ELECTRICITY INDUSTRY PARTICIPATION CODE
MATERIAL CHANGE RECONCILIATION PARTICIPANT
AUDIT REPORT

For

NOVA ENERGY LIMITED

Prepared by: Rebecca Elliot

Date audit commenced: 10 June 2019

Date audit report completed: 30 August 2019

Audit report due date: 15-May-19

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EXECUTIVE SUMMARY

This Material Change audit was performed at the request of **Nova Energy Limited (Nova)** who has acquired the business activities and market participation codes of Hunet Limited (**HNET**) and Pre Pay Energy Limited (**WISE**).

Clause 16A.11 of Part 16A requires that participants must undertake a material change audit if there is a material change to the participants systems or processes. Nova's purchase of HNET and WISE has a material impact on the Nova's compliance. This audit report has been undertaken to assess the compliance of the HNET and WISE operations so that the Electricity Authority can assess Nova's overall compliance and determine if there is any impact to the next audit due date due to the purchase of these operations.

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.2.

The processes carried out by Hunet and WISE continue to be managed using the same teams based in the offices in Albany. Findings from the Reconciliation participant audit of the Hunet operation undertaken in March 2019 have been assessed. Any non-compliance found in that audit has been reviewed as part of this audit. All processes have been checked and any changes since the March audit have been noted. If compliance was confirmed in March and no process changes have been identified since that time, then the findings from that audit have been recorded here.

WISE has not been audited since November 2018 and a full audit was due to be completed by 23/8/19, therefore an audit of all areas examining the activity undertaken since the last audit has been examined as part of this audit.

This audit found an improved overall level of compliance for both Hunet and WISE. The audit found 17 non-compliances and makes no recommendations. Six of these have strong control ratings indicating controls continue to be strengthened. With Nova's compliance focussed culture available to assist and guide both operations I am confident to recommend that the next combined audit be in October 2020.

The matters raised are detailed in the table below.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Material Change Audit	1.11	16A.11(1)	Material change audit not completed five business days prior.	Strong	Low	1	Cleared
Relevant information	2.1	10.6, 11.2, 15.2	Hunet ICP incorrect status recorded on the registry one Hunet ICP. Incorrect profile recorded for one Hunet ICP with distributed generation.	Strong	Low	1	Identified
Changes to registry information	3.3	10 Schedule 11.1	Hunet and WISE Registry information not updated within 5 business days of the event for 74 events.	Strong	Low	1	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	Hunet ICP 0000100686UN849 incorrectly had the inactive status applied from 16/01/2018 to 15/01/2019. WISE The registry does not reflect the correct ICP status for ICPs which have been disconnected for credit for five days or less.	Moderate	Low	2	Identified
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	WISE Three incorrect AN codes applied.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	WISE Calculation methodology for average daily consumption not compliant. WISE's CS process does not always ensure that the switch read reflects the actual reading on their last day of responsibility.	Weak	Low	3	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	Hunet 18 late CS files sent WISE One proposed event date earlier than the NT requested date.	Moderate	Low	2	Identified
Losing trader determines a different date - switch move	4.9	10(2) Schedule 11.3	WISE One proposed event date earlier than the NT requested date.	Moderate	Low	2	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	WISE Calculation methodology for average daily consumption not compliant. WISE's CS process does not always ensure that the switch read reflects the actual reading on their last day of responsibility.	Weak	Low	3	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	Hunet One switch withdrawal not sent within two months of the event date. WISE One switch withdrawal not sent within two months of the event date. One switch withdrawal incorrectly rejected. One late AW file.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Metering information	4.16	21 Schedule 11.3	WISE Readings in two CS files (post change) were inconsistent with the AMI read for the switch date or were not a reasonable estimate of the reading on the event date.	Weak	Low	3	Identified
Electricity conveyed & notification by embedded generators	6.1	10.13, 10.24 and 15.13	Hunet While meters were bridged, energy was not metered and quantified according to the code for two ICPs. WISE While meters were bridged, energy was not metered and quantified according to the code for two ICPs.	Strong	Low	1	Identified
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	WISE Three ICPs did not have an actual read recorded during the period of supply, and exceptional circumstances did not exist.	Moderate	Low	2	Identified
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	WISE Two bridged meters have not had corrections for the correct period.	Moderate	Low	2	Identified
Meter data used to derive volume information	9.3	3(5) Schedule 15.2	WISE Raw meter data is rounded upon receipt and not when volume information is created.	None	Low	5	Identified
Accuracy of submission information	12.7	15.12	WISE Consumption during periods where a meter is bridged was not reported for the correct period for the two examples checked. Where the active period continues after a customer account is terminated, historic estimate may not include all consumption.	Weak	Low	3	Identified

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	Hunet Historic estimate thresholds were not met for some revisions.	Strong	Low	1	Identified
Future Risk Rating							35

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

RECOMMENDATIONS

Subject	Section	Description	Recommendation

ISSUES

Subject	Section	Description	Issue

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

Current code exemptions were reviewed on the Electricity Authority website for both Hunet and WISE.

Audit commentary

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

1.2. Structure of Organisation

Nova provided a current organisational chart for the relevant parts of the business.

1.3. Persons involved in this audit

Auditors:

Name	Company	Role
Rebecca Elliot	Veritek Limited	Auditor

Personnel assisting in this audit were:

Title
Hunet Operations Manager
WISE Operation & Development Leader
WISE Team Leader customer Transitions

1.4. Use of Agents (Clause 15.34)

Code reference

Clause 15.34

Code related audit information

A reconciliation participant who uses am 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 the Hunet and WISE operations were identified, and their agent reports assessed as a part of this audit.

Audit commentary

Hunet

Hunet has made no change the agent's used since the audit was completed in March 2019. The only agent used is Wells and their agent audit report was completed in July 2019 and is expected to be loaded as part of this material change audit.

WISE

WISE receives AMI data from AMS, Metrix, and WEL Networks as MEPs. There are no agents involved in the process.

1.5. Hardware and Software

Hunet

Hunet have made no changes to their hardware or software since the audit in March. They continue to use a bespoke MySQL database on a Linux operating system. Daily backups are performed to a remotely hosted server.

WISE

WISE uses the Pre Pay Energy Billing System (PEBS) platform which is owned by Energy Billing System Limited. PEBS is a bespoke MySQL database on a Linux operating system. Daily backups are performed to a remotely hosted server.

1.6. Breaches or Breach Allegations

I checked for any breaches that have been recorded since the last audits undertaken of Hunet in March 2019 and WISE in November 2018. There have been none to be considered as part of this material change audit.

1.7. ICP Data

Hunet

Hunet provided a list file as at January 2019. The active ICPs from the list file are summarised by meter category in the table below:

Metering Category	2019	2018	2017
1	5,347	5,179	4,828
2	18	15	15
3	-	-	-
4	-	-	-
5	-	-	-
9	-	-	-

Status	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017
Active (2,0)	5,365	5,194	4,897
Inactive – new connection in progress (1,12)	1	-	-
Inactive – electrically disconnected vacant property (1,4)	19	18	12
Inactive – electrically disconnected remotely by AMI meter (1,7)	37	37	32
Inactive – electrically disconnected at pole fuse (1,8)	1	-	-
Inactive – electrically disconnected due to meter disconnected (1,9)	3	12	12
Inactive – electrically disconnected at meter box fuse (1,10)	1	-	-
Inactive – electrically disconnected at meter box switch (1,11)	-	2	2
Inactive – electrically disconnected ready for decommissioning (1,6)	4	-	1
Inactive – reconciled elsewhere (1,5)	-	-	-
Decommissioned (3)	54	32	16

WISE

WISE provided a list file as at May 2019. The active ICPs from the list file are summarised by meter category in the table below:

Metering Category	2019	2018 (November 2018)	2018 (February 2018)
1	2,321	1,688	1,840
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
9	-	-	-

Status	Number of ICPs (current audit date)	Number of ICPs 2018 (current audit)	Number of ICPs 2018 (Feb 2018 audit)
Active (2,0)	2,321	1,688	1,840
Inactive – new connection in progress (1,12)	-	-	-
Inactive – electrically disconnected vacant property (1,4)	10	8	11
Inactive – electrically disconnected remotely by AMI meter (1,7)	53	38	62
Inactive – electrically disconnected at pole fuse (1,8)	1	-	1
Inactive – electrically disconnected due to meter disconnected (1,9)	1	-	-
Inactive – electrically disconnected at meter box fuse (1,10)	-	-	-
Inactive – electrically disconnected at meter box switch (1,11)	-	-	-
Inactive – electrically disconnected ready for decommissioning (1,6)	1	1	2
Inactive – reconciled elsewhere (1,5)	-	-	-
Decommissioned (3)	40	30	16

1.8. Authorisation Received

Nova provided authorisation to collect any relevant information.

1.9. Scope of Audit

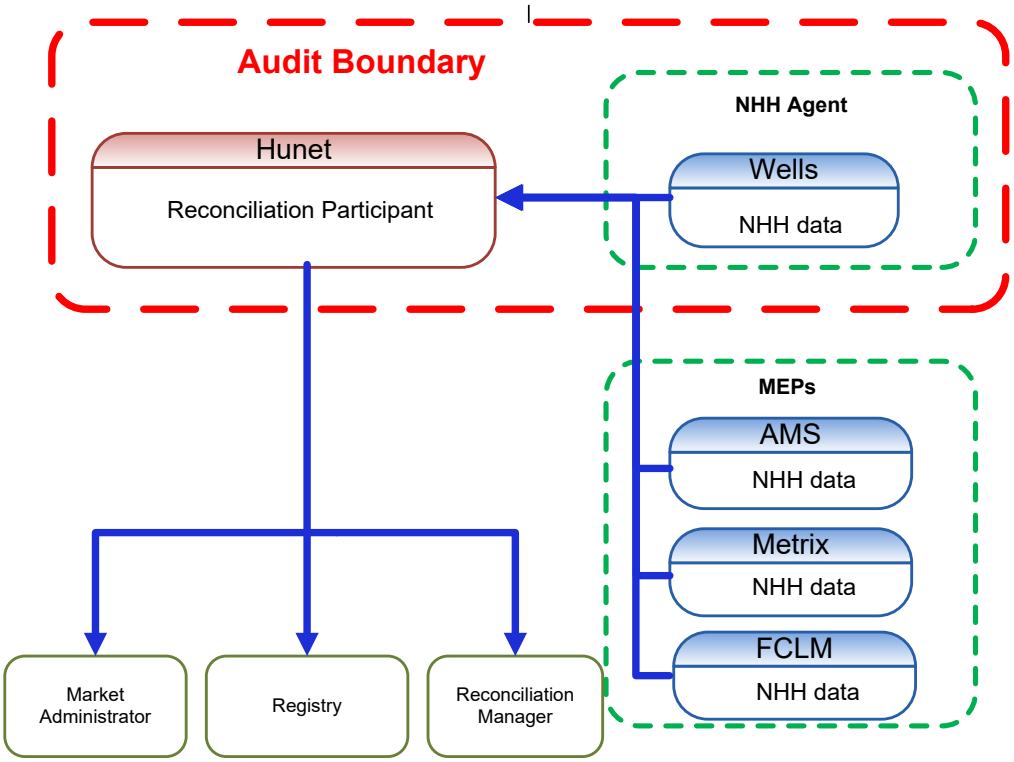
This Material Change audit was performed at the request of **Nova Energy Limited (Nova)** who has acquired the business activities and market participation codes of Hunet Limited (**HNET**) and Pre Pay Energy Limited (**WISE**).

Clause 16A.11 of Part 16A requires that participants must undertake a material change audit if there is a material change to the participants systems or processes. Nova's purchase of HNET and WISE has a material impact on the Nova's compliance. This audit report has been undertaken to assess the compliance of the HNET and WISE operations so that the Electricity Authority can assess Nova's overall compliance and determine if there is any impact to the next audit due date due to the purchase of these operations.

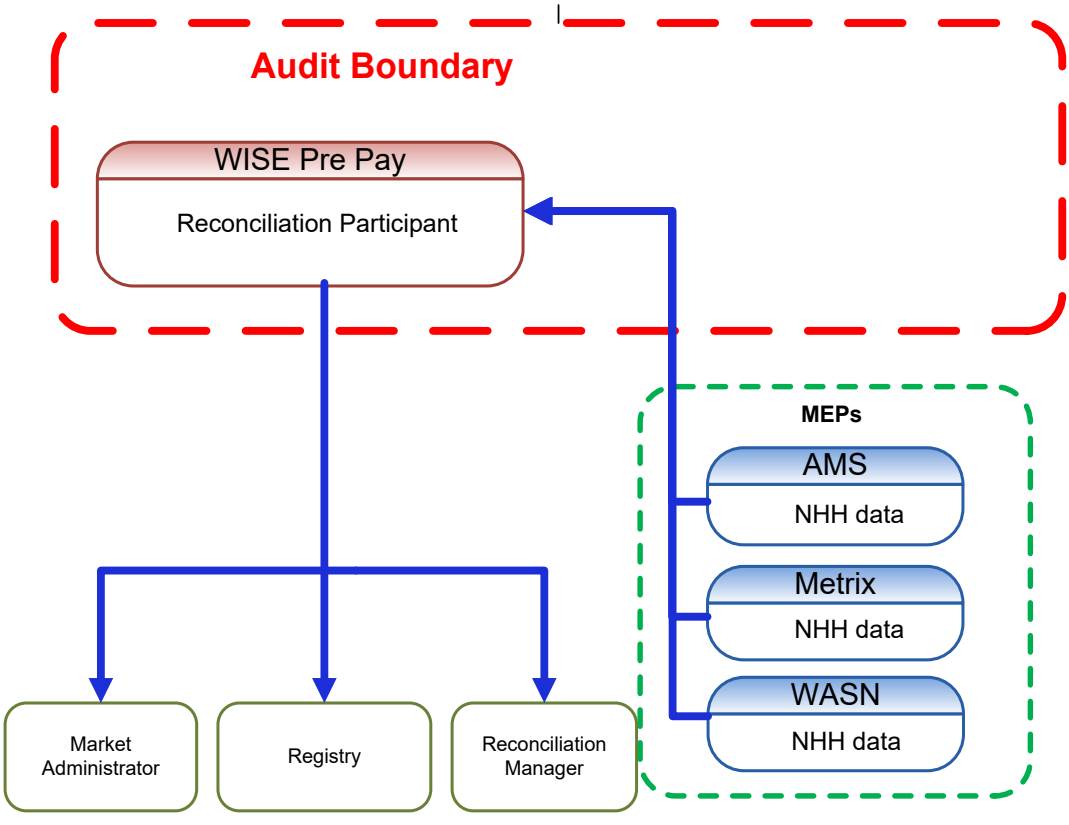
The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.2.

The scope of this audit assesses all of Hunet and WISES operation to meet their code requirements as detailed in the diagrams below indicating the audit boundary for both operations.

Hunet



WISE



The table below shows the tasks under clause 15.38 of part 15 for which Hunet and WISE require 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	Hunet Wells – NHH (from 5/9/18)	Hunet AMS - NHH Metrix – NHH FCLM- NHH WISE AMS - NHH Metrix – NHH WEL Networks- 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		

Hunet

Wells have been audited in accordance with the Guidelines for Reconciliation Participant Audits. The Wells agent audit report (current agent) is expected to be submitted along with this report.

WISE

WISE uses only AMI data provided by MEPs. They are audited separately under the MEP audit regime.

1.10. Summary of previous audit

I have included below the audit findings from the last Hunet (March 2019) and WISE (November 2018) audits. I note that Hunet audit whilst submitted has not been considered by the Electricity Authority as the customer base for Hunet was purchased by Nova Energy before this process was completed. The current status of those audit findings are indicated below.

HUNET LIMITED

Subject	Section	Clause	Non-Compliance	Status
Relevant information	2.1	11.2 & 15.2	Information is not complete or accurate for the ICPs with distributed generation. Decommissioned ICPS removed from the database removing them from submission for ten revisions affecting nine ICPs resulting in 58,349 kWh missing from four R14 submissions.	Still existing for 1 ICP Cleared

Subject	Section	Clause	Non-Compliance	Status
Changes to registry information	3.3	10 Schedule 11.1	Registry information not updated within 5 business days of the event.	Still existing
Switching	4.2	3 and 4 Schedule 11.3	15 ANs did not have proposed event dates within 10 business days of the event date.	Cleared
	4.3	5 Schedule 11.3	Three ICPs with an incorrect zero average daily consumption figure in the CS file.	Cleared
	4.4	6(1) Schedule 11.3	One non-AMI RR sent for less than200 kWh.	Cleared
	4.10	11 Schedule 11.3	CS file content incorrect for the labelling of reads. One CS file was one business day late.	Cleared
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	While meters were bridged, energy was not metered and quantified according to the code for two ICPs.	Still existing
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Four ICPs not read during period of supply.	Cleared
Calculation of ICP days	11.2	15.6	ICP days report under reporting ICP days for the files submitted in the months from October 2018- January 2019.	Cleared
Accuracy of submission information	12.7	15.12	Decommissioned ICPS removed from the database removing them from submission for ten revisions. R14 revisions affecting eight ICPs resulting in 50,558 kWh not submitted. 64 ICPs with invalid meter termination dates resulting in 64 ICPs missing from submissions made in the month of October 2018. Volumes for ten ICPs for R14 August 2017 revision resulting in 7,761 kWh not submitted.	Cleared
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Some FE still exists at 14 months.	Still existing
Historical estimate process	12.11	4 and 5 Schedule 15.3	One HE scenario for NSP changes not working correctly when a read is received on the day of the NSP change.	Cleared
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Still existing

WISE PRE-PAY ENERGY LIMITED

Subject	Section	Clause	Non-Compliance	Status
Relevant information	2.1	10.6, 11.2, 15.2	One ICP was not updated to inactive from the correct date. One ICP had an incorrect ANZSIC code applied.	Cleared Cleared
Electrical Connection of Point of Connection	2.11	10.33A	One ICP had expired interim certification when it was reconnected. The metering was replaced and fully certified within 19 days of reconnection. ICP 0000263650HB287's meter was unbridged on 04/06/18 but the meter was not recertified.	Cleared
Arrangements for metering equipment provision	2.13	10.36	WISE did not have an arrangement in place with the MEP for two ICPs for part of the audit period.	Cleared
Changes to registry information	3.3	10 Schedule 11.1	47 late status updates. 10 late MEP nominations.	Still existing
ANZSIC codes	3.6	9 (1)(k) of Schedule 11.1	One ICP had an incorrect ANZSIC code applied.	Cleared
Management of "inactive" status	3.9	19 Schedule 11.1	ICP 0000560119UNC95 incorrectly had the inactive status applied from 31/07/2018 to 21/08/2018. The registry does not reflect the correct ICP status for ICPs which have been disconnected for credit for five days or less.	Cleared Still existing
Switching	4.2	3 and 4 Schedule 11.3	Incorrect AN response codes were applied for two transfer switches.	Still existing
	4.3	5 Schedule 11.3	41 late CS files for transfer switches. One CS file contained an incorrect switch reading and last actual read date. WISE's CS process does not always ensure that the switch read reflects the actual reading on their last day of responsibility.	Cleared Cleared Still existing
	4.8	10(1) Schedule 11.3	One AN had a proposed event date before the gaining trader's proposed event date. Incorrect AN response codes were applied for two switch moves.	Still existing Still existing
	4.9	10(2) Schedule 11.3	One AN had a proposed event date before the gaining trader's proposed event date.	Still existing
	4.10	11 Schedule 11.3	47 late CS files for switch moves. Four switch move CS files contained an incorrect switch reading and last actual read date.	Cleared Cleared

Subject	Section	Clause	Non-Compliance	Status
			WISE's CS process does not always ensure that the switch read reflects the actual reading on their last day of responsibility.	Still existing
	4.11	12 Schedule 11.3	Four read change requests for switch moves were not supported by two actual readings.	Cleared
	4.15	17 and 18 Schedule 11.3	One late AW file.	Still existing
	4.16	21 Schedule 11.3	Readings in five CS files were inconsistent with the AMI read for the switch date, or were not a reasonable estimate of the reading on the event date.	Still existing
Electricity conveyed & notification by embedded generators	6.1	10.13, 10.24 and 15.13	Energy was not metered and quantified according to the code for two bridged meters.	Still existing
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Three ICPs did not have an actual read recorded during the period of supply, and exceptional circumstances did not exist.	Cleared
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	The meter read frequency report considers the ICP start date with WISE, not the date from which the ICP has been continuously active.	Cleared
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	Two bridged meters have not had corrections processed.	Still existing for a different issue
NHH metering information data validation	9.5	16 Schedule 15.2	Where a subsequent read is lower than the switch in reading, the negative consumption is zeroed out.	Cleared
Calculation of ICP days	11.2	15.6	ICP days were not reported correctly for decommissioned ICPs. ICP days were under reported in August 2018 for ICP 0000560119UNC95.	Cleared
Accuracy of submission information	12.7	15.12	Incorrect ICP days were reported for decommissioned ICPs, and one ICP where the status was recorded incorrectly. Consumption during periods where a meter is bridged is not reported. Where the active period continues after a customer account is terminated, historic estimate may not include all consumption. When calculating historic estimate, WISE based the calculation on SASV for the network, instead of SASV for the NSP. This can result in differences for NSPs	Cleared Still existing for different issue Still existing Cleared

Subject	Section	Clause	Non-Compliance	Status
			connected to HAWK and WAIK, where there is more than one balancing area per network.	
Historical estimate process	12.11	4 and 5 Schedule 15.3	When calculating historic estimate, WISE based the calculation on SASV for the network, instead of SASV for the NSP. This can result in differences for NSPs connected to HAWK and WAIK, where there is more than one balancing area per network.	Cleared

1.11. Material Change Audit (Clause 16A.11(1))

Code reference

Clause 16A.11(1)

Code related audit information

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

Audit observation

Nova Energy Limited purchased the business activities and market participation codes Hunet Limited (**HNET**) and Pre Pay Energy Limited (**WISE**). This agreement was completed in May 2019 but was effective from 1 April 2019. For this reason, Nova were unable to meet the requirement to complete a material change audit five days prior to the agreement settling. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 1.11 With: 16A.11(1) From: 08-Apr-19 To: 31-Aug-18	Material change audit not completed five business days prior. Potential impact: Low Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as Nova consulted with the Electricity Authority and undertook the audit as soon as possible. The audit risk is rated as low as the audit was undertaken as soon as possible and all risks have been assessed as part of this audit.

Actions taken to resolve the issue	Completion date	Remedial action status
Nova Energy acquired the staff and resources of Hunet Ltd and Pre Pay Energy Ltd. Nova Energy retained the staff and resources of those companies to continue to trade as MegaTEL and Wise Prepay. Nova commissioned an MCA to confirm the changes have not disrupted the businesses; with an expected completion date of 31 August 2019.	30/08/2019	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We anticipate completing Material change audits five business days prior to relevant changes, subject to being achievable given the circumstances of the change.	16/08/2019	

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

Hunet

The process to find and correct incorrect information was examined. The registry list file as at 31 May 2019 was examined to confirm that information was correct and not misleading. The registry validation process was examined in detail in relation to the achievement of this requirement.

WISE

The process to find and correct incorrect information was examined. The registry list file as at 31 May 2019 was examined to confirm that information was correct and not misleading. The registry validation process was examined in detail in relation to the achievement of this requirement.

Audit commentary

Hunet

The management of registry accuracy has not changed since March 2019. Hunet monitors the registry notification files to update their database when registry information changes. The ICP management report is run monthly and this identifies any consumption on active vacant or disconnected vacant, status mismatches, any meter mismatches, blank or "T9" coded ANZSIC codes. Hunet continues to use the robotic tool called the "Disco Reco Manager" which automatically updates the ICPs status once the service request is returned. This process is described in **section 3.3**. The operations manager checks that all jobs processed in the "Disco Reco Manager" have been processed as expected and this is achievable with the current volumes of jobs being processed.

The analysis of the list file returned the following findings:

Item No.	Issue	May 2019	January 2019	March 2018	October 2017	Comments
1	ICP not managed in Hunet's system	-	-	-	-	Compliance confirmed
2	Status mismatch between registry and Hunet	1	-	-	-	See **section 3.9**
3	Active with no MEP	-	-	-	-	Compliance confirmed

Item No.	Issue	May 2019	January 2019	March 2018	October 2017	Comments
4	Incorrect submission flag	-	-	-	-	All ICPs have submission type NHH and RPS profile
5	Active with blank ANZSIC codes	-	-	-	-	Compliance confirmed
6	Active with ANZSIC "T9.." coded	-	-	-	7	Compliance confirmed
7	Active with meter category 9 but MEP and UML "N"		-	-	-	Compliance confirmed
8	ICPs with Distributor unmetered load populated but retail unmetered load is blank	-	-	-	-	Compliance confirmed - Hunet do not accept ICPs with unmetered load
9	ICPs with unmetered load flag Y but load is recorded as zero	-	-	-	-	Compliance confirmed - Hunet do not accept ICPs with unmetered load
10	ICPs with incorrect shared unmetered load	-	-	-	-	Compliance confirmed - Hunet do not accept ICPs with unmetered load
11	ICPs with Distributed Generation indicated but no DG profile	1	5	4	-	See **section 6.1**

The management of the registry information continues to be well managed.

In the 2018 audit there was meter reading manually entered incorrectly into Hunet's system for an FCLM meter. This was manually keyed in incorrectly. This process is now automated, and the checks carried out confirmed compliance. This is discussed further in **section 6.5.**

ICP 0000100686UN849 was updated to inactive for the incorrect year. The correct inactive date was applied but the incorrect backdated status was not reversed so the ICP was incorrectly recorded as being disconnected for 16/01/2018. This has been corrected and is discussed in **sections 3.3** and **3.9.**

I checked the May 2019 list file and found that the incorrect profile of RPS was applied instead of RPS PV1 for ICP 0000190719UN6B0. This ICP switched in on 19/03/2018. The submission system is correctly managing the generation volumes. This was due to human error and is discussed in **section 6.1.**

The issues found in the 2018 audit in relation to incorrect submission information were confirmed to have been corrected with the new system in the March 2019 audit. This is discussed further in **sections 6.1** and **8.1**.

In the March 2019 audit, it was found that Hunet moved nine decommissioned ICPs in their internal database to remove them from their internal CRM, but this inadvertently removed them from the electricity reporting and therefore the volumes associated with these ICPs. This affected the ICPs days reporting and submission volumes for revisions for the R14 August 17 - November 17, March 2018, April 2018 and May 2018 R7, July 2018 R3 and September 2018 R1. The database was corrected and I have confirmed in this audit that the volumes associated with these ICPs have flowed through to the next revision for those prior to revision 14 submissions. The R14 revisions for August 17 - November 17 for eight of the nine decommissioned ICPs resulted in 50,588 kWh that has not been reconciled and this is now outside of the revision period. This is detailed in **sections 11.2** and **12.7.**

In addition to the above the March 2019 audit found that 64 ICPs had an invalid meter termination date resulting in the ICPs being incorrectly recorded as disconnected in the files submitted in October 2018. This was corrected in November 2018 and was expected to flow through with the next revision. In this audit I have checked the R3 revisions for September 2018, R7 for July 2018 and R14 for March 2018 and confirmed that all the previously missing ICPs were present with correct volumes. The August 2017 R14 was submitted with the kWh volume missing for ten ICPs. This resulted in 7,761 kWh that has not been submitted and is outside of the revision period.

WISE

WISE ensures that the data contained in PEBS matches the registry by importing registry data on switch in, and importing any changes received in notification files.

WISE has processes in place to identify and correct any misleading or incorrect information, including:

- a twice weekly match between the status recorded in PEBS and on the registry for each ICP;
- a monthly match between ICP and metering component information recorded in PEBS and on the registry; and
- a monthly check for distributed unmetered load details and distributor generation details.

Any discrepancies are investigated and resolved.

The analysis of the list file returned the following findings:

Item No.	Issue	2019	2018 (November)	2018 (February)	2017	Comments
1	Status mismatch between registry and WISE	-	1	11	1	Compliant
2	Active with no MEP	-	-	-	-	Compliant
3	Incorrect submission flag	-	-	-	-	Compliant, all ICPs have submission type NHH.
4	Blank ANZSIC codes	-	-	-	-	Compliant
5	ANZSIC “T999” not stated	-	-	-	-	Compliant
6	ANZSIC “T994” don’t know	-	-	-	-	Compliant
7	Incorrect ANZSIC code	-	1	-	-	Compliant
7	Category 9 but Active with MEP and UML “N”	-	-	-	-	Compliant

Item No.	Issue	2019	2018 (November)	2018 (February)	2017	Comments
8	ICPs with Distributor unmetered load populated but retail unmetered load is blank	-	-	-	-	Compliant, no unmetered load was identified.
9	ICPs with unmetered load flag Y but load is recorded as zero	-	-	-	-	Compliant, no unmetered load was identified.
10	ICPs with incorrect shared unmetered load	-	-	-	-	Compliant, no unmetered load was identified.
11	ICPs with Distributed Generation indicated but no DG profile	2	1	-	-	Compliant- both ICPs were confirmed to have had the distributed generation removed. See **section 6.1**

No registry data discrepancies were identified during the audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: 11.2 & 15.2 From: 15-Aug-18 To: 31-May-19	Hunet ICP incorrect status recorded on the registry one Hunet ICP. Incorrect profile recorded for one Hunet ICP with distributed generation. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong and will mitigate risk to an acceptable level. The audit risk is rated low as both parties have robust controls in place to manage accuracy going forward.

Actions taken to resolve the issue	Completion date	Remedial action status
MegaTEL: We have implemented system changes to validate profiles when CS files are received and auto-update the profile to RPS PV1 for those ICPs with distributed generation in the Registry.	16/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
MegaTEL: MegaTEL will continue to focus on optimizing its standards by identifying and monitoring its performance and ways for improvement.	16/08/2019	

2.2. 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

Hunet & WISE

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

2.3. 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

Hunet

I reviewed the method to receive meter reading information in the March 2019 audit and confirmed no changes have been made to the processes since then. Manual NHH data was provided by Datacol up to 17/9/18 and Wells from 5/9/18 via SFTP.

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

The AMI reads are collected twice daily from AMS and Metrix, and on a daily basis from FCLM. These reads are imported into a separate meter reading database.

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

- AMS
- Metrix
- Wells
- FCLM.

WISE

AMS, Metrix, and WEL Networks transfer meter reading information to WISE via SFTP. MEP data transmission processes were reviewed as part of their MEP audits.

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

- AMS
- Metrix
- WEL Networks.

Audit commentary

Hunet

NHH meter data is transmitted to Hunet using SFTP. All the reads were recorded and labelled correctly.

WISE

NHH meter data is transmitted to WISE using SFTP. All the reads were recorded and labelled correctly.

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 for the person who performed the activity (clause 21(4)(c)).*

Audit observation

Hunet & WISE

A complete audit trail was checked for all data gathering, validation and processing functions. I reviewed audit trails for a small sample of events.

Audit commentary

Hunet & WISE

The logs for the following activities were reviewed:

- **meter readings -** an audit trail is available for all meter readings;
- **registry notifications** - a compliant audit trail is recorded within the registry and within Hunet's system and WISE's PEBS system;
- **switching files** - a compliant audit trail is recorded within the registry, and within Hunet's system and WISE's PEBS system; and
- **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

Hunet & WISE

I reviewed Hunet's and WISE's current terms and conditions.

Audit commentary

Both Hunet and WISE'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

Hunet & WISE

I reviewed Hunet's and WISE's current terms and conditions.

Audit commentary

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

Audit outcome

Compliant

2.7. 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

Hunet

I reviewed Hunet's current terms and conditions. The registry list for 1 January 2019 to 31 May 2019 was reviewed to identify any ICPs which require loss compensation.

WISE

I reviewed WISE's current terms and conditions. The registry list for 15 August 2018 to 31 May 2019 was reviewed to identify any ICPs which require loss compensation.

Audit commentary

Hunet

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 confirmed there are currently no error or loss compensation arrangements in place. All Hunet's ICPs have metering category 1 or 2, and error and loss compensation is not required.

WISE

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

WISE confirmed there are currently no error or loss compensation arrangements in place. All WISE's ICPs have metering category 1, and error and loss compensation is not required.

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 subclause (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

Hunet & WISE

I reviewed Hunet's and WISE's current terms and conditions.

Audit commentary

Hunet's and WISE'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 1 or more metering installations for the point of connection.*

Audit observation

Hunet

The new connection process was checked and no changes have been made since the March 2019 audit. In that audit I examined the process in detail to evaluate the strength of controls. The registry list for 1 April 2018 to 10 January 2019 and the event detail report for 1 April 2018 to 31 December 2018 were analysed to confirm process compliance and that controls are functioning as expected.

WISE

WISE do not undertake new connections. The last audit found a one-off exception. The registry list and event detail report for 15 August 2018 to 31 May 2019 were analysed to identify any new connections and none were found.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

Hunet has very few new connections and do not actively pursue these. During the last audit period they had increased the number of networks they trade on and have instructions from all as to how requests for new connections are to be made. Due to the small volume, the new connection process is manual. Once the ICP has been created they claim the ICP and move it to the "inactive-new connection in progress" status and the MEP is nominated at the same time. They then await notification by way of the metering paperwork being returned from the MEP to then change the status to "Active". There is no automated interface between Hunet's system and the registry. All changes are loaded directly to the registry by the operator. This process is discussed in more detail in **section 3.5**. Whilst the process is manual, due to the small volume handled, the process works.

Two new connections were completed. The "inactive-new connection in progress" status was applied, and the MEP was nominated at the same time for both ICPs.

ICP 1002040580LCE15 was identified as a non-compliance in the May 2018 audit has been corrected. The network had created the ICP for an effective date that was after the initial electrical connection date. The ICP is now recorded as active for the correct date. This is discussed further in **section 3.5**.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

- *for a point of connection to the grid – the grid owner has approved the connection*
- *for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection.*
- *for a point of connection that is an ICP, but is not as NSP:*
- *the reconciliation participant is recorded in the registry as the trader responsible for the ICP*
- *if the ICP has metered load, 1 or more certified metering installations are in place*
- *if the ICP has not previously been electrically connected, the relevant distributor has given written approval of the temporary electrical connection.*

Audit observation

Hunet

The new connection process was checked and no changes have been made since the March 2019 audit. In that audit I examined the new connection process in detail to evaluate the strength of controls. The registry list for 1 April 2018 to 10 January 2019 and event detail report for 1 April 2018 to 31 December 2018 were analysed to confirm process compliance and controls are functioning as expected.

WISE

WISE do not undertake new connections. The registry list and event detail report for 15 August 2018 to 31 May 2019 were analysed to identify any new connections and none were found.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

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

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

- *for a point of connection to the grid – the grid owner has approved the connection*
- *for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection.*
- *for a point of connection that is an ICP, but is not as NSP:*
- *the reconciliation participant is recorded in the registry as the trader responsible for the ICP*
- *if the ICP has metered load, 1 or more certified metering installations are in place*
- *if the ICP has not previously been electrically connected, the relevant distributor has given written approval of the temporary electrical connection.*

Audit observation

Hunet

The new connection process was checked and no changes have been made since the March 2019 audit. The new connection and reconnection processes were examined in detail to evaluate the strength of controls. The registry list for 1 April 2018 to 10 January 2019 and event detail report for 1 April 2018 to 31 December 2018 were analysed to confirm process compliance and controls are functioning as expected.

WISE

WISE have not carried out any new connections during the audit period and do not intend to conduct any new connections. WISE's reconnection process was examined in detail to evaluate the strength of controls. The registry list for 15 August 2018 to 31 May 2019 and event detail report for 15 August 2018 to 31 May 2019 were analysed to confirm process compliance and controls are functioning as expected.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

New Connections

The new connection process ensures that an MEP is nominated.

Two new connections were completed during the audit period, both were certified within five business days of electrical connection.

Reconnected ICPs

Meter certification details were checked for all 162 ICPs reconnected during the audit period. All reconnected ICPs had full meter certification on their reconnection date. Hunet have adopted the recommendation in the last audit and check meter certification for all reconnections.

Bridged meters

Hunet provided a list of two ICPs which had bridged meters at some time during the audit period. Both were appropriately recertified by the MEP when they were unbridged.

WISE

Reconnected ICPs

Meter certification details were checked for all 82 ICPs reconnected during the audit period. All reconnected ICPs had full meter certification on their reconnection date.

Bridged meters

WISE provided a list of two ICPs which had bridged meters at some time during the audit period. Both were appropriately recertified by the MEP when they were unbridged.

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

Hunet

The process to ensure an arrangement is in place before trading commences on a network was checked and no changes have been made since the March 2019 audit.

A registry list for 1 April 2018 to 10 January 2019 was reviewed to confirm the networks Hunet traded on during the audit period.

WISE

The process to ensure an arrangement is in place before trading commences on a network was examined.

A registry list for WISE from 15 August 2018 to 31 May 2019 was reviewed to confirm the networks WISE traded on during the audit period.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

Hunet trade on 15 networks. A UoSA was signed before trading commenced on all additional networks. New networks are added to Hunet's system once an arrangement is in place, and there is a network validation check for all new connection applications and ICP switches to ensure arrangements are in place before trading.

WISE

WISE trades on the Wellington Electricity, Unison, WEL Networks and Vector networks.

WISE has current use of system agreements in place with Vector, Unison, WEL Networks, Centralines, Wellington Electricity, and Orion.

The online application process specifies the areas where WISE can supply ICPs. When a customer application is received, WISE staff check the ICP on the registry to confirm the network is valid prior to acceptance.

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

Hunet

The process to ensure an arrangement is in place ensure an arrangement is in place with the metering equipment provider before an ICP is switched in was checked and no changes have been made since the March 2019 audit.

A registry list for 1 April 2018 to 10 January 2019 was reviewed to confirm the networks Hunet traded on during the audit period.

WISE

The process to ensure an arrangement is in place with the metering equipment provider before an ICP is switched in was checked.

A registry list for 15August 2018 to 31 May 2019 was reviewed to confirm the MEPs for WISE's ICPs during the audit period.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

Hunet ensures there is an arrangement in place for all MEPs whose meters they use. New MEPs are added to Hunet's system once an arrangement is in place. There is an MEP validation in place for all ICPs switching in that ensures there is an arrangement in place before trading.

WISE

WISE ensures there is an arrangement in place for all MEPs whose meters they use. Staff check the ICP on the registry to confirm AMS, Metrix, or WEL Networks is the MEP, and that AMI metering is installed, prior to accepting a customer application.

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

Hunet

The new connection process was checked and no changes have been made since the March 2019 audit. The list file was analysed in the March 2019 audit and found that two ICPs have been requested since the last audit.

WISE

WISE do not undertake new connections. The last audit found a one off exception. The registry list and event detail report for 15 August 2018 to 31 May 2019 were analysed to identify any new connections and none were found.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. 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

Hunet

The new connection process was checked and no changes have been made since the March 2019 audit. In that audit I examined the new connection process in detail. The registry list as at 11 January 2019 and event detail report for 1 April 2018 to 31 December 2018 were analysed to evaluate the updating of the registry in relation to new connections. This clause links directly to **section 3.5** below. The findings for the timeliness of updates are detailed there.

WISE

WISE do not undertake new connections. The last audit found a one off exception. The registry list and event detail report for 15 August 2018 to 31 May 2019 were analysed to identify any new connections and none were found.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

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 5 business days after the change.

Audit observation

Hunet

The process to manage status changes is discussed in detail in **sections 3.8** and **3.9** below.

In this section I have examined the registry list as at 31 May 2019 and event detail report for 1 January 2019 to 31 May 2019. All late updates were examined.

The process to manage MEP changes was examined, all MEP nominations were made within five business days. The list file was examined to identify any active ICPs with no MEP recorded, or with meter category nine recorded and the UML flag set to "N". None were identified.

The process to manage trader updates not relating to MEP nominations or NTs was examined. The five late updates were examined to determine why they were late.

WISE

The process to manage status changes is discussed in detail in **sections 3.8** and **3.9** below.

In this section I have examined the registry list as at 31 May 2019 and event detail report for 15 August 2018 to 31 May 2018. A typical sample of 14 status changes to active were examined. All late status changes to inactive were examined.

The process to manage MEP changes was examined. A typical sample of ten of the 12 late MEP nominations were examined. The list file was examined to identify any active ICPs with no MEP recorded, or with meter category nine recorded and the UML flag set to "N". None were identified.

The process to manage trader updates not relating to MEP nominations or NTs was examined. The one late update was examined.

Audit commentary

Hunet

The timeliness of registry updates is shown in the table below.

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Status updates						
Changes to active - reconnections	Oct 2017	106	89	17	6.2	84%
	Mar 2018	143	125	18	4.7	83%
	Jan 2019	160	150	8	3	94%
	May 2019	**81**	**78**	**3**	**4.9**	**96%**
Change to electrically disconnected other than reason 12 & 6	Oct 2017	147	122	25	24.9	83%
	Mar 2018	138	129	9	7.6	94%
	Jan 2019	475	468	7	3	98%
	May 2019	**196**	**192**	**4**	**4**	**99%**
Change to electrically disconnected ready for decommissioning	Oct 2017	2	1	1	10	50%
	Mar 2018	0	n/a	n/a	n/a	n/a
	Jan 2019	35	29	6	6	83%
	May 2019	**16**	**9**	**7**	**35**	**56%**

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Trader updates						
Changes of MEP	Oct 2017	24	20	4	7	83%
	Mar 2018	15	15	0	*-10.7	100%
	Jan 2019	50	49	1	10.2	98%
	May 2019	**16**	**14**	**2**	**1.1**	**88%**
Trader updates (excluding MEP nominations and NT updates)	Jan 2019	105	10	95	562	10%
	May 2019	**19**	**19**	**0**	**4.5**	**100%**

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

As detailed in **section 2.1**, Hunet have robust processes in place to manage the ICPs they are responsible for and overall there was a high level of compliance found.

Reconnections

Hunet's process to manage reconnections has not changed since the audit undertaken in March 2019. They 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 "Disco Reco" tool automates the status updates and identifies outstanding jobs, which are followed up with the service provider.

The timeliness of reconnection updates has improved from 94% to 96%, and it took an average of one business day to update the registry compared with three business days during the previous audit period. Only three of the 81 reconnection updates were late, and only one of those was more than 30 business days late.

These were checked and found:

- two were due to backdated switches, in both instances Hunet updated the status as soon as the switch completed; and
- a backdated active date was applied incorrectly to ICP 0679817338LC74D, this event was reversed as the ICP was part of a double withdrawal.

Inactive - "Vacant" or similar

Hunet's process to manage reconnections has not changed since the audit undertaken in March 2019. These tasks are processed in the same way as the reconnected ICPs. Hunet completed the data cleaning exercise for all of the long-term unread sites that was noted in the May 2018 audit report. Status management is part of the business as usual processes including status misalignments. 99% of inactive updates occur within five business days.

Four of the 196 updates were late, and three of these were more than 30 business days late. All late updates were examined and found:

- three of the four updates were reversed as they were incorrectly applied, these were identified as part of the BAU registry management process; and
- ICP 0000100686UN849 was updated to inactive for the incorrect year, the correct inactive date was applied but the incorrect backdated status was not reversed so the ICP was incorrectly recorded as being disconnected for 16/01/2018. This has been corrected and is discussed further in **section 3.9**.

Inactive - "Ready for Decommissioning"

Hunet's process to manage ICPs ready for decommissioning has not changed since the audit undertaken in March 2019. Hunet have expanded the number of networks they trade on since the May 2018 audit and have operation manuals from the new networks as to how requests for decommissioning are to be made. This process varies by network. There were 16 ICPs decommissioned in the event detail report and all were on the Vector network. This process is discussed further in **section 3.8**. The seven late updates were examined and found six of these related to two ICPs. In all instances the events were backdated to ensure the ICP was set to the ready for decommission for the correct event date to comply with the requirement to provide complete and accurate information.

Changes to MEP

Hunet's process to manage MEP changes has not changed since the audit undertaken in March 2019. When an MEP change is required, Hunet nominates the MEP on the registry and logs a service request for meter replacement at the same time. All meter change requests are tracked through the WIP file. All jobs in progress are recorded and tracked through to completion. This will capture any MEP rejections received. There have been none received during the audit period. Meter mismatches are also identified through the registry discrepancy process. All MEPs were nominated within the required timeframe.

Trader updates

Hunet's process to manage trader updates has not changed since the audit undertaken in March 2019. All of the 19 trader updates made were within five business days of the event date.

WISE

The timeliness of registry updates is shown in the table below.

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Status updates						
Changes to active - reconnections	2017	140	29	111	19	21%
	2018 (February)	224	148	76	6	66%
	2018(November)	123	82	41	5	67%
	May 2019	**176**	**150**	**26**	**3.6**	**85%**
	2017	221	89	132	7	40%

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Change to electrically disconnected other than reason 12 & 6	2018 (February)	441	400	36	5	92%
	2018(November)	235	231	4	2.3	94%
	May 2019	**375**	**363**	**12**	**3.5**	**97%**
Change to electrically disconnected ready for decommissioning	2017	1	-	1	134	0%
	2018 (February)	5	-	5	303	0%
	2018(November)	13	11	2	2	85%
	May 2019	**13**	**5**	**7**	**7.5**	**39%**
Trader updates						
Changes of MEP	2018 (February)	312	308	4	3	99%
	2018(November)	91	81	10	3	89%
	May 2019	**82**	**72**	**12**	**1.5**	**87%**
Trader updates (excluding MEP nominations and NT updates)	2018(November)	8	8	-	2	100%
	May 2019	**2**	**1**	**1**	**61.5**	**50%**

Reconnections

Reconnections typically occur when an inactive ICP switches in, or once payment has been received following a credit disconnection. Reconnection data is provided via FTP by Metrix, WEL Networks and AMS. The reconnection data is imported into PEBS and updates automatically.

The registry is updated manually for all reconnections. Any ICPs updated in PEBS, but not on the registry will be identified through the twice weekly match to the registry as discussed in **section 2.1**.

The timeliness of reconnection updates has improved from 67% to 85%, and it took an average of 3.6 business day to update the registry compared with five business days during the previous audit period. 26 of the 176 reconnection updates were late. None of these were updated more than 13 business days after the event.

The sample checked found:

- 12 of the ICPs were backdated switches but the status was not updated on the day the switch completion. As detailed in **section 2.1**, the increased registry discrepancy reporting is expected to further improve compliance.
- The remaining two ICPs were due to backdated switches and in both instances, WISE updated the status as soon as the switch completed.

Inactive - "Vacant" or similar

Disconnections are usually remote and are not processed if a switch is in progress. These tasks are processed in the same way as the reconnected ICPs. Status management is part of the business as usual processes including status misalignments. 97% of inactive updates occur within five business days.

12 of the 375 updates were late, and two of these were more than 30 business days late. All late updates were examined and found:

- seven were due to the update to the registry step being missed but these were identified and corrected as part of the BAU status misalignment management in place;
- three were corrections due to keying errors again identified via the BAU status misalignment management in place; and
- two were due to late notification from the network of fire at the properties.

Inactive - "Ready for Decommissioning"

There were 13 ICPs decommissioned in the event detail report. This process is discussed further in **section 3.8**. The seven late updates were examined and found six were due to late notification from the network and one was a correction to the effective date. In all instances the events were backdated to ensure the ICP was set to the "ready for decommission" status for the correct event date to comply with the requirement to provide complete and accurate information.

Changes to MEP

WISE nominates the MEP on the registry as part of the ICP switching in as required. No MEP rejections were received during the audit period. The registry notification files are monitored so if any were received these would be managed. Meter mismatches are also identified through the registry discrepancy process. There were 12 late MEP nominations made during the audit period. These were examined and were found to due to late notification from the MEP of AMI meter roll out activity.

Trader updates

Two trader updates other than MEP nominations and NT updates were made during the audit period. Both related to the correction of ANZSIC codes. The one late trader update was caused by the correction of the incorrect ANZSIC code identified in the last audit. So, whilst this is backdated this it meets the requirement to provide complete and accurate information.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: 10 Schedule 11.1 From: 15-Aug-18 To: 31-May-19	Hunet and WISE Registry information not updated within 5 business days of the event for 74 events. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as controls are robust and errors are identified and corrected by both Hunet and WISE as soon as possible. The audit risk rating is low due to the small number of ICPs backdated greater than five days.

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: The WISE system generates a report by comparing the status of all ICPs with the registry twice a week. If there is a mismatch in ICP status, update the ICP status in the Registry.	Already completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
MegaTEL: MegaTEL will continue to focus on optimizing its standards by identifying and monitoring its performance and ways for improvement. Wise: To reduce the incidences of Registry information not being updated within 5 business days of the event, WISE has increased the frequency of producing and monitoring its ICP Status Mismatch report from once a week to twice a week.	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

Hunet

The processes were checked and no changes have been made since the March 2019 audit. The 2019 March audit approach is detailed below:

ICP Decommissioning

The process for the decommissioning of ICPs was examined. A sample of ten decommissioned ICPs were checked using the diverse method of sampling to prove 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 registry list as at 11 January 2019, was examined to confirm whether all active ICPs have an MEP recorded.

WISE

ICP Decommissioning

The process for the decommissioning of ICPs was examined. Ten ICPs have been set to ready for decommissioning during the audit period. Eight ICPs have been decommissioned by the distributor during the audit period. All were checked to confirm the process and confirm controls are in place.

Retailers Responsibility to Nominate and Record MEP in the Registry

The list file, as at May 2019, was examined to identify that all active ICPs have an MEP recorded. This analysis found all active ICPs have an MEP recorded in the registry. MEP rejections were analysed from the event detail report and none have been received during the audit period.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

ICP Decommissioning

The process is detailed in **Section 3.8**. Hunet continues with their obligations under this clause. ICPs that are vacant and active, or inactive are still maintained in the database. Hunet makes an attempt to read the meter at the time of removal and if this is not possible then the last actual meter reading is used. The MEP responsible is made aware that the site is to be decommissioned. The sample confirmed that compliance.

Retailers Responsibility to Nominate and Record MEP in the Registry

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

WISE

ICP Decommissioning

The process is detailed in **Section 3.8**. WISE continues with their obligations under this clause. ICPs that are vacant and active, or inactive are still maintained in the database. WISE 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. A check of the eight ICPs decommissioned during the audit period confirmed compliance.

Retailers Responsibility to Nominate and Record MEP in the Registry

A check of the list file and found all active ICPs had an MEP recorded.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

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

The trader must provide information specified in (a) to (j) above within 5 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

Hunet

The new connection process was checked and no changes have been made since the March 2019 audit. In that audit I examined the new connection process in detail.

The registry list as at 11 January 2019 and event detail report for 1 April 2018 to 10 January 2019 were analysed to determine the overall performance for that period.

WISE

WISE do not undertake new connections. The last audit found a one-off new connection exception. The registry list and event detail report for 15 August 2018 to 31 May 2019 were analysed to identify any new connections and none were found.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

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

Analysis of the event detail report showed both new connections had status updates processed on time:

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Changes to active - new connections	Mar 17	82	55	27	6.1	67%
	Oct 17	5	5	0	3.5	100%
	Mar 18	2	1	1	24	50%
	Jan 19	**2**	**2**	**0**	**4**	**100%**
Changes to new connection in progress	Oct 17	1	0	1	37	100%
	Mar 18	0	n/a	n/a	n/a	n/a
	Jan 19	**5**	**5**	**0**	**0**	**100%**

The 2018 audit recorded non-compliance for late status updates for ICP 1002040580LCE15, which had a backdated new connection processed in 2017. Three further late updates occurred for this ICP during the current audit period:

- one status update corrected the active date, and occurred 512 business days after the event date; and
- two status updates corrected the inactive new connection in process date and occurred 126 and 509 business days after the event date - both updates were made after the ICP was connected.

Because non-compliance for the initial update was recorded in the 2018 audit report, and these subsequent updates are corrections, compliance is recorded in this section.

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

Hunet

The process to capture and manage ANZISC codes was checked and no changes have been made since the March 2019 audit. In that audit I evaluated the strength of controls and a registry list file was reviewed to check ANZSIC codes. This was checked for:

- no ANZSIC codes;
- "T99" codes; and
- accuracy of ANZSIC code applied.

To confirm the validity of the ANZSIC codes selected I checked a diverse sample of 40 active ICPs across 10 different ANZSIC codes which made up more than 0.2% of the total ICPs.

WISE

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

- no ANZSIC codes;
- "T99" codes; and
- accuracy of ANZSIC code applied.

All active ICPs, except the one ICP corrected in the last audit, had 0 (domestic) ANZSIC codes. I checked a typical sample of 20 ICPs to confirm the validity of the ANZSIC codes applied.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

Hunet capture the ANZSIC code when the customer registers. As discussed in **section 2.1,** validation reporting checks for any ICPs with the "T9" code range. This is run twice monthly. In addition to this all commercial customers are credit checked upon registration and the service provider used also records the ANZSIC code. Hunet use this code. Analysis of the list file found all ICPs had an ANZSIC code assigned and no ICPs were found with "T9" codes.

Of the 40 ICPs checked I could confirm 27 from google earth checks. All but one code was confirmed to be correct. This was corrected as part of BAU.

Hunet adopted the recommendation made in the last audit and all commercial ICPs gained prior to the new ANZSIC code process have been reviewed and corrected if required.

WISE

Hunet capture the ANZSIC code when the customer registers. Analysis of the list file found all ICPs had an ANZSIC code assigned and no ICPs were found with "T9" codes. The sample checked confirmed all had the correct 0 (domestic) ANZSIC code applied.

Audit outcome

Compliant

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

Hunet

I reviewed of a registry list for 1 January 2019 to 31 May 2019 and confirmed that Hunet has not supplied any ICPs with unmetered load and do not intend to.

WISE

I reviewed of a registry list for 15 August 2018 to 31 May 2019 and confirmed that Hunet has not supplied any ICPs with unmetered load and do not intend to.

Audit commentary

Hunet

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

WISE

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

Audit outcome

Compliant

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

Hunet

The connection process was checked and no changes have been made since the March 2019 audit. In the March 2019 audit I checked:

The new connection process was examined in detail as discussed in **sections 2.9** and **3.5**.

The registry list as at 11 January 2019, metering installation details report, and event detail report for 1 April 2018 to 31 December 2018 were checked for any variances between the initial electrical connection date, meter certification date, and the active date.

The process for the management of ICP reconnection and the timeliness of registry updates are discussed in **section 3.3**.

WISE

WISE do not undertake new connections. The last audit found a one-off exception.

The process for the management of ICP reconnection and the timeliness of registry updates are discussed in **section 3.3**.

Audit commentary

Hunet

The process has not changed since the March 2019 audit. That audit findings are detailed below:

New connections

Hunet's system will not allow more than one party per ICP, nor will it allow an ICP to be set up without both a meter and Metering Equipment Provider. Hunet's processes ensure that there is only one customer associated with any ICP and that there is a method of quantification.

Both new connections were checked, and the active date was consistent with the meter certification date and the initial electrical connection date.

Reconnections

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

WISE

Reconnections

Reconnections typically occur when an inactive ICP switches in, or once payment has been received following a credit disconnection. Reconnection data is provided via FTP by Metrix, WEL Networks, and AMS. The reconnection data is imported into PEBS and updates automatically.

The registry is updated manually for all reconnections. Any ICPs updated in PEBS, but not on the registry will be identified through the twice weekly match to the registry as discussed in **section 2.1**.

As recorded in the last audit, if an ICP is reconnected within five business days of disconnection it will not be updated to inactive on the registry, so a registry update to active may not be required on reconnection. This is discussed further in **section 3.9**.

A typical sample of 14 status changes to active were checked, all had the correct status and date applied.

Late registry updates to active are recorded as a non-compliance in **section 3.3**.

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

Hunet

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 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 at least five active updates to each inactive status (or all if less than five were available) were checked using the typical characteristics methodology. The findings in relation to the timeliness of updates to registry are recorded in **section 3.3**.

WISE

The process to manage ICPs at the other inactive statuses was examined. A sample of at least five active updates to each inactive status (or all if less than five were available) were checked using the typical characteristics methodology. The findings in relation to the timeliness of updates to registry are recorded in **section 3.3**.

Audit commentary

Hunet

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.

Inactive Status (excluding new connection in progress)

The status of "Inactive" is only used once Hunet's approved contractor has confirmed that the ICP has been disconnected. As discussed in **section 3.3**, Hunet use a robotic tool called the "Disco Reco Manager" which automatically updates the ICPs status once the service request is returned. The operator raises a work request via the excel form provided by MEPs to reconnect or disconnect an ICP. This lodges a task in the "Disco Reco" management file. Once the job is complete the robot completes the task updating both Hunet's system and the registry overnight. The operations manager checks that all jobs have been processed as expected.

The sample of 23 ICPs with "inactive" statuses checked confirmed the statuses aligned between the registry and Hunet's database. Examination of the late inactive updates checked in **section 3.3,** found ICP 0000100686UN849 was updated to inactive for the incorrect year. The correct inactive date of 16/01/2019 was applied in the registry but the incorrect backdated status was not reversed so the ICP was incorrectly recorded as being disconnected from 16/01/2018. Submissions have been made for the volumes associated with this ICP throughout this period. The status event has been reversed. This has been corrected since the site audit. This is recorded as non-compliance.

Hunet provided a list of ten ICPs with consumption while disconnected, which were reviewed. Nine did not have genuine consumption while disconnected. The ICP with genuine consumption had a status correction processed.

WISE

Disconnections are usually remote, and are not processed if a switch is in progress. These tasks are processed in the same way as the reconnected ICPs.

Disconnection data is provided via FTP by Metrix, WEL Networks, and AMS. The reconnection data is imported into PEBS and updates automatically.

If disconnected for credit, the registry is not updated immediately. WISE maintains a list of customers sent to the MEPs for disconnection, with the disconnection date. Each day they compare the list of customers disconnected for credit, to an updated list with the reconnected customers removed.

- If the ICP is reconnected, the customer is taken off the disconnected list and the site is left as "active" on the registry.
- If the customer remains on the disconnected list for a period of five business days or more, the registry is updated to "inactive" effective from the first day the ICP was disconnected, and the customer account is closed in PEBS. Late updates to inactive status are recorded as non-compliance in **section 3.3**.

The February 2018 audit found ten disconnections were processed from an incorrect date, because WISE had processed the disconnection from the date the customer account was terminated rather than the physical disconnection date. Status dates have not been corrected for these ten ICPs as these have all switched away and are outside of the revision period.

WISE apply the correct disconnection date to the account. Previously the disconnection read was not entered onto the customer account if the disconnection read occurred after the date the account was terminated. Therefore, because only reads recorded on a customer account were used by the reconciliation process, this can result in under reporting of consumption where disconnection occurs after the account termination date. This is recorded as non-compliance in **section 12.7.** In June 2019, WISE changed their process and now apply the disconnected read for the switch event meter reading date when the ICP switches away. In these cases, the active vacant consumption will be reconciled.

To identify ICPs with incorrect statuses, WISE completes the following check twice weekly:

- a match between the statuses recorded in PEBS and on the registry as described in **section 2.1**; and
- review of a report of vacant and inactive ICPs with consumption after the final read date on the customer account.

WISE provided a list of 21 ICPs with consumption while disconnected, which were reviewed. None had consumption after the disconnection date and WISE had recorded the correct status for their period of responsibility.

I reviewed the reason codes and disconnection dates for a diverse sample of 19 disconnections and found all had the correct status date and code applied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 15-Aug-18 To: 31-May-19	<u>Hunet</u> ICP 0000100686UN849 incorrectly had the inactive status applied from 16/01/2018 to 15/01/2019. <u>WISE</u> The registry does not reflect the correct ICP status for ICPs which have been disconnected for credit for five days or less. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate because they have been improved for identification of status discrepancies. Controls require improvement to ensure all inactive days are recorded. The audit risk is rated as low, as the volume of ICPs with the incorrect status will be small.

Actions taken to resolve the issue	Completion date	Remedial action status
MegaTEL: This was a typo mistake that occurred when applying inactive status for 16.01.2019. The opportunity to revisit the validation process to ensure it considers backdated status updates was missed. Wise: The process used to be carried out on a weekly basis. However, WISE has since changed the frequency of updating the ICP status to inactive for an ICP disconnected to daily.	30/09/2019 23/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
MegaTEL: We are planning to implement a new reporting system for all the late Registry updates to be reviewed and validated. The validation tool is scheduled to be completed by 30 Sep 2019. MegaTEL will continue to focus on optimizing its standards by identifying and monitoring its performance and ways for improvement. Wise: As the number of activities are high, WISE is planning to move from a manual process to an automated process, while clearly maintaining and monitoring the list of disconnected ICPs. Faults in communications from MEPs has delayed the automation process. WISE is communicating with MEPs to resolve this issue.	ongoing	

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.

Hunet

I analysed a registry list as at 31 May 2019 of ICPs with "new" or "ready" status.

WISE

WISE does not accept new connections and there were no ICPs at "New" or "Ready" where WISE is the nominated trader.

Audit commentary

Hunet

All new connections are taken to the "inactive - new connection in progress" status and there were no ICPs at the "Ready" status with Hunet as the nominated trader. Hunet do not actively seek new connections.

Audit outcome

Compliant

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 and WISE deem all conditions to be met. A sample of five ICPs using the typical sampling methodology were checked for each participant code to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Hunet's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met (including a credit check) and the withdrawal process is used if the customer changes their mind.

Switch type is selected based on information provided by the customer on application.

The five NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected.

WISE

WISE's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met and the withdrawal process is used if the customer changes their mind for those customers that either call in or apply online. For those that are sold through the door to door channel, the switch is held for five business days before it is sent to the registry. NT files were sent within two days of all conditions being met for the ICPs checked.

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 may disregard every event date established by the losing trader for an ICP for which when the losing trader received notice from the registry manager under clause 22(a) the losing trader had been responsible for less than 2 months.

Audit observation

Hunet

An event detail report for 1 January 2019 to 31 May 2019 was reviewed to identify AN files issued by Hunet during the audit period, and:

- a sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied; and
- assess compliance with the requirement to meet the setting of event dates requirement.

The switch breach report was examined for the audit period.

WISE

An event detail report for 15 August 2018 to 31 May 2019 was reviewed to identify AN files issued by Hunet during the audit period, and:

- a sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied; and
- assess compliance with the requirement to meet the setting of event dates requirement.

The switch breach report was examined for the audit period.

Audit commentary

Hunet

AN codes are determined by a hierarchy and these are updated to the registry via Hunet's switching module. The check of the AN codes found all were correct.

The event detail report was reviewed for all 241 transfer ANs to assess compliance with the setting of event dates requirements:

- 225 ANs (93.4%) had proposed event dates within five business days of the NT receipt date;
- 237 ANs (97.9%) had proposed event dates within ten business days of the NT receipt date; and
- four ANs (2.1%) had proposed event dates more than ten business days after the NT receipt date, and the proposed event date was inconsistent with the gaining trader's proposed date.

The issue found in the audit undertaken in March 2019 where Hunet were adding five business days to all transfer switch requests which caused some switch event date to be more than ten business days was confirmed to be corrected. The four ICPs with dates greater than ten business days were all before the change was made.

The switch breach report did not record any late AN files.

WISE

AN codes are applied by the operator. I reviewed a sample of two ANs for each AN response code used. I found three AN files where an incorrect response code was applied due to human error.

ICP	Applied Code	Correct Code
0042015555TU4D0	"AD" (advanced metering)	"AA" (accept and acknowledge)
0000103415UN389	"CO" (contracted customer)	"AD" (advanced metering)
0000700498TU8F4	"CO" (contracted customer)	"AD" (advanced metering)

All transfer AN files were examined on the event detail report. All proposed event dates were within 10 business days of NT receipt, and 90% were within five business days.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.2 With: 3 and 4 Schedule 11.3 From: 15-Aug-18 To: 31-May-19	WISE Three incorrect AN codes applied. Potential impact: None Actual impact: None Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	**Rationale for audit risk rating**		
Low	Controls are rated as moderate as they will mitigate risks most of the time but due to WISE's manual process human errors can occur. 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**
Wise: The three instances were due to human error where the staff member concerned selected the incorrect code. WISE acknowledges that more caution needs to be put in when selecting codes.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		**Completion date**	
Wise: To remind staff on the importance of selecting the correct code; frequent training and increased monitoring will be carried out to help eliminate such errors.		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

Hunet

An event detail report for 1 January 2019 to 31 May 2019 was reviewed to identify CS files issued by Hunet. The accuracy of the content of CS files was confirmed by checking a sample of five files. The content checked included:

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

WISE

An event detail report for 15 August 2018 to 31 May 2019 was reviewed to identify CS files issued by WISE since they were last audited. The accuracy of the content of CS files was confirmed by checking a sample of five files. The content checked included:

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

Hunet & WISE

CS files with an average daily kWh that was negative, zero, or over 200 kWh were checked to confirm that the average daily kWh was calculated correctly.

The process to manage the sending of the CS file within five business days of the event date was examined, and the switch breach history report for the audit period was reviewed to identify late CS files.

Audit commentary

Hunet

CS content

Estimated daily kWh is calculated based on the daily average consumption for the last actual read to read period. Analysis estimated daily kWh on the event detail report identified:

Count of transfer CS files	Estimated daily kWh
Negative	0
Zero	1
More than 200 kWh	0

The audit undertaken in March 2019, found three ICPs that had zero average daily consumption recorded. A system change was deployed in February 2019 to fix this. The one ICP found with an average daily consumption of zero post the change being made was calculated correctly.

The accuracy of the content of a sample of five CS files was checked and all were correct.

CS timeliness

Hunet's switch management console provides staff with good visibility of switch file due dates. The switch breach report did not record any late files for transfer switches.

WISE

CS content

Estimated daily kWh is calculated based on the daily average consumption for as an average of the last six validated meter readings. The registry functional specification requires estimated daily kWh to be based on the average daily consumption for the last read to read period. For WISE this will often be the last day of supply, because daily reading occurs. WISE's current process is likely to produce a more accurate indication of the average daily consumption especially where the read to read period is for only one day, especially when the ICP is vacant for that day, but as it does not meet the codes requirements the current methodology and is recorded as non-compliant.

Analysis of the estimated daily kWh on the event detail report identified:

Count of transfer CS files	Estimated daily kWh
Negative	0
Zero	1
More than 200 kWh	0

The one ICP sent with an average daily consumption of zero was calculated correctly.

The accuracy of the content of a sample of five CS files was checked and found:

- Two examples of the same issue from the last audit where the final reading recorded on the customer account is applied for the CS. If there was any consumption post the customer account closing this was not being submitted. As detailed in **section 3.9**, WISE changed their process in June 2019 and now apply the disconnected read for the switch event meter reading date when the ICP switches away. In these cases, the active vacant consumption will be reconciled but the read is being applied for the incorrect read date resulting in the consumption being allocated incorrectly.

ICP and event	CS file field	Applied	Correct	Difference
0000117491UN9A8 20/09/18	Switch event read	108009979 68648 (E)	108009979 69516 (A)	868 kWh
	Last actual read	3/09/18	19/09/18	
0000312616WE896 24/08/18	Switch event read	10063625/1 17679 (E) 10063625/2 5118 (E)	10063625/1 17698 (A) 10063625/2 5135 (A)	36 kWh
	Last actual read	15/08/18	23/08/19	

I checked a further six examples (of both transfer and move in switches) post the WISE's process change and found four of the six examples where the correct final read has been applied and two examples where the last actual read hasn't been applied. This process is manual, and the correction was missed in the two instances where the last actual read wasn't used. Provision of inaccurate switch readings affects reconciliation submission accuracy, as is discussed further in **section 12.7**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: 5 Schedule 11.3 From: 15-Aug-18 To: 31-May-19	<u>WISE</u> Calculation methodology for average daily consumption not compliant. WISE's CS process does not always ensure that the switch read reflects the actual reading on their last day of responsibility. Potential impact: Medium Actual impact: Low Audit history: Multiple Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as weak as the process is manual and controls are not sufficient to prevent errors occurring. The audit risk is rated as low as the volumes of ICPs with the incorrect last reads are exceptions as WISE's process should capture most cases .

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: As mentioned above, since WISE updates the daily reading, setting the average daily reading to the last two validated readings is less accurate. For the final reading and final reading date for the vacant property, WISE has applied the final reading and final read date since the audit. Any active vacant ICP's consumption will apply final reading & final read date.	19/08/019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: For the final reading and final reading date for the vacant property, WISE system generates a reading consumption report for the vacant properties once a week. WISE has confirmed that since the application of the updated system, the final reading and final read date have been properly updated.	19/08/019	

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 registry manager giving the gaining trader written notice of having received information about the switch completion, 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

Hunet

The process for the management of read change requests was examined.

The event detail report for 1 January 2019 to 31 May 2019 was analysed to identify all read change requests and acknowledgements during the audit period. All RR and AC files issued by Hunet were checked.

I also checked a sample of five estimated CS files provided by other traders where no RR was issued to determine whether the correct readings were recorded in Hunet's system.

The switch breach history report for the audit period was reviewed to identify any late RR or AC files for transfer switches.

WISE

The process for the management of read change requests was examined.

The event detail report for 15 August 2018 to 31 May 2019 was analysed to identify all read change requests and acknowledgements during the audit period. All RR and AC files issued by WISE were checked.

I also checked a sample of five estimated CS files provided by other traders where no RR was issued to determine whether the correct readings were recorded in PEBS.

The switch breach history report for 15 August 2018 to 31 May 2019 was reviewed to identify any late RR or AC files for transfer switches.

Audit commentary

Hunet

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. All RR files were checked. All had a genuine reason for Hunet's RR, the file content was accurate and supported by two actual reads obtained by Hunet (or was as requested by the other trader).

Hunet issued five AC files for transfer switches, all rejected the other trader's RR. All were rejected for valid reasons.

Review of five transfer CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Hunet's system.

The switch breach report did not identify any late RR or AC files.

WISE

When a high or low read is identified through the read validation process for a new switch in, the ICP is investigated to determine whether a read change is required. If the difference is small, WISE waits to see if the AMI readings will "catch up" and exceed the switch read before issuing an RR. This process is discussed further in **section 9.5**.

WISE issued four read change requests for a transfer switch. All were supported by two actual readings and PEBS reflected the outcome of the read change process.

WISE issued four AC files for transfer switches. Three were validly rejected and one was accepted. All had the expected read recorded in PEBS based on the outcome of the read change process.

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

Audit outcome

Compliant

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

If the losing trader trades electricity from a non-half hour meter, with a switch event meter reading that is not from an 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

Hunet

The process for the management of read requests was checked and no changes have been made since the March 2019 audit. In that audit the event detail report 1 April 2018 to 31 December 2018 was analysed to identify read change requests issued and received under Clause 6(2) and (3) Schedule 11.3 and determine compliance.

WISE

The process for the management of read requests was examined. The event detail report 15 August 2018 to 31 May 2019 was analysed to identify read change requests issued and received under Clause 6(2) and (3) Schedule 11.3 and determine compliance.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

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.

Review of the event detail report found three transfer RR files were issued to Hunet within five business days of switch completion by traders using a half hour profile. All were checked, and I confirmed that none met the requirements of clause 6(2) and (3) of Schedule 11.3 because the CS event reads were actual readings from AMI meters. All three files were validly rejected.

Hunet is a NHH trader and did not issue any RR requests under clause 6(2) and (3) of Schedule 11.3.

WISE

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.

Review of the event detail report found no transfer RR files were issued to WISE within five business days of switch completion by traders using a half hour profile.

WISE is a NHH trader and did not issue any RR requests under clause 6(2) and (3) of Schedule 11.3.

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

I confirmed with Hunet and WISE whether any disputes have needed to be resolved in accordance with this clause.

Audit commentary

There were no examples of disputes that needed to be resolved under this clause for either participant code.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.3

Code related audit information

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

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

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

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

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

Audit observation

The switch gain process was examined to determine when Hunet and WISE 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, and that the correct switch type was selected for both Hunet and WISE.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Hunet's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met (including a credit check) and the withdrawal process is used if the customer changes their mind.

Switch type is selected based on information provided by the customer on application.

The five NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected.

WISE

WISE's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met (including a credit check) and the withdrawal process is used if the customer changes their mind.

Switch type is selected based on information provided by the customer on application.

The five NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected.

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

Audit observation

Hunet

The process for the provision of information for switch moves was checked and no changes have been made since the March 2019 audit. In that audit I reviewed an event detail report for 1 April 2018 to 31 December 2018 to identify AN files issued by Hunet during the audit period, and:

- a sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied; and
- assess compliance with the requirement to meet the setting of event dates requirement.

The process to manage the sending of the CS file within five business days of the NT receipt date was examined, and the switch breach history report from 1 January 2019 to 31 May 2019 was reviewed to identify late CS and AN files.

WISE

An event detail report for 15 August 2019 to 31 May 2019 was reviewed to identify AN files issued by Hunet during the audit period, and:

- a sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied; and
- assess compliance with the requirement to meet the setting of event dates requirement.

The process to manage the sending of the CS file within five business days of the NT receipt date was examined, and the switch breach history report for the audit period was reviewed to identify late CS and AN files.

Audit commentary

Hunet

The process to determine AN codes has not changed since the audit undertaken in March 2019. They are determined by a hierarchy and these are updated to the registry via Hunet's switching module. The check of the AN codes found all were correct.

The event detail report was reviewed for all 882 switch move ANs to assess compliance with the setting of event dates requirements.

- All 882 ANs had proposed event dates no later than ten business days after the NT receipt date.
- No ANs had proposed event dates before the NT proposed event date.

Hunet add three business days to all move switch requests.

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

The switch breach report had no late AN files and 24 late CS files. All late CS files were examined and found 18 were genuine. 15 of these were due a server failure for three business days. All CS files were sent as soon as the server was restored. The remaining three in January were due to human error. This is recorded as non-compliance.

WISE

AN codes are applied by the operator. The check of the AN codes found all were correct.

The event detail report was reviewed for all 370 switch move ANs to assess compliance with the setting of event dates requirements.

- All 370 ANs had proposed event dates no later than ten business days after the NT receipt date.
- The AN for ICP 0000040756WEFB7 had a proposed event date before the NT proposed event date. ANs are created manually. The CS was sent for the requested event date.

The switch breach report had no late AN files and 164 late CS files. All late CS files were examined and found 24 were genuine. A sample using the typical methodology were checked and found seven were due to internal processing delays and three were due to the delay contacting the customer to confirm the switch. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: 10(1) of 4 Schedule 11.3 From: 15-Aug-18 To: 31-May-19	Hunet 18 late CS files sent WISE One proposed event date earlier than the NT requested date. 24 late CS files sent Potential impact: None Actual impact: None Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate as they will mitigate risks most of the time but due to WISE's manual process human errors can occur. 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
MegaTEL: 15 of these were due a server failure and all CS files were sent as soon as the server was restored. The remaining three in January were due to human error. We have confirmed that no late CS files found since we updated our validation tool in Feb 2019. Wise: We reviewed our process to strengthen our controls	15 Feb 2019 19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: WISE will keep monitor the switching tab to ensure that AN and CS can be sent on time.	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, then within 10 business days of receiving notice the losing trader must also complete the switch by providing to the registry manager as described in subclause (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

Hunet

The process for the setting of the event date for switch moves was checked and no changes have been made since the March 2019 audit. In that audit I examined an event detail report for 1 April 2018 to 31 December 2018 to assess compliance with the requirement to meet the setting of event dates requirement.

WISE

The process for the setting of the event date for switch moves was checked. I examined an event detail report for 15 August 2018 to 31 May 2019 to assess compliance with the requirement to meet the setting of event dates requirement.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Analysis found all 882 switch move ANs had a valid switch response code and compliant proposed event dates. No ANs had proposed event dates earlier than the gaining trader's proposed date.

WISE

Analysis found all 370 switch move ANs had a valid switch response code. The AN for ICP 0000040756WEFB7 had a proposed event date before the NT proposed event date. ANs are created manually. The CS was sent for the requested event date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.9 With: 10(2) of 4 Schedule 11.3 From: 15-Aug-18 To: 31-May-19	WISE One proposed event date earlier than the NT requested date. Potential impact: None Actual impact: None Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate as they will mitigate risks most of the time but due to WISE's manual process errors can occur. 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
Wise: This instance was due to a human error occurred by our staff member. To prevent human error, our internal procedure has been monitored and the process has been further strengthened.	19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: To reduce the occurrence of human error, our internal procedure has been monitored and altered where necessary. We are also undertaking and regular staff training to remind staff of the importance of inputting correct information.	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

Hunet

CS files with an average daily kWh that was negative, zero, or over 200 kWh were identified were assessed from the event detail report for 1 January 2019 to 31 May 2019. A sample of five of these CS files using the typical case methodology were checked to determine whether the average daily consumption was correct.

An event detail report for 1 January 2019 to 31 May 2019 was reviewed to identify CS files issued by Hunet. The accuracy of the content of CS files was confirmed by checking a sample of five files selected using the typical case methodology. The content checked included:

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

WISE

CS files with an average daily kWh that was negative, zero, or over 200 kWh were identified were assessed from the event detail report for 15 August 2018 to 31 May 2019. A sample of six of these CS files using the typical case methodology were checked to determine whether the average daily consumption was correct.

An event detail report for 15 August 2018 to 31 May 2019 was reviewed to identify CS files issued by WISE since they were last audited. The accuracy of the content of CS files was confirmed by checking a sample of nine files selected using the typical case methodology. The content checked included:

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

Audit commentary

Hunet

Estimated daily kWh is calculated based on the daily average consumption for the last actual read to read period. Analysis estimated daily kWh on the event detail report identified:

Count of transfer CS files	Estimated daily kWh
Negative	0
Zero	50
More than 200 kWh	1

A sample of seven of these ICPs were checked (six with zero and one with more than 200 kWh), and I found all were calculated correctly.

The accuracy of the content of a sample of five CS files was checked and all were correct with the exception of two ICPs where the last actual read date was recorded incorrectly. These both occurred prior to the system fix was deployed on 12 February 2019. No examples of this occurring post the fix were found.

The issue recorded in the May 2018 audit of sites with multiple meters or registers not calculating the average daily consumption across both meters, and where the meter reading for the second register or meter was sent as an estimate when an actual read was available, have both been corrected with the new system.

WISE

Estimated daily kWh is calculated based on the daily average consumption for as an average of the last six validated meter readings. The registry functional specification requires estimated daily kWh to be based on the average daily consumption for the last read to read period. For WISE this will often be the last day of supply, because daily reading occurs. WISE's current process is likely to produce a more accurate indication of the average daily consumption especially where the read to read period is for only one day, especially when the ICP is vacant for that day, but as it does not meet the codes requirements the current methodology is recorded as non-compliant. This is recorded as non-compliance.

Analysis estimated daily kWh on the event detail report identified:

Count of transfer CS files	Estimated daily kWh
Negative	0
Zero	70
More than 200 kWh	0

The sample of seven ICPs were checked and I found all were calculated correctly.

The accuracy of the content of a sample of five CS files was checked and found:

- Two examples of the same issue from the last audit where the final reading recorded on the customer account is applied for the CS. If there was any consumption post the customer account closing this was not being submitted. As detailed in **section 3.9**, WISE have changed their process In May 2019 and now apply the disconnected read for the switch event meter reading date when the ICP switches away. In these cases, the active vacant consumption will be reconciled but the read is being applied for the incorrect read date resulting in the consumption being allocated incorrectly.

ICP and event	CS file field	Applied	Correct	Difference
0000220362UN385 9/08/18	Switch event read	RD11106816 76824 (E)	RD11106816 76336 (A)	488 kWh
	Last actual read	1/08/18	7/08/18	
0000293507WE794 24/08/18	Switch event read	10057797 26595 (E)	10057797 26616 (A)	21 kWh
	Last actual read	22/08/18	23/08/19	

I checked a further six examples (of both transfer and move in switches) post WISE's process change and found four of the six examples where the correct final read has been applied and two examples where the last actual read hasn't been applied. This process is manual, and the correction was missed in the two instances where the last actual read wasn't used. Provision of inaccurate switch readings affects reconciliation submission accuracy, as is discussed further in **section 12.7**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: 11 Schedule 11.3 From: 15-Aug-18 To: 31-May-19	WISE Calculation methodology for average daily consumption not compliant. WISE's CS process does not always ensure that the switch read reflects the actual reading on their last day of responsibility. Potential impact: Medium Actual impact: Low Audit history: Multiple Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as weak as the process is manual and controls are not sufficient to prevent errors occurring. The audit risk is rated as low as the volumes of ICPs with the incorrect last reads are exceptions as WISE's process should capture most cases.

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: As mentioned above, since WISE updates the daily reading, setting the average daily reading to the last two validated readings is less accurate. For the final reading and final reading date for the vacant property, WISE has applied the final reading and final read date since the audit. Any active vacant ICP's consumption will apply final reading & final read date.	19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: For the final reading and final reading date for the vacant property, WISE system generates reading consumption report for the vacant properties once a week. WISE has confirmed that since the application of the updated system, the final reading and final read date have been properly updated.	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 4 calendar months of the date the registry manager gives the gaining trader written notice of having received information about the switch completion, 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 5 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

Hunet

The process for the management of read requests was checked and no changes have been made since the March 2019 audit. In that audit the event detail report for 1 April 2018 to 31 December 2018 was analysed to identify all read change requests and acknowledgements during the audit period. A sample of ten RR files issued by Hunet, and five AC files issued by Hunet were checked.

I also checked a sample of five estimated CS files provided by other traders where no RR was issued to determine whether the correct readings were recorded in Hunet's system.

The switch breach history report for the period from 1 January 2019 to 31 May 2019 was reviewed to identify any late RR or AC files for move switches.

WISE

The process for the management of read change requests was examined.

The event detail report for 15 August 2018 to 31 May 2019 was analysed to identify all read change requests and acknowledgements during the audit period. A sample using the typical methodology of six RR files issued and AC files issued by WISE were checked.

I also checked a sample of five estimated CS files provided by other traders where no RR was issued to determine whether the correct readings were recorded in PEBS.

The switch breach history report for 15 August 2018 to 31 May 2019 was reviewed to identify any late RR or AC files for move switches.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

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.

Hunet issued 29 RR files for switch moves. Twenty were accepted and nine were rejected. A sample of five accepted and five rejected files were checked. In all cases there was a genuine reason for Hunet's RR, the file content was accurate and supported by two actual reads obtained by Hunet (or was as requested by the other trader), and the reads recorded in Hunet's system reflected the outcome of the RR process.

Hunet issued 18 AC files for switch moves. 11 were rejected and seven were accepted. I found that switches for two of the rejected RRs were withdrawn, two were accepted on reissue with different reads, and four were accepted on reissue with the same reads. A sample of five were checked, and all were rejected for valid reasons.

Review of five move switch CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Hunet's system.

The switch breach report did not identify any late RR or AC files.

WISE

When a high or low read is identified through the read validation process for a new switch in, the ICP is investigated to determine whether a read change is required. If the difference is small, WISE waits to see if the AMI readings will "catch up" and exceed the switch read before issuing an RR. This process is discussed further in **section 9.5**.

WISE issued 20 read change requests for move switches. The sample checked found all were supported by two actual readings and PEBS reflected the outcome of the read change process.

Review of five move switch CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in PEB's system.

WISE issued five AC files for move switches. Three were validly rejected and two were accepted. All had the expected read recorded in PEBS based on the outcome of the read change process.

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

Audit outcome

Compliant

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

Code reference

Clause 14 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 at an ICP at which the losing trader trades electricity with the customer or embedded generator, and one of the following applies at the ICP:

- *the gaining trader will trade electricity through a half hour metering installation that is a category 3 or higher metering installation; or*
- *the gaining trader will trade electricity through a non-AMI half hour metering installation and the losing trader trades electricity through a non-AMI non half hour metering installation; or*
- *the gaining trader will trade electricity through a non-AMI non half hour metering installation and the losing trader trades electricity through anon-AMI half hour metering installation*

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 three 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

Hunet do not trade half hourly therefore there were no gaining trader switches. The event detail report for 1 January 2019 to 31 May 2019 was examined to confirm compliance.

WISE

WISE do not trade half hourly therefore there were no gaining trader switches. The event detail report for 15 August 2018 to 31 May 2019 was examined to confirm compliance.

Audit commentary

Review of the event detail reports for Hunet and WISE confirmed that they did not complete any half hour switches during the audit period, and no ICPs with meter category 3 or higher were supplied.

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 3 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

Hunet do not trade half hourly therefore there were no gaining trader switches. The event detail report for 1 January 2019 to 31 May 2019 was examined to confirm compliance.

WISE

WISE do not trade half hourly therefore there were no gaining trader switches. The event detail report for 15 August 2018 to 31 May 2019 was examined to confirm compliance.

Audit commentary

Review of the event detail reports for Hunet and WISE confirmed that they did not complete any half hour switches during the audit period, and no ICPs with meter category 3 or higher were supplied.

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 3 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

Hunet do not trade half hourly therefore there were no gaining trader switches. The event detail report for 1 January 2019 to 31 May 2019 was examined to confirm compliance.

WISE

WISE do not trade half hourly therefore there were no gaining trader switches. The event detail report for 15 August 2018 to 31 May 2019 was examined to confirm compliance.

Audit commentary

Review of the event detail reports for Hunet and WISE confirmed that they did not complete any half hour switches during the audit period, and no ICPs with meter category 3 or higher were supplied.

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)):*
  - *the participant identifier of the trader making the withdrawal request (clause 18(c)(i)); and*
  - *the withdrawal advisory code published by the Authority (clause 18(c)(ii))*
- *within 5 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 two 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

Hunet

The process for the management of switch withdrawals was checked and no changes have been made since the March 2019 audit. In that audit I reviewed an event detail report for 1 April 2018 to 31 December 2018 to:

- identify all switch withdrawal requests issued by Hunet, the content of a sample of at least two ICPs from the event detail report for each withdrawal code (or all if less than two were available) were checked using the typical sampling methodology, including ten withdrawal requests rejected by other traders; and
- identify all switch withdrawal acknowledgements issued by Hunet, a sample of eight rejections were checked.

The switch breach report from 1 January 2019 to 31 May 2019 was checked for any late switch withdrawal requests or acknowledgements. The event detail report for 1 January 2019 to 31 May 2019 was checked to confirm timeliness of switch requests, as this is not currently being identified in the switch breach report.

WISE

An event detail report for 15 August 2018 to 31 May 2019 was reviewed to:

- identify all switch withdrawal requests issued by Hunet, the content of a sample of at least two ICPs from the event detail report for each withdrawal code (or all if less than two were available) were checked using the typical sampling methodology, including ten withdrawal requests rejected by other traders;
- identify all switch withdrawal acknowledgements issued by Hunet, a sample of eight rejections were checked; and
- confirm timeliness of switch requests, as this is not currently being identified in the switch breach report.

The switch breach report was checked for any late switch withdrawal requests or acknowledgements.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Switch withdrawals are managed manually. The sample of 15 NW files checked found that the withdrawal codes applied were all correct. 62 (14.6%) of the 423 AWs issued by Hunet were rejections. I reviewed a sample of two rejections per NW withdrawal code by Hunet, and confirmed they were rejected based the information available at the time the response was issued.

The switch breach report did not record any late NW or AW files. Examination of the recent event detail report found one (0.001%) of the 62 NWs was issued more than 60 business days after the event date. The one late file was checked, and I found it was due to the wrong premise being switched in and this took time to investigate and confirm. The process is well managed.

WISE

Switch withdrawals are managed manually. The sample of 17 NW files checked found that the withdrawal codes applied were all correct.

One of the 215 NWs was issued more than 60 business days after the event date. It was sent as a customer cancellation and was rejected by the losing trader. It was delayed due to the late request from the customer.

18 (10%) of the 178 AWs issued by WISE were rejections. I reviewed a sample of two rejections per NW withdrawal code by WISE, and confirmed they were rejected correctly with the exception of ICP 0400195038LC5C7 for which two NW "date failed" requests were received. Contact requested the ICP for the incorrect date and provided proof of the customer's move in date. The ICP was reconnected from the move in date. Both requests were rejected. This is recorded as non-compliance.

The switch breach report did record one late AW file. This was examined and found that WISE was unable to reach the customer within the required timeframe causing it to be late.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: 17 & 18 of schedule 11.3 From: 01-Apr-18 To: 31-May-19	Hunet One switch withdrawal not sent within two months of the event date. WISE One switch withdrawal not sent within two months of the event date. One switch withdrawal incorrectly rejected. One late AW file. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as the late files were sent as soon as they were known to be needing to be withdrawn and the one incorrectly rejected NW request was due to human error. The audit risk is rated as low as the number of late files is small in proportion to the overall number sent.

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: This instance was due to a human error occurred by our staff member. To prevent human error, our internal procedure has been monitored and process has been further strengthened.	19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: To reduce the occurrence of human error, internal procedure has been monitored and altered where necessary. Staffs will be provided with training to remind them of importance of inputting correct information.	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

Hunet and WISE

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

Hunet

All meter readings used in the switching process are validated meter readings or permanent estimates. This process is discussed further in **sections 4.3** and **4.10.**

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

WISE

All meter readings used in the switching process are validated meter readings or permanent estimates.

In most cases, the meter readings used in the switching process are validated meter readings or permanent estimates. I found that in some circumstances, the reads applied in CS files were not consistent with the AMI read for the switch date, or were not a reasonable estimate of the reading on the event date as discussed in **sections 4.3** and **4.10**. The total error for the sample checked was 1,413 kWh. WISE changed their process in June 2019 and now apply the disconnected read for the switch event meter reading date when the ICP switches away. In these cases, the active vacant consumption will be reconciled. I checked a further six examples (of both transfer and move in switches) post the WISE's process change and found four of the six examples where the correct final read has been applied and two examples where the last actual read hasn't been applied. This process is manual, and the correction was missed in the two instances where the last actual read wasn't used.

WISE's policies regarding the management of meter reading expenses is compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.16 With: 21 Schedule 11.3 From: 15-Aug-18 To: 31-May-19	WISE Readings in two CS files (post change) were inconsistent with the AMI read for the switch date or were not a reasonable estimate of the reading on the event date. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as weak, as as the process is manual and controls are not sufficient to prevent errors occurring. The impact is assessed as low overall, most CS files checked contained correct readings.

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: WISE has applied the final reading and read date on the vacant properties and WISE system automatically populates the last final reading value on the CS file.	19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: WISE system now generates a report for the vacant properties once a week and the final reading has been applied on the vacant properties. properties once a week and the final reading has been applied on the vacant properties.	Ongoing	

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

Hunet

The Electricity Registry switch save protected retailer list was examined to confirm that Hunet has been a switch protected retailer since 9 June 2017.

The process for the win back process was checked and no changes have been made since the March 2019 audit. In that audit I checked the event detail report from 1 April 2018 to 31 December 2018 to identify any withdrawn switches with a CX code applied prior to the switch completion date in relation to any switch save protected retailers.

WISE

The Electricity Registry switch save protected retailer list was examined and confirmed that WISE is not a switch save protected trader.

Win-back processes were examined to determine whether they are compliant. The event detail report for 15 August 2018 to 31 May 2019 was analysed to identify all withdrawn switches with a CX code applied prior to the switch completion date for any switch save protected retailer.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

No save activity is undertaken until the switch has completed. Review of the event detail report did not identify any NWs issued with a CX withdrawal reason code prior to completion of the switch.

WISE

WISE contacts the customers for ICPs requested by another retailer only to confirm that the switch request is valid. No win-back activity is initiated with lost customers during the switch.

The event detail report identified two CX coded switch withdrawal requests; both were for non-switch protected traders.

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

Hunet

The process to identify and monitor unmetered load was discussed. The registry list for 1 January 2019 to 31 May 2019 was reviewed to identify all unmetered load.

WISE

The process to identify and monitor unmetered load was discussed. The registry list for 15 August 2018 to 31 May 2019 was reviewed to identify all unmetered load.

Audit commentary

Hunet

Hunet does not supply any ICPs with shared unmetered load. No ICPs with unmetered load were identified on the registry list.

Processes to prevent ICPs with unmetered load from switching in, and to monitor existing ICPs for addition of unmetered load are discussed in **section 3.7**.

WISE

WISE does not supply any ICPs with shared unmetered load. No ICPs with unmetered load were identified on the registry list.

Processes to prevent ICPs with unmetered load from switching in, and to monitor existing ICPs for addition of unmetered load are discussed in **section 3.7**.

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

Hunet

The registry list for 1 January 2019 to 31 May 2019was reviewed to identify all unmetered load and assess compliance.

WISE

The registry list for 15 August 2018 to 31 May 2019 was reviewed to identify all unmetered load and assess compliance.

Audit commentary

Neither Hunet or WISE have supplied any unmetered load during the audit period and do not intend to.

Audit outcome

Compliant

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:*
    - *the date the limit was calculated or estimated to have been exceeded*
    - *the details of the corrective measures that the retailer proposes to take or is taking to reduce the unmetered load.*

Audit observation

Hunet

The registry list for 1 January 2019 to 31 May 2019 was reviewed to identify all unmetered load and assess compliance.

WISE

The registry list for 15 August 2018 to 31 May 2019 was reviewed to identify all unmetered load and assess compliance.

Audit commentary

Neither Hunet or WISE have supplied any unmetered load during the audit period and do not intend to.

Audit outcome

Compliant

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

Hunet

The registry list for 1 January 2019 to 31 May 2019 was reviewed to identify all unmetered load and assess compliance.

WISE

The registry list for 15 August 2018 to 31 May 2019 was reviewed to identify all unmetered load and assess compliance.

Audit commentary

Neither Hunet or WISE have supplied any distributed unmetered load during the audit period and do not intend to.

Audit outcome

Compliant

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

Hunet & WISE

The registry lists and meter installation detail reports as at 31 May 2019 were examined to determine whether any ICPs with generation were supplied during the audit period. Processes for distributed generation were reviewed.

Audit commentary

Hunet

Metering installations installed

Hunet's new connection process has not changed since the March 2019 audit and I confirmed it includes a check that metering is installed before electrical connection occurs.

No ICPs have submission information determined by subtraction, and all ICPs have an MEP recorded.

Distributed generation

Hunet supplies six ICPs with distributed generation. All have generation metering installed and the correct profile except for ICP 0000190719UN6B0 which switched into Hunet on 19 March 2019. This is recorded as non-compliance in **section 2.1**. The submission files checked confirmed generation is being submitted correctly.

Hunet has no customers who wish to gift their generation. As recorded in the May 2018 material change audit, the reads for generation are within the reading database and are being submitted correctly, but they are not imported into the customer's account and the generation volumes and associated credits are being calculated manually and applied to the customer's account. Hunet are about to adopt the recommendation made in that audit and the system will be updated to automate this process so that generation volumes are tracked within the customer's accounts. I viewed this in the test system during the site audit and it worked as expected.

Bridged meters

I confirmed that the process has not changed since the March 2019 audit. In that audit Hunet provided two examples of bridged meters during the audit period. The existence of bridged meters is recorded as non-compliance below. Corrections to capture the bridged consumption are discussed further in **section 8.1**.

WISE

Metering installations installed

WISE does not plan to accept new connections and there have been no new connections during the audit period.

No ICPs have submission information determined by subtraction, and all ICPs have an MEP recorded.

Distributed Generation

WISE's application process rejects any application which has "B" in the installation type field.

Analysis of the registry list found one ICP with generation capacity recorded by the distributor. WISE confirmed with the customer when they switched in that distributed generation has been removed. A check for generation volumes was also made. WISE advised the relevant network who then removed the generation details from the registry (for the incorrect date).

ICP	Switch in date	Generation removed
0001423961WEC30	18/03/2019	3/04/2019

Bridged meters

WISE provided a list of two ICPs where remote disconnection had occurred then the meter had been bridged to reconnect. The existence of bridged meters is recorded as non-compliance below. Non-compliance is recorded in **section 8.1** because corrections for consumption during the bridged period were applied for the incorrect period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: 10.13, Clause 10.24 and 15.13 From: 03-Apr-18 To: 27-Mar-19	<u>Hunet</u> While meters were bridged, energy was not metered and quantified according to the code for two ICPs. <u>WISE</u> While meters were bridged, energy was not metered and quantified according to the code for two ICPs. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as both Hunet and WISE has robust checks in place to detect and investigate ICPs with potential bridged meters. The audit risk rating is low the bridged meter corrections were processed in all instances.

Actions taken to resolve the issue	Completion date	Remedial action status
MegaTEL: We provided two examples of bridged meters during the audit period. These were unbridged and the volume for the bridged period has been calculated correctly and submitted for the correct month. Wise: WISE changed the process for bridged ICP's and modified the process on averaging the daily consumption on customer's usage since when the meters were counting correctly.	Already completed 19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
MegaTEL: MegaTEL will continue to focus on optimizing its standards by identifying and monitoring its performance and ways for improvement. Wise: We have changed our internal process to apply a calculation system for backdating data since the first occurrence of a bridged meter.	Ongoing	

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

The NSP table was reviewed to confirm whether Hunet or WISE were responsible for any GIPs.

Audit commentary

Review of the NSP table confirmed that neither Hunet or WISE are not responsible for 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

Hunet

The registry list as at 1 January 2019 to 31 May 2019 was reviewed to confirm the profiles used.

WISE

The registry list as at 15 August 2019 to 31 May 2019 was reviewed to confirm the profiles used.

Audit commentary

Examination of the list files found that both Hunet and WISE have only used the RPS profile, and control devices are not used for reconciliation purposes.

Audit outcome

Compliant

6.4. 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 is 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

Hunet and WISE

The data collection and clock synchronisation processes were examined.

Hunet and WISE's MEPs and agents are responsible for the collection of NHH AMI and non-AMI data. Collection of data and clock synchronisation were reviewed as part of their agent and MEP audits. A sample of clock synchronisation events received by both Hunet and WISE were reviewed.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

All information used to determine volume information is collected from the services interface or the metering installation by Hunet, one of their agents, or the MEP. Compliance is confirmed as part of their agents and MEP audits.

The agents and MEPs notify Hunet if and when clock synchronisation events occur. Hunet reviews these events to determine whether any corrections or adjustments are required.

All data is imported into Hunet's system including the meters read by FCLM that were previously being manually entered.

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

WISE

All information used to determine volume information is collected from the services interface by the MEP. Compliance is confirmed as part of the MEP audits.

MEPs provide information on clock synchronisation events via email, which are reviewed by WISE to determine whether any action is required. WISE has not received notification of any clock synchronisation events outside the maximum permissible errors during the audit period.

No manual reads are received for non AMI meters. Meter readings are estimated until the meter is upgraded, and a removal reading is obtained. WISE intends to only accepts customer applications where the meter is recorded as AMI capable on the registry.

The registry list found no ICPs without AMI metering. 13 ICPs without AMI capable metering were temporarily supplied during the audit period. Of those:

- six ICPs underwent meter replacements and are now receiving regular AMI reads;
- three ICPs had either the aerial or the modem replaced and are now receiving regular AMI reads;
- two ICPs switched in without AMI capable meters due to the check for this being missed and both have since switched away, these are discussed in **section 6.8;**
- ICP 0311873200LCFD0 started communicating again and is now receiving regular AMI reads; and
- ICP 0000141159WE3A3 has both a NGCM non-AMI capable meter and WEL network AMI capable meter on site, the WEL network meter has been loaded to the registry and AMI reads have been received since the site switched in on 30/5/19.

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

6.5. 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

Hunet and WISE

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

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

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

A sample of ten possible of defective meters were provided. Five were notified by the MEP to Hunet via the meter event process for action. These are discussed in **section 9.6**. Hunet notified the MEP for the remaining five ICPs. Corrections in relation to these ICPs are discussed in **section 8.1**.

WISE

Defective meters are typically identified through the meter reading validation process, or from information provided by the MEP or customer. Upon identifying a possible defective meter, WISE raises a field services job to investigate.

I confirmed that for the three possible defective meter examples provided, the MEP was notified and appropriate action was taken. All the examples related to communications issues, two defects relating to meter accuracy were identified. The meter was replaced in both instances. Estimates were recorded during the period of no reads. The ICP with the non-communicating meter was estimated during the period with no signal, and the reads were replaced with actual reads once they became available.

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

Hunet

The process for data collection was checked and no changes have been made since the March 2019 audit. In that audit I traced reads for a sample of four manually read NHH ICPs from the source files to Hunet's systems using the typical case sample methodology.

Processes to provide meter condition information were reviewed as part of Wells' agent audit. Hunet's processes to manage meter condition information were reviewed, including viewing work queues and examples of meter condition issues.

Processes for customer and photo reads were reviewed.

WISE

AMI data is provided by AMS, Metrix and WEL Networks as MEPs. Meters are not manually read.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

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 two read files from each provider which confirmed the data in Hunet's database matched the data in the files in all cases.

The customer read process was examined and found that customer reads are not used for reconciliation purposes. If the customer read indicates a potential discrepancy a check read is issued to confirm.

WISE

All meter readings are received from the MEP from the services interface, or through the switching process.

WISE does not currently supply any active ICPs with meters which are not AMI capable. If a meter stops communicating WISE estimates readings until the meter starts communicating again or is replaced. Staff check the ICP on the registry to confirm AMS, Metrix, or WEL Networks is the MEP, and that AMI metering is installed, prior to accepting a customer application. Two ICPs were switched in in error where they were not AMI capable. Both ICPs have switched out.

WISE does not complete any manual readings, nor does WISE accept customer readings.

Audit outcome

Compliant

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 for Hunet and WISE.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

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 except in the case of a switch event meter reading which applies to the end of the day prior to the event date for the losing trader and the start of the event date for the gaining trader as required by this clause.

All AMI systems have a clock synchronisation function, which ensures correct time-stamping. Manual readings taken by Wells are applied correctly.

Application of reads was reviewed as part of the historic estimate checks in **section 12.11** and found to be compliant.

The content of CS and RR files was examined in **sections 4.3**, **4.4**, **4.10** and **4.11**.

WISE

NHH meter readings provided by MEPs and agents are applied as at 2400hrs. Switch in readings are appropriately treated as if they have occurred at midnight on the switch in date. Application of reads was reviewed as part of the historic estimate checks, discussed in **section 12.11**.

The content of CS and RR files was examined in **sections 4.3**, **4.4**, **4.10** and **4.11**.

Audit outcome

Compliant

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

Hunet

The process to manage missed reads was examined.

Hunet provided a list of ICPs not read during the period of supply for the period of 1 January 2019 to 31 May 2019. This confirmed that all ICPs were read during the period of supply.

WISE

The process to manage missed reads was examined.

WISE provided a list of ICPs not read during the period of supply containing three ICPs for the period of 15 August 2018 to 31 May 2019. These were all checked.

Audit commentary

Hunet

Hunet's checks monthly for any ICPs that have not been read within 60 days of joining or have had no read gained for 200 days or more. All ICPs identified are assessed to determine if an AMI meter replacement is possible, or if this is not possible Wells are asked to obtain a special read. If gaining reads is going to be an ongoing issue, then Wells will arrange a special quarterly read process with the customer. This has greatly improved Hunet's read attainment. All customers are contacted using two different forms of communication at least three times. Hunet has no ICPs not read during the period of supply since 8/6/18.

WISE

All reads received are from AMI meters, from the MEP on meter exchange paperwork, or through the switching process. WISE require ICPs to have AMI capable metering installed prior to switching in. Two instances were found where this check was missed. Both ICPs were not read during the period of supply (and are included as two of the three not read detailed below). Both have since switched away.

ICPs with missing reads are checked twice weekly. If a communications issue is preventing reads from being attained and is not resolved quickly, a fault will be raised with the MEP. I reviewed these checks and saw evidence of issues being resolved and field services jobs being raised through this process.

Three ICPs where the period of supply ended during the audit period did not receive an actual read. The periods of supply were 1, 43, and 62 days respectively, and exceptional circumstances did not exist.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 28-Jun-18 To: 27-Mar-19	WISE Three ICPs did not have an actual read recorded during the period of supply, and exceptional circumstances did not exist. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate because they will mitigate the risk most of the time. The impact is assessed as low, because in all cases, the ICPs were domestic customers, and the period of supply was short.

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: These instances occur where there are 'no-communication' issues with meters, particularly with short term customers who used WISE service for few weeks only. WISE internal procedure and policy have been updated to ensure that non-communicating meters have been manually read prior to switching out.	19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: WISE is currently carrying out investigation with MEPs to identify the cause for repeat no comms issues and is seeking to resolve those. In the case where the issue has not been resolved, even after the investigation, WISE will arrange manual reading in the case of any no meter updates two weeks after switching in.	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).

Audit observation

Hunet

The meter reading process was examined. Monthly reports for December 2018 to May 2019 were provided; and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2. All ICPs were read.

WISE

The meter reading process was examined. Monthly reports for January 2019 to May 2019 were provided; and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2. All ICPs were read.

Audit commentary

Hunet

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
December 2018	43	-	-	100.0%
January 2019	42	-	-	100.0%
February 2019	42	-	-	100.0%
March 2019	41	-	-	100.0%
April 2019	41	-	-	100.0%
May 2019	40	-	-	100.0%

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment.

Hunet provides monthly reports on meter reading frequency to the Electricity Authority. I reviewed the reports for July to October 2018 in the March 2019 audit and confirmed that they were submitted on time.

I reviewed the content of the report for December 2018 to May 2019 and confirmed it met the requirements of clauses 8 and 9 of schedule 15.2.

WISE

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
January 2019	30	-	-	100.0%
February 2019	29	-	-	100.0%
March 2019	29	-	-	100.0%
April 2019	29	-	-	100.0%
May 2019	31	-	-	100.0%

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment.

Copies of the reports submitted to the EA from January 2019 to April 2019 were provided. The reports were in the required format and submitted on time.

Audit outcome

Compliant

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 4 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

Hunet

The meter reading process was examined. Monthly reports for December 2018 to May 2019 were provided; and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2. The one ICP not read on the NSP with less than a 90% read rate was reviewed to determine whether reasonable endeavours were used to attain reads, and if exceptional circumstances existed.

WISE

The meter reading process was examined. Monthly reports for January 2019 to May 2019 were provided; and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2. All ICPs were read.

Audit commentary

Hunet

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
December 2018	42	-	-	100%
January 2019	42	-	-	100%
February 2019	43	1	1	99.4%
March 2019	44	1	1	99.4%
April 2019	45	1	1	99.4%
May 2019	45	1	1	99.4%

Exceptional circumstances were proven for the one ICP not read on NSP WWC0011. The meter has been changed on this site and is now being read.

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment.

WISE

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
January 2019	38	-	-	100%
February 2019	38	-	-	100%
March 2019	37	-	-	100%
April 2019	38	-	-	100%
May 2019	38	-	-	100%

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment.

Audit outcome

Compliant

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

Hunet

NHH data is collected by:

- Datacol and Wells for manually read meters; and
- AMS, Metrix and FCLM for AMI meters.

The data interrogation log requirements were reviewed as part of their agent and MEP audits.

WISE

NHH data is provided by AMS, Metrix, and WEL Networks as MEPs. The data interrogation log requirements were reviewed as part of their agent and MEP audits.

Audit commentary

Hunet

Compliance with this clause has been demonstrated by Hunet's agents and MEPs as part of their own audits.

WISE

Compliance with this clause has been demonstrated by the MEPs as part of their own audits.

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

Hunet

Review of a registry list for the period from 1 January 2019 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

WISE

Review of a registry list for the period from 15 August 2018 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

Audit commentary

Compliance with this clause was not assessed, because Hunet and WISE do not deal with HHR readings.

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

Hunet

Review of a registry list for the period from 1 January 2019 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

WISE

Review of a registry list for the period from 15 August 2018 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

Audit commentary

Compliance with this clause was not assessed, because Hunet and WISE do not deal with HHR readings.

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

Hunet

Review of a registry list for the period from 1 January 2019 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

WISE

Review of a registry list for the period from 15 August 2018 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

Audit commentary

Compliance with this clause was not assessed, because Hunet and WISE do not deal with HHR readings.

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 ±0.1% (±2 seconds).

Audit observation

Hunet

Review of a registry list for the period from 1 January 2019 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

WISE

Review of a registry list for the period from 15 August 2018 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

Audit commentary

Compliance with this clause was not assessed, because Hunet does not deal with HHR readings.

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

Hunet and WISE

Processes to archive and store raw meter data were reviewed. Raw meter data from at least 48 months prior was reviewed to ensure that it is retained.

Hunet's agents and the MEPs for both Hunet and WISE retain a copy of the raw meter data, and their compliance with the archiving and storage requirements were reviewed as part of their agent and MEP audits.

Audit trails were reviewed in **section 2.4**.

Audit commentary

Hunet

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

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

WISE

Review of audit trails confirmed that reads cannot be modified without an audit trail being created. This is discussed further in **section 2.4**. Access to modify readings is restricted through log on privileges.

WISE intends to retain meter reading data for over 48 months. I viewed the meter readings for WISE's first ICP (0258253088LCBBE) and found that the earliest meter readings from November 2015 had been retained.

I traced readings for two ICPs each for AMS, Metrix, and WEL Networks from the source data to PEBS. All reads matched the source data. This confirmed that the reads had not been modified.

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 for Hunet and WISE to record non-metering information were discussed.

Audit commentary

Hunet and WISE do 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 a reconciliation participant detects errors while validating non-half hour meter readings, the reconciliation participant must:

19(1)(a) - confirm the original meter reading by carrying out another meter reading

19(1)(b) – replace the original meter reading the second meter reading (even if the second meter reading is at a different date)

19(1A) if a reconciliation participant detects errors while validating non half hour meter readings, but the reconciliation participant cannot confirm the original meter reading or replace it with a meter reading from another interrogation, the reconciliation participant must:

- *substitute the original meter reading with an estimated reading that is marked as an estimate; and*
- *subsequently replace the estimated reading in accordance with clause 4(2)*

Audit observation

Processes for correction of NHH meter readings were reviewed for Hunet and WISE.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

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.

May 2018 audit issues

The 2018 audit found Hunet had stopped submitting corrections until their new submission system was approved. Corrections identified in the 2018 audit which were not submitted were re-checked:

Correction type	2018 findings	2019 findings
Defective meters	Two ICPs had defective meters and the meters were changed. The volumes for the defective periods have been calculated correctly. As detailed above these volumes will not be submitted until the material change has been approved.	Corrections have been submitted

Correction type	2018 findings	2019 findings
Vacant consumption	I checked five ICPs with active vacant consumption present. Consumption has been correctly calculated for all of the ICPs, but as detailed above these have not been processed since the last audit as the current submission file is not allocating these correctly. The material change audit undertaken confirmed that these were allocated correctly in the new submission system and these are expected to be submitted once the material change has been approved.	Corrections have been submitted
Bridged meters	I reviewed five ICPs with bridged meters. These were unbridged but their current system is not able to manage where a stopped meter restarts and these volumes have not been submitted. This is recorded as non-compliance. As part of the material change audit, I checked that the new system will calculate the volumes for the bridged period and found the values could be seen in the meter data but these were not present in the submission file. Hunet have corrected this and the submission files provided post the site audit confirmed that these values flow through as expected to the submission file.	Corrections have been submitted
Incorrectly keyed FCLM reading	One meter reading was incorrectly entered into Hunet's system for an FCLM meter.	Correction has been submitted

Defective meters

I reviewed ten examples of stopped or defective meters. All were confirmed to have been calculated and submitted correctly.

Inactive and vacant ICPs with consumption

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

As described in **section 3.3**, the management of status is managed through the "Disco Reco Manager".

Hunet provided a list of ten ICPs with consumption while disconnected, which were reviewed. Nine did not have genuine consumption while disconnected. The ICP with genuine consumption had a status correction processed and the volume was correctly submitted.

Hunet provided a list of two ICPs with vacant consumption, which were reviewed and confirmed that the volume has been submitted correctly.

Bridged meter corrections

Hunet provided two examples of bridged meters during the audit period. These were unbridged and the volume for the bridged period has been calculated correctly and submitted for the correct month.

Multiplier corrections

Hunet advised that no multiplier corrections occurred during the audit period. Review of historic estimate calculations in **section 12.11** confirmed that multipliers are correctly applied.

Transposed meter corrections

Hunet advised that there have been no transposed meter corrections during the audit period. These would be managed in the same way as any other correction.

WISE

Where errors are detected during the validation process, WISE may review AMI readings for surrounding dates. If an original meter reading cannot be confirmed by another reading, the original read will be removed from the customer account so it will not be used for billing or reconciliation. An estimated reading is used for billing, and forward estimate is created for reconciliation. The actual readings will be retained against the ICP meter and register.

I reviewed examples of corrections to determine whether they had been processed correctly and flowed through to revision submissions.

Defective meters

Where a defective meter is identified a field services job is raised, and the meter is usually replaced.

I reviewed three examples of possible defective meters:

- Two of the defective meters were replaced.
    - The meter replacement paperwork removal read was correctly processed for ICP 0399088172LC187.
    - The meter had stopped recording for ICP 0534050159LC7EC and the volume for the non-read period was estimated over the incorrect number of days resulting in 280 kWh of under submission. This is recorded as non-compliance.
- The modem was replaced for ICP 0000803225HB765 and the ICP began communicating again so no correction was required.

Bridged meters

Bridged meters are typically identified through consumption validations, or if the MEP notifies WISE of load side voltage. WISE rarely completes manual disconnections, bridging only occurs where an ICP cannot be remotely reconnected.

WISE manually estimate consumption based on the average daily consumption (if known) or a daily value agreed with the customer. This is expected to be multiplied across the bridged period. WISE provided two examples of bridged meters and I found that the corrections had not been applied for the correct bridged period resulting in 44 kWh of under consumption due to a misunderstanding. WISE is now clear on what correction period is required in these instances. This is recorded as non-compliance.

Multipliers

No WISE ICPs have meter multipliers, and no ICPs requiring multiplier corrections were identified.

Transposed meter readings

No ICPs with transposed meter readings were identified during the audit period.

Inactive ICPs with consumption

For consumption to be included in historic estimate calculations, the following must occur:

1. The ICP status must be active for at least part of the read to read period.
2. The readings must be recorded against the customer account.

ICPs are usually disconnected and moved to inactive status when the customer account is terminated, or soon after. The status is updated to inactive on the registry effective from the first full day that the ICP was inactive.

Previously the disconnection read was not entered onto the customer account if the disconnection read occurred after the date the account was terminated. Therefore, because only reads recorded on a customer account were used by the reconciliation process, this can result in under reporting of consumption where disconnection occurs after the account termination date. In June 2019, WISE changed their process and now apply the disconnected read for the switch event meter reading date when the ICP switches away.

Weekly, WISE reports on ICPs where there is a difference between the final read recorded on the customer account and the latest read received by the MEP. The ICPs are individually reviewed to determine whether the consumption is genuine. If the consumption is genuine, a job is raised to re-disconnect, unless the ICP is in the process of switching out. Once the customer has made contact to reconnect the ICP, the status is returned to active and the reads during the affected period are loaded on the customer's account so that they are available for billing and reconciliation.

WISE provided a list of 21 ICPs with inactive status and consumption after the final reading on the customer's account.

- Seven ICPs had a 1 kWh consumption difference and I was unable to confirm whether there was genuine consumption while inactive.
- Seven had consumption of greater than 1 kWh but the final read recorded on the customer's account differed from the disconnection read, resulting in under reported consumption which is discussed further in **section 12.7**; the status dates were correct on the registry.
- Five ICPs switched to another retailer and the final disconnection read was applied for the switch event meter reading. In these cases, the active vacant consumption will be reconciled but the read is being applied for the incorrect read date resulting in the consumption being allocated incorrectly.
- Two ICPs switched to another retailer for the period with inactive consumption, and no correction was required.

Compliance is recorded in this section because the ICPs with genuine consumption while disconnected had been appropriately corrected. The issues identified relate to the processing of the disconnections and are recorded as non-compliance in **sections 3.9** and **12.7**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.1 With: Clause 19(1) Schedule 11.1 From: 15-Aug-18 To: 31-May-19	WISE Three corrections not applied for the correct period (1 defective meter and 2 bridged meters). Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate as they are sufficient to ensure that corrections correctly are processed most of the time. The audit risk is rated as low, as the number of ICPs bridged is small.

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: WISE changed the process for bridged ICP's and modified the process on averaging the daily consumption on customer's usage since when the meters were counting correctly.	19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: We have changed our internal process to apply calculation system for backdating data since the first occurrence of bridged meter.	Ongoing	

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 a reconciliation participant detects errors while validating half hour meter readings, the reconciliation participant must correct the meter readings as follows:

19(2)(a) - if the relevant metering installation has a check meter or data storage device, substitute the original meter reading with data from the check meter or data storage device; or

19(2)(b) - if the relevant metering installation does not have a check meter or data storage device, substitute the original meter reading with data from another period provided:

- *(i) The total of all substituted intervals matches the total consumption recorded on a meter, if available; and*
- *(ii) The reconciliation participant considers the pattern of consumption to be materially similar to the period in error*

Audit observation

Hunet

Review of a registry list for the period from 1 January 2019 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

WISE

Review of a registry list for the period from 15 August 2018 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

Audit commentary

Compliance with this clause was not assessed, because Hunet and WISE do not deal with HHR readings.

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

A reconciliation participant may use error compensation and loss compensation as part of the process of determining accurate data. Whichever methodology is used, the reconciliation participant must document the compensation process and comply with audit trail requirements set out in the Code.

Audit observation

Hunet

Error and loss compensation arrangements were discussed.

Review of a registry list for the period from 1 January 2019 to 31 May 2019 to determine the metering category for Hunet's ICPs.

WISE

Error and loss compensation arrangements were discussed.

Review of a registry list for the period from 15 August 2018 to 31 May 2019 to determine the metering category for WISE's ICPs.

Audit commentary

Hunet and WISE confirmed there are currently no error or loss compensation arrangements in place.

All Hunet's and WISE's ICPs have metering category 1 or 2, and error and loss compensation is not required.

Audit outcome

Compliant

8.4. Correction of HHR and NHH raw meter data (Clause 19(4) and (5) Schedule 15.2)

Code reference

Clause 19(4) and (5) 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:

19(5)(a)- the date of the correction or alteration

19(5)(b)- the time of the correction or alteration

19(5)(c)- the operator identifier for the person within the reconciliation participant who made the correction or alteration

19(5)(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

19(5)(e)- the technique used to arrive at the corrected data

19(5)(f)- the reason for the correction or alteration.

Audit observation

Hunet and WISE

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

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Hunet's agents and MEPs collect and retain raw NHH reading information. Compliance with the requirements to retain raw reading data was assessed as part of their agent and MEP audits.

An appropriate audit trail is created when NHH meter reading data is modified. These audit trails are discussed further in **section 2.4**.

WISE

Raw meter data is held by MEPs.

An appropriate audit trail is created when NHH meter reading data is modified. These audit trails are discussed further in **section 2.4**.

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

Hunet and WISE

A sample of reads and volumes were traced from the source files to Hunet's and WISE's systems in **section 2.3**.

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 **sections 8.1**.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Volume information is directly derived from validated meter readings, estimated readings, or permanent estimates.

In the May 2018 audit I noted that estimated start and end reads were not being treated as permanent estimates. This has been corrected with the new system.

WISE

Readings are clearly identified in PEBS, and this was confirmed by reviewing a sample of actual and estimated readings.

I found that read types were recorded correctly. Where I found read types were incorrectly recorded in CS files in **sections 4.3** and **4.10**, it was because an incorrect read had been selected. The read types applied were correct for the selected reads.

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 for Hunet and WISE was reviewed in **section 12**, to confirm that volume was based on readings as required.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Volume information is directly derived from validated meter readings, estimated readings, or permanent estimates.

In the May 2018 audit, I noted that estimated start and end reads were not being treated as permanent estimates. This has been corrected with the new system.

WISE

Volume information is directly derived from validated meter readings, estimated readings, or permanent estimates.

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

Hunet and WISE

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

I reviewed the method to receive meter reading information and traced a sample of reads for two ICPs per provider from the source files to Hunet and WISE's systems in **section 6.5**.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

The MEP or agent retains raw, unrounded data. Compliance with this clause has been demonstrated by Hunet's MEPs and agents as part of their audits.

NHH Meter readings are not truncated or rounded.

WISE

AMI data provided by MEPs is truncated on import, readings are recorded to zero decimal places. The MEP retains the raw, unrounded data. This has previously been recorded as compliant because the MEP has the unrounded raw meter data, however a recent review of the wording of this clause has led to a revised interpretation, which is that rounding should not occur until volume information is created. Rounding occurs prior to the creation of volume information, therefore non-compliance exists.

For the metered installations, there is little impact because all submission is NHH, therefore any minor over or under submissions in a month will be corrected in the next month.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.3 With: Clause 3(5) Schedule 15.2 From: 15-Aug-18 To: 31-May-19	<u>WISE</u> Raw meter data is rounded upon receipt and not when volume information is created. Potential impact: Low Actual impact: None Audit history: Once Controls: None Breach risk rating: 5
Audit risk rating	**Rationale for audit risk rating**
Low	There are no controls to prevent rounding of raw meter data, the system is designed to round as soon as the data arrives. There is very little impact because no metered consumption information is "missing", therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: WISE was surprised to discover that this instance was considered as non-compliance when it was never the case previously. WISE will update the procedure to use raw meter data when submitting the report. WISE uses 100% AMI meters and daily base charging method, which allow us to produce the most accurate meter reading compared to others. Therefore, WISE believes that our level of accuracy is higher than when following the rounding method of this compliance. We would like to ask for re-consideration with this factor (accuracy) in mind.	30/09/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: WISE will update the procedure to use raw meter data when submitting the report.	30/09/2019	

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

Hunet

Review of a registry list for the period from 1 January 2019 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

WISE

Review of a registry list for the period from 15 August 2018 to 31 May 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

Audit commentary

Compliance with this clause was not assessed, because Hunet and WISE does not deal with HHR readings.

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

Hunet and WISE

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

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

NHH data is validated by several processes.

Meter reader validation

For those sites read manually by Wells a localised validation occurs at the hand-held device to ensure the reading is within expected high/low parameters. Readings outside these parameters have to be re-entered and acknowledged. A meter cannot be skipped without reading unless a reason is entered.

Hunet system validation

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.

A further validation occurs within Hunet's system, which checks:

- 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;
- correct number of dials; and
- zero consumption across a month.

In addition, some individual invoices are checked manually on a monthly basis.

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

Vacant and inactive consumption

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

Corrections for inactive and vacant consumption were reviewed in **section 8.1**.

Reconciliation submissions

Processes to review reconciliation submission information are discussed in **section 12.3.**

WISE

All reads received are from AMI meters, from the MEP on meter exchange paperwork, or through the switching process.

Read import validation

I confirmed that the WISE's daily read import process checks:

- readings relate to the correct ICP meter and register - if a match is not found, the information appears on an error log which is reviewed each morning;
- the date and time is valid, and matches the expected date - the process only imports midnight reads, so if there is no midnight read available for the previous day it will be recorded as a missing read;
- the ICP has an active customer account - if there is no active account, the read is imported against the ICP and meter register but not recorded on a customer account until the ICP switches away; and
- whether the read is the same as, higher, or lower than the previous read - if the read is lower, a meter rollover is automatically processed (if a lower reading occurred due to a previous high estimate rather than a genuine meter rollover, it will be detected through the post import validation checks).

Post import validation

Further validations occur after reads are imported:

- any ICPs where the daily consumption is not between 2kWh and 70 kWh are checked individually to determine whether the consumption is correct and if a read renegotiation is required - these checks will help to identify possible stopped meters, bridged meters, and where reads lower than a previous read have been incorrectly treated as meter rollovers ;
- daily credit reviews identify customers with high or low balances, which are investigated; and
- missing reads are checked twice weekly, and if the issue is not resolved quickly, a fault will be raised with the MEP.

In the event that an actual read is genuinely lower than the previous reading, WISE request a read renegotiation if the difference is more than 200 kWh, or will estimate zero consumption until the reads "catch up" to the switch in read if the difference is less than 200 kWh.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

Hunet and WISE

Review of electronic read validation processes and meter event logs, including checking examples of validations.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

AMI reads are validated in Hunet's system using the same processes described in **section 9.5.**

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

Hunet checks for event logs, meter condition reports or notifications as part of BAU and none have been received from AMS or FCLM during the audit period.

WISE

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

Meter event reports are received and reviewed. I viewed a sample of the reports and found that they typically contain power failure, power up and down events. I did not find any examples where events affecting meter accuracy had occurred.

- AMS and WEL networks provide full meter event reports via FTP and will email any events requiring further investigation. None have been received during the audit period.
- Metrix provides meter events that require a service order to be raised via email, and a monthly summary of meter events via FTP.

Audit outcome

Compliant

10. PROVISION OF METERING INFORMATION TO THE GRID OWNER 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 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

The NSP table on the registry was reviewed.

Audit commentary

Hunet and WISE are not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

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 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 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

The NSP table on the registry was reviewed.

Audit commentary

Hunet and WISE are not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

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

The NSP table on the registry was reviewed.

Audit commentary

Hunet and WISE are not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

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 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

The NSP table on the registry was reviewed.

Audit commentary

Hunet and WISE are not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

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

Hunet

The registry list for 1 April 2018 to 10 January 2019 was reviewed to confirm the profiles used.

WISE

The registry list for 15 August 2018 to 31 May 2019 was reviewed to confirm the profiles used.

Audit commentary

Hunet and WISE have only used the RPS profile, and trading notifications are not required.

Audit outcome

Compliant

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

Hunet and WISE

The process for the calculation of ICP days was examined by checking ten NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct.

I reviewed variances for 12 months of GR100 reports and investigated variances.

Audit commentary

Hunet

Breach information provided by the Electricity Authority did not identify any late ICP days submissions.

The process for the calculation of ICP days was examined in the March 2019 audit by checking November 2018 ICP days for five NSPs with a small number of ICPs each. The ICP days calculation was confirmed to be correct for the NSPs checked.

The following table shows the ICP days difference between Hunet files and the RM return file (GR100) for all available revisions for 12 months.

Month	Ri	R1	R3	R7	R14
Aug 2017	-0.08%	-0.04%	-0.26%	-0.28%	0.75%
Sept 2017	-0.24%	-0.27%	-0.37%	-0.37%	0.39%
Oct 2017	-0.38%	-0.37%	-0.37%	0.00%	0.34%
Nov 2017	-0.38%	-0.36%	-0.38%	0.00%	0.29%
Mar 2018	-	-	-0.02%	0.47%	-0.02%
Apr 2018	-	-	0.00%	0.11%	-
May 2018	-	-0.02%	0.00%	0.09%	-
Jun 2018	0.00%	-0.02%	0.00%	0.05%	-
Jul 2018	0.01%	0.02%	1.03%	-0.02%	-
Aug 2018	-0.01%	0.01%	0.04%	-0.02%	-
Sep 2018	0.02%	1.14%	0.04%	-0.02%	-
Oct 2018	0.00%	0.00%	-0.02%	-0.02%	-
Nov 2018	0.00%	0.02%	-0.02%	-	-
Feb 2019	0.01%	0.02%	0.00%	-	-
Mar 2019	0.03%	0.03%	-	-	-

In the March 2019 audit I investigated the differences for the revisions with a larger expected difference (August to November 2017 R14s, March 2018, April 2018 and May 2018 R7, July 2018 R3 and September 2018 R1). This found that Hunet had moved nine decommissioned ICPs from their internal database to remove them from their internal CRM but this inadvertently removed them from the electricity reporting. This also removed the volumes from the submission. This affected submissions made in the months from October 2018 through to January 2019. The database was corrected and I confirmed in this audit that volumes associated with these ICPs has flowed through in the next revision for those prior to revision 14 submissions. As noted in the March 2019 audit the R14 revisions for August 17 - November 17 for eight of the nine decommissioned ICPs resulted in 50,588 kWh that has not been reconciled and is now outside of the revision period.

In addition to this 64 ICPs had an invalid meter termination date resulting in the ICPs being incorrectly recorded as disconnected in the files submitted in October 2018. The volume of ICPs affected by month are detailed in the table below:

Month	Revision	ICPs affected	ICP day discrepancy
Sep 2018	R1	64	1,897
July 2018	R3	55	1,705
Mar 2018	R7	18	558
August 2017	R14	10	248

In the March 2019 audit I noted that this was identified and corrected for the submission submitted in November 2018 and was expected to flow through with the next revision. In this audit I have checked the R3 revisions for September 2018, R7 for July 2018 and R14 for March 2018 and confirmed that all the previously missing ICPs were present with correct volumes. The August 2017 R14 was submitted with the kWh volume missing for ten ICPs. This resulted in 7,761 kWh that has not been submitted and is outside of the revision period.

The 2018 audit found ICP days were being double counted for ICPs with multiple meters or registers. This was resolved when the new system was deployed. I checked ICP days calculations for a sample of ICPs with more than one meter channel, which confirmed that this has been resolved.

WISE

Breach information provided by the Electricity Authority did not identify any late ICP days submissions.

The process for the calculation of ICP days was examined by checking April 2019 ICP days for five NSPs with a small number of ICPs each. The ICP days calculation was confirmed to be correct for the NSPs checked.

The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between WISE's database and the RM return file (GR100) for all available revisions for 12 months. Negative percentage figures indicate that WISE's ICP days are higher than those contained on the registry, and positive percentage figures indicate that the WISE's ICP days are lower than those contained on the Registry.

Month	Ri	R1	R3	R7	R14
Jan 2018	-0.36%	-0.33%	0.00%	0.00%	0.00%
Feb 2018	-0.41%	-0.40%	-0.07%	0.00%	0.00%
Mar 2018	0.00%	0.00%	0.00%	0.00%	0.00%
Apr 2018	0.04%	0.01%	0.00%	0.00%	0.00%
May 2018	-0.15%	-0.07%	-0.06%	0.00%	-
Aug 2018	-0.16%	0.01%	0.00%	0.00%	-
Sept 2018	-0.13%	-0.01%	0.00%	0.00%	-
Nov 2018	-0.03%	0.00%	0.00%	0.00%	-
Dec 2018	-0.07%	-0.05%	0.00%	-	-
Jan 2019	-0.01%	0.00%	0.00%	-	-
Feb 2019	0.00%	0.00%	-0.04%	-	-
Mar 2019	-0.03%	0.00%	0.00%	-	-

Audit outcome

Compliant

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

Hunet

The process for the calculation of as billed volumes was checked and no changes have been made since the March 2019 audit. In that audit I checked five NSPs with a small number of ICPs to confirm the AV120 calculation was correct.

GR130 reports for January 2016 to November 2018 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late.

WISE

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs to confirm the AV120 calculation was correct.

GR130 reports for January 2016 to November 2018 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late.

Audit commentary

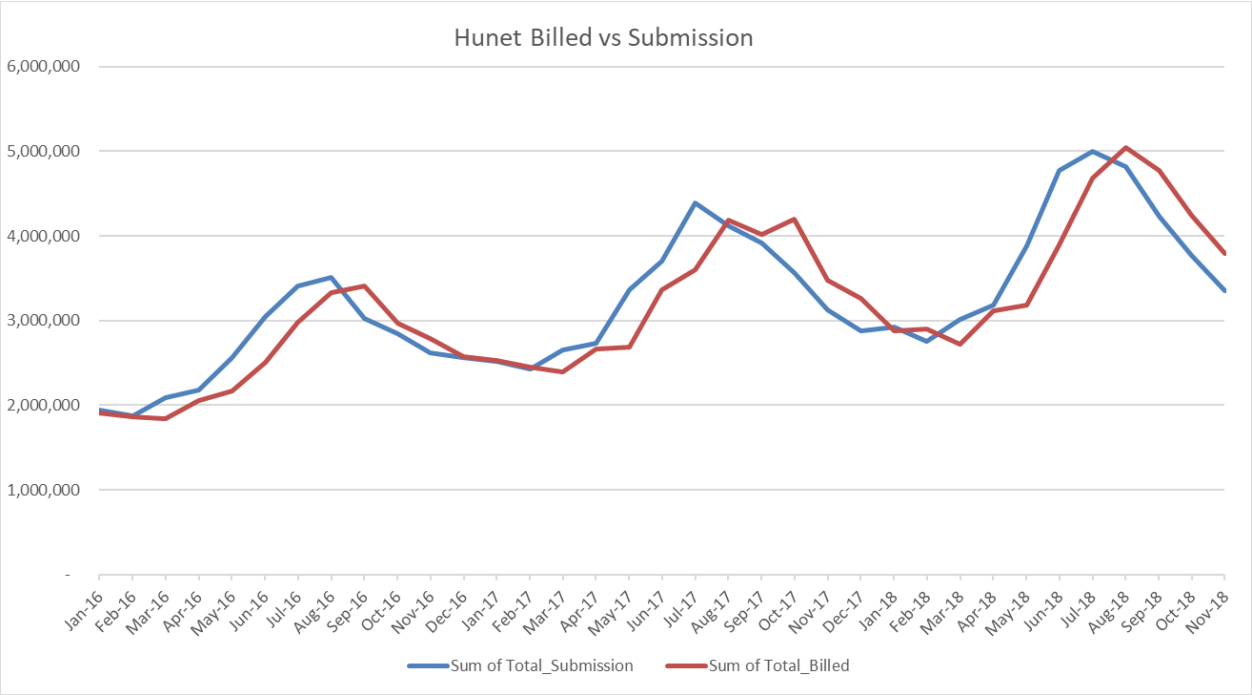
Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

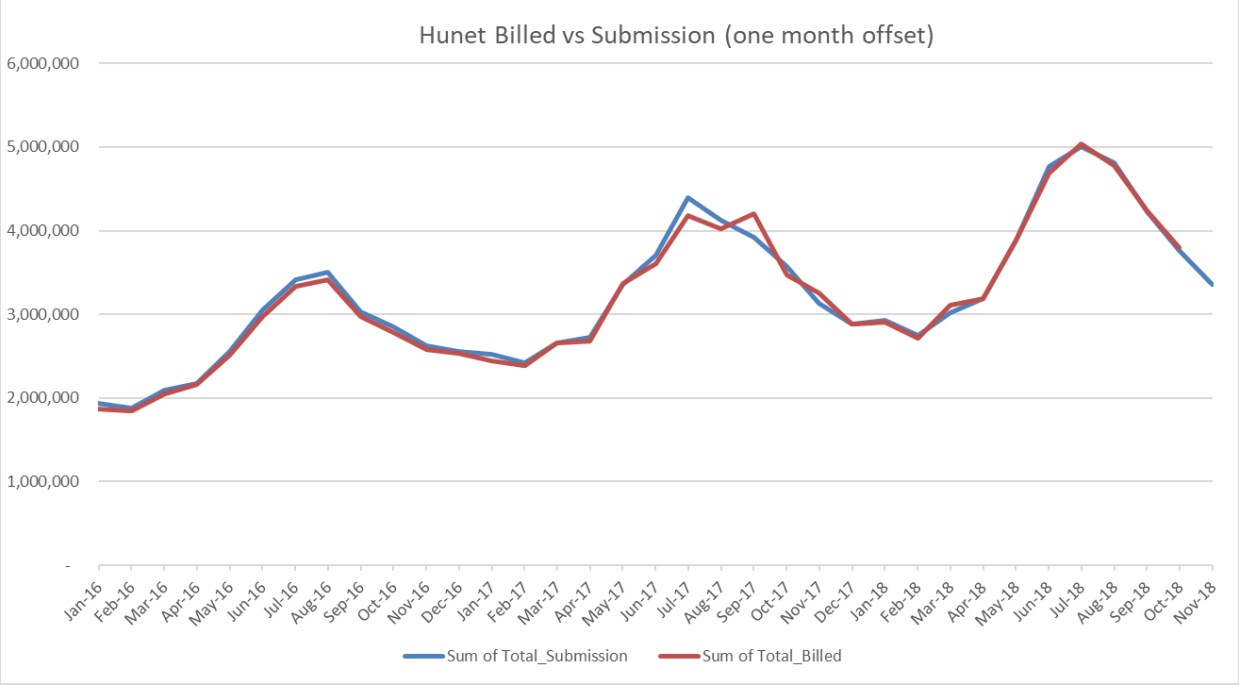
No breaches were recorded for late provision of submission information.

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

I also checked the difference between submission and electricity supplied information for a 35-month period, and the results are shown chart below. The total difference is 0.21% for the year ended November 2018 (billed lower than submission).



The differences appear to relate to timing; once the invoice and reconciliation periods are aligned the difference is very small.

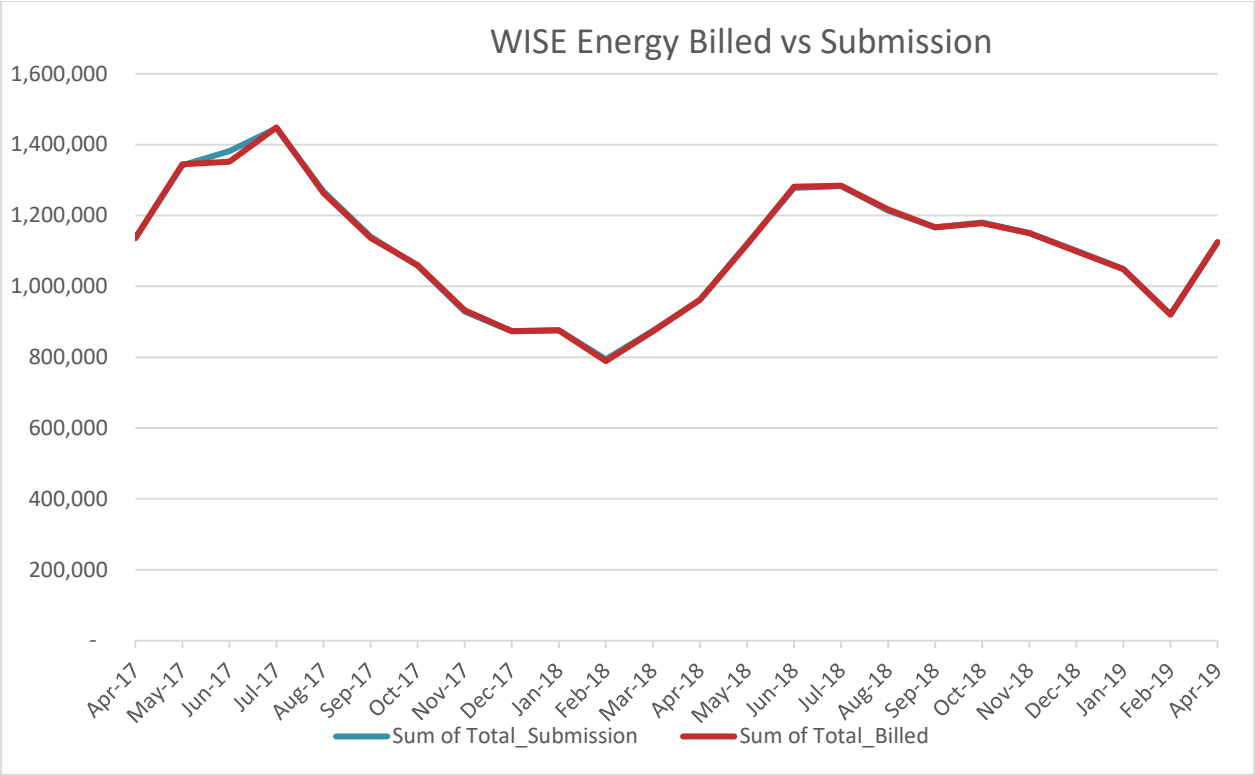


As discussed in **Section 8.1,** active vacant consumption is being submitted.

WISE

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

I also checked the difference between submission and electricity supplied information for a 24-month period, and the results are shown chart below. The total difference is 0.02% for the year ended April 2019 (billed lower than submission).



As discussed in **Section 8.1,** active vacant consumption is being submitted when the ICP switches away.

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

Hunet

Review of a registry list for the period from 1 April 2018 to 10 January 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

WISE

Review of a registry list for the period from 15 August 2018 to 31 May 2019 confirmed that WISE has not supplied any ICPs with submission type HHR.

Audit commentary

Compliance with this clause was not assessed, because Hunet and WISE does not deal with HHR readings.

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 1 of the techniques set out in clause 15.36(3) specified by the Authority.

Audit observation

Hunet

Review of a registry list for the period from 1 April 2018 to 10 January 2019 confirmed that Hunet has not supplied any ICPs with submission type HHR.

WISE

Review of a registry list for the period from 15 August 2018 to 31 May 2019 confirmed that WISE has not supplied any ICPs with submission type HHR.

Audit commentary

Compliance with this clause was not assessed, because Hunet and WISE does not deal with HHR readings.

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

Hunet and WISE

Processes to ensure that NHH and generation submissions are accurate were reviewed.

A list of breaches was obtained from the Electricity Authority.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

No breaches were recorded for late provision of submission information.

Hunet prepares NHH submissions using their database.

A sample of NHH ICPs were checked to make sure they are handled correctly including distributed generation, and vacant ICPs with consumption:

- all ICPs with injection/export registers were checked and found that generation consumption was correctly submitted;
- all ICPs with vacant consumption were checked and found that vacant consumption was correctly submitted; and
- no ICPs with unmetered load are supplied.

A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **section 8.1**.

NHH volumes are reviewed prior to submission, these checks are discussed in **section 12.3**.

WISE

WISE prepares NHH submissions using their database.

A sample of NHH ICPs were checked to confirm whether they were handled correctly:

- no ICPs with genuine vacant consumption were identified - WISE rarely supplies active-vacant ICPs, their policy is to disconnect as soon as an ICP becomes vacant;
- disconnected ICPs with consumption were reviewed in **section 8.1 -** all ICPs with genuine consumption while disconnected were appropriately corrected;
- one ICP had generation capacity added by the distributor during the audit period -as discussed in **section 6.1** the ICP switched out before WISE confirmed whether generation was installed; and
- no ICPs with unmetered load were supplied.

There were no alleged breaches for late provision of information.

Audit outcome

Compliant

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

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

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

Audit observation

Hunet and WISE

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

Processes to ensure that NHH are accurate were reviewed. The GR170 and AV080 files for ten revisions were compared, to confirm zeroing occurs.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Detailed meter register level supporting data was provided for ten submissions and reviewed to confirm that the AV080 report is correctly aggregated. NHH volume calculation was confirmed to be correct.

The checks carried out of the GR170 and AV080 files for ten revisions were compared to ten revision submissions, and found to contain the same NSPs, confirming that zeroing is occurring as required.

WISE

Detailed meter register level supporting data was provided for ten submissions and reviewed to confirm that the AV080 report is correctly aggregated. NHH volume calculation was confirmed to be correct.

GR170 and AV080 files were compared for seven months and revisions, and found to contain the same NSPs, confirming that zeroing is occurring as required.

Audit outcome

Compliant

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

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

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

Audit observation

Registry lists with history were reviewed for the audit period to confirm that Hunet and WISE have not supplied any GIPs.

Audit commentary

Examination of the list files found that Hunet or WISE have not supplied any GIPs. Hunet and WISE are 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

Registry lists for Hunet and WISE were reviewed to confirm that they do not own any local or embedded networks.

Audit commentary

Hunet and WISE are 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

Registry lists for Hunet and WISE and the NSP table were reviewed.

Audit commentary

Hunet and WISE are not a grid connected generator; compliance was not assessed.

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

Hunet

Alleged breaches since the last audit was undertaken in March 2019 the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections are discussed in **sections 8.1**, and the accuracy of submission files was evaluated.

WISE

Alleged breaches since the last audit was undertaken in November 2018 the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **sections 8.1**, and the accuracy of submission files was evaluated.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. In that audit I recorded:

No breaches were recorded for late provision of submission information.

Submission accuracy issues identified in the 2018 audit were followed up:

- The issue of a meter reading being incorrectly manually entered into Hunet's system for an FCLM meter was corrected (as detailed in **section 8.1**) and this process is now automated so no data is manually entered, as detailed in **section 6.5**.
- The corrections that were not processed prior to the system change have now been submitted and this is was confirmed in **section 8.1**.

The submission accuracy was checked for ten months and confirmed to be correct.

As discussed in **section 11.2**, It was found in the March 2019 audit that Hunet had moved nine decommissioned ICPs in their internal database to remove them from their internal CRM but this inadvertently removed them from the electricity reporting and therefore the volumes associated with these ICPs This affected submissions made in the months from October 2018 through to January 2019. The database has been corrected and the volumes associated with these ICPs have flowed through in the next revision for those prior to revision 14 submissions. The R14 revisions for August 17 - November 17 for eight of the nine decommissioned ICPs resulted in 50,588 kWh that has not been reconciled and this is now outside of the revision period.

In addition to this 64 ICPs had an invalid meter termination date resulting in the ICPs being incorrectly recorded as disconnected in the files submitted in October 2018.

Month	Revision	ICPs affected
Sep 2018	R1	64
July 2018	R3	55
Mar 2018	R7	18
Aug 17	R14	10

This was identified and corrected for the submission submitted in November 2018 and was expected to flow through with the next revision. I checked the R3 revision for September 2018, R7 for July 2018 and R14 for March 2018 where all the previously missing ICPs were present with the correct volumes. The August 2017 R14 was submitted with the kWh volume missing for ten ICPs. This resulted in 7,761 kWh that has not been submitted and is now outside of the revision period.

WISE

No breaches were recorded for late provision of submission information.

Submission accuracy issues identified in the November 2018 audit were followed up:

- the ICP reporting error has been cleared;
- consumption for bridged meters is now estimated, however the two examples provided were both applied for the incorrect period; and
- readings used to calculate historic estimates:
    - All readings are recorded in PEBS, and readings that occur while a customer account is active are also recorded against the customer account. The historic estimate and CS processes apply the reads recorded on the customer account only. In most cases, the customer account will record all readings for an ICP. Previously the disconnection read was not entered onto the customer account if the disconnection read occurred after the date the account was terminated. Therefore, because only reads recorded on a customer account were used by the reconciliation process, this was resulting in under reporting of consumption where disconnection occurs after the account termination date. In June 2019, WISE changed their process and now apply the disconnected read for the switch event meter reading date when the ICP switches away. In these cases, the active vacant consumption will be reconciled. The same issue remains for those ICPs that stay with WISE any active vacant consumption post the customers account terminating is not being reconciled.

WISE provided a list of 21 ICPs with inactive status and consumption after the final reading on the customer's account and the disconnection date. I found that some unreported consumption has occurred for those ICPs that haven't switched away. This is recorded as non-compliance in **section 8.1** and below. The affected ICPs are:

ICP	Final reading date	Disconnection	kWh under reported
0001222995HBBA4	8/07/2019	9/07/2019	6
0307587029LCE7F	24/10/2017	31/10/2017	2
0322729041LC42F	8/07/2019	9/07/2019	8
0369637917LC4DD	18/03/2019	19/03/2019	67
0427415039LC742	4/06/2019	5/06/2019 (latest read)	11
0433141034LC05E	8/07/2019	9/07/2019	34
1001283097LC934	4/07/2019	9/07/2019	10
Total			138

Historic estimate calculation

As noted in the previous audit, historic estimate is calculated based on the status on the registry and the reads recorded on the customer's account. Where the registry status is incorrect, or reads are not recorded on the customer's account or not applied for the correct read date, historic estimate may not reflect the actual consumption or be allocated across the correct period.

As described above, I found 138 kWh had been under reported for active vacant consumption.

The issue identified in the last audit where the SASV file for the network rather than the NSP was being applied was confirmed as cleared.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: 15.12 From: 15-Aug-18 To: 31-May-19	WISE Consumption during periods where a meter is bridged was not reported for the correct period for the two examples checked. Where the active period continues after a customer account is terminated, historic estimate may not include all consumption. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as weak because they are unlikely to mitigate errors where the period of supply continues after the customer account is terminated. Audit risk rating is low due to the small volumes missing for those ICPs that remain with WISE with active vacant consumption.

Actions taken to resolve the issue	Completion date	Remedial action status
Wise: WISE changed the process for bridged ICP's and modified the process on averaging the daily consumption on customer's usage since when the meters were counting correctly.	19/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Wise: We have changed our internal process to apply a calculation system for backdating data since the first occurrence of bridged meter.	Ongoing	

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).

The relevant reconciliation participant must, at the earliest opportunity, and no later than the month 14 revision cycle, replace volume information created using estimated readings with volume information created using validated meter readings.

If, despite having used reasonable endeavours for at least 12 months, a reconciliation participant has been unable to obtain a validated meter reading, the reconciliation participant must replace volume information created using an estimated reading with volume information created using a permanent estimate in place of a validated meter reading.

Audit observation

Hunet and WISE

AV080 14 month revisions for January 2018, February 2018 and March 2018 were reviewed to identify any forward estimate still existing.

Audit commentary

Hunet

Review of three AV080 14-month revisions showed no forward estimates remained at the time of the 14-month revision.

All loss and gain reads are being treated as permanent estimates as expected with the new system.

WISE

Review of three AV080 14-month revisions showed no forward estimates remained at the time of the 14-month revision.

Audit outcome

Compliant

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 for each ICP must comprise the following:

- *half hour volume information for the total metered quantity of electricity 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)(ac) to 2(1)(ae)):*
  - *a) any half hour volume information for the ICP; or*
  - *b) any 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 use volume information (clause 2(3))*
- *to calculate volume information the reconciliation participant must apply raw meter data :*
  - *a) for each ICP, the compensation factor that is recorded in the registry (clause 2(4)(a))*
  - *b) for each NSP the compensation factor that is recorded in the metering installations most recent certification report. (clause 2(4)(b))*

Audit observation

Hunet and WISE

The aggregation and content of reconciliation submissions prepared by Hunet were reviewed in the March 2019 audit. I confirmed there have been no changes to these processes since that audit. The registry list as at 11 January 2019 was examined to determine compliance as part of that audit.

Audit commentary

Hunet

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Compliance with this clause was assessed:

- no ICPs with meter category 3 or higher are supplied, all ICPs are submitted as NHH;
- no ICPs with unmetered load are supplied;
- no control devices are used for reconciliation purposes;
- no ICPs have error or loss compensation arrangements; and
- aggregation of the AV080 report was reviewed in sections **13.2** and **12.3** and confirmed compliant.

I confirmed that the submission information for each NSP for the relevant consumption periods was present in accordance with this clause; the submission information includes NHH volume information only and multipliers are correctly applied. This information flows through to the submission system and is applied to the relevant revision periods.

WISE

Compliance with this clause was assessed:

- all WISE's ICPs have metering category 1, and are submitted as NHH
- no ICPs with unmetered load are supplied
- no profiles requiring a certified control device are used
- no loss or compensation arrangements are required
- aggregation of the AV080 report was reviewed in sections **13.2** and **12.3** and confirmed compliant.

I confirmed that the submission information for each NSP for the relevant consumption periods was present in accordance with this clause; the submission information includes NHH volume information only. This information flows through to the submission system and is applied to the relevant revision periods.

Audit outcome

Compliant

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

Code reference

Clause 3 Schedule 15.3

Code related audit information

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

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

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

Audit observation

Hunet and WISE

I reviewed nine AV080 submissions for revisions 3 to 14, to confirm that historic estimates are included and identified.

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

Audit commentary

Hunet and WISE

I reviewed nine AV080 submissions for a diverse sample of months and revisions for both Hunet and WISE and confirmed that forward and historic estimates are included, and identified as such.

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_{Px} 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_{Px}.

Audit observation

Hunet

A check for any changes to the HE process was undertaken. The audit undertaken in March 2019 checked all HE applicable scenarios and identified one HE scenario that was not working as expected. This was rechecked as part of this audit and confirmed to be compliant. The findings for all HE scenarios are detailed below.

WISE

To assist with determining compliance of the Historical Estimate (HE) processes, WISE were supplied with a list of scenarios, and for some individual ICPs a manual HE calculation was conducted and compared to the result from WISE's system.

Audit commentary

Hunet

The process for managing SASV was examined. Shape files are automatically uploaded, and a check is conducted to confirm that the correct shape files have been loaded.

The table below shows the test results for the historic estimate scenarios.

Test	Scenario	Test expectation	Result
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
c	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant

Test	Scenario	Test expectation	Result
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Not applicable – no unmetered load
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Not applicable – no unmetered load
l	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.	Compliant
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Not applicable – no customer reads
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Compliant The photo read is not used by the historic estimate process
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant

WISE

The process for managing SASV was examined. Shape files are automatically uploaded, and a check is conducted to confirm that the correct shape files have been loaded.

The table below shows the test results for the historic estimate scenarios.

Test	Scenario	Test expectation	Result
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
c	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Has not occurred
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Not applicable – no unmetered load
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Not applicable – no unmetered load
l	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.	Compliant
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Not applicable – no customer reads

Test	Scenario	Test expectation	Result
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Not applicable – no photo reads
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Not applicable – ICPs with multipliers supplied

Audit outcome

Compliant

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

Hunet and WISE

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

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

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 five units per day is used for residential customers and an agreed daily value with commercial customers. This meets the requirements of this clause.

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

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

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Jun 2017	0	0	0	0	24
Jul 2017	0	0	0	0	24
Aug 2017	0	0	0	0	26
Sep 2017	0	0	0	-	26
Oct 2017	0	0	0	-	27
Nov 2017	0	0	0	-	27
Dec 2017	0	0	0	-	27
Jan 2018	0	0	0	-	27
Feb 2018	0	0	0	-	27
Mar 2018	0	0	0	-	27
Apr 2018	0	0	0	-	27
May 2018	0	0	-	-	26
Jun 2018	0	0	-	-	26
Jul 2018	0	0	-	-	25
Aug 2018	0	0	-	-	26
Sep 2018	0	0	-	-	27
Oct 2018	0	-	-	-	27
Nov 2018	0	-	-	-	29

Total Variation between Revisions

Month	Revision 1	Revision 3	Revision 7	Revision 14
Jun 2017	0.22%	-0.01%	-1.45%	-1.90%
Jul 2017	1.01%	0.02%	-0.36%	-3.69%
Aug 2017	1.45%	1.05%	1.07%	-1.38%
Sep 2017	2.65%	4.23%	4.30%	-
Oct 2017	3.08%	3.24%	0.81%	-
Nov 2017	1.27%	1.55%	1.40%	-
Dec 2017	-0.02%	1.69%	0.99%	-
Jan 2018	-0.30%	0.12%	0.48%	-
Feb 2018	-0.24%	0.15%	0.16%	-
Mar 2018	0.73%	2.73%	3.82%	-
Apr 2018	-0.09%	0.18%	0.62%	-
May 2018	-0.12%	0.05%	-	-
Jun 2018	-0.08%	-0.05%	-	-
Jul 2018	0.20%	1.33%	-	-
Aug 2018	0.82%	1.19%	-	-
Sep 2018	0.87%	0.52%	-	-
Oct 2018	0.07%	-	-	-
Nov 2018	0.09%	-	-	-

WISE

WISE's forward estimate process is based on estimated reads entered in PEBS. The estimated reads are calculated from the average daily consumption, which is based on actual read history. If no historical information is available, the average daily consumption from the CS file, or information provided by the customer on sign up is used.

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

Quantity of balancing areas with differences over 15% and 100,000 kWh

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Dec 2017	0	0	0	0	7
Jan 2018	0	0	0	0	7
Feb 2018	0	0	0	0	7
Mar 2018	0	0	0	0	7
Apr 2018	0	0	0	-	8
May 2018	0	0	0	-	8
Jun 2018	0	0	0	-	7
Jul 2018	0	0	0	-	7
Aug 2018	0	0	0	-	7
Sept 2018	0	0	0	-	7
Oct 2018	0	0	0	-	7
Nov 2018	0	0	-	-	7
Dec 2018	0	0	-	-	7
Jan 2019	0	0	-	-	7
Feb 2019	0	0	-	-	7

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Mar 2019	0	-	-	-	7

The total variation between revisions at an aggregate level is shown below.

Month	Revision 1	Revision 3	Revision 7	Revision 14
Dec 2017	-0.04%	0.44%	0.43%	0.58%
Jan 2018	-0.28%	-0.06%	-0.49%	0.01%
Feb 2018	-0.24%	-0.09%	-0.49%	-0.49%
Mar 2018	-0.32%	-0.06%	-0.06%	-0.06%
Apr 2018	-0.88%	-0.65%	-0.48%	-
May 2018	-2.50%	-3.11%	0.30%	-
Jun 2018	-0.13%	0.06%	0.06%	-
Jul 2018	-0.11%	0.70%	0.70%	-
Aug 2018	-0.29%	0.13%	0.11%	-
Sept 2018	0.27%	1.18%	1.23%	-
Oct 2018	-0.04%	0.14%	0.14%	-
Nov 2018	-0.43%	-0.33%	-	-
Dec 2018	-0.15%	-0.10%	-	-
Jan 2019	-0.20%	-0.10%	-	-
Feb 2019	-0.20%	-0.20%	-	-
Mar 2019	-0.33%		-	-

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

Hunet

The registry list as at 1 January 2019 to 31 May 2019 was reviewed to confirm the profiles used.

WISE

The registry list as at 15 August to 31 May 2019 was reviewed to confirm the profiles used.

Audit commentary

Both Hunet and WISE only use the RPS profile, and no profile changes have occurred.

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

For each category 3 of higher metering installation, a reconciliation participant must provide half hour submission information to the reconciliation manager.

For each category 1 or category 2 metering installation, a reconciliation participant must provide to the reconciliation manager:

- *Half hour submission information; or*
- *Non half hour submission information; or*
- *A combination of half hour submission information and non half hour submission information*

However, a reconciliation participant may instead use a profile if:

- *The reconciliation participant is using a profile approved in accordance with clause Schedule 15.5; and*
- *The approved profile allows the reconciliation participant to provide half hour submission information from a non half hour metering installation; and*
- *The reconciliation participant provides submission information that complies with the requirements set out in the approved profile.*

Half hour submission information provided to the reconciliation manager must be aggregated to the following levels:

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *trading period*

The non half hour submission information that a reconciliation participant submits must be aggregated to the following levels:

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *consumption period or day*

Audit observation

Hunet and WISE

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

Aggregation of NHH volumes is discussed in **section 12.3**.

Audit commentary

Hunet and WISE

I confirmed that the process has not changed since the March 2019 audit. That audit findings are detailed below:

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level for both Hunet and WISE:

- NSP code;
- reconciliation type;
- profile;
- loss category code;
- flow direction;
- dedicated NSP; and
- consumption period.

The submitted data was also compared to billed data for both Hunet and WISE in **section 11.3**, and appeared reasonable.

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

When reporting submission information, the number of decimal places must be rounded to not more than 2 decimal places.

If the unrounded digit to the right of the second decimal place is greater than or equal to 5, the second digit is rounded up, and

If the digit to the right of the second decimal place is less than 5, the second digit is unchanged.

Audit observation

Hunet and WISE

I reviewed the rounding of data on the AV080 reports as part of the aggregation checks.

Audit commentary

Hunet and WISE

The review of nine AV080 reports each for Hunet and WISE confirmed that submission information is appropriately rounded to 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

Hunet and WISE

The timeliness of submissions of historic estimate was reviewed in **section 12.2**.

I reviewed nine months of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

Hunet

The quantity of historical estimates is contained in the submission file and is not a separate report. Historic estimate targets were not met for a small number of revisions. Read attainment rates are discussed in **sections 6.9, 6.10 and 6.11**.

Quantity of NSPs where revision targets were met

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jan 2018	-	-	44	44
Feb 2018	-	-	44	44
Mar 2018	-	-	44	44
Aug 2018	-	43	-	43
Sep 2018	-	44	-	44
Oct 2018	-	44	-	45
Dec 2018	46	-	-	47

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jan 2019	51	-	-	52
Feb 2019	56	-	-	58

The table below shows that the percentage HE at a summary level for all NSPs is at or above the required targets for all revisions.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jan 2018	-	-	100%
Feb 2018	-	-	100%
Mar 2018	-	-	100%
Aug 2018	-	100.00%	-
Sep 2018	-	99.97%	-
Oct 2018	-	99.85%	-
Dec 2018	99.13%	-	-
Jan 2019	99.52%	-	-
Feb 2019	99.51%	-	-

WISE

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. Read attainment rates are discussed in **sections 6.9, 6.10 and 6.11**.

Quantity of NSPs where revision targets were met

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jan 2018	-	-	33	33
Feb 2018	-	-	33	33
Mar 2018	-	-	33	33
Aug 2018	-	40	-	40
Sep 2018	-	39	-	39
Oct 2018	-	39	-	39
Dec 2018	40	-	-	40
Jan 2019	40	-	-	40
Feb 2019	40	-	-	40

The table below shows that the percentage HE at a summary level for all NSPs is at or above the required targets for all revisions.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jan 2018	-	-	100.00%
Feb 2018	-	-	100.00%
Mar 2018	-	-	100.00%
Aug 2018	-	100.00%	-
Sep 2018	-	100.00%	-
Oct 2018	-	100.00%	-

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Dec 2018	100.00%	-	-
Jan 2019	100.00%	-	-
Feb 2019	99.94%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: 10 Schedule 15.3 From: 15-Aug-18 To: 31-May-19	Hunet Historic estimate thresholds were not met for some revisions. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong because risks are mitigated to an acceptable level. 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
MegaTEL: The threshold was not met for some NSPs for revisions 3 and small number of ICPs are connected at the NSPs. We have been actively working on gaining an actual read at the earliest timeframe as possible.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
MegaTEL: MegaTEL will continue to focus on optimizing our standard by identifying and monitoring our own performance and ways for improvement.	Ongoing	

CONCLUSION

Clause 16A.11 of Part 16A requires that participants must undertake a material change audit if there is a material change to the participants systems or processes. Nova's purchase of HNET and WISE has a material impact on the Nova's compliance. This audit report has been undertaken to assess the compliance of the HNET and WISE operations so that the Electricity Authority can assess Nova's overall compliance and determine if there is any impact to the next audit due date due to the purchase of these operations.

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.2.

The processes carried out by Hunet and WISE continue to be managed using the same teams based in the offices in Albany. Findings from the Reconciliation participant audit of the Hunet operation undertaken in March 2019 have been assessed. Any non-compliance found in that audit has been reviewed as part of this audit. All processes have been checked and any changes since the March audit have been noted. If compliance was confirmed in March and no process changes have been identified since that time, then the findings from that audit have been recorded here.

WISE has not been audited since November 2018 and a full audit was due to be completed by 23/8/19, therefore an audit of all areas examining the activity undertaken since the last audit has been examined as part of this audit.

This audit found an improved overall level of compliance for both Hunet and WISE. The audit found 17 non-compliances and makes no recommendations. Six of these have strong control ratings indicating controls continue to be strengthened. With Nova's compliance focussed culture available to assist and guide both operations I am confident to recommend that the next combined audit be in October 2020.

PARTICIPANT RESPONSE

MegaTEL and Wise have in place monitoring and validation tools in many areas for reducing and detecting human errors. They will continue to enhance their systems and processes in order to improve on the remaining areas identified in this audit.

The audit has produced a useful baseline from which MegaTEL and Wise will learn from Nova's systems and controls in order to match Nova's performance standards across its operations, and meet the standards set by Electricity Authority.