

ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

HUNET LIMITED

Prepared by: Rebecca Elliot

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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.

Hunet have continued to grow their customer base since their last audit. This audit found 21 non-compliances and makes four recommendations.

Hunet have had some staff changes during the audit period. Compliance has improved in the areas of registry management and switching. However in relation to reconciliation it is evident that some critical knowledge has been lost, and as a result I was unable to determine compliance in four reconciliation areas. There has been an overall decline in compliance in this area since the last audit. I have listed the clauses I was unable to determine compliance for in a table below the recommendations made.

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 50, which gives an indicative audit frequency of six months. I have considered this result in conjunction with the areas of the audit where I have not been able to conclusively determine compliance and Hunet's responses including the development that is needed and agree with this recommendation.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Changes to registry information	3.3	10 Schedule 11.1	Registry information not updated within 5 business days of the event.	Moderate	Low	2	Identified
ANZSIC Codes	3.6	9 (1(k) of Schedule 11.1	4 invalid ANZSIC codes assigned.	Moderate	Low	2	Investigating
Switching	4.2	3 and 4 Schedule 11.3	Two incorrect AN codes sent.	Moderate	Low	2	Identified
	4.3	5 Schedule 11.3	CS file content incorrect	Moderate	Medium	4	Identified
	4.8	10(1) Schedule 11.3	No AN file sent for 205 move switches.	Moderate	Low	2	Identified
	4.9	10(2) Schedule 11.3	Two event dates set earlier than the gaining traders requested date.	Moderate	Low	2	Identified
	4.10	11 Schedule 11.3	CS file content incorrect.	Moderate	Low	2	Identified
	4.11	12 Schedule 11	One late RR file and one late AC file.	Moderate	Low	2	Identified
	4.15	17 Schedule 11.3	Six late switch withdrawals.	Strong	Low	1	Identified
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.	Moderate	Low	2	Investigating
NHH meter reading application	6.7	6 Schedule 15.2	One midnight read incorrectly applied for MI switch.	Strong	Low	1	Identified

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Five ICPS not read during period of supply.	Moderate	Low	2	Identified
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.	Weak	Low	3	Identified
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.	Weak	Low	3	Identified
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	Corrections for 2 ICPS with bridged meters not submitted.	Moderate	Low	2	Investigating
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	Event logs not monitored for 16 ICPS read by FCLM.	Moderate	Low	2	Identified
Calculation of ICP days	11.2	15.6	One ICP duplicated in the ICP day report.	Weak	Low	3	Investigating
Allocation of submission information	12.3	15.5	Submission not allocated correctly.	Weak	Medium	6	Investigating
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Some FE still exists at 14 months.	Moderate	Low	2	Investigating
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.	Weak	Low	3	Investigating

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Moderate	Low	2	Identified
Future Risk Rating						50	
Next indicative audit frequency						6 months	

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.	Identified
		Develop reporting to identify any MEP nominations that are not accepted.	Identified
ANZSIC Codes	3.6	Check validity of ANZSIC codes assigned.	Investigating
NHH metering information data validation	9.5	Refine AMI zero read process to better identify zero usage.	Investigating

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

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

Name	Position	Job Description
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

Auditor:

Rebecca Elliot

Veritek Limited

Electricity Authority Approved Auditor

Personnel assisting in this audit were:

Name	Title
Ria Na	Operations Manager

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 a NHH data collection agent. The audit report for Datacol is attached as an appendix. The audit was conducted in April 2017. This audit commenced in October 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 during the audit period breaches recorded since their last audit in April 2017.

1.7. ICP Data

Hunet provided a list file as at October 2017. The list file was examined by status:

Status	Number of ICPs (current audit date)	Number of ICPs March 2017	Number of ICPs August 2016
Active (2,0)	4,897	4,288	3,732
Inactive – new connection in progress (1,12)	0	1	83
Inactive – electrically disconnected vacant property (1,4)	12	26	40
Inactive – electrically disconnected remotely by AMI meter (1,7)	32	28	19
Inactive – electrically disconnected at pole fuse (1,8)	0	0	0
Inactive – electrically disconnected due to meter disconnected (1,9)	12	1	0
Inactive – electrically disconnected at meter box fuse (1,10)	0	0	0
Inactive – electrically disconnected at meter box switch (1,11)	2	0	0
Inactive – electrically disconnected ready for decommissioning (1,6)	1	0	1
Inactive – reconciled elsewhere (1,5)	0	0	0
Decommissioned (3)	16	14	9

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

Metering Category	October 2017	March 2017	August 2016
1	4,828	4,274	3,737
2	15	14	14
3	0	0	0
4	0	0	0
5	0	0	0
9	0	0	0
Blank	0	0	1

1.8. Authorisation Received

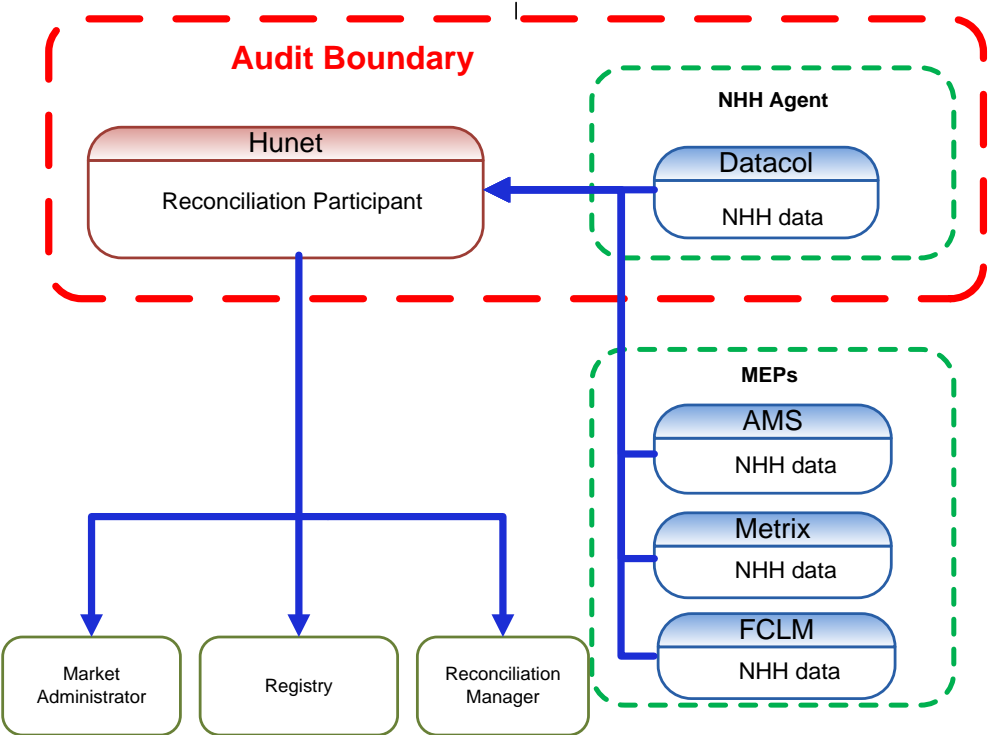
Hunet provided an email authorisation to collect information in relation to this audit.

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 was audited before the new code came into effect and therefore has been audited in accordance with the Guidelines for Reconciliation Participant Audits V6.2. Their audit report records compliance with the Code, and is attached as an appendix.

1.10. Summary of previous audit

Hunet provided a copy of the report from the audit conducted in April 2017 by Rebecca Elliot (lead auditor). The summary tables below show that most of the issues raised are yet to be resolved, or still exist. Further comment is made in the relevant sections of this report.

Table of Non-Compliance

Subject	Section	Clause	Non compliance	Status
Relevant information	2.1	10.6, 11.2, 15.2	No registry validation in place resulting in discrepancies not being identified and corrected at the earliest opportunity.	Cleared
Changes to registry	3.3	10 of Schedule 11.1	32 status updates were not processed within 5 business days of the event on the Registry.	Still existing

Subject	Section	Clause	Non compliance	Status
Trader responsibility for an ICP	3.4	11.18	ICP taken to ready for decommissioning status three days earlier than the final read date.	Cleared
Provision of information to the registry	3.5	9 of Schedule 11.1	Registry not updated within 5 days of commencement of trading for 27 ICPs.	Cleared
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	Inaccurate ANZSIC codes populated for ten ICPs.	Still existing
Management of "active" status	3.8	17 of Schedule 11.1	Recording of ICPs at the incorrect status.	Cleared
Management of "inactive" status	3.9	19 of Schedule 11.1	Recording of ICPs at the incorrect status.	Cleared
Losing trader response to transfer switches	4.2	3 of Schedule 11.3	Incorrect AN response code was provided for one ICP with AMI metering. AA was applied instead of AD.	Still existing
Losing trader to provide final information	4.3	5 of Schedule 11.3 and 15.2	Incorrect standard CS file content including: <ul style="list-style-type: none"> • Incorrect and inaccurate switch readings, due to not using actual reads where they are available • Incorrect read type. • Incorrect last read date. • Inaccurate average daily consumption. 	Still existing
Losing trader provides information- switch move	4.8	10 of Schedule 11.3	Incorrect AN response codes were provided for three ICPs. 1 late AN file sent. 1 AN file not sent. 1 late CS file sent late.	Still existing
Losing trader determines a different switch date	4.9	10(2) of Schedule 11.3	Two switch event dates set one day earlier than requesting traders date.	Still existing
Losing trader must provide final information- switch move	4.10	11 of Schedule 11.3 and 15.2	Incorrect standard CS file content including: <ul style="list-style-type: none"> • incorrect last read date • inaccurate average daily consumption. 	Still existing
Changes to switch meter reading- switch move	4.11	12(2A)&(2B) of Schedule 11.3	One read request incorrectly rejected.	Still existing
Withdrawal of switches	4.15	17 & 18 of Schedule 11.3	Three switches withdrawn more than 2 months after the event date.	Still existing

Subject	Section	Clause	Non compliance	Status
Derivation of meter readings	6.6	5(b)&(c) of schedule 15.2	Checks for phase failure not conducted and recorded.	Still existing
NHH meter reading application	6.7	6 of Schedule 15.2	The midnight read is not being correctly applied for transfer switches.	Cleared for transfer switches but 1 example found in relation to move switches
Interrogate meters once	6.8	7(1) and 7(2) of Schedule 15.2	No read process does not achieve best endeavours for any ICPs with Hunet for less than 12 months. Lack of accurate reporting. Three ICPs with no read gained during the period of supply and exceptional circumstances not met were identified.	Still existing
NHH meters interrogated annually	6.9	8(1) & (2) of schedule 15.2	No access ICPs process and ICPs with a meter change sites will not meet the exceptional circumstance requirement within the 12 month period. Incorrect monthly meter reading report being provided to the Electricity Authority.	Still existing
NHH meters 90% read rate	6.10	9(1) & (2) of schedule 15.2	No access ICPs process and ICPs with a meter change sites will not meet the exceptional circumstance requirement within the 12 month period.	Still existing
Correction of NHH meter readings	8.1	19 (1) of schedule 15.2	Consumption on active vacant prior to September 2016 has not being submitted in all instances, therefore corrections are not being applied correctly in all instances.	Still existing
NHH metering information data validation	9.5	16 of schedule 15.2	Meter mismatches are not being identified during validation. No check for zero consumption on AMI metered sites.	Cleared
Electronic meter readings & estimated reads	9.6	17 of schedule 15.2	AMI event information not adequately obtained and monitored.	Still existing
Electricity supplied information	11.3	15.7 of schedule 15	Consumption on active vacant not being submitted prior to September 2016.	Cleared
Allocation of submission information	12.3	15.5	Consumption on active vacant ICPs is not being included in submission for period prior to September 2016.	Still existing
Accuracy of submission information	12.7	15.12	Corrections for consumption on active vacant ICPs is not being included in submission for sites prior to September 2016.	Cleared

Subject	Section	Clause	Non compliance	Status
Permanence of meter readings	12.8	4 of schedule 15.2	Some FE still exists at 14 months.	Still existing
Historical estimate process	12.11	4 & 5 of schedule 15.3	HE scenario not working correctly for Scenario A- ICP becomes Inactive part way through a month.	Still existing
Historical estimate reporting	13.4	10 of schedule 15.3	Some FE still exists at 14 months.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
Relevant information	2.1	10.6, 11.2, 15.2	Registry validation reporting be put in place ASAP.	Cleared
Maintaining shared unmetered load	5.1	11.14	Include a check for any shared unmetered load be included in the Registry validation reporting.	Cleared
NHH meters interrogated annually	6.9	8(1) & (2) of schedule 15.2	Hunet to work with Datacol to ensure that the file interchange is functioning as expected.	Cleared

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. Hunet have put an ICP Management report in place that identifies that specifically checks for status mismatches between the registry and their system. This report is run twice monthly and any discrepancies investigated.

The analysis of the list file returned the following findings:

Item No.	Issue	October 2017	March 2017	Comments
1	ICP not managed in Hunet's system	0	1	None found
2	Status mismatch between registry and Hunet	0	1	None found
3	Active with no MEP	-	-	
4	Incorrect submission flag	-	-	
5	Blank ANZSIC codes	-	-	None found
6	ANZSIC "T9.." coded	7	10	All corrected as part of BAU - see Section 3.6
7	Category 9 but Active with MEP and UML "N"	-	-	All ICPs with category 9 meters have an inactive status.

Item No.	Issue	October 2017	March 2017	Comments
8	ICPs with Distributor unmetered load populated but retail unmetered load is blank	-	-	
9	ICPs with unmetered load flag Y but load is recorded as zero	-	-	
10	ICPs with incorrect shared unmetered load	-	-	
11	ICPs with Distributed Generation indicated but no DG profile	0	1	None found

The management of the registry information has improved greatly over the audit period.

As recorded in Section 12.2, due to staff changes I was unable to determine Hunet's capability to ensure revisions occur against the aggregation factors in place at the time of the initial submission. The check of the files found no errors, but the processes to determine this could not be examined, therefore I am unable to determine compliance conclusively.

Audit outcome

Unable to determine

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. FCLM has started providing AMI data on a daily basis since 31/8/17. These reads are imported into a separate database.

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
- MRSL
- 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
- **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 1/4/17 to 30/9/17 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 network. The new connection process is manual with all requests for new connections made directly to Vector via their service portal. Once the ICP is created they take the ICP to the “new connection in progress” status in the registry and nominate the MEP. 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**. Five new connections have been completed during the audit period. All had an MEP who accepted responsibility prior to electrical connection. Whilst the process is manual, due to the small volume handled, the process works.

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 1/4/17 to 30/9/17 were analysed to confirm process compliance and controls are functioning as expected.

Audit commentary

Hunet's new connections process ensures that all ICPs are claimed and take 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

All five new connections had a certified metering installed and all were certified within five days of livening. Compliance is confirmed.

Reconnected ICPs

Hunet are not specifically checking meter certification when reconnecting ICPs, but will add this check into their process. I checked all ICPs reconnected during the audit period and all had current certification.

Audit outcome

Compliant

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 confirmed there is an arrangement in place.

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 four 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** 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 1/4/17- 30/9/17 to determine the overall performance for that period. I used the extreme case methodology to sample ten ICPs that were updated greater than 30 days from the event date for each of the status type updates.

The process to manage MEP changes was examined. The event detail analysis identified 24 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	Aug 2016	40	31	9	15.25	78%
	Mar 2017	78	69	9	20.85	89%
	Oct 2017	106	89	17	6.2	84%
Change to electrically disconnected other than reason 12 & 6	Aug 2016	79	53	26	87.9	49%
	Mar 2017	141	119	18	48.8	84%
	Oct 2017	147	122	25	24.9	83%

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	Aug 2016	1	0	1	48	0%
	Mar 2017	1	0	1	6	0%
	Oct 2017	2	1	1	10	50%
New connection in progress status updates	Oct 2017	1	0	1	37	100%
Changes of MEP	Oct 2017	24	20	4	7	83%

As noted in **Section 2.1**, Hunet have an ICP Management report in place that identifies that specifically checks for status mismatches between the registry and their system. This report is run twice monthly and any discrepancies investigated.

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 but the average time to notify the registry has greatly reduced. The inbox issue has been resolved and this has reduced the average notification time reducing from 20.85 to 6.2 days. I note that there is no reporting in place to track service requests issued that have not been returned. I recommend that this is put in place and this will further improve the timeliness of updates to the registry.

Description	Recommendation	Audited party comment	Remedial action
Changes to registry information	Tracking of service requests issued be put in place to manage all service requests that do not get returned.	<p>We had followed up meter disconnection and reconnection orders via email and we updated ICP status whenever we receive a response file via email from MEP. It caused us to miss an update when a response file goes to a wrong email box.</p> <p>In order to prevent this matter, we have created a management system to record all the jobs we submit and follow up daily whether the job is completed or turned down. This will allow us to chase up all the cases within 5 days without missing any.</p>	Identified

The sample checked of reconnected ICPs that were backdated greater than five days found:

- seven related to completed service requests that weren't being sent to the correct inbox and therefore these were not being closed out
- the remaining three ICPs were due to corrections to the active date - these were due to human error.

Inactive - "Vacant" or similar

These tasks are processed in the same way as reconnected ICPs. As with reconnections, there is no reporting in place to track service requests issued that have not been returned and the above recommendation applies to disconnection requests as well.

Since the last audit, Hunet have undertaken a data cleaning exercise to investigate all the long term unread sites. They have requested the MEP to make a site visit to these sites to determine the correct status and then updated their system and the registry as a result of this. This included the 18 ICPs identified in the last that were thought to be at the incorrect status in the registry. I rechecked six ICPs of these and found that these were ICPs were disconnected or decommissioned and were therefore at the correct status.

The sample checked using the extreme case methodology found nine were as a result of this activity and one ICP was another of the 18 ICPs identified in the last audit.

The registry management team have a good understanding of the correct application of the disconnected statuses. This is discussed further in **Section 3.9**.

Inactive – “New Connection in Progress”

Hunet’s new connection process is manual. ICPs are claimed using the inactive status of (1,12) “New connection in progress” in the first instance. As this action occurs before electrical connection, non-compliance can only occur if this status update occurs greater than five business days after electrical connection (i.e. a backdated new connection). All ICPs connected during the audit period were set to this status prior to being electrically connected, therefore even though the status of one ICP was backdated 37 days this was prior to electricity being traded and is compliant.

Inactive - “Ready for Decommissioning”

Hunet trade only on the Vector network. 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. The one late update to the registry was examined. ICP 0000222368UN254 was backdated to this status on 15/8/17 for the 18/7/17 (20 business days). This was one of the 18 ICPs identified at “inactive - vacant” in the last audit. Vector confirmed that the site was decommissioned and Hunet updated the ICP upon receipt of this advice.

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.

The four late nominations were examined and found:

- Three related to the incorrect MEP being nominated (Metrix) and the nomination was auto accepted. Then the existing MEP (FCLM) made a meter change, but was unable to load the new meters so Hunet backdated the nomination to the correct MEP so that the metering could be loaded to the registry for the correct date.
- ICP 1001104871LC5FD had the incorrect MEP (Metrix) nominated and no acceptance was received. The correct MEP (NGCM) installed metering on site but were unable to load the metering to the registry due to this. Hunet backdated the correct MEP nomination to allow the MEP to load metering for the correct date.

MEP’s are not required to send rejection files but they are required to send acceptance files within ten business days of nomination. I recommend Hunet put reporting in place to identify any MEP nominations that are not accepted within the required timeframe to manage these.

Description	Recommendation	Audited party comment	Remedial action
Changes to registry	Develop reporting to identify any MEP nominations that are not accepted.	<p>The meter replacement for the four ICPs were not offered by Hunet. As mentioned above, we use Metrix as the first option for metering services. With regards to the three ICPs nominated to FCLM, we received a compliance offer for some ICPs from FCLM and we were advised to provide site contact information. I believe that the previous person in charge didn't know about the job and provided the site contact information only. The same offer was received by me in Sep and I confirmed that the requested ICPs are nominated as FCLM before sending the site information. We no longer have this issue.</p> <p>For the ICP 1001104871LC5FD, I strongly believe that the meter replacement was offered by the previous retailer. There is no reason for us to nominate MEP from Metrix to AMS for the meter replacement.</p>	Identified

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.3 With: 10 Schedule 11.1 From: 08-Jan-14 To: 30-Sep-17	Registry information not updated within 5 business days of the event. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are much improved in this area, but some room for improvement has been identified. Hunet have made good progress in better managing ICP changes to the registry therefore the impact to reconciliation has been reduced to low.		
Actions taken to resolve the issue		Completion date	Remedial action status
In order to prevent this matter, we have created a management system to record all the jobs we submit and follow up daily whether the job is completed or turned down. This will allow us to chase up all the cases within 5 days without missing any. Non-compliance cases were recorded during the period, prior to when the new process was put in place.		01.11.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve, by updating returned metering paperworks in timely and accurate manner.		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)):*

- *arrange for a final interrogation to take place prior to or upon meter removal (clause 11.18(3)(a)); and*
- *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. Two ICPs were decommissioned during the audit period, and these 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 September 2017, 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.

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. Both ICPs decommissioned during the audit period were examined and an attempt had been made to gain a read for one ICP, but found that this wasn't possible for ICP 0000631619UNDF7 as Hunet were advised after the fact by Vector that the site had been decommissioned.

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.

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. Four new connections have been completed during the audit period.

Audit commentary

As detailed in **Sections 2.9** and **3.5**, 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 all new connections were 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	2016	3	0	3	23.6	0%
	March 2017	82	55	27	6.1	67%
	Oct 2017	5	5	0	3.5	100%

Audit outcome

Compliant

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 20 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. Analysis of the list file found:

- all ICPs had an ANZSIC code assigned
- seven ICPs had “T9” codes assigned - these were checked and found that all had been updated to a valid code as part of the BAU process prior to the site audit.

The random sample of 20 ICPs were checked. This included five ICPs with the residential code applied. 16 codes assigned were correct, but four ICPs were found to be incorrect e.g. one was recorded as “performing arts” but was a dumpling shop. I recommend ANZSIC code validation for commercial sites is added to ensure valid codes are used by all operators.

Description	Recommendation	Audited party comment	Remedial action
ANZSIC codes	Check validity of ANZSIC codes assigned.	We didn't validate ANZSIC codes properly.	Investigating

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.6 With: 9 (1(k) of Schedule 11.1 From: 01-Apr-17 To: 30-Sep-17	4 invalid 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	Reporting is in place to identify discrepancies but there is room for improvement. 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
Our call centre and sales agents obtain business classification from either customer or the website www.companiesoffice.govt.nz as part of a customer registration process. Our system is configured to prevent entry of any unknown ANZSIC code and entry of '000000' for business plans.		06.11.2017	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve, and to ensure business classification is matching with the business name.		ongoing	

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.

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 & 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 is 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. All new connections were checked, and the correct active date was used for all five ICPs. The ICP recorded in the last audit as being a new connection in progress but which Hunet had no record of in their database has been investigated and has been corrected to “Decommissioned - set up in error”.

A service request is issued for all reconnections to the relevant party. The status is updated once the service request is returned confirming completion. The Registry is updated manually. Registry discrepancy reporting is in place to ensure that statuses are aligned.

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. The timeliness of these updates to registry are discussed in **Section 3.3**.

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. Hunet’s database and the registry are updated manually.

The “Power empty house management” database that was being used to track this activity has been replaced. These ICPs are managed using WIP spreadsheets. Registry validation reporting is in place to ensure statuses are aligned between the registry and Hunet’s system. The sample checked of the “inactive” statuses confirmed the statuses aligned between the registry and Hunet’s database.

As noted in **Section 3.3**, the last audit identified 18 ICPs that were thought to be at the incorrect status in the registry. I rechecked six of these ICPs and found that they were disconnected or decommissioned and were therefore at the correct status.

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. All new connections are taken to the "inactive - new connection in progress" status so it is unlikely that there are any ICPs at the "Ready" status. Hunet have not received any such requests from Vector.

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. The withdrawal process is used if the customer changes their mind. 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 1/4/17 to 30/9/17.

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

Audit commentary

The AN code is manually selected by the operator, but this is to be automated from the middle of October and the AN code is determined by a hierarchy. The logic was reviewed, and it appears it will correctly determine the AN code. The sample checked from the current manual process found two ICPs that were coded as "OC" but the more accurate code to send would have been "AD". This is recorded as non-compliance below.

The switch breach history report for the audit period was reviewed, and showed no late AN files.

There have been 379 transfer switches out during the audit period; all occurred within ten business days and 384 (99%) occurred within five business days.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.2 With: 3 and 4 Schedule 11.3 From: 01-Apr-17 To: 30-Sep-17	Two incorrect AN codes sent. Potential impact: None Actual impact: None Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The sample checked found that codes are being applied correctly were due to human error , hence the control rating of moderate. 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 enhanced some validation features on our internal switching panel, and our system now determines an AN code based on the information in our system. Non-compliance cases were recorded during the period, prior to when the new process was put in place.		16.10.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve		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 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).

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 14 late CS files recorded. A sample of eight ICPs were checked using the diverse characteristic sampling methodology.

Audit commentary

The accuracy of the content of CS files was checked and found that all five files had errors:

- As recorded in the previous audit reports, the average daily consumption field is populated with the same figure as the original CS switch figure from the previous trader. A fix for is to be deployed from 16/10/17. This calculates the average daily consumption between actual reads. I checked the accuracy of this and confirmed it to be correct for all sites with one meter or register but any sites with multiple meters or registers the average daily consumption will be only be that of the last meter or register and therefore will not be accurate. Hunet are working to fix this.
- I found two examples where the last actual read date is defaulting to the last billed date. These were manually read sites. All customers are billed on a calendar month basis and the last billed date was incorrectly used.
- Subsequent reads were available for both of the above ICPs but they were not used for the CS files, instead the earlier billed read was used.

The issue of AMI reads being incorrectly sent as estimates rather than actuals and the incorrect midnight reads being sent was not evident in transfer switches. Hunet have checks in their system that will stop the switch from progressing should the incorrect read be selected, and additional staff training has been undertaken since the last audit to ensure these requirements are well understood and met.

The 14 late CS files were all coded "E2". The sample of eight were selected across the range of "days late" and found five valid breaches. Hunet are using the daily switch breach report from the registry and this incorrectly indicates that traders have ten business days to send the CS file, hence they have sent some CS files late. Hunet now understands the requirement and will develop their own reporting to manage this. 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-Apr-17 To: 30-Sep-17	CS file content incorrect. Some late CS files. Potential impact: Medium Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 4		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls have been improved during the audit period, but not all errors are being addressed. The incorrect read values being sent has a direct impact on reconciliation hence the audit risk rating of medium.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has enhanced some validation features on our internal switching panel, and some details had been missed. 1. Last actual read on CS files 2. Average daily consumption for multiple meters and duplicated reads within a day 3. Late CS files 1 and 2 are currently in the process of developing and the project end date is 15.12.2017. For the late CS files, internal process changes were made to monitor 'Switch Breach Table' daily in Registry, until we develop our own switch breach report system.		15.12.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet has used the daily switch breach report from the registry and this incorrectly indicates that traders have ten business days to send the CS file, which we have followed. Therefore, this resulted in us sending some CS files which were deemed late. We are planning to develop our own switch breach report system and we may request for material change audit regarding this matter.		30.09.2018	

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.

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

All read change rejections, and 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. Photo reads were thought to be acceptable as a validated read. Hunet now understand this is not the case and have now ceased using or accepting these as validated reads. The sample checked found all read requests were derived from two actual reads.

No late read change requests or acknowledgements were identified for transfer switches. There were no read rejections in relation to transfer switches for the audit period.

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 AMI 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. A sample of five ICPs for each of the following scenarios were selected using the typical sample methodology from the event detail report.

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

The sample covered both transfer and gaining trader read requests, and a variety of other participants.

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. No data accuracy issues were identified for transfer read change requests or acknowledgements. There were no read rejections in relation to transfer switches for the audit period.

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

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 unmetred 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. The withdrawal process is used if the customer changes their mind. 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*
 - o *a valid switch response code; and*
 - o *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—
 - o *is not earlier than the gaining trader’s proposed event date, and*
 - o *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 showed two 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 53 late CS files recorded. A sample of 12 ICPs were checked using the diverse characteristic sampling methodology.

Audit commentary

As noted in **Section 4.2**, that the AN code is manually selected by the operator, but this is to be automated from the middle of October and the AN code is determined by a hierarchy. The logic was reviewed, and it appears it will correctly determine the AN code. The sample of AN codes checked found that all codes were correctly applied.

The switch breach report recorded two AN breaches. In both cases an AN file wasn’t sent for move switch. This is required under the current code. Further analysis found 205 ICPs where no AN file was sent. A CS file was sent after the receipt of the NT file. Prior to October 2015, the AN file was optional but this was made mandatory for move switches post October 2015. Hunet now have a good understanding of this requirement. This is recorded as non-compliance below.

The two late “CS” files were examined and found these were withdrawn switches and a CS file was never sent therefore these are compliant. The remaining 51 late CS files were all coded “E2”. The sample of 10 were selected across the range of “days late” and found one valid breach. As noted in **Section 4.3**, Hunet are using the daily switch breach report from the registry and this incorrectly indicates that traders have ten business days to send the CS file, hence they have sent some CS files late. Hunet now understands the requirement and will develop their reporting to manage this. This is recorded as non-compliance below. I note that 10 of the ICPs recorded had zero late days recorded. This is the first time I have seen this occur in the switch breach report for any participant. These are not late and therefore should not be recorded on the report.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.8 With: 10(1) Schedule 11.3 From: 01-Apr-17 To: 30-Sep-17	No AN file sent for 205 move switches. Some late CS files. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls have been improved during the audit period, but further areas of improvement have been identified. The absence of AN files and the small number of CS files will have a minor effect on submission.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet hadn't been aware of the mandatory AN files for move switches. Internal process changes have been made to ensure AN files are sent all the times. We are currently in the process of adding a feature that won't allow any CS out without AN, and the project end date is 15.12.2017		15.12.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve.		ongoing	

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

Review of the event detail report found two ICPs where the switch event date was earlier than the gaining trader’s request date. These were all checked on the registry and confirmed the event date was set earlier incorrectly due to human error. This function is to be automated and Hunet’s system will not allow an event date to be set earlier than the gaining traders request date, and no later than ten days from the NT date. The “new” function was viewed and confirmed to perform as expected.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.9 With: 10(2) Schedule 11.3 From: 01-Apr-17 To: 03-Apr-17	Two event dates set earlier than the gaining traders requested date. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls for the audit period were manual hence the rating of moderate. Only two ICPs were found with an earlier event date therefore audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has enhanced some validation features on our internal switching panel on our system, which doesn’t allow us to put an earlier date than the gaining traders requested date. Non-compliance cases were recorded during the period, prior to when the new process was put in place.		16.10.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve.		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 found that all five files had errors:

- As recorded in the previous audit reports, the average daily consumption field is populated with the same figure as the original CS switch figure from the previous trader. A fix for is to be deployed from 16/10/17. This calculates the average daily consumption between actual reads. I checked the accuracy of this and confirmed it to be correct for all sites with one meter or register but any sites with multiple meters or registers the average daily consumption will be only be that of the last meter or register and therefore will not be accurate. Hunet are working to fix this. This is recorded as non-compliance below.
- I found two examples where the last actual read date is defaulting to the last billed date. These were manually read sites. All customers are billed on a calendar month basis and the last billed date was incorrectly used. The estimated reads sent were correct. This is recorded as non-compliance below.
- ICP 0000110303UNDA8 was sent with the incorrect AMI read. The site switched on 21/7/17 but the midnight read for midnight 21/7/17 was sent instead of 20/7/17. This is now checked for as part of the validation checks and the switch will not progress if incorrect read date is detected and is therefore not expected to occur in the future. This is recorded as non-compliance in **Section 6.7**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: 11 Schedule 11.3 From: 01-Apr-17 To: 30-Sep-17	CS file content incorrect. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating:		
Audit risk rating	Rationale for audit risk rating		
Low	The controls have been improved during the audit period, but not all errors are being addressed. The errors detected will have a minimal effect on reconciliation hence the audit risk rating of low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has enhanced some validation features on our internal switching panel, and some details had been missed. 1. Last actual read on CS files 2. Average daily consumption for multiple meters and duplicated reads within a day 3. Late CS files 1 and 2 are currently in the process of developing and the project end date is 15.12.2017. For the late CS files, internal process changes were made to monitor 'Switch Breach Table' daily in Registry, until we develop our own switch breach report system.		15.12.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve.		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 combined sample of ten read change requests from the event detail report was selected using the diverse sample methodology. The sample included both transfer and gaining trader read requests, files exchanged with different traders, and a mix of acceptances and rejections.

All read change rejections, and 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. One late read change request and one late acknowledgements were 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. Photo reads were thought to be acceptable as a validated read. Hunet now understand this is not the case and have now ceased using or accepting these as validated reads. The sample checked found all read requests were derived from two actual reads.

The one late RR was sent due to site access issues. The one late AC file was due to human error. Neither were due to systemic issues.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.11 With: 12 Schedule 11 From: 15-Dec-16 To: 15-Sep-17	One late RR file and one late AC file. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The control rating is moderate as the process is manual. The audit risk rating is low as this relates to two ICPs only.		
Actions taken to resolve the issue		Completion date	Remedial action status
1.Late RR file : We have had a new process where we request smart meter installation as soon as we gain legacy meters. This allow us to gain at least two actual reads within 4 month time from the gaining date. We will no longer have to send late RRs. 2.Late AC file : internal process changes have been made to monitor 'Switch Breach Table' daily in Registry until we develop our own switch breach report system to report when SLA is due.		Partially completed	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Late AC file : We are planning to develop our own switch breach report system and we may request for material change audit regarding this matter.		30.09.2018	

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 is not correctly identifying late withdrawal requests. The one ICP listed was not a withdrawn switch. Therefore, I examined the event detail report to confirm timeliness of the switch withdrawal requests. This identified six (6%) of the 103 withdrawals sent were backdated greater than two months from the event date. These were examined.

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.

Examination of the six late switch withdrawal requests found that all were delayed due to the time taken to resolve the issue.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.15 With: 17 Schedule 11.3 From: 03-Feb-16 To: 10-Aug-17	Six late switch withdrawals. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	I have rated the controls as strong as the process to manage switch withdrawals is well understood, and those backdated were actioned as soon as possible The audit risk rating as low as this affected six ICPs only and they were actioned as soon as practicable.		
Actions taken to resolve the issue		Completion date	Remedial action status
We had had some data cleansing work internally to prepare for this audit and the six late switch withdrawals were made to correct the previous problems. I can strongly say Hunet now have good controls in place to update Registry information in timely and accurate manner, and will no longer have this issue.		Already completed	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will see if there are any other improvements we can make, whether it may be staff training or frequent reports to avoid any breaches.		ongoing	

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 became a switch protected retailer from 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

Hunet has become a switch save protected trader during the audit period. 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 Changes to unmetered load**, this is checked before the customers application is accepted. This is now also 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 does not intend to supply any ICPs with distributed generation installed. This is checked for at the time the ICP is gained.

Examination of the list file found two ICPs with distributed generation capacity recorded by the Distributor that have been with Hunet at some time during the audit period. These were checked and found that the Distributed generation metering (with injection) was not installed until after the ICP had switched away from Hunet.

ICP 0000609129UN921, which was referenced in the last two audits, has switched away during the audit period and the Distributor has removed the distributed generation details.

Audit outcome

Compliant

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 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 eight possible of defective meters were provided. Four were notified by the MEP to Hunet via the meter event process for action. These are discussed in **Section 9.6**. The remaining four 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

All information used to determine volume information 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 also provide this information to Hunet as Meter Equipment Providers and this function has been examined as part of their respective MEP audits. Note that FCLM commenced providing AMI data from 31/8/17. Prior to this these sites were being read manually.

The samples checked for Datacol, AMS, Metrix and FCLM confirmed the data in Hunet's database matched the data in the files.

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 20 meter reads 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.

Hunet have reviewed this process during the audit period and found that the file exchange with Datacol wasn't working in all instances. The file exchange issue has been resolved since August 2017 and Datacol now 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 August 120 ICPs have had smart meter installed and a further 136 ICPs are waiting to have a smart meter to be installed. I checked a sample of five ICPs with no read codes and confirmed that these were actioned. Non-compliance is recorded for the period prior to the new process being put in place (1/4/17-31/7/17).

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. Datacol are working with the retailers to resolve this. 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: 1/4/17-30/9/17	Meter condition notifications not being actioned. 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, and since August meter condition reports are being actioned, but Datacol do not report phase failure to Hunet. The audit risk rating as is low as only 3% of Hunet's ICPs are manually read.		
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.		31.01.2017	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
We will work with Datacol to resolve this issue.		31.03.2018	

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. The sample checked found AMI midnight readings were correctly time-stamped for the TR switches, but not for one of the MI switches checked. As discussed in **Section 4.10**, ICP 0000110303UNDA8 had the incorrect midnight read sent for the event date rather than the midnight read for the day before the event. This is now checked for as part of the validation checks and the switch will not progress if this is detected, and is therefore not expected to occur in the future.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.7 With: 6 Schedule 15.2 From: 01-Apr-17 To: 16-Oct-17	One midnight read incorrectly applied for MI switch. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Hunet now have robust validation in place to identify these and the switch will not complete until it is corrected, therefore controls are strong. The audit risk rating is low as this affects one day's consumption and the issue has since been addressed.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet has enhanced some validation features on our internal switching panel on our system which validate and ensure that the final reading is up to date. Non-compliance cases were recorded during the period, prior to when the new process was put in place.		16.10.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve.		ongoing	

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

As discussed in **Section 6.6**, Hunet have reviewed this process during the audit period and found that the file exchange with Datacol wasn't working in all instances. This issue was resolved 31/8/17. The no read files are checked daily as they are received from Datacol and are worked through on a priority basis based on the condition code:

- meter register issues, including a different meter being present, or meter being removed are investigated with the MEP to resolve
- for seals with signs of tampering and/or damage a service request is raised and issued to the MEP to investigate
- for no access issues the customer is contacted by phone, letter or text to arrange for an AMI meter to be installed, or if this is refused arrange access to read the meter; if this is refused the customer is requested to switch away.

The above process will meet the best endeavours requirements for those sites that are with Hunet for more than two months but not those that have a short period of supply.

The seven ICPs not read during the period of supply were checked and found:

- three were due to the short period of supply where the no read process couldn't be completed
- two were not read due to the break down in the file exchange with Datacol which delayed these getting onto a meter reading round and then the no reads notifications were not actioned, therefore exceptional circumstances couldn't be proven
- exceptional circumstances could be proven for ICP 0002622180WF86F.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.8 With: 7(1) and (2) Schedule 15.2 From: 09-Jul-15 To: 20-Sep-17	Five ICPS 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		
Low	Controls have been improved in this area since the last audit, hence the control rating of medium. The number of ICPs not read is low therefore the impact on reconciliation is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet is now working hard to obtain the actual reading by installing smart meters. Our new process involves convincing our customers to accept smart meter installation during the registration process, if the meter is legacy. We will reject their application if they refuse to have it installed. We have had few cases already where they had smart meters installed within a week after joining us.		31.08.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve, one of which is to replace legacy meter to smart meter.		ongoing	

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 April to September 2017 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 meets the requirements of this clause. As noted in **Section 6.8**, the issue identified in the last audit of no read files from Datacol not being actioned has been resolved.

The issue of meter changes not being actioned was not evident in this audit.

The monthly meter reading reports provided were reviewed.

Month	Not Read @ 12 months	Total ICPs
April	40	2,439
May	40	2,590
June	43	2,678
July	38	2,748
August	39	2,798
September	34	2,806

The report for September 2017 had 34 ICPs recorded as not read in the previous 12 month period. The ICP level breakdown contained the same number of ICPs. A sample of 15 ICPs were checked and found:

- Seven ICPs have been decommissioned and shouldn't be included in this report. This issue was identified in the last audit and needs further investigation to ensure the correct information is reported. This is recorded as non-compliance below.
- Three ICPs met the exceptional circumstances requirement.
- Five ICPs have not met the exceptional circumstances requirement. As recorded in the last audit. this was due to the vacant property process not actioned frequently enough to meet the requirements of this clause. This has been revisited and since August the process is:
 - after seven days of a customer finalising a letter is sent to the property requesting the new occupant to sign up with Hunet
 - a further letter is sent one week later
 - if no one signs up within seven days a service request to disconnect the property is issued.

I reviewed proof of meter reading reports for April 2017 to September 2017 being sent to the Authority. Proof of the April and May reports were unable to be provided as these were sent by a previous employee and are no longer available. Proof was supplied for the remaining files.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.9 With: 8(1) and (2) Schedule 15.2 From: 01-Apr-17 To: 30-Sep-17	<p>Exceptional circumstances not proven for all ICPs sampled.</p> <p>Incorrect monthly meter reading report being provided to the Electricity Authority.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The continuing inaccurate information being reported indicates controls are weak.</p> <p>Overall the volume of unread ICPs reported is small and the report was over reporting the number of ICPs.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
To make improvement on cases where meter reading is absent due to no meter access, we have a new process in place, where we obtain building manager's contact details during the registration process for gaining access into property.		01.10.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue its focus on identifying and monitoring unread ICPs through various read reports.		ongoing	

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 April to September 2017 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
April 2017	43	9	75	97.92%
May 2017	42	9	76	97.95%
June 2017	41	8	76	97.98%
July 2017	41	9	72	98.11%
August 2017	40	8	71	98.19%
September 2017	40	5	73	98.17%

The September file is detailed below:

NSP	Not Read ICPs	Total ICPs	Read Percentage
AKL0331	2	10	80%
DMW0011	1	1	0%
WDT0011	1	1	0%
WFL0011	1	4	75%
WWC0011	1	3	67%

The table above indicates five NSPs that did not meet the required threshold.

I checked a sample of ten ICPs that were not read within four months across the months and found the same issue as identified in **Section 6.9**:

- Four ICPs have been decommissioned and should not be included in this reporting.
- Two ICPs met the exceptional circumstances requirement
- Four ICPs have not met the exceptional circumstances requirement. This is recorded as non-compliance below. As discussed in **Section 6.9**, this was due to the lack of a vacancy process being in place, but the process was changed in August 2017.

I reviewed proof of meter reading reports for April 2017 to September 2017 being sent to the Authority. Proof of the April and May reports were unable to be provided as these were sent by a previous employee and are no longer available. Proof was supplied for the remaining files.

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	Exceptional circumstances not proven for all ICPs sampled. 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 and the report was over reporting the number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have had a new process that we obtain building manager’s contact details at the customer registration stage for gaining access to the meters to improve meter access under two-four months of no meter access.		01.10.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will see if there are any other improvements we can make, whether it may be staff training or frequent reports to meet the requirements and the standard.		ongoing	

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 $\pm 0.1\%$ (± 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.

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.

Audit commentary

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 3.9**, the “Power empty house management” database that was being used to track this activity has been replaced and these ICPs are managed using WIP spreadsheets and the management of status has been addressed. In addition to this registry validation is now in place to check status alignment. I checked five ICPs with active vacant consumption present. Consumption has been submitted for four of these ICPs, but the volumes have not been allocated correctly. The volumes for the defective periods were not allocated across the months affected but the difference was allocated in the last billed month. For the remaining ICP the volume is in the process of being submitted. The incorrect allocation is recorded as non-compliance in **Section 12.11**.

I reviewed seven examples of stopped or defective meters. Five were defective meters and the meters were changed and the volumes for the defective period have been calculated and submitted but these have not been allocated correctly across the defective period in four instances. This is recorded as non-compliance in **Section 12.11**. Two ICPs had bridged meters. These were unbridged but as the meters weren't replaced they have not had consumption volume calculated for the stopped period. This is because Hunet's system is not able to manage where a stopped meter restarts e.g. account for the estimated consumption during this period as the volume needs to be managed by inserting an estimated read but this will not align with the actual reads being gained. This is recorded as non-compliance.

Two ICPs with possible consumption while disconnected were reviewed. Neither 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**.

All ICPs with multipliers were checked and all have been calculated correctly.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.1 With: 19(1) Schedule 15.2 From: 01-Apr-17 To: 30-Sep-17	<p>Corrections for 2 ICPs with bridged meters not submitted.</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		
Low	<p>Improvements have been made in the management of vacant properties with the exception of bridged meters hence the control rating of moderate.</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
The bridged meters reviewed were consistently identified and unbridged, but reading corrections were not processed. Hunet have now identified the requirements and we are currently in the process of planning a new system regarding this matter.		28.02.2017	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will adopt a new process that will adjust consumption on the unread periods for the bridged meters. These will be accurately calculated and reported onto the Submission and the Revision files. We will request for material change audit regarding this matter.		30.09.2018	

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

Review of submission data confirmed that it is based on readings as required by this clause.

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 the MEPs providing data are not rounded or truncated.

Audit outcome

Compliant

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.

The issue identified in the last audit of no checks for zero consumption for AMI read sites has been resolved and checks for zero consumption are in place for all ICPs. This currently identifies zero consumption from read to read. This is useful for those sites manually read but for those with AMI meters these reads are daily and therefore a zero read may be valid and not need to be checked. I recommend Hunet refine their reporting to better identify potential revenue risk for AMI ICPs.

Description	Recommendation	Audited party comment	Remedial action
NHH metering information data validation	Refine AMI zero read process to better identify zero usage.	Hunet have identified the recommendations, and will apply additional features on the current management system in order to product	Investigating

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. Two examples were provided but neither 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 the submission was not correctly allocated across the period. This is recorded as non-compliance in **Section 12.11**.

The matter of “bypassed” or bridged metering was evaluated during the audit. Two examples were checked. Consumption volume has not been calculated or submitted for the stopped period for these ICPs. This is because Hunet’s system is not able to manage where a stopped meter restarts. This is recorded as non-compliance in **section 8.1**.

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 0 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, AMS send Hunet notifications via email of meters that require a service request to be raised to investigate. No such requests have been received from AMS during the audit period. I sighted four such requests received from Metrix and all were actioned. FCLM have been providing AMI reads for 16 ICPs since 31/8/17, these sites were being read manually up until this point. They provide these notifications via their SFTP server. Hunet were not aware of these being notified in this manner but they are checking the SFTP server daily and have not received any additional files other than read files to date. FCLM read a total of 16 ICPs for Hunet. This is recorded as non-compliance below.

Meter condition reports are received twice monthly from Metrix and AMS. All ICPs identified are tracked in the WIP spreadsheet and a service request is issued to the MEP.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 9.6 With: 17 Schedule 15.2 From: 01-Sep-17 To: 30-Sep-17	Event logs not monitored for 16 ICPs read by FCLM. Potential impact: Low Actual impact: None Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Metering events are managed for Metrix and AMS. The 16 FCLM ICPs events are not being monitored hence the control rating of medium. This affects 16 ICPs therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet now receives a daily reading consumption report from FCLM and all the previous readings have been backdated and corrected. Non-compliance cases were recorded during the period, prior to when the new process was put in place.		30.09.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve.		ongoing	

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

As Hunet is only using the RPS profile trading notifications were not required.

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 five NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct.

I reviewed variances for 18 months of GR100 reports, and investigated any large discrepancies.

Audit commentary

The process for the calculation of ICP days was examined by checking five NSPs with a small number of ICPs each. This found all were correct with the exception of the AV110 for the month of June 2017. The ICP day report recorded an ICP day discrepancy for NSP WSC0011. I checked at the ICP level and found that ICP 0002125130WFBB6 was duplicated and a check of the NHH volume file confirmed there was volume for the one ICP. I checked the AV110 for July 2017 and this was correct. Hunet have had a change of staff in this area and I was unable to determine the cause of this error. This is recorded as non-compliance below.

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
June 2016	-1.40%	-1.42%	-0.05%	0.00%	-0.06%
July 2016	-1.67%	-1.71%	-0.04%	-0.04%	-0.67%
September 2016	-0.03%	-0.01%	0.00%	-0.05%	-
October 2016	-0.04%	-0.04%	-0.04%	-0.09%	-
November 2016	-0.05%	-0.03%	-0.05%	-0.10%	-
January 2017	-0.05%	-0.03%	-0.05%	-0.10%	-
February 2017	-0.05%	-0.05%	-0.10%	-0.01%	-
April 2017	-0.42%	-0.10%	-0.11%	-	-
May 2017	-0.10%	-0.10%	-0.12%	-	-
July 2017	-0.11%	-0.10%	-	-	-
August 2017	-0.08%	-0.04%	-	-	-

The improvements in the management of status are reflected in the ICP day differences.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 11.2 With: 15.6 From: 01-Jun-17 To: 30-Jun-17	One ICP duplicated in the ICP day report. 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 rated as weak, due to the loss of the staff with expertise in this area. The impact is rated as low because the number of ICP days affected is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet have now identified the requirements and are currently in the process of planning a system replacement to enhance currently occurring issues.		28.02.2017	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will review the 'ICP days' report process, and will request for material change audit regarding this matter once it is ready.		30.09.2018	

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

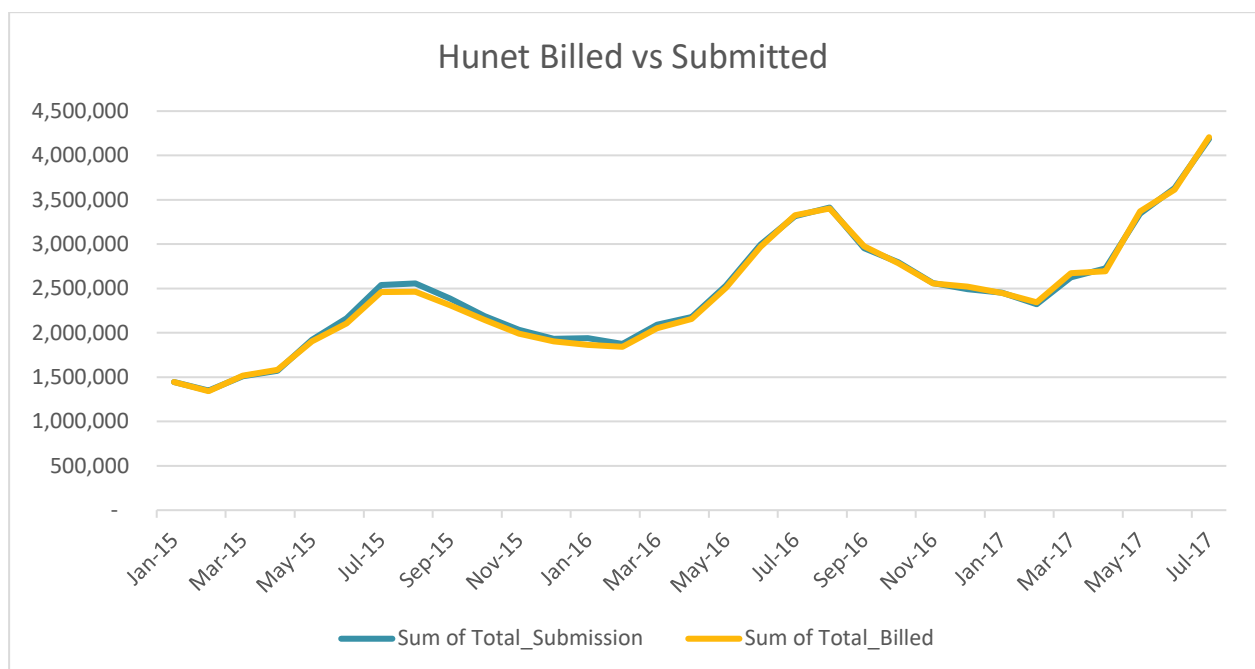
The process for calculating and submitting electricity supplied information was examined by checking individual invoices for a selection of five NSPs with a small number of ICPs to ensure the billed amount equalled the figure in the ICP level file which forms the basis of the aggregate file sent to the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

The electricity vs billed GR130 reports for January 2015 to July 2017 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 0.64% over the 30 month period.



As discussed in **Section 8.1**, active vacant consumption is being submitted and is being backdated to the appropriate period as it is identified.

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. I checked three NSPs with a small number of ICPs to confirm whether all ICPs were included.

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

Audit commentary

The sample checked confirmed the accuracy of the files. The staff managing submission have changed during the audit period and I was unable to confirm the processes undertaken to review submission, therefore I am unable to determine compliance in relation to the processes used.

Audit outcome

Unable to determine

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 Relevant information**.

The process to ensure that AV080 submissions are accurate was reviewed. The process for aggregating the AV080 was examined by checking five 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

As noted in **Section 12.2**, due to staff changes I was unable to determine the processes used to ensure that allocation of submission information is accurate, therefore I am unable to determine non-compliance in relation to the processes used.

The checks carried out of the GR170 and AV080 files found confirmed zeroing is occurring.

As discussed in **Section 8.1**, Consumption has been submitted or is in the process of being submitted for these ICPs, but the volumes have not been allocated correctly in all instances. This is discussed in detail in **Section 12.11**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.3 With: 15.5 From: 01-Jun-17 To: 30-Sep-17	Submission not allocated correctly. Potential impact: Medium Actual impact: Unknown Audit history: Multiple Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	I was unable to determine the controls, therefore I have rated controls as weak. This has a direct impact to reconciliation and I was unable to quantify the actual impact to market but Hunet only trade on a small number of ICP therefore the audit risk rating is medium.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet have now identified the requirements and are currently in the process of planning a system replacement to enhance currently occurring issues.		28.02.2017	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will review the 'Submission' report process, and will request for material change audit regarding this matter once it is ready.		30.09.2018	

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.

Audit commentary

NHH corrections were reviewed in **Section 8.1**. The consumption for the seven corrections checked have been calculated correctly and submitted but allocated incorrectly for four ICPs. This is recorded as non-compliance in **Section 12.11** Historical estimate process.

The consumption for the four active vacant ICPs where submission has occurred were also found to have been allocated incorrectly. This is recorded as non-compliance in **Section 12.11** Historical estimate process.

These corrections were processed and submitted at the next available opportunity.

No breaches had been recorded for late provision of submission information.

Audit outcome

Compliant

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. Three 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 these were due to no reads being gained for these ICPs. The improvements in the meter reading and management of meter changes discussed earlier in this report will assist in improving this area. This is discussed in detail in **Section 13.3**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.8 With: 4 Schedule 15.2 From: 01-Apr-17 To: 30-Sep-17	Some FE still exists at 14 months. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating:		
Audit risk rating	Rationale for audit risk rating		
Low	Controls have been improved in the management of meter reading and meter changes hence the moderate control rating. 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 have now identified the requirements and are currently in the process of planning a system replacement to enhance currently occurring issues.		28.02.2017	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will review the 'Volume' report process, and will request for material change audit regarding this matter once it is ready.		30.09.2018	

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 repor. (clause 2(3)(b)).*

Audit observation

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

- submission type HHR
- distributed generation
- a profile apart from RPS.

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

Audit commentary

As noted in **Section 12.2**, due to staff changes I was unable to determine the processes used to prepare submission information, therefore I am unable to determine non-compliance in relation to the processes used.

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

Audit outcome

Unable to determine

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 confirm that forward and historic estimates are included and identified.

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

To assist with determining compliance of the Historical Estimate (HE) processes, 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 system.

Audit commentary

As noted in **Section 12.2**, due to staff changes I was unable to determine the processes used in relation to the historical estimate calculations therefore I am unable to determine compliance in relation to the processes used.

97% of Hunet’s ICPs are AMI read so daily reads are available and therefore the use of HE scenarios is small. I checked as many scenarios as possible with the results indicated in the table below:

Test	Scenario	Test expectation	Result
A	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
B	ICP becomes active then inactive within a month.	Consumption is only calculated for the Active portion of the month.	Compliant
C	ICP becomes inactive, then active, then inactive again within a month.	Consumption is only calculated for the Active portion of the month.	Did not occur
D	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Not compliant
E	ICP starts on the 1st day of a month.	Consumption is calculated to include the 1st day of responsibility.	Did not occur
F	ICP ends on the Last Day of the month.	Consumption is calculated to include the last day of responsibility.	Did not occur
G	ICP starts part way through a month.	Consumption is calculated to include the 1st day of responsibility.	Invalid example provided
H	ICP ends part way through a month.	Consumption is calculated to include the last day of responsibility.	Submission hadn’t occurred for the example provided - the calculation was correct
I	ICP is Lost and Won Back in a month.	Consumption is calculated for each day of responsibility.	Did not occur
J	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Did not occur
K	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Did not occur
L	ICP Starts on 1st and Ends on Last day of month.	Consumption is calculated for each day of responsibility.	Did not occur
M	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Submission hadn’t occurred for the example provided - the calculation was correct

Examination of corrections in **Section 8.1**, found that volumes have been calculated correctly but rather than being allocated across the affected period the difference is allocated to the last billed month e.g. from the last estimate to next actual rather than across the read to read period.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.11 With: 4 and 5 Schedule 15.3 From: 01-Apr-17 To: 30-Sep-17	HE scenarios not working correctly for one out of three scenarios checked. Volumes for corrections are not allocated correctly across the affected period. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Due to the change of staff the controls are rated as weak. The audit risk rating is low due to the volume of ICPs affected being small.		
Actions taken to resolve the issue		Completion date	Remedial action status
Hunet have now identified the requirements and are currently in the process of planning a system replacement to enhance currently occurring issues.		28.02.2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will review the report process, and will request for material change audit regarding this matter once it is ready.		30.09.2018	

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 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.

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
June 2016	0	0	0	0	23
July 2016	0	0	0	0	23
September 2016	0	0	0	-	23
October 2016	0	0	0	-	26
November 2016	0	0	0	-	27
February 2017	0	0	0	-	26
March 2017	0	0	-	-	26
April 2017	0	0	-	-	26
May 2017	0	0	-	-	21

Total Variation between Revisions

Month	Revision 1	Revision 3	Revision 7	Revision 14
June 2016	0.25%	-0.09%	-0.44%	-2.25%
July 2016	1.78%	1.39%	0.99%	-1.78%
September 2016	1.13%	1.25%	0.64%	-
October 2016	1.24%	0.13%	-0.32%	-
November 2016	3.96%	3.06%	2.54%	-
February 2017	2.08%	1.09%	1.04%	-
March 2017	2.00%	2.07%	-	-
April 2017	0.24%	-0.54%	-	-
May 2017	1.39%	1.27%	-	-

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.

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

As discussed in **Section 12.2**, the staff managing submission have changed during the audit period and I was unable to confirm the processes undertaken to review submission, therefore I am unable to determine compliance in relation to the processes used.

The check of the AV080 confirmed that the correct aggregation factors were present.

Audit outcome

Unable to determine

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.

Review three AV080 submissions to confirm that data is rounded to no more than two decimal places.

Audit commentary

Submission information is appropriately rounded to no more than two decimal places.

Audit outcome

Compliant

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 nine 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 examined the two NSPs where the HE percentage was 16.84% and 6.91% respectively. These were checked and found that they related to the same ICPs reported in the last audit report. These ICPs were all in embedded networks where FCLM are the metering provider. These were being manually read by Datacol who notified Hunet of meter changes, but these were not being actioned. This was rectified and from September 2017, FCLM are providing Hunet with the meter readings.

Quantity of NSPs where revision targets were met.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
June 2016	34	35	21	39
July 2016	34	35	25	39
September 2016	32	33	-	39
October 2016	37	37	-	42

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
November 2016	36	37	-	43
February 2017	33	35	-	42
March 2017	31	-	-	39
April 2017	27	-	-	42
May 2017	30	-	-	37

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
June 2016	96.5%	97.3%	98.3%
July 2016	96.2%	97.5%	97.8%
September 2016	95.6%	96.7%	-
October 2016	95.0%	96.5%	-
November 2016	94.4%	96.0%	-
February 2017	93.8%	96.7%	-
March 2017	92.8%	-	-
April 2017	92.2%	-	-
May 2017	93.8%	-	-

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 13.3 With: 10 Schedule 15.3 From: 01-Apr-17 To: 30-Sep-17	Historic estimate thresholds were not met for some revisions. Potential impact: Low Actual impact: Low Audit history: Once 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 now receives a daily reading consumption report from FCLM and all the previous reading have been backdated and corrected. Non-compliance cases were recorded during the period, prior to when the new process was put in place.		30.09.2017	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Hunet will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways to improve.		ongoing	

CONCLUSION

Hunet have continued to grow their customer base since their last audit. This audit found 21 non-compliances and makes four recommendations.

Hunet have had some staff changes during the audit period. Compliance has improved in the areas of registry management and switching. However, in relation to reconciliation it is evident that some critical knowledge has been lost, and as a result I was unable to determine compliance in four reconciliation areas. There has been an overall decline in compliance in this area since the last audit. I have listed the clauses I was unable to determine compliance for in a table below the recommendations made.

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 50, which gives an indicative audit frequency of six months. I have considered this result in conjunction with the areas of the audit where I have not been able to conclusively determine compliance and Hunet's responses including the development that is needed and agree with this recommendation.

PARTICIPANT RESPONSE

This audit was the first to be carried out since the creation of the new management team within Hunet. Since the last audit back in July, a new audit team was created under this new management and during the three-months period, there have been a significant improvement on operations and development under this team.

The last audit identified multitude of issues that could be improved, and during this short period of three months, we did our very best to create all the necessary and important changes. We found three months to be not sufficient to make all the changes. However, it showed our capabilities and willingness to resolve the remaining issues in prompt manner in near future.

In regards to making improvements on the 'Reconciliation Areas', we believe that a thorough review on the management of Hunet's System Reading is vital. From reviewing the current system, we will update and monitor 'ICP Days', 'Billed' and 'Volume' report files and carry out material change audit in relation to the already mentioned requirements. Other issues already identified have successfully been resolved during the audit period and the remaining issues can be resolved with frequent monitoring and enhancement.

We look forward to continuing with the performance improvement and will show our dedication and our willingness to meet the Code Compliance in all aspects of operations.