Twice  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are rated as moderate as controls will mitigate risk most of the time but there is room for errors to occur.  Thu audit risk rating is assessed to be low due to the small number of CS files.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet deployed a new switching breach report and it reports list of ICPs twice a day when any switch due within the same day or next day arrives. We also enhanced our date validation tool in the switching module on 22.01.2018 and our system no longer allows end users to send late CS files for NTTRs. However, we discovered that we missed the date validation tool for NIMIs in this audit.		22/01/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We can add an additional feature onto our existing date validation tool on the switching module to prevent end users from sending CS files for NTMIs late, when our CS event date is already passed for more than 5 days from the date NTMI is received from the losing trader.		31/05/2018	

#### 4.9. Losing trader determines a different date - switch move (Clause 10(2) Schedule 11.3)

##### Code reference

Clause 10(2) Schedule 11.3

##### Code related audit information

*If the losing trader determines a different date, the losing trader must also complete the switch by providing to the registry manager as described in sub-clause (1)(a):*

- *the event date proposed by the losing trader; and*
- *a valid switch response code; and*
- *final information as required under clause 1.*

##### Audit observation

The setting of event dates for move switches was examined. The event detail report for the audit period was examined comparing the NT requested event date with the AN event date sent by Hunet.

### Audit commentary

Hunet have deployed the switching module which was assessed during the last audit and this will not allow a move switch event date to be set earlier than the gaining trader's event date, and no greater than ten business days in advance. This went live on 16/10/17. Review of the event detail report found ICP 0676799523LC05B which had a proposed switch event date that was earlier than the gaining trader's request date. This was checked and found to be due to human error and was prior to the switching validation tool being deployed.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.9 With: 10(2) Schedule 11.3  From: 08-Oct-17 To: 09-Oct-17	One event date set earlier than the gaining traders requested date.  Potential impact: None  Actual impact: None  Audit history: Once  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 switching module contains validation that mitigate risk to an acceptable level.  The audit risk rating is low as this affected one ICP.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has deployed the switching module which was assessed during the last audit, and this will not allow for a move switch event date to be set earlier than the gaining trader's event date, which is no greater than ten business days in advance. This went live on 16/10/17. Review of the event detail report discovered that ICP 0676799523LC05B had a proposed switch event date that was earlier than the gaining trader's request date.		16/10/2017	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
We consider that the controls in place are strong and are adequate to ensure that it meets the compliance. Hunet will also continue to focus on optimizing our standard by identifying and monitoring our own performance and ways for improvement.		ongoing	

#### 4.10. Losing trader must provide final information - switch move (Clause 11 Schedule 11.3)

##### Code reference

*Clause 11 Schedule 11.3*

##### Code related audit information

*The losing trader must provide final information to the registry manager for the purposes of clause 10(1)(a)(ii), including—*

- *the event date (clause 11(a)); and*
- *a switch event meter reading as at the event date for each meter or data storage device that is recorded in the registry with an accumulator type of C and a settlement indicator of Y (clause 11(b)); and*
- *if the switch event meter reading is not a validated meter reading, the date of the last meter reading of the meter or storage device (clause (11(c)).*

##### Audit observation

An event detail report for the audit period was reviewed to identify CS files issued by Hunet during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of five records. The content checked included:

- correct identification of meter readings and correct date of last meter reading
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

##### Audit commentary

The accuracy of the content of CS files was checked, and all was correct with the exception of the following:

- Two CS files with the incorrect last read date. These were due to human error. The last read date validation has been added to the switching console from 22/1/18 and no examples beyond this date were found for move switches and I note that the correct last read date was confirmed in the transfer switch sample.
- Average daily consumption has been corrected for sites with single meters but is not calculating correctly for those sites with more than one meter or register (one of two examples checked with multiple meters or registers). As detailed in **section 4.3**, This has been corrected in the new submission system and is discussed in the material change audit. Average daily consumption is working correctly for ICPs with one meter.

##### Audit outcome

Non-compliant



Non-compliance	Description		
Audit Ref: 4.10 With: 11 Schedule 11.3 From: 01-Oct-17 To: 31-Mar-18	CS file content incorrect. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are currently rated as moderate but this is expected to move to strong with the new submission system addressing the incorrect average daily consumption for ICPs with multiple meters or registers. The audit risk is low as the errors detected will have a minimal effect on reconciliation.		
Actions taken to resolve the issue		Completion date	Remedial action status
The last read date validation has been added to the switching console from 22/01/2018 and the correct read dates have been used since the new progress went live. Average daily consumption has also been corrected in the new submission system to calculate accurate average daily consumption for more than one meter or register, and was proven its validity in the material change audit. Average daily consumption is working correctly for ICPs and will be used in CS file as soon as our new submission system go live.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet considers that the controls in place are strong and are adequate to ensure that the compliance is met. We will also continue to focus on optimizing our standard by identifying and monitoring our own performance and ways for improvement.		ongoing	

#### 4.11. Gaining trader changes to switch meter reading - switch move (Clause 12 Schedule 11.3)

##### Code reference

Clause 12 Schedule 11.3

##### Code related audit information

*The gaining trader may use the switch event meter reading supplied by the losing trader or may, at its own cost, obtain its own switch event meter reading. If the gaining trader elects to use this new switch event meter reading, the gaining trader must advise the losing trader of the switch event meter reading and the actual event date to which it refers as follows:*

- *if the switch meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader (clause 12(2)(a)); or*

- *if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch meter reading. In this case, the gaining trader, within four calendar months of the actual event date, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by two validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):*
- *advise the gaining trader if it does not accept the switch event meter reading and the losing trader and the gaining trader must resolve the dispute in accordance with the disputes procedure in clause 15.29 (with all necessary amendments) (clause 12(3)(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader (clause 12(3)(b)).*

*12(2A) If the losing trader trades electricity from a non-half hour meter, with a switch event meter reading that is not from an AMI certified meter flagged Y in the registry,*

- *the gaining trader will trade electricity from a meter with a half hour submission type in the registry (clause 12(2A)(b));*
- *the gaining trader no later than five business days after receiving final information from the registry manager, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading (clause 12(2B)).*

#### **Audit observation**

The process for the management of read requests was examined.

The event detail report and switch breach report were analysed to identify all read change requests and acknowledgements during the audit period.

A sample of nine read change requests from the event detail report was selected using the diverse sample methodology. The sample included files exchanged with different traders, and a mix of acceptances and rejections.

There were two read change rejections identified and these were checked. A sample of five read change acceptances were selected from the event detail report using the diverse sample methodology. The sample covered both transfer and gaining trader read requests, and files exchanged with different traders.

The switch breach history report for the audit period was reviewed and found all read requests were sent within the required time frame and one late acknowledgement file was identified for gaining trader read change requests.

#### **Audit commentary**

When a high or low read is identified through the read validation process for a new ICP switched in, the ICP is investigated to determine whether a read change is required. The sample checked found all but one read request were derived from two actual reads. Customer photo reads were used in one instance. These have not been validated against two actual reads and therefore this is non-compliant.

Analysis of the event detail report found only one read request for an HHR trader received in relation to this clause. This was examined and found this was accepted correctly.

The one late AC file was due to human error. This was prior to the switching console being deployed and there have been no late AC files since this has been in place.

#### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 4.11 With: 12 Schedule 11  From: 19-Oct-17 To: 05-Mar-18	One RR file sent not derived from two actual reads.  One late AC file.  Potential impact: Low  Actual impact: Low  Audit history: Twice  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate as controls will mitigate risk most of the time but there is room for errors to occur.  The audit risk rating is low as this relates to two ICPs only.		
Actions taken to resolve the issue		Completion date	Remedial action status
The one late AC file was due to human error. This was prior to the switching console being deployed and there have been no late AC files since this has been in place.		14/12/2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will not accept customer readings for RR.		21/05/2018	

#### 4.12. Gaining trader informs registry of switch request - gaining trader switch (Clause 14 Schedule 11.3)

##### Code reference

Clause 13 Schedule 11.3

##### Code related audit information

*The gaining trader switch process applies when a trader has an arrangement with a customer or embedded generator to trade electricity through or assume responsibility for:*

- *a half hour metering installation (that is not a category 1 or 2 metering installation) at an ICP with a submission type of half hour in the registry and an AMI flag of "N"; or*
- *a half hour metering installation at an ICP that has a submission type of half hour in the registry and an AMI flag of "N" and is traded by the losing trader as non-half hour; or*
- *a non-half hour metering installation at an ICP at which the losing trader trades electricity through a half hour metering installation with an AMI flag of "N".*

*If the uninvited direct sale agreement applies to an arrangement described above, the gaining trader must identify the period within which the customer or embedded generator may cancel the arrangement in accordance with section 36M of the Fair Trading Act 1986. The arrangement is deemed to come into effect on the day after the expiry of that period.*

*A gaining trader must advise the registry manager of the switch and expected event date no later than 3 business days after the arrangement comes into effect.*

*14(2) The gaining trader must include in its advice to the registry manager:*

- a) a proposed event date; and
- b) that the switch type is HH.

14(3) The proposed event date must be a date that is after the date on which the gaining trader advises the registry manager, unless clause 14(4) applies.

14(4) The proposed event date is a date before the date on which the gaining trader advised the registry manager, if:

14(4)(a) – the proposed event date is in the same month as the date on which the gaining trader advised the registry manager; or

14(4)(b) – the proposed event date is no more than 90 days before the date on which the gaining trader advises the registry manager and this date is agreed between the losing and gaining traders.

#### Audit observation

Hunet do not trade half hourly therefore there were no gaining trader switches. The event detail report for the audit period was examined and confirmed this.

#### Audit commentary

Hunet did not complete any half hour switches during the audit period.

#### Audit outcome

Not applicable

### 4.13. Losing trader provision of information - gaining trader switch (Clause 15 Schedule 11.3)

#### Code reference

Clause 15 Schedule 11.3

#### Code related audit information

Within three business days after the losing trader is informed about the switch by the registry manager, the losing trader must:

15(a) - provide to the registry manager a valid switch response code as approved by the Authority; or

15(b) - provide a request for withdrawal of the switch in accordance with clause 17.

#### Audit observation

Hunet do not trade half hourly therefore there were no gaining trader switches. The event detail report for the audit period was examined and confirmed this.

#### Audit commentary

Hunet did not complete any half hour switches during the audit period.

#### Audit outcome

Not applicable

#### 4.14. Gaining trader to advise the registry manager - gaining trader switch (Clause 16 Schedule 11.3)

##### Code reference

Clause 16 Schedule 11.3

##### Code related audit information

*The gaining trader must complete the switch no later than three business days, after receiving the valid switch response code, by advising the registry manager of the event date.*

*If the ICP is being electrically disconnected, or if metering equipment is being removed, the gaining trader must either-*

*16(a)- give the losing trader or MEP for the ICP an opportunity to interrogate the metering installation immediately before the ICP is electrically disconnected or the metering equipment is removed; or*

*16(b)- carry out an interrogation and, no later than five business days after the metering installation is electrically disconnected or removed, advise the losing trader of the results and metering component numbers for each data channel in the metering installation.*

##### Audit observation

Hunet do not trade half hourly therefore there were no gaining trader switches. The event detail report for the audit period was examined and confirmed this.

##### Audit commentary

Hunet did not complete any half hour switches during the audit period.

##### Audit outcome

Not applicable

#### 4.15. Withdrawal of switch requests (Clauses 17 and 18 Schedule 11.3)

##### Code reference

Clauses 17 and 18 Schedule 11.3

##### Code related audit information

*A losing trader or gaining trader may request that a switch request be withdrawn at any time until the expiry of two calendar months after the event date of the switch.*

*If a trader requests the withdrawal of a switch, the following provisions apply:*

- *for each ICP, the trader withdrawing the switch request must provide the registry manager with (clause 18(c)):*
  - o *the participant identifier of the trader making the withdrawal request (clause 18(c)(i));*
  - and*
  - o *the withdrawal advisory code published by the Authority (clause 18(c)(ii))*
- *within five business days after receiving notice from the registry manager of a switch, the trader receiving the withdrawal must advise the registry manager that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal (clause 18(d))*
- *on receipt of a rejection notice from the registry manager, in accordance with clause 18(d), a trader may re-submit the switch withdrawal request for an ICP in accordance with clause 18(c). All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request (clause 18(e))*

- *if the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within 2 business days after receiving notice from the registry manager in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16 (clause 18(f)).*

#### Audit observation

The switch withdrawal process was examined. The content of a sample of two ICPs for each withdrawal code from the event detail report were checked using the typical sampling methodology. A sample of five switch rejections were checked using the typical sample methodology. The switch breach report was examined and found two switch withdrawal breaches recorded. In addition to this (as the report does not correctly identify late withdrawal requests) I examined the event detail report to confirm timeliness of the switch withdrawal requests and no late switch withdrawals were found.

#### Audit commentary

Switch withdrawals are managed manually. The sample checked found that the withdrawal codes applied were all correct.

The withdrawal requests rejected by Hunet found that all had been rejected for valid reasons.

The two ICPs recorded as breached were found to compliant. ICP 0000205795UNCB4 was never withdrawn and the withdrawal sent for the other ICP was compliant.

#### Audit outcome

Compliant

### 4.16. Metering information (Clause 21 Schedule 11.3)

#### Code reference

*Clause 21 Schedule 11.3*

#### Code related audit information

*For an interrogation or validated meter reading or permanent estimate carried out in accordance with Schedule 11.3:*

*21(a)- the trader who carries out the interrogation, switch event meter reading must ensure that the interrogation is as accurate as possible, or that the switch event meter reading is fair and reasonable.*

*21(b) and (c) - the cost of every interrogation or switch event meter reading carried out in accordance with clauses 5(b) or 11(b) or (c) must be met by the losing trader. The costs in every other case must be met by the gaining trader.*

#### Audit observation

The meter reading process in relation to meter reads for switching purposes was examined. Examples to confirm this procedure have been examined as part of the sending of final information for switches and read requests made.

#### Audit commentary

All meter readings used in the switching process are validated meter readings or permanent estimates. This process is discussed further in **Section 4.3**.

Hunet's policy regarding the management of meter reading expenses is compliant.

## Audit outcome

Compliant

### 4.17. Switch saving protection (Clause 11.15AA to 11.15AB)

#### Code reference

Clause 11.15AA to 11.15AB

#### Code related audit information

*A trader that buys electricity from the clearing manager may elect to have a switch saving protection by giving notice to the Authority in writing.*

*If a protected trader enters into an arrangement with a customer of another trader (the losing trader), or a trader enters into an arrangement with a customer of a protected trader, to commence trading electricity with the customer, the losing trader must not, by any means, initiate contact with the customer to attempt to persuade the customer to terminate the arrangement during the period from the receipt of the NT to the event date of the switch including by:*

*11.15AB(4)(a)- making a counter offer to the customer; or*

*11.15AB(4)(b)- offering an enticement to the customer.*

#### Audit observation

The Electricity Registry switch save protected retailer list was examined. Hunet has been a switch protected retailer since 9/06/17.

Win-back processes were examined to determine whether they are compliant.

I checked the event detail report for all withdrawn switches from the audit period to identify any withdrawn switches with a CX code applied prior to the switch completion date in relation to any switch save protected retailers.

#### Audit commentary

No save activity is undertaken until the switch has completed. The check of the event detail report confirmed that none were withdrawn prior to the switch completing.

## Audit outcome

Compliant

## 5. MAINTENANCE OF UNMETERED LOAD

### 5.1. Maintaining shared unmetered load (Clause 11.14)

#### Code reference

Clause 11.14

#### Code related audit information

The trader must adhere to the process for maintaining shared unmetered load as outlined in clause 11.14:

*11.14(2) - The distributor must give written notice to the traders responsible for the ICPs across which the unmetered load is shared, of the ICP identifiers of the ICPs.*

*11.14(3) - A trader who receives such a notification from a distributor must give written notice to the distributor if it wishes to add or omit any ICP from the ICPs across which unmetered load is to be shared.*

*11.14(4) - A distributor who receives such a notification of changes from the trader under (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.*

*11.14(5) - If a distributor becomes aware of any 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 as soon as practicable after that change or decommissioning.*

*11.14(6) - Each trader who receives such a notification must, as soon as practicable after receiving the notification, adjust the unmetered load information for each ICP in the list for which it is responsible to ensure that the entire shared unmetered load is shared equally across each ICP.*

*11.14(7) - A trader must take responsibility for shared unmetered load assigned to an ICP for which the trader becomes responsible as a result of a switch in accordance with Part 11.*

*11.14(8) - A trader must not relinquish responsibility for shared unmetered load assigned to an ICP if there would then be no ICPs left across which that load could be shared.*

*11.14(9) - A trader can change the status of an ICP across which the unmetered load is shared to inactive status, as referred to in clause 19 of Schedule 11.1. In that case, the trader is not required to give written notice to the distributor of the change. The amount of electricity attributable to that ICP becomes UFE.*

#### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has not supplied any ICPs with unmetered load.

I reviewed processes to identify shared unmetered load.

#### Audit commentary

Hunet has not supplied any unmetered load during the audit period. As discussed in **section 3.7**, this is checked before the customers application is accepted and is checked for all existing ICPs as part of the regular ICP management registry validation as described in **section 2.1**.

#### Audit outcome

Compliant



## 5.2. Unmetered threshold (Clause 10.14 (2)(b))

### Code reference

*Clause 10.14 (2)(b)*

### Code related audit information

*The reconciliation participant must ensure that unmetered load does not exceed 3,000 kWh per annum, or 6,000 kWh per annum if the load is predictable and of a type approved and published by the Authority.*

### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has not supplied any ICPs with unmetered load.

### Audit commentary

Hunet has not supplied any unmetered load during the audit period and do not intend to.

### Audit outcome

Not applicable

## 5.3. Unmetered threshold exceeded (Clause 10.14 (5))

### Code reference

*Clause 10.14 (5)*

### Code related audit information

*If the unmetered load limit is exceeded the retailer must:*

- *within 20 business days, commence corrective measure to ensure it complies with Part 10*
- *within 20 business days of commencing the corrective measure, complete the corrective measures*
- *no later than 10 business days after it becomes aware of the limit having been exceeded, advise each participant who is or would be expected to be affected of:*
  - o *the date the limit was calculated or estimated to have been exceeded*
  - o *the details of the corrective measures that the MEP proposes to take or is taking to reduce the unmetered load.*

### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has not supplied any ICPs with unmetered load.

### Audit commentary

Hunet has not supplied any unmetered load during the audit period and do not intend to.

### Audit outcome

Not applicable

#### 5.4. Distributed unmetered load (Clause 11 Schedule 15.3, Clause 15.37B)

##### Code reference

*Clause 11 Schedule 15.3, Clause 15.37B*

##### Code related audit information

*An up-to-date database must be maintained for each type of distributed unmetered load for which the retailer is responsible. The information in the database must be maintained in a manner that the resulting submission information meets the accuracy requirements of clause 15.2.*

*A separate audit is required for distributed unmetered load data bases.*

*The database must satisfy the requirements of Schedule 15.5 with regard to the methodology for deriving submission information.*

##### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has not supplied any ICPs with distributed unmetered load.

##### Audit commentary

Hunet has not supplied any distributed unmetered load during the audit period and do not intend to.

##### Audit outcome

Not applicable

## 6. GATHERING RAW METER DATA

### 6.1. Electricity conveyed & notification by embedded generators (Clause 10.13, Clause 10.24 and 15.13)

#### Code reference

*Clause 10.13, Clause 10.24 and Clause 15.13*

#### Code related audit information

*A participant must use the quantity of electricity measured by a metering installation as the raw meter data for the quantity of electricity conveyed through the point of connection.*

*This does not apply if data is estimated or gifted in the case of embedded generation under clause 15.13.*

*A trader must, for each electrically connected ICP that is not also an NSP, and for which it is recorded in the registry as being responsible, ensure that:*

- *there is one or more metering installations*
- *all electricity conveyed is quantified in accordance with the Code*
- *it does not use subtraction to determine submission information for the purposes of Part 15.*

*An embedded generator must give notification to the reconciliation manager for an embedded generating station, if the intention is that the embedded generator will not be receiving payment from the clearing manager or any other person through the point of connection to which the notification relates.*

#### Audit observation

A registry list with history was reviewed for the audit period to check if Hunet has supplied any ICPs with distributed generation.

#### Audit commentary

Hunet are now accepting ICPs with distributed generation. Examination of the list file identified Hunet has four ICPs with distributed generation installed. Distributed generation was added to existing ICPs and two ICPs have switched in during the audit period.

ICP	Distributed generation added to the registry	Joined Hunet
0000196611UN860	6/12/2017	24/07/2017
0000205304UN317	27/08/2015	4/12/2017
0000596796UN05B	6/12/2017	20/12/2016
0001419315UN140	14/10/2013	26/01/2018

The current submission file is recording generation as load and therefore Hunet is currently buying these volumes. This is recorded as non-compliance.

The material change being undertaken in parallel with this audit examined the treatments of these ICPs and confirmed that it will correctly record this load as injection. Hunet understands that for those participants who wish to gift their generation they will need to advise the Reconciliation Manager of the specific ICPs and this volume is not required to be included in the submission file. Hunet are completing these agreements with these customers. I note that the reads for generation are within the reading database but are not imported into the customer's account and the generation volumes and associated credits are being calculated manually and applied to the customer's account, therefore there is not a complete audit trail for these volumes in the customer's account. I recommend in the material change audit that Hunet's system is updated to correctly track these volumes in the customer database.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.1 With: 10.13, Clause 10.24 and 15.13 From: 04-Dec-17 To: 31-Mar-18	Generation volumes incorrectly treated as load for the 4 ICPs with distributed generation. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Present controls are rated as weak as the generation volumes are being treated as load. The audit risk rating is low as only four ICPs are affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet worked closely with John Candy to accurately obtain data, calculation formula and the output from the two in each scenario, and it has already proven that they are compliant with <i>Clause 10.13, Clause 10.24 and Clause 15.13</i> . Distributed generation volumes was tested and have been confirmed that the new submission system accurately reports the volumes. The incorrect information submitted over the past 14month period will be addressed during the new revision process.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The submission files will also be monitored for the next two months through the peer review by John Candy to ensure that the new submission system works as per expectation in production.		18/07/2018	

## 6.2. Responsibility for metering at GIP (Clause 10.26 (6), (7) and (8))

### Code reference

*Clause 10.26 (6), (7) and (8)*

### Code related audit information

*For each proposed metering installation or change to a metering installation that is a connection to the grid, the participant, must:*

- *provide to the grid owner a copy of the metering installation design (before ordering the equipment)*
- *provide at least three months for the grid owner to review and comment on the design*
- *respond within three business days of receipt to any request from the grid owner for additional details or changes to the design*
- *ensure any reasonable changes from the grid owner are carried out.*

*The participant responsible for the metering installation must:*

- *advise the reconciliation manager of the certification expiry date not later than 10 business days after certification of the metering installation*
- *become the MEP or contract with a person to be the MEP*
- *advise the reconciliation manager of the MEP identifier no later than 20 days after entering into a contract or assuming responsibility to be the MEP.*

### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has not supplied any GIPs.

### Audit commentary

Examination of the list file found that Hunet has not supplied any GIPs.

### Audit outcome

Not applicable

## 6.3. Certification of control devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3)

### Code reference

*Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3*

### Code related audit information

*The reconciliation participant must advise the metering equipment provider if a control device is used to control load or switch meter registers.*

*The reconciliation participant must ensure the control device is certified prior to using it for reconciliation purposes.*

### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has only used the RPS profile during the audit period.

### Audit commentary

Examination of the list file found that Hunet has only used the RPS profile, and control devices are not used for reconciliation purposes.

## Audit outcome

Not applicable

## 6.4. Reporting of defective metering installations (Clause 10.43(2) and (3))

### Code reference

*Clause 10.43(2) and (3)*

### Code related audit information

*If a participant becomes aware of an event or circumstance that lead it to believe a metering installation could be inaccurate, defective, or not fit for purpose they must:*

- *advise the MEP*
- *include in the advice all relevant details.*

### Audit observation

Processes relating to defective metering were examined.

A sample of defective meters were reviewed, to determine whether the MEP was advised, and if appropriate action was taken.

### Audit commentary

Potential defective metering installations are identified using the ICP management tool which identifies any consumption on active vacant or disconnected vacant ICPs and through data validation by identifying missing, high or low reads during the validation process. Upon identifying a possible defective meter, a service request is raised with the MEP to investigate and resolve the defect.

A sample of 11 possible of defective meters were provided. Five were notified by the MEP to Hunet via the meter event process for action. These are discussed in **Section 9.6**. The remaining six were notified to the MEP as required by this clause. Corrections in relation to these ICPs are discussed in **Section 8.1**.

## Audit outcome

Compliant

## 6.5. Collection of information by certified reconciliation participant (Clause 2 Schedule 15.2)

### Code reference

*Clause 2 Schedule 15.2*

### Code related audit information

*Only a certified reconciliation participant may collect raw meter data, unless only the MEP can interrogate the meter, or the MEP has an arrangement which prevents the reconciliation participant from electronically interrogating the meter:*

*2(2) - The reconciliation participant must collect raw meter data used to determine volume information from the services interface or the metering installation or from the MEP.*

*2(3) - The reconciliation participant must ensure the interrogation cycle is such that it does not exceed the maximum interrogation cycle in the registry.*

*2(4) - The reconciliation participant must interrogate the meter at least once every maximum interrogation cycle.*

*2(5) - When electronically interrogating the meter the participant must:*

- a) ensure the system is to within +/- 5 seconds of NZST or NZDST
- b) compare the meter time to the system time
- c) determine the time error of the metering installation
- d) if the error is less than the maximum permitted error, correct the meter's clock
- e) if the time error is greater than the maximum permitted error then:
  - i) correct the metering installation's clock
  - ii) compare the metering installation's time with the system time
  - iii) correct any affected raw meter data.
- f) download the event log.

2(6) – The interrogation systems must record:

- the time
- the date
- the extent of any change made to the meter clock.

#### Audit observation

The data collection process was examined. A sample of five meter reads each from Datacol and the three MEPs supplying AMI reads were checked using the typical case sample methodology.

#### Audit commentary

Information used to determine volume information for manually read sites is collected by Datacol as an agent to Hunet. The Datacol audit report was reviewed and compliance is confirmed. Their audit report is submitted with this report. AMS, Metrix and FCLM provide this information to Hunet as MEPs and this function has been examined as part of their respective MEP audits. All data is imported into Hunet's system with the exception of the 23 meters read by FCLM. These are manually entered into Hunet's system.

The samples checked for Datacol, AMS, Metrix and FCLM confirmed the data in Hunet's database matched the data in the files with the exception of one meter for the FCLM meter readings. This was keyed in incorrectly. This read did not fall outside of the validation checks in place hence it was not found by Hunet. I recommend a further validation is added to confirm these have been entered correctly. This is recorded as non-compliance in **sections 2.1 and 12.7**.

Description	Recommendation	Audited party comment	Remedial action
Collection of information by certified reconciliation participant	Add a further validation step for the 23 ICPs read by FCLM.	We will also establish a SFTP connection to our hosting account to ensure that data is securely transmitted via our AMI reading management process, which will be same as our working Metrix and NGCM process.	Identified

#### Audit outcome

Compliant

#### 6.6. Derivation of meter readings (Clause 3(1), 3(2) and 5 Schedule 15.2)

##### Code reference

Clause 3(1), 3(2) and 5 Schedule 15.2

### Code related audit information

*All meter readings must in accordance with the participants certified processes and procedures and using its certified facilities be sourced directly from raw meter data and, if appropriate, be derived and calculated from financial records.*

*All validated meter readings must be derived from meter readings.*

*A meter reading provided by a consumer may be used as a validated meter reading only if another set of validated meter readings not provided by the consumer are used during the validation process.*

*During the manual interrogation of each NHH metering installation the reconciliation participant must:*

- a) obtain the meter register*
- b) ensure seals are present and intact*
- c) check for phase failure (if supported by the meter)*
- d) check for signs of tampering and damage*
- e) check for electrically unsafe situations.*

*If the relevant parts of the metering installation are visible and it is safe to do so.*

### Audit observation

The data collection process was examined. A sample of five meter reads each from Datacol and the three MEPs were checked using the typical case sample methodology.

Processes to provide meter condition information were reviewed as part of Datacol's agent audit.

Hunet's processes to manage meter condition information were reviewed including checking a sample. A sample of five ICPs were checked to confirm this.

Processes for customer reads were reviewed.

### Audit commentary

For manually collected readings, the meter register value is collected and entered into a hand held device. This reading enters Hunet's system and is appropriately labelled to denote that it is a meter reading collected and validated by a meter reader. Validated meter readings are derived from meter readings. AMI readings are supplied by AMS, Metrix and FCLM, these are also appropriately labelled. I checked the content of five read files from each provider to confirm the data in Hunet's database matched the data in the files in all cases except one which is detailed in **section 6.5**.

The file exchange process with Datacol was checked and found that Datacol are continuing to read sites that have since had AMI meters installed and that Hunet believe they have requested they stop reading. I recommend that Hunet liaise with Datacol to ensure that the file exchange is working as expected.

Description	Recommendation	Audited party comment	Remedial action
Derivation of meter readings	Liaise with Datacol to confirm data exchange is working as expected.	We will work with Datacol to resolve this issue.	Identified

Datacol provide meter condition information twice monthly. Hunet manage these ICPs in a spreadsheet. The spreadsheet identifies what is in progress for all ICPs identified (this includes AMI meters - these are discussed in **Section 9.6**). Hunet is installing smart meters wherever possible for these ICPs and since September 115 ICPs have had an AMI meter installed and a further 88 ICPs are waiting to have a smart meter to be installed. I checked a sample of 12 ICPs with no read codes and confirmed that these were actioned.



The customer read process was examined and found that all customer reads are required to be supported by a photo and are treated as an estimated read for reconciliation purposes.

The Datacol report records non-compliance in relation to the lack of checks for phase failure. This is recorded as non-compliance for Hunet.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.6 With: Clause 5 of Schedule 15.2 From: 01-Oct-17 To: 31-Mar-18	Datacol does not identify and report phase failure to Hunet. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate as they are sufficient to reduce the risk most of the time, but Datacol do not report phase failure to Hunet. The audit risk rating as is low as 2.9% of Hunet's ICPs are manually read and this is continuing to decrease.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have identified the requirements and will contact Datacol to discuss further about this matter.		31/07/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will work with Datacol to resolve this issue.		31/07/2018	

#### 6.7. NHH meter reading application (Clause 6 Schedule 15.2)

##### Code reference

Clause 6 Schedule 15.2

##### Code related audit information

*For NHH switch event meter reads, for the gaining trader the reading applies from 0000 hours on the day of the relevant event date and for the losing trader at 2400 hours at the end of the day before the relevant event date.*

*In all other cases, All NHH readings apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation.*

### Audit observation

The process of the application of meter readings was examined,

An event detail report for the audit period was reviewed to identify CS files issued by Hunet during the audit period. A sample of four TR CS files and four MI CS files containing actual reads were reviewed to determine whether the data provided was complete and accurate.

### Audit commentary

System validation has been added to this process during the audit period to ensure that the correct AMI read is being sent and the sample checked confirmed this is working as expected.

### Audit outcome

Compliant

## 6.8. Interrogate meters once (Clause 7(1) and (2) Schedule 15.2)

### Code reference

*Clause 7(1) and (2) Schedule 15.2*

### Code related audit information

*Each reconciliation participant must ensure that a validated meter reading is obtained in respect of every meter register for every non-half hour metered ICP for which the participant is responsible, at least once during the period of supply to the ICP by the reconciliation participant and used to create volume information.*

*This may be a validated meter reading at the time the ICP is switched to, or from, the reconciliation participant.*

*If exceptional circumstances prevent a reconciliation participant from obtaining the validated meter reading, the reconciliation participant is not required to comply with clause 7(1).*

### Audit observation

The process to manage missed reads was examined.

Hunet provided a list of ICPs not read during the period of supply containing six ICPs. These were all checked.

### Audit commentary

Hunet's no read process is focussed on replacing legacy meters with AMI meters where ever possible. This commences when any customer joins with a legacy meter. They are sent a text requesting a complimentary AMI meter install and if no response is received to this then a letter is sent to follow up and a further letter is sent if this is not responded to. There is no process in place if a smart meter install is refused or is unable to be installed, the previous practice of asking the customer to switch has ceased. Customer reads are asked for in this instance, but this does not meet the exceptional circumstance requirements to gain a read. I recommend that a process be put in place to ensure that exceptional circumstances requirement is met for this situation.

Description	Recommendation	Audited party comment	Remedial action
Interrogate meters once	Develop a no read process for those ICPs not read where an AMI meter install is refused or cannot be installed.	AMI meter install is often refused by customer due to no answer. It is sometimes very difficult to get hold of customer on site for the meter replacement. Hunet will build a new process for those customers that we predict to have high estimate consumption and push for a meter replacement.	Identified

Analysis of the seven unread ICPs found that six had had an AMI meter installed and reads had been gained, therefore the reporting in place is over reporting this. I recommend that the reporting to identify ICPs unread during the period of supply be reviewed. ICP 1001272100LC621 was with Hunet from 7/4/17 until 5/10/17 and no read was gained. A smart meter was offered but no arrangement to gain a read was made. This is recorded as non-compliance below.

Description	Recommendation	Audited party comment	Remedial action
Interrogate meters once	Review ICPs not read during period of supply report to correctly capture this.	Hunet offers smart meter installation for customers in various ways. However it is sometimes very difficult to get hold of customer. Hunet will build a new process for those customers that we predict to have high estimate consumption and push for a meter replacement.	Investigating

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.8 With: 7(1) and (2) Schedule 15.2  From: 07-Apr-17 To: 05-Oct-17	One ICP not read during period of supply.  Potential impact: Low  Actual impact: Low  Audit history: Multiple  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate as the AMI meter replacement process is successful in most instances but I recommend a process be developed for those rare instances where AMI is refused or unable to be installed.  The audit risk rating is low as only one ICP was not read therefore the impact on reconciliation is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has offered smart meter installation for customers in various ways. We have 150 ICPs that had AMI meters replaced in the last 9 months		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
It is sometimes very difficult to get hold of customer on site for the meter replacement. Hunet will build a new process for those customers that we predict to have high estimate consumption and push for a meter replacement.		31/05/2018	

## 6.9. NHH meters interrogated annually (Clause 8(1) and (2) Schedule 15.2)

### Code reference

*Clause 8(1) and (2) Schedule 15.2*

### Code related audit information

*At least once every 12 months, each reconciliation participant must obtain a validated meter reading for every meter register for non-half hour metered ICPs, at which the reconciliation participant trades continuously for each 12-month period.*

*If exceptional circumstances prevent a reconciliation participant from obtaining the validated meter reading, the reconciliation participant is not required to comply with clause 8(1).*

*Provision of meter read frequency reports to the Authority, no later than 20 business days after the end of the month.*

### Audit observation

The meter reading process was examined. Monthly reports for the months of October 2017 to March 2018 were provided.

I reviewed the process to ensure the reports are accurate and submitted on time, and the timeliness of submission of the reports.

### Audit commentary

The process for the management of the no read files is detailed in **Section 6.8**. The process does not meet the requirements of this clause.

The monthly meter reading reports provided were reviewed.

Month	Not Read @ 12 months	Total ICPs
October 2017	30	2,859
November 2017	29	2,861
December 2017	31	2,911
January 2018	33	3,000
February 2018	209	5,158
March 2018	32	3,087

As reported in the last audit the unread report is incorrect and includes ICPs that have been decommissioned or disconnected. This is demonstrated by examining the report for March. The ICP level breakdown contained the same number of ICPs. A check of the ICPs found:

- 20 ICPs (44%) have been decommissioned and shouldn't be included in this report.
- 18 ICPs are at a disconnected status. A sample of five of these were checked to confirm the status recorded in Hunet's system and the registry and found these should not be included in the report.

No ICPs were found to be unread at 12 months but this is not reflected in the reporting. The incorrect reporting is planned to be corrected by the end of May 2018.

Proof of the meter reading reports for October 2017 to March 2018 being sent to the Authority was provided and all were sent within the required timeframe.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.9 With: 8(1) and (2) Schedule 15.2  From: 01-Oct-17 To: 31-Mar-18	Incorrect monthly meter reading report being provided to the Electricity Authority.  Potential impact: Low  Actual impact: Low  Audit history: Multiple  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The continuing inaccurate information being reported indicates controls are weak.  Overall the volume of unread ICPs reported is small or none and the report is over reporting the number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has completed the data cleaning exercise to investigate all the long term unread sites. The MEP has been sent to each site to determine the correct status and Hunet have then updated their system.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As Hunet has completed the data cleaning exercise, our next project is to correct our meter reading report to not include ICPs that have been decommissioned or disconnected.		31/05/2018	

#### 6.10. NHH meters 90% read rate (Clause 9(1) and (2) Schedule 15.2)

##### Code reference

*Clause 9(1) and (2) Schedule 15.2*

##### Code related audit information

*In relation to each NSP, each reconciliation participant must ensure that for each NHH ICP at which the reconciliation participant trades continuously for each four months, for which consumption information is required to be reported into the reconciliation process. A validated meter reading is obtained at least once every four months for 90% of the non-half hour metered ICPs.*

*A report is to be sent to the Authority providing the percentage, in relation to each NSP, for which consumption information has been collected no later than 20 business days after the end of each month.*

*If exceptional circumstances prevent a reconciliation participant from obtaining the validated meter reading, the reconciliation participant is not required to comply with clause 9(1).*

##### Audit observation

The meter reading process was examined. Reports for the months of October 2017 to March 2018 were provided.

I reviewed the process to ensure the reports are accurate and submitted on time, and the timeliness of submission for a sample of reports.

### Audit commentary

The meter reading reports provided were reviewed:

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	Total ICPs unread for 4 months	Overall percentage read
October 2017	41	4	61	93.46%
November 2017	41	4	60	93.46%
December 2017	42	5	68	92.78%
January 2018	43	5	77	92.86%
February 2018	44	5	78	91.34%
March 2018	46	6	79	89.69%

As reported in **section 6.9**, the unread report is incorrect and includes ICPs that have been decommissioned or disconnected and ICPs that have got reads. This is demonstrated by examining the report for March. The ICP level breakdown contained the same number of ICPs. A check of the ICPs found from the NSP level report for the March file is detailed below:

NSP	Not Read ICPs	Total ICPs	Read Percentage
AKL0331	2	12	83%
DMW0011	1	1	0%
ESC0011	1	1	0%
TKM0011	1	1	0%
WDT0011	1	1	0%
WWC0011	1	3	67%

The table above indicates four NSPs that did not meet the required threshold. Four of the ICPs are disconnected and shouldn't be included in this reporting. The remaining three active ICPs were reviewed and found two were not read and are correctly recorded. For ICP 0002222301WF2D8 (WWC0011) readings have been received and it should not be included.

Proof of the meter reading reports for October 2017 to March 2018 being sent to the Authority was provided and all were sent within the required timeframe.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.10 With: 9(1) and (2) Schedule 15.2  From: 01-Apr-17 To: 30-Sep-17	Incorrect monthly meter reading report being provided to the Electricity Authority.  Potential impact: Low  Actual impact: Low  Audit history: Multiple  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The continuing inaccurate information being reported indicates controls are weak.  Overall the volume of unread ICPs reported is small or none and the report is over reporting the number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has completed the data cleaning exercise to investigate all the long term unread sites. The MEP has been sent to each site to determine the correct status and Hunet have then updated their system.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As Hunet has completed the data cleaning exercise, our next project is to correct our meter reading report to not include ICPs that have been decommissioned or disconnected.		31/05/2018	

#### 6.11. NHH meter interrogation log (Clause 10 Schedule 15.2)

##### Code reference

Clause 10 Schedule 15.2

##### Code related audit information

*The following information must be logged as the result of each interrogation of the NHH metering:*

*10(a) - the means to establish the identity of the individual meter reader*

*10(b) - the ICP identifier of the ICP, and the meter and register identification*

*10(c) - the method being used for the interrogation and the device ID of equipment being used for interrogation of the meter.*

*10(d) - the date and time of the meter interrogation.*

##### Audit observation

For the ICPs where the data is collected by Datacol these processes were reviewed as part of their agent audit and this will be submitted with this report.

For the ICPs where the data is collected by AMS, Metrix and FCLM these processes were reviewed as part of their MEP audits.



### Audit commentary

All actual reads are received from Datacol, switching files or MEPs. Customer reads are treated as estimated reads for reconciliation purposes.

Compliance is confirmed in relation to the reads collected by Datacol in their audit report attached.

### Audit outcome

Compliant

## 6.12. HHR data collection (Clause 11(1) Schedule 15.2)

### Code reference

*Clause 11(1) Schedule 15.2*

### Code related audit information

*Raw meter data from all electronically interrogated metering installations must be obtained via the services access interface.*

*This may be carried out by a portable device or remotely.*

### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

### Audit commentary

Hunet does not deal with any HHR data.

### Audit outcome

Not applicable

## 6.13. HHR interrogation data requirement (Clause 11(2) Schedule 15.2)

### Code reference

*Clause 11(2) Schedule 15.2*

### Code related audit information

*The following information is collected during each interrogation:*

*11(2)(a) - the unique identifier of the data storage device*

*11(2)(b) - the time from the data storage device at the commencement of the download unless the time is within specification and the interrogation log automatically records the time of interrogation*

*11(2)(c) - the metering information, which represents the quantity of electricity conveyed at the point of connection, including the date and time stamp or index marker for each half hour period. This may be limited to the metering information accumulated since the last interrogation*

*11(2)(d) - the event log, which may be limited to the events information accumulated since the last interrogation*

*11(2)(e) - an interrogation log generated by the interrogation software to record details of all interrogations.*

*The interrogation log must be examined by the reconciliation participant responsible for collecting the data and appropriate action must be taken if problems are apparent or an automated software function flags exceptions.*

#### **Audit observation**

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

#### **Audit commentary**

Hunet does not deal with any HHR data.

#### **Audit outcome**

Not applicable

### **6.14. HHR interrogation log requirements (Clause 11(3) Schedule 15.2)**

#### **Code reference**

*Clause 11(3) Schedule 15.2*

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

*The interrogation log forms part of the interrogation audit trail and, as a minimum, must contain the following information:*

*11(3)(a)- the date of interrogation*

*11(3)(b)- the time of commencement of interrogation*

*11(3)(c)- the operator identification (if available)*

*11(3)(d)- the unique identifier of the meter or data storage device*

*11(3)(e)- the clock errors outside the range specified in Table 1 of clause 2*

*11(3)(f)- the method of interrogation*

*11(3)(g)- the identifier of the reading device used for interrogation (if applicable).*

#### **Audit observation**

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

#### **Audit commentary**

Hunet does not deal with any HHR data.

#### **Audit outcome**

Not applicable

## 7. STORING RAW METER DATA

### 7.1. Trading period duration (Clause 13 Schedule 15.2)

#### Code reference

*Clause 13 Schedule 15.2*

#### Code related audit information

*The trading period duration, normally 30 minutes, must be within  $\pm 0.1\%$  ( $\pm 2$  seconds).*

#### Audit observation

Hunet trades all ICPs as NHH ICPs therefore the trading period requirement is not applicable.

#### Audit commentary

Hunet does not deal with any HHR data.

#### Audit outcome

Not applicable

### 7.2. Archiving and storage of raw meter data (Clause 18 Schedule 15.2)

#### Code reference

*Clause 18 Schedule 15.2*

#### Code related audit information

*A reconciliation participant who is responsible for interrogating a metering installation must archive all raw meter data and any changes to the raw meter data for at least 48 months, in accordance with clause 8(6) of Schedule 10.6.*

*Procedures must be in place to ensure that raw meter data cannot be accessed by unauthorised personnel.*

*Meter readings cannot be modified without an audit trail being created.*

#### Audit observation

These processes were reviewed at Datacol as part of their agent audit. This report is attached as an appendix to this report.

Processes to archive and store raw meter data were reviewed.

#### Audit commentary

Compliance is confirmed in relation to this function in the Datacol audit report.

When this data reaches Hunet's systems, the level of security is robust and data cannot be accessed by unauthorised personnel. I viewed meter readings greater than 48 months and confirm these are still retained as required by this clause.

Compliance with clause 18.3 of schedule 15.2 was examined, which requires that ".....meter readings cannot be modified without an audit trail being created." Readings cannot be modified without an audit trail being created. Validation occurs in a temporary table before it becomes a permanent record and meter readings are not edited. Audit trails are discussed in further detail in **Section 2.4**.

#### Audit outcome

Compliant

### 7.3. Non-metering information collected / archived (Clause 21(5) Schedule 15.2)

#### Code reference

*Clause 21(5) Schedule 15.2*

#### Code related audit information

*All relevant non-metering information, such as external control equipment operation logs, used in the determination of profile data must be collected, and archived in accordance with clause 18.*

#### Audit observation

Processes to record non-metering information were discussed.

#### Audit commentary

Hunet does not deal with any non-metering information.

#### Audit outcome

Not applicable

## 8. CREATING AND MANAGING (INCLUDING VALIDATING, ESTIMATING, STORING, CORRECTING AND ARCHIVING) VOLUME INFORMATION

### 8.1. Correction of NHH meter readings (Clause 19(1) Schedule 15.2)

#### Code reference

Clause 19(1) Schedule 15.2

#### Code related audit information

*If errors are detected during validation of non-half hour meter readings, one of the following must be undertaken:*

*19(1)(a) - confirmation of the original meter reading by carrying out another meter reading*

*19(1)(b) - replacement of the original meter reading by another meter reading (even if the replacement meter reading may be at a different date)*

*19(1)(c) - if the original meter reading cannot be confirmed or replaced by a meter reading from another interrogation, then an estimated reading is substituted and the estimated reading is marked as an estimate and it is subsequently replaced in accordance with clause 4(2).*

#### Audit observation

Processes for correction of NHH meter readings were reviewed to confirm that corrections are calculated correctly and will flow through into submission correctly.

A sample of eight ICPs with multipliers were selected using the typical sampling methodology to confirm multipliers are being applied correctly.

#### Audit commentary

Hunet have stopped submitting corrections until their new submission system is approved and then these will commence being processed again. Those corrections identified but not processed before the 14 month revision for this period will need to be included in the next 14 month revision for the relevant NSP once the material change is approved.

The management of corrections was examined. Where errors are detected during validation of non-half hour meter readings then firstly a check reading is performed. If an original meter reading cannot be confirmed by a check reading then an estimated reading is used which is appropriately labelled. The estimated read is calculated based on the average daily consumption.

As recorded in **section 2.1**, the ICP management report is run monthly and this identifies any consumption on active vacant or disconnected vacant and any ICPs identified are investigated and corrections are processed as described above.

As described in **section 3.3**, the management of status is now managed through the "Disco Reco Manager". I checked five ICPs with active vacant consumption present. Consumption has been correctly calculated for all of the ICPs, but as detailed above these have not been processed since the last audit as the current submission file is not allocating these correctly. The material change audit undertaken confirmed that these were allocated correctly in the new submission system and these are expected to be submitted once the material change has been approved.

I reviewed five examples of stopped or defective meters. Three were due to communication issues and the data was captured once the communication error was corrected. Two ICPs had defective meters and the meters were changed. The volumes for the defective periods have been calculated correctly. As detailed above these volumes will not be submitted until the material change has been approved.

Non-compliance is recorded for not submitting these corrections.

I reviewed five ICPs with bridged meters. These were unbridged but their current system is not able to manage where a stopped meter restarts and these volumes have not been submitted. This is recorded as non-compliance. As part of the material change audit, I checked that the new system will calculate the volumes for the bridged period and found the values could be seen in the meter data but these were not present in the submission file. Hunet have corrected this and the submission files provided post the site audit confirmed that these values flow through as expected to the submission file.

Five ICPs with possible consumption while disconnected were reviewed. None had genuine consumption recorded therefore corrections for consumption while disconnected were unable to be assessed. Reporting of consumption where an ICP is inactive for part of a period is discussed further in **section 12.11**.

The sample of ICPs with multipliers checked confirmed compliance.

#### **Audit outcome**

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 8.1</p> <p>With: 19(1) Schedule 15.2</p> <p>From: 01-Oct-17</p> <p>To: 31-May-18</p>	<p>Corrections have not been submitted during the audit period.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Multiple</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	<p>Controls are rated as moderate as corrections are being calculated but due to the submission file being incorrect have not been submitted.</p> <p>The impact on reconciliation is low as the number of ICPs traded by Hunet is small.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Hunet worked closely with John Candy to accurately obtain data, calculation formula and the output from the two in each scenario, and it has already proven that they are compliant with <i>Clause 19(1) Schedule 15.2</i>.</p> <p>Dummy volumes for stopped meters and generation volumes were tested and have been confirmed that the new submission system accurately reports the volumes. The incorrect information submitted over the past 14month period will be addressed during the new revision process.</p>		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We have made excellent progress with our new submission system and the compliance that we follow, and we are pleased that our HE and FE consumption have been correctly implemented. The submission files will also be monitored for the next two months through the peer review by John Candy to ensure that the new submission system works as per expectation in production.</p>		18/07/2018	

## 8.2. Correction of HHR metering information (Clause 19(2) Schedule 15.2)

### Code reference

Clause 19(2) Schedule 15.2

### Code related audit information

*If errors are detected during validation of half hour metering information the correction must be as follows:*

*19(2)(a) - if a check meter or data storage device is installed at the metering installation, data from this source may be substituted*

*19(2)(b) - in the absence of any check meter or data storage device, data may be substituted from another period if the total of all substituted intervals matches the total consumption recorded on the meter, if available, and the pattern of consumption is considered materially similar to the period in error.*

### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

### Audit commentary

Hunet does not deal with any HHR data.

### Audit outcome

Not applicable

## 8.3. Error and loss compensation arrangements (Clause 19(3) Schedule 15.2)

### Code reference

Clause 19(3) Schedule 15.2

### Code related audit information

*If error compensation and loss compensation are carried out as part of the process of determining accurate data, the compensation process must be documented and must comply with audit trail requirements.*

### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

### Audit commentary

Hunet does not deal with any HHR data.

### Audit outcome

Not applicable



#### 8.4. Correction of HHR and NHH raw meter data (Clause 22(1) and (2) Schedule 15.2)

##### Code reference

*Clause 22(1) and (2) Schedule 15.2*

##### Code related audit information

*In correcting a meter reading in accordance with clause 19, the raw meter data must not be overwritten. If the raw meter data and the meter readings are the same, an automatic secure backup of the affected data must be made and archived by the processing or data correction application.*

*If data is corrected or altered, a journal must be generated and archived with the raw meter data file. The journal must contain the following:*

*22(2)(a) - the date of the correction or alteration*

*22(2)(b) - the time of the correction or alteration*

*22(2)(c) - the operator identifier of the reconciliation participant*

*22(2)(d) - the half-hour metering data or the non-half hour metering data corrected or altered, and the total difference in volume of such corrected or altered data*

*22(2)(e) - the technique used to arrive at the corrected data*

*22(2)(f) - the reason for the correction or alteration.*

##### Audit observation

If the MEP is providing the raw data to Hunet then it is their responsibility to ensure that raw data cannot be edited. Datacol, as an agent to Hunet, holds NHH raw meter data and their audit report is attached to this report which confirms that it cannot be edited.

Corrections are discussed in **Section 8.1**, which confirmed that raw meter data is not overwritten as part of the correction process. Audit trails are discussed in **Section 2.4**.

##### Audit commentary

There were no examples of corrections to actual metering data available during the audit period. Consumption is estimated where a reading is unavailable.

The Datacol audit report confirms that raw meter data cannot be edited.

##### Audit outcome

Compliant

## 9. ESTIMATING AND VALIDATING VOLUME INFORMATION

### 9.1. Identification of readings (Clause 3(3) Schedule 15.2)

#### Code reference

*Clause 3(3) Schedule 15.2*

#### Code related audit information

*All estimated readings and permanent estimates must be clearly identified as an estimate at source and in any exchange of metering data or volume information between participants.*

#### Audit observation

Provision of estimated reads to other participants during switching was reviewed in **Sections 4.3, 4.4, 4.10 and 4.11.**

Correct identification of estimated reads, and review of the estimation process was completed in **Section 8.1 Correction of NHH meter readings.**

#### Audit commentary

Estimated readings are clearly identified as required by this clause.

#### Audit outcome

Compliant

### 9.2. Derivation of volume information (Clause 3(4) Schedule 15.2)

#### Code reference

*Clause 3(4) Schedule 15.2*

#### Code related audit information

*Volume information must be directly derived, in accordance with Schedule 15.2, from:*

*3(4)(a) - validated meter readings*

*3(4)(b) - estimated readings*

*3(4)(c) - permanent estimates.*

#### Audit observation

A sample of submission data was reviewed in **Section 12**, to confirm that volume was based on readings as required.

#### Audit commentary

This was assessed and found reads were being derived from validated reads or estimates. I note estimated start reads and end reads should be treated as permanent estimates but are treated as estimates this is resulting in FE being incorrectly recorded at 14 months. This has been corrected in the new submission system. This is discussed in detail in **sections 12.8 and 13.3.**

#### Audit outcome

Compliant

### 9.3. Meter data used to derive volume information (Clause 3(5) Schedule 15.2)

#### Code reference

*Clause 3(5) Schedule 15.2*

#### Code related audit information

*All meter data that is used to derive volume information must not be rounded or truncated from the stored data from the metering installation.*

#### Audit observation

I traced a sample of meter data from the source files to Hunet's systems as discussed in **sections 2.3 & 6.5**, to confirm whether readings were rounded or truncated on import.

#### Audit commentary

NHH Meter readings provided by Datacol and FCLM are not truncated or rounded. Examination of the data received from Metrix and AMS found rounding occurred when it was uploaded into Hunet's system. For the Metrix reads these were being rounded to whole numbers and for AMS the decimal place values were truncated when they were imported into Hunet's system. This was not evident in the previous audit and was corrected during the site audit but is recorded as non-compliance below.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 9.3 With: 3(5) Schedule 15.2  From: 01-Oct-17 To: 10-May-18	Meter reading data rounded for Metrix reads and truncated for AMS reads.  Potential impact: Low  Actual impact: Low  Audit history: None  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are weak as Hunet were unaware of this requirement, but I note this was corrected immediately upon discovery.  The audit risk rating is low as the volume of ICPs traded by Hunet is small in relation to the market.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has updated submission information during the site audit for NHH Meter readings provided by Datacol and the MEPs providing data are not rounded or truncated		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We have confirmed that NHH Meter readings provided by Datacol and the MEPs providing data are not rounded or truncated in the new submission files.		11/05/2018	

#### 9.4. Half hour estimates (Clause 15 Schedule 15.2)

##### Code reference

Clause 15 Schedule 15.2

##### Code related audit information

*If a reconciliation participant is unable to interrogate an electronically interrogated metering installation before the deadline for providing submission information, the submission to the reconciliation manager must be the reconciliation participant's best estimate of the quantity of electricity that was purchased or sold in each trading period during any applicable consumption period for that metering installation.*

*The reconciliation participant must use reasonable endeavours to ensure that estimated submission information is within the percentage specified by the Authority.*

##### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

##### Audit commentary

Hunet does not deal with any HHR data.

## Audit outcome

Not applicable

## 9.5. NHH metering information data validation (Clause 16 Schedule 15.2)

### Code reference

Clause 16 Schedule 15.2

### Code related audit information

*Each validity check of non-half hour meter readings and estimated readings must include the following:*

*16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register*

*16(2)(b) - checks for invalid dates and times*

*16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend*

*16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected 0 values.*

### Audit observation

I reviewed and observed the NHH data validation process, including checking a sample of data validations.

### Audit commentary

There are several steps to validation of NHH data. For those sites read manually by Datacol at source the handheld data input devices perform a localised validation to ensure that the reading is within expected high-low parameters. Readings outside these parameters have to be re-entered and acknowledged by the data collector. A meter cannot be skipped without reading unless a reason is entered.

When data is uploaded into Hunet's systems there is an ICP, meter and register check to ensure the data is populated against the correct record. This step also checks dates and times. The issue identified in the last audit of meter changes not being picked up has been resolved and metering changes are being actioned.

A further validation occurs within Hunet's system, this validation checks the following:

- High consumption (over 3,000 units - ICPs are allocated to groups based on consumption, a comparison is made between actual and expected consumption).
- Readings lower than the previous reading- negative consumption.
- Some individual invoices are checked manually on a monthly basis.
- Correct number of dials.
- Zero consumption. This has been further refined as recommended in the last audit with the zero consumption calculated across a month rather than from read to read. This will better identify genuine zero consumption that requires investigation.

All billing is for a complete calendar month so “short days” and “long days” validation is not required.

Reads for disconnected ICPs are reviewed on an individual basis if consumption is detected and investigated. Five examples were provided but none had genuine consumption. Reporting of consumption where an ICP is inactive for part of a period is discussed further in **section 12.11**

Five examples of defectives meters were provided. These were checked during the site audit and found that the consumption was estimated correctly for the relevant period, but these volumes have not been submitted since the last audit as the current submission file is not allocating these correctly. This is recorded as non-compliance in **section 12.11**. The material change undertaken in parallel with this audit confirms that this has been corrected.

The matter of “bypassed” or bridged metering was evaluated during the audit. Five examples were checked. As recorded in the last audit consumption volume cannot be calculated or submitted for the stopped period for these ICPs in Hunet’s current system. The material change undertaken in parallel with this audit confirms that this will be corrected in the new submission system.

Processes to review reconciliation submission information are discussed in **section 12.2**.

#### Audit outcome

Compliant

### 9.6. Electronic meter readings and estimated readings (Clause 17 Schedule 15.2)

#### Code reference

*Clause 17 Schedule 15.2*

#### Code related audit information

*Each validity check of electronically interrogated meter readings and estimate readings must be at a frequency that will allow a further interrogation of the data storage device before the data is overwritten within the data storage device and before this data can be used for any purpose under the Code.*

*Each validity check of a meter reading obtained by electronic interrogation or an estimated reading must include:*

*17(4)(a) - checks for missing data*

*17(4)(b) - checks for invalid dates and times*

*17(4)(c) - checks of unexpected zero values*

*17(4)(d) - comparison with expected or previous flow patterns*

*17(4)(e) - comparisons of meter readings with data on any data storage device registers that are available*

*17(4)(f) - a review of meter and data storage device event list. Any event that could have affected the integrity of metering data must be investigated.*

#### Audit observation

Submission type is NHH for all ICPs, and data is validated as described in **Section 9.5 NHH metering information**.

The management of event logs was reviewed.

### Audit commentary

Metrix send Hunet notifications via email of meters that require a service request to be raised to investigate. I sighted five such requests received from Metrix and all were actioned. Meter condition reports are also received monthly from Metrix. All ICPs identified from these are tracked in the WIP spreadsheet and a service request is issued to the MEP to resolve accordingly.

No event logs, meter condition reports or notifications have been received from AMS or FCLM during the audit period. These are normally provided via their SFTP server. Hunet are checking the SFTP server but have not received any additional files. I recommend that Hunet check with both providers to ensure that no event logs or faulty meters are missed.

Description	Recommendation	Audited party comment	Remedial action
Electronic meter readings and estimated readings	Check with AMS and FCLM to confirm event logs are being sent.	We will check with AMS and FCLM to confirm that event logs are being sent. We will also use our internal zero consumption validation report to analyse any potential faulty meters on our own.	Identified

### Audit outcome

Compliant

## 10. PROVISION OF METERING INFORMATION TO THE PRICING MANAGER IN ACCORDANCE WITH SUBPART 4 OF PART 13 (CLAUSE 15.38(1)(F))

### 10.1. Generators to provide HHR metering information (Clause 13.136)

#### Code reference

Clause 13.136

#### Code related audit information

*The generator (and/or embedded generator) must provide to the pricing manager and the grid owner connected to the local network in which the embedded generator is located, half hour metering information in accordance with clause 13.138 in relation to generating plant that is subject to a dispatch instruction:*

- *that injects electricity directly into a local network; or*
- *if the meter configuration is such that the electricity flows into a local network without first passing through a grid injection point or grid exit point metering installation.*

#### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

#### Audit commentary

Hunet does not deal with any HHR data.

#### Audit outcome

Not applicable

### 10.2. Unoffered & intermittent generation provision of metering information (Clause 13.137)

#### Code reference

Clause 13.137

#### Code related audit information

*Each generator must provide the pricing manager and the relevant grid owner half-hour metering information for:*

- *any unoffered generation from a generating station with a point of connection to the grid 13.137(1)(a)*
- *any electricity supplied from an intermittent generating station with a point of connection to the grid. 13.137(1)(b)*

*The generator must provide the pricing manager and the relevant grid owner with the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of that generator's volume information. (clause 13.137(2))*

*If such half-hour metering information is not available, the generator must provide the pricing manager and the relevant grid owner a reasonable estimate of such data. (clause 13.137(3))*

#### Audit observation

Hunet does not gave any grid connected generation.

#### Audit commentary

Not applicable



#### Audit outcome

Not applicable

### 10.3. Loss adjustment of HHR metering information (Clause 13.138)

#### Code reference

*Clause 13.138*

#### Code related audit information

*The generator must provide the information required by clauses 13.136 and 13.137,*

*13.138(1)(a)- adjusted for losses (if any) relative to the grid injection point or, for embedded generators the grid exit point, at which it offered the electricity*

*13.138(1)(b)- in the manner and form that the pricing manager stipulates*

*13.138(1)(c)- by 0500 hours on a trading day for each trading period of the previous trading day.*

*The generator must provide the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of the generator's volume information.*

#### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

#### Audit commentary

Hunet does not deal with any HHR data.

#### Audit outcome

Not applicable

### 10.4. Notification of the provision of HHR metering information (Clause 13.140)

#### Code reference

*Clause 13.140*

#### Code related audit information

*If the generator provides half-hourly metering information to the pricing manager or a grid owner under clauses 13.136 to 13.138, or 13.138A, it must also, by 0500 hours of that day, advise the relevant grid owner.*

#### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

#### Audit commentary

Hunet does not deal with any HHR data

#### Audit outcome

Not applicable

## 11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

### 11.1. Buying and selling notifications (Clause 15.3)

#### Code reference

*Clause 15.3*

#### Code related audit information

*Unless an embedded generator has given a notification in respect of the point of connection under clause 15.3, a trader must give notice to the reconciliation manager if it is to commence or cease trading electricity at a point of connection using a profile with a profile code other than HHR, RPS, UML, EG1, or PV1 at least five business days before commencing or ceasing trader.*

*The notification must comply with any procedures or requirements specified by the reconciliation manager.*

#### Audit observation

A registry list was reviewed for the audit period to confirm that only the RPS profile was used.

#### Audit commentary

Hunet is currently only using the RPS profile and once the material change for the new NHH submission file is approved they will also use the RPS PV1 profile for those ICPs with generation being submitted. Neither of these profiles requires a trading notification.

#### Audit outcome

Not applicable

### 11.2. Calculation of ICP days (Clause 15.6)

#### Code reference

*Clause 15.6*

#### Code related audit information

*Each retailer and direct purchaser (excluding direct consumers) must deliver a report to the reconciliation manager detailing the number of ICP days for each NSP for each submission file of submission information in respect of:*

*15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*

*15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

*The ICP days information must be calculated using the data contained in the retailer or direct purchaser's reconciliation system when it aggregates volume information for ICPs into submission information.*

#### Audit observation

The process for the calculation of ICP days was examined by checking ICPCOMP reports for discrepancies and by checking the ICP days calculation for each of the HE scenarios calculated in the new system. I also checked the file aggregation accuracy in the new system. The new system is discussed in the material change audit.

### Audit commentary

As shown in the table below, there is an increase in ICP days differences from August 2017 forward. This was investigated and I found that the ICP days calculation was being calculated from the number of registers rather than the number of ICPs hence the ICP days are being over reported. This is calculating correctly in the new submission system as confirmed in the material change audit.

The following table shows the ICP days difference between Hunet files and the RM return file (GR100) for all available revisions for several months. Negative percentage figures indicate that the Hunet ICP days figures are higher than those contained on the registry.

Month	Ri	R1	R3	R7	R14
September 2016	-0.03%	-0.01%	0.00%	-0.05%	0.01%
October 2016	-0.04%	-0.04%	-0.04%	-0.09%	-0.04%
March 2017	-0.05%	-0.05%	-0.09%	-0.07%	-
April 2017	-0.42%	-0.10%	-0.11%	-0.14%	-
May 2017	-0.10%	-0.10%	-0.12%	-0.12%	-
August 2017	-0.08%	-0.04%	-0.09%	-0.28%	-
December 2017	-0.35%	-0.35%	0.38%	-	-
January 2018	-0.35%	-0.40%	-	-	-
February 2018	-0.38%	-0.38%	-	-	-

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 11.2 With: 15.6 From: 01-Aug-17 To: 31-Mar-18	ICP days report double counting ICPs with multiple meters or registers. Potential impact: None Actual impact: None Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak as the ICP day error wasn't identified. Audit risk rating is low as the volume of ICPs affected will not have material impact on settlement.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet worked closely with John Candy to accurately obtain data, calculation formula and the output from the two in each scenario, and it has already proven that they are compliant with <i>Clause 15.6</i> . ICP days was tested and have been confirmed that the new submission system accurately reports the volumes. The incorrect information submitted over the past 14month period will be addressed during the new revision process.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We have made excellent progress with our new submission system and the compliance that we follow, and we are pleased that ICP days have been correctly implemented. The submission files will also be monitored for the next two months through the peer review by John Candy to ensure that the new submission system works as per expectation in production.		18/07/2018	

### 11.3. Electricity supplied information provision to the reconciliation manager (Clause 15.7)

#### Code reference

#### Clause 15.7

#### Code related audit information

*A retailer must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each NSP, aggregated by invoice month, for which it has provided submission information to the reconciliation manager, including revised submission information for that period as non- loss adjusted values in respect of:*

*15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*

*15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

### Audit observation

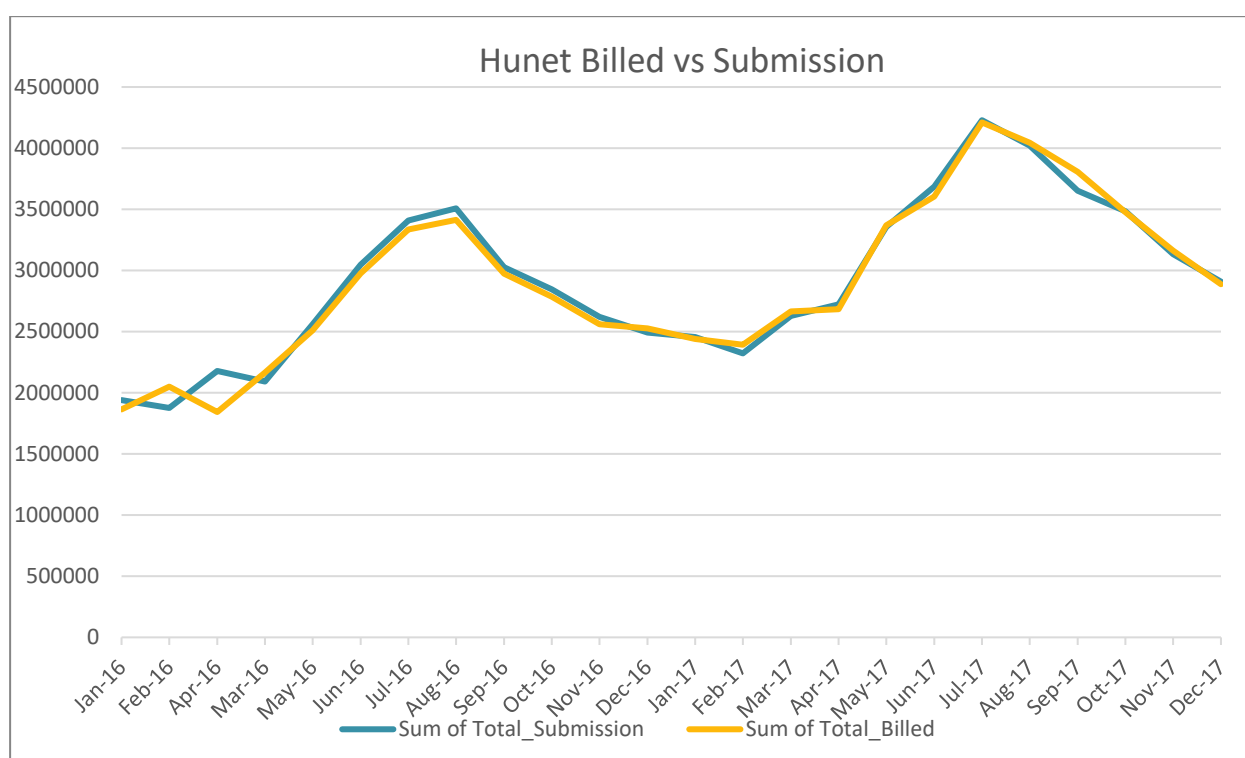
The process for calculating and submitting electricity supplied information was examined by checking individual invoices for a selection of four NSPs with a small number of ICPs to ensure the billed amount equalled the figure in the ICP level file which forms the basis of the aggregate file sent to the RM.

The electricity vs billed GR130 reports for January 2016 to January 2018 was reviewed.

### Audit commentary

The file is correct for the sample checked. Compliance is confirmed.

The table below shows a comparison between submissions and electricity supplied information. At an aggregate level, electricity billed data is lower than the submission data by 0.95% over the 24-month period.



As discussed in **Section 8.1**, active vacant consumption has not been submitted since the last audit. This is expected to be corrected once the material change is approved. This was confirmed to be working correctly in the material change audit and therefore it is expected that Hunet will process these corrections once the change is approved.

### Audit outcome

Compliant

#### 11.4. HHR aggregates information provision to the reconciliation manager (Clause 15.8)

##### Code reference

Clause 15.8

##### Code related audit information

*A retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each half hourly metered ICP for which it has provided submission information to the reconciliation manager, including:*

*15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*

*15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

##### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

##### Audit commentary

Hunet does not deal with any HHR data.

##### Audit outcome

Not applicable

## 12. SUBMISSION COMPUTATION

### 12.1. Daylight saving adjustment (Clause 15.36)

#### Code reference

Clause 15.36

#### Code related audit information

*The reconciliation participant must provide submission information to the reconciliation manager that is adjusted for NZDT using one of the techniques set out in clause 15.36(3) specified by the Authority.*

#### Audit observation

A registry list was reviewed for the audit period to confirm that all HHR meters supplied by Hunet have AMI installed, and a submission type NHH.

#### Audit commentary

Hunet does not deal with any HHR data.

#### Audit outcome

Not applicable

### 12.2. Creation of submission information (Clause 15.4)

#### Code reference

Clause 15.4

#### Code related audit information

*By 1600 hours on the 4th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all NSPs for which the reconciliation participant is recorded in the registry as having traded electricity during the consumption period immediately before that reconciliation period (in accordance with Schedule 15.3).*

*By 1600 hours on the 13th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all points of connection for which the reconciliation participant is recorded in the registry as having traded electricity during any consumption period being reconciled in accordance with clauses 15.27 and 15.28, and in respect of which it has obtained revised submission information (in accordance with Schedule 15.3).*

#### Audit observation

This clause relates to the timeliness of files and whether they include all ICPs. Due to the change of staff in the previous audit the calculations supporting the current submission files could not be confirmed. Hunet have addressed this by creating a new submission system and have sought John Candy's guidance with this. A material change audit has been carried out in parallel with this audit.

A list of breaches was obtained from the Electricity Authority. There were no breaches for late provision of submission information.

#### Audit commentary

A list of breaches was obtained from the Electricity Authority. There were no breaches for late provision of submission information.

#### Audit outcome

Compliant

## 12.3. Allocation of submission information (Clause 15.5)

### Code reference

Clause 15.5

### Code related audit information

*In preparing and submitting submission information, the reconciliation participant must allocate volume information for each ICP to the NSP indicated by the data held in the registry for the relevant consumption period at the time the reconciliation participant assembles the submission information. Volume information must be derived in accordance with Schedule 15.2.*

*However, if, in relation to a point of connection at which the reconciliation participant trades electricity, a notification given by an embedded generator under clause 15.13 for an embedded generating station is in force, the reconciliation participant is not required to comply with the above in relation to electricity generated by the embedded generating station.*

### Audit observation

Processes to ensure that information used to aggregate the reconciliation reports is consistent with the registry were reviewed in **section 2.1**.

The process to ensure that AV080 submissions are accurate was reviewed. The process for aggregating the AV080 was examined by checking four NSPs with a small number of ICPs. Aggregation is checked under **Section 13.2 Provision of submission information**. The GR170 to AV080 files for nine months were compared, to confirm zeroing occurs.

### Audit commentary

The forward and historic estimate processes are discussed in the sections below. Multipliers are correctly applied.

The checks carried out of the GR170 and AV080 files for the existing submission file found that zeroing is occurring.

One issue was found but it has not resulted in incorrect submission. One ICP was correctly included against ROM0011 in the Day-4 file but no submission occurred in any subsequent revisions. This was not a problem because the Day-4 data was all HE and didn't change. Submission was therefore accurate. The new file (discussed in the material change audit) contains a record for ROM0011.

### Audit outcome

Compliant



## 12.4. Grid owner volumes information (Clause 15.9)

### Code reference

Clause 15.9

### Code related audit information

*The participant (if a grid owner) must deliver to the reconciliation manager for each point of connection for all of its GXPs, the following:*

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.9(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period (clause 15.9(b)).*

### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has not supplied any GIPs.

### Audit commentary

Examination of the list file found that Hunet has not supplied any GIPs. Hunet is not required to report any grid owner volume information.

### Audit outcome

Not applicable

## 12.5. Provision of NSP submission information (Clause 15.10)

### Code reference

Clause 15.10

### Code related audit information

*The participant (if a local or embedded network owner) must provide to the reconciliation manager for each NSP for which the participant has given a notification under clause 25(1) Schedule 11.1 (which relates to the creation, decommissioning, and transfer of NSPs) the following:*

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.10(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.10(b))*

### Audit observation

Hunet is not a local or embedded network owner.

### Audit commentary

Hunet is not a local or embedded network owner and is not required to provide NSP submission information.

### Audit outcome

Not applicable

## 12.6. Grid connected generation (Clause 15.11)

### Code reference

Clause 15.11

### Code related audit information

*The participant (if a grid connected generator) must deliver to the reconciliation manager for each of its points of connection, the following:*

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.11(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period (clause 15.11(b)).*

### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has not supplied any GIPs.

### Audit commentary

Examination of the list file found that Hunet has not supplied any GIPs. Hunet is not required to report any grid connected generation.

### Audit outcome

Not applicable

## 12.7. Accuracy of submission information (Clause 15.12)

### Code reference

Clause 15.12

### Code related audit information

*If the reconciliation participant has submitted information and then subsequently obtained more accurate information, the participant must provide the most accurate information available to the reconciliation manager or participant, as the case may be, at the next available opportunity for submission (in accordance with clauses 15.20A, 15.27, and 15.28).*

### Audit observation

A list of breaches was obtained from the Electricity Authority. There were no breaches for the late provision of submission information.

A sample of corrections were reviewed to ensure that they flowed through to revision submissions.

The accuracy of submission files was evaluated.

### Audit commentary

As discussed in **section 6.5**, one example was found of meter reading being incorrectly entered into Hunet's system for an FCLM meter. This was keyed in incorrectly. This read did not fall outside of the validation checks in place hence it was not found, and I recommend in **section 6.5**, that a further validation is added to confirm that these have been entered correctly. This is recorded as non-compliance.

The current submission file is not accurate in all instances and for this reason the NHH corrections and consumption on active vacant ICPs discussed in **section 8.1**, have not been submitted since the last audit period. These were reviewed as part of the material change audit and the sample checked confirmed that these will flow correctly into submission. The corrections not being processed during the audit period is recorded as non-compliance.

The sample checked confirmed the accuracy of the new files but as noted above the current submission file calculations cannot be confirmed, however the current files have different totals to the new files. The example checked was R3 for January 2018. The table below shows the differences between the files.

File	Total submission (kWh)	Total HE (kWh)	Total ICPs
New file	2,938,006	2,901,873	5254
Current file	3,009,920	2,899,055	5,251

Manual calculations at an ICP level confirmed the new files were correct but I was unable to determine how the current file is calculating. ICPs with AMI readings on the last day of the previous month and the last day of the consumption month had the same figures but those ICPs where HE calculations were conducted were different. I tried merely removing the shape files and calculating with a straight line but this was eliminated as the cause of discrepancies.

As discussed in **section 8.1**, corrections have not been processed during the audit period due to the known inaccuracies of the current submission system. This is recorded as non-compliance below, but I note that this is expected to be corrected once the material change is approved.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.7 With: 15.12  From: 01-Aug-17 To: 31-Mar-18	Corrections not processed since the last audit. NHH submission files inaccurate. Potential impact: Low Actual impact: High Audit history: None Controls: Weak Breach risk rating: 9		
Audit risk rating	Rationale for audit risk rating		
High	Controls for the current system are rated as weak as the calculations are incorrect. The audit risk rating is high due to the over submission for Jan 18 of over 70,000 kWh		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet worked closely with John Candy to accurately obtain data, calculation formula and the output from the two in each scenario, and it has already proven that they are compliant with <i>Clause 15.12</i> . The incorrect information submitted over the past 14month period will be addressed during the new revision process.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We have made excellent progress with our new submission system and the compliance that we follow, and we are pleased that our HE and FE consumption have been correctly implemented. The submission files will also be monitored for the next two months through the peer review by John Candy to ensure that the new submission system works as per expectation in production.		18/07/2018	

## 12.8. Permanence of meter readings for reconciliation (Clause 4 Schedule 15.2)

### Code reference

*Clause 4 Schedule 15.2*

### Code related audit information

*Only volume information created using validated meter readings, or if such values are unavailable, permanent estimates, has permanence within the reconciliation processes (unless subsequently found to be in error).*

*Volume information created using estimated readings must be subsequently replaced at the earliest opportunity by the reconciliation participant by volume information that has been created using validated meter readings or permanent estimates by, at the latest, the month 14 revision cycle.*

*A permanent estimate may be used in place of a validated meter reading, but only if, despite having used reasonable endeavours; the reconciliation participant has been unable to obtain a validated meter reading.*

#### **Audit observation**

AV080 14 month revisions were reviewed to identify any forward estimate still existing. Four balancing areas were checked where there was a low HE achievement.

#### **Audit commentary**

Review of AV080 14 month revisions showed some forward estimates remained at the time of the 14 month revision. The sample checked found that three of these were due to no reads being gained for the period of supply. Two examples were found of an ICP switching in on an estimate and this read is being treated as an estimate but it should be treated as a permanent estimate. This was also found for ICPs switching out on an estimate. There was one example where there were reads available but the system estimated the volumes instead. This is recorded as non-compliance. This is also discussed in **section 13.3**.

The material change audit conducted in parallel with this audit found the same issue of gain and loss estimates not being treated as permanent. This has been corrected and the submission file provided post site audit confirms this has been corrected for the sample checked.

#### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 12.8 With: 4 Schedule 15.2 From: 01-Oct-17 To: 31-Mar-18	Some FE still exists at 14 months. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak as the logic behind the current submission tool is not understood and therefore it is unclear as to how reads are being managed in relation to submission. I note that the revised file is expected to be correct. The volume overall of HE is low at revision 14 therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet worked closely with John Candy to accurately obtain data, calculation formula and the output from the two in each scenario, and it has already proven that they are compliant with <i>Clause 4 Schedule 15.2</i> . The incorrect information submitted over the past 14month period will be addressed during the new revision process.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We have made excellent progress with our new submission system and the compliance that we follow, and we are pleased that our HE and FE consumption have been correctly implemented. The submission files will also be monitored for the next two months through the peer review by John Candy to ensure that the new submission system works as per expectation in production.		18/07/2018	

## 12.9. Reconciliation participants to prepare information (Clause 2 Schedule 15.3)

### Code reference

Clause 2 Schedule 15.3

### Code related audit information

*If a reconciliation participant prepares submission information for each NSP for the relevant consumption periods in accordance with the Code, such submission information must comprise the following:*

- *half hour volume information for each ICP notified in accordance with clause 11.7(2) for which there is a category 3 or higher metering installation (clause 2(1)(a))*
- *for each ICP about which information is provided under clause 11.7(2) for which there is a category 1 or category 2 metering installation (clause 2(1)(b)):*
  - a) half hour volume information for the ICP; or*
  - b) non-half hour volumes information calculated under clauses 4 to 6 (as applicable).*

- c) *unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information (clause 2(1)(c))*
- *to create non-half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):*
  - a) *the certification of the control device is recorded in the registry; or*
  - b) *the metering installation in which the control device is location has interim certification.*
- *to create submission information for a point of connection the reconciliation participant must apply to the raw meter data (clause 2(3)):*
  - a) *for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))*
  - b) *for each NSP the compensation factor that is recorded in the metering installations most recent certification report (clause 2(3)(b)).*

#### Audit observation

The registry list with history was reviewed for the audit period to confirm that Hunet did not supply any ICPs with

- submission type HHR
- a profile apart from RPS
- unmetered load.

Aggregation and content of reconciliation submissions prepared by Hunet were reviewed.

As noted in **Section 12.2**, due to the change of staff in the previous audit the calculations within the current submission file could not be confirmed. Hunet have addressed this by creating a new submission file and have sought John Candy's guidance with this. The material change audit conducted in parallel with this audit assessed the accuracy of the new submission system by checking four NSPs with a small number of ICPs to ensure aggregation was correct and by checking relevant HE scenarios.

#### Audit commentary

As noted in **section 12.2**, due to staff changes I was unable to determine the calculation methodology used to prepare the current submission information, but the files are different to the files from the new system, which were confirmed as accurate. The material change audit carried out as a part of this audit examined the new submission system and confirmed that the submission information for each NSP for the relevant consumption periods was present in accordance with this clause; the submission information includes NHH volume information only. Compliance is confirmed in the material change audit, but compliance is not achieved for the current files. This non-compliance is recorded in **Section 12.7**.

Aggregation of the AV080 and AV110 submissions are covered in **sections 13.2** and **11.2** respectively.

Compliance is confirmed for this clause because the files contained NHH volume information and multipliers were correctly applied.

#### Audit outcome

Compliant

## 12.10. Historical estimates and forward estimates (Clause 3 Schedule 15.3)

### Code reference

Clause 3 Schedule 15.3

### Code related audit information

*For each ICP that has a non-half hour metering installation, volume information derived from validated meter readings, estimated readings, or permanent estimates must be allocated to consumption periods using the following techniques to create historical estimates and forward estimates (clause 3(1)).*

*Each estimate that is a forward estimate or a historical estimate must clearly be identified as such (clause 3(2)).*

*If validated meter readings are not available for the purpose of clauses 4 and 5, permanent estimates may be used in place of validated meter readings (clause 3(3)).*

### Audit observation

I reviewed nine AV080 submissions to confirm that historic estimates are included and identified.

The permanence of meter readings is reviewed in **Section 12.8**. The methodology to create forward estimates is reviewed in **Section 12.11**.

### Audit commentary

I reviewed nine AV080 submissions for a diverse sample of months and revisions and found confirm that forward and historic estimates are included and identified.

The permanence of meter readings is reviewed in **Section 12.8**. The methodology to create forward estimates is reviewed in **Section 12.12**.

### Audit outcome

Compliant

## 12.11. Historical estimate process (Clause 4 and 5 Schedule 15.3)

### Code reference

Clause 4 and 5 Schedule 15.3

### Code related audit information

*The methodology outlined in clause 4 of Schedule 15.3 must be used when preparing historic estimates of volume information for each ICP when the relevant seasonal adjustment shape is available.*

*If a seasonal adjustment shape is not available, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities kWh must be prorated as determined by the reconciliation participant using its own methodology or on a flat shape basis using the relevant number of days that are within the consumption period and within the period covered by kWh.*

### Audit observation

As noted in **section 12.2**, due to staff changes I was unable to determine the calculation methodology used in relation to the historical estimate calculations in the present submission file.

The historic estimate process was assessed against the new submission file as part of material change undertaken in parallel with this audit. Hunet was supplied with a list of scenarios, and for some individual ICPs a manual HE calculation was conducted and compared to the result from Hunet's new submission system.



### Audit commentary

The current submission system is known not to be calculating historic estimates correctly, therefore the new submission system was checked as part of the material change audit which confirmed compliance for all relevant examples checked.

The sample checked confirmed the accuracy of the new files but as noted above the current submission file calculations cannot be confirmed, however the current files have different totals to the new files. The example checked was R3 for January 2018. The table below shows the differences between the files.

File	Total submission (kWh)	Total HE (kWh)	Total ICPs
New file	2,938,006	2,901,873	5254
Current file	3,009,920	2,899,055	5,251

Manual calculations at an ICP level confirmed the new files were correct but I was unable to determine how the current file is calculating. ICPs with AMI readings on the last day of the previous month and the last day of the consumption month had the same figures but those ICPs where HE calculations were conducted were different. I tried merely removing the shape files and calculating with a straight line, but this was eliminated as the cause of discrepancies.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.11 With: 4 and 5 Schedule 15.3 From: 01-Oct-17 To: 31-May-18	HE scenarios not working correctly in the current submission system. Potential impact: High Actual impact: High Audit history: Once Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
High	Controls for the current system are rated as weak as the calculations are incorrect. The audit risk rating is high due to the over submission for Jan 18 of over 70,000 kWh		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet worked closely with John Candy to accurately obtain data, calculation formula and the output from the two in each scenario, and it has already proven that they are compliant with <i>Clause 4 and 5 Schedule 15.3</i> . The incorrect information submitted over the past 14month period will be addressed during the new revision process.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We have made excellent progress with our new submission system and the compliance that we follow, and we are pleased that our HE and FE consumption have been correctly implemented. The submission files will also be monitored for the next two months through the peer review by John Candy to ensure that the new submission system works as per expectation in production.		18/07/2018	

## 12.12. Forward estimate process (Clause 6 Schedule 15.3)

### Code reference

*Clause 6 Schedule 15.3*

### Code related audit information

*Forward estimates may be used only in respect of any period for which an historical estimate cannot be calculated.*

*The methodology used for calculating a forward estimate may be determined by the reconciliation participant, only if it ensures that the accuracy is within the percentage of error specified by the Authority.*

### Audit observation

The process to create forward estimates is unchanged and was reviewed.

Forward estimates were checked for accuracy by analysing the GR170 file for variances between revisions over the audit period.

### Audit commentary

Hunet's forward estimate process is based on a "straight line" methodology, and where no historical information is available, the average daily consumption from the CS file is used. As a last resort, a "forward default" estimate of four units per day is used for residential customers and an agreed daily value with commercial customers. This meets the requirements of this clause.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. The table below shows the target was met for all revisions.

#### Quantity of Balancing Areas with Differences Over 15% and 100,000 kWh

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
September 2016	0	0	0	0	23
October 2016	0	0	0	0	26
March 2017	0	0	0	-	26
April 2017	0	0	0	-	26
May 2017	0	0	0	-	24
August 2017	0	0	-	-	26
October 2017	0	0	-	-	27
December 2017	0	0	-	-	27

### Total Variation between Revisions

Month	Revision 1	Revision 3	Revision 7	Revision 14
September 2016	1.13%	1.25%	0.64%	-1.78%
October 2016	1.24%	0.13%	-0.32%	-2.13%
March 2017	2.00%	2.07%	1.95%	-
April 2017	0.24%	-0.54%	-0.39%	-
May 2017	1.39%	1.27%	0.91%	-
August 2017	1.45%	1.05%	-	-
October 2017	3.08%	3.24%	-	-
December 2017	-0.02%	1.69%	-	-

### Audit outcome

Compliant

### 12.13. Compulsory meter reading after profile change (Clause 7 Schedule 15.3)

#### Code reference

Clause 7 Schedule 15.3

#### Code related audit information

*If the reconciliation participant changes the profile associated with a meter, it must, when determining the volume information for that meter and its respective ICP, use a validated meter reading or permanent estimate on the day on which the profile change is to take effect.*

*The reconciliation participant must use the volume information from that validated meter reading or permanent estimate in calculating the relevant historical estimates of each profile for that meter.*

#### Audit observation

A registry list with history was reviewed for the audit period to confirm that Hunet has only used the RPS profile during the audit period.

#### Audit commentary

Examination of the list file found that Hunet has only used the RPS profile, and there have been no profile changes. In the event of a profile change, Hunet will use a validated meter reading or a permanent estimate on the day that the change is effective. Currently, they only use the RPS profile but will add the RPS PV1 profile once the new submission system is in place. This is discussed in the material change audit.

#### Audit outcome

Compliant

## 13. SUBMISSION FORMAT AND TIMING

### 13.1. Provision of submission information to the RM (Clause 8 Schedule 15.3)

#### Code reference

*Clause 8 Schedule 15.3*

#### Code related audit information

*Submission information provided to the reconciliation manager must be aggregated to the following level:*

- *NSP code (clause 8(a))*
- *reconciliation type (clause 8(b))*
- *profile (clause 8(c))*
- *loss category code (clause 8(d))*
- *flow direction (clause 8(e))*
- *dedicated NSP (clause 8(f))*
- *trading period for half hour metered ICPs and consumption period or day for all other ICPs (clause 8(g)).*

#### Audit observation

The process to ensure that AV080 submissions are accurate were reviewed.

#### Audit commentary

The check of the AV080 confirmed that the correct aggregation factors were present. As discussed in **Section 12.2**, due to the change of staff in the previous audit, the calculation methodology of the current submission file could not be confirmed but for the purposes of this audit I have confirmed compliance of aggregation factors for the sample checked. Hunet have addressed the file inaccuracy by creating a new submission system and have sought John Candy's guidance with in this. A material change audit has been carried out in parallel with this audit and compliance was confirmed for the new system.

#### Audit outcome

Compliant

### 13.2. Reporting resolution (Clause 9 Schedule 15.3)

#### Code reference

*Clause 9 Schedule 15.3*

#### Code related audit information

*When reporting submission information, the number of decimal places must be rounded to not more than two decimal places.*

*If the unrounded digit to the right of the second decimal place is greater than or equal to five, the second digit is rounded up, and if the digit to the right of the second decimal place is less than five, the second digit is unchanged.*

### Audit observation

Aggregation of the AV080 was reviewed for five small NSPs in **Section 12.3 Allocation of submission information**. As part of these checks, I verified that the data provided for submission was correctly rounded.

Hunet's new submission system was assessed to confirm compliance as part of the material change audit that has been carried out in parallel with this audit.

### Audit commentary

As detailed in **section 9.3**, submission information is being rounded to whole numbers when meter readings are provided to two decimal places. This is recorded as non-compliance below.

Hunet have corrected this in their new submission system.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 13.2 With: 9 Schedule 15.3  From: 01-Oct-17 To: 31-May-18	Submission is rounded to whole numbers.  Potential impact: Low  Actual impact: Low  Audit history: None  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are weak as Hunet were unaware of this requirement, but this was corrected immediately upon discovery.  The audit risk rating is low as the volume of ICPs traded by Hunet is small in relation to the market.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has updated submission information during the site audit to round up values to not more than two decimal places.		11/05/2018	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
We have confirmed that updated submission information is being correctly rounded to whole numbers.		22/05/2018	

### 13.3. Historical estimate reporting to RM (Clause 10 Schedule 15.3)

#### Code reference

Clause 10 Schedule 15.3

#### Code related audit information

*By 1600 hours on the 13th business day of each reconciliation period the reconciliation participant must report to the reconciliation manager the proportion of historical estimates per NSP contained within its non-half hour submission information.*

*The proportion of submission information per NSP that is comprised of historical estimates must (unless exceptional circumstances exist) be:*

- *at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))*
- *at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))*
- *100% for revised data provided at the month 14 revision (clause 10(3)(c)).*

#### Audit observation

The timeliness of submissions of historic estimate was reviewed in **Section 12.2** Creation of submission information.

I reviewed eight months of GR170 reports to confirm that historic estimate requirements were met.

#### Audit commentary

The quantity of historical estimates is contained in the submission file and is not a separate report. Historic estimate targets were not met for all revisions, as detailed in the tables below.

I checked five examples at ICP level where the proportion of HE was lower than the required threshold and found three issues, as follows:

- no readings for a long period
- readings present but not used by the database
- switches in or out where the estimate is not made permanent.

#### Quantity of NSPs where revision targets were met.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
September 2016	32	33	22	39
October 2016	37	37	27	42
March 2017	31	33	-	40
April 2017	27	33	-	40
May 2017	30	36	-	39
August 2017	37	-	-	41



Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
October 2017	40	-	-	42
December 2017	40	-	-	42

The table below shows that the percentage HE at a summary level is below the required targets. This is recorded as non-compliance.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
September 2016	95.6%	96.7%	98.8%
October 2016	95.0%	96.5%	99.0%
March 2017	92.8%	96.8%	-
April 2017	92.2%	97.3%	-
May 2017	93.8%	98.2%	-
August 2017	97.9%	-	-
October 2017	98.2%	-	-
December 2017	98.2%	-	-

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 13.3 With: 10 Schedule 15.3 From: 01-Oct-17 To: 31-Mar-18	Historic estimate thresholds were not met for some revisions. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Processes in place will mitigate risk most of the time hence controls are rated as moderate. The audit risk rating is low as the volume of FE overall is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet worked closely with John Candy to accurately obtain data, calculation formula and the output from the two in each scenario, and it has already proven that they are compliant with <i>Clause 10 Schedule 15.3</i> . The incorrect information submitted over the past 14month period will be addressed during the new revision process and the percentage HE at a summary level from the new submission files will be met with the required target.		11/05/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We consider that the controls in place are strong and are adequate to ensure that the compliance is met. Hunet will also continue to focus on optimizing our standard by identifying and monitoring our own performance and ways for improvement.		ongoing	

## CONCLUSION

This audit found 24 non-compliances, makes seven recommendations and raises one issue.

Hunet have made good progress to address the area of reconciliation during the audit period. They have created a new submission system due to staff changes as too much critical knowledge of how the existing system was structured was unknown. They have sought John Candy Consulting's guidance in this work. A material change audit has been completed in relation to this new system in parallel with this audit. I recommend that that audit be read in conjunction with this audit when determining Hunet's next audit date.

Although the number of non-compliances has increased from the last audit where not all areas were able to be assessed, in this audit compliance has been determined for all areas assessed. Therefore the overall the level of compliance has improved and Hunet are working hard to address the non-compliances found. I recommend that Hunet engage John Candy to peer review the first two months of submission files to confirm that the submission system works as expected once in production. With this confirmed, a longer audit period could be considered for Hunet.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The non-compliances found have a future risk rating score of 65, which gives an indicative audit frequency of three months. I have considered this result in conjunction with the Hunet's responses and my comments above and I recommend a further audit be carried out in eight months to confirm that compliance is maintained post the material change. This will still be within the revision period..

## PARTICIPANT RESPONSE

Hunet has worked very hard to implement data validation tools to our system in various fields, and minimise incidents involving human errors that could be eliminated. This was to better comply with the code that is essential for us to be considered for a longer period of participant reconciliation audit. We have also used our best endeavours to clear and correct our remaining issues that have not been recognized and resolved for a long time, and the invalid data in our systems that was noted in the last audit. We have gone our ways to remarkably enhance our internal controls over the way we operate.

Our new submission system and the new features we have applied to our system since our last audit have and will clear any of the non-compliant in a prompt manner for most of the areas identified above.

We will continue to seek and follow the compliance in order to improve on the remaining areas identified above in the audit to ensure that our operations meets the standard recognized by Electricity Authority.