ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

NOVA ENERGY LIMITED
NZBN: 9429030450660

Prepared by: Bernie Cross and Tara Gannon

Date audit commenced: 4 April 2022

Date audit report completed: 25 April 2022

Audit report due date: 15 May 2022

TABLE OF CONTENTS

EXECUTIVE SUMMARY

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

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

Nova operates the TODD, WISE, and HNET (Hunet) participant codes. The TGTL code is managed by TODD and is the participant code used for generation points of connection JRD1101TGTLGG and MKE1101TGTLGG. Unless otherwise specified, the processes and non-compliances described in the report apply to all codes.

TODD

TODD has made improvements to its processes during the audit period, including:

- correcting the AN response code logic to prevent incorrect use of the AD (advanced metering) response code from October 2021,
- correcting the CS average daily kWh calculation to use the last two actual readings, rather than average consumption over the past year,
- expanding the ANZSIC code validation process to include all active and inactive ICPs except new connections and decommissions in progress, which has enabled identification and correction of historic discrepancies,
- consistent review of meter condition information provided by MRS and Wells when they read meters, and
- customer read validation processes were moved to the reconciliation team from September 2021, and now ensure that any customer reads used for reconciliation have been validated against a set of readings from another source.

Switching processes continue to be highly compliant, but a small number of last actual read date and read type exceptions were identified where TODD's well designed processes had not been correctly followed.

For registry information there was a decline in the percentage of registry updates on time and average business days since the previous audit. I also found that data discrepancies were being identified daily through exception reporting but not consistently investigated and actioned promptly. Both these issues were largely ca used by staffing issues, including absences due to Covid-19 and some experienced staff leaving and new staff being trained. Exceptions identified as part of the audit were corrected wherever possible before the audit report was finalised. The timeliness of registry updates increased in the latter part of the audit period.

Read attainment has also been impacted by Covid-19, and the process to contact the customer to resolve issues preventing meter readers from obtaining reads has been suspended since August 2021. The process is expected to be reinstated once New Zealand moves to a lower traffic light setting.

NHH and HHR volume validation processes continue to be of a high standard, with very few reconciliation data accuracy issues identified, and where issues were identified they had a low impact and additional controls were promptly put in place to prevent recurrence. Most of the submission accuracies occurred due to incorrect inputs into the reconciliation process, such as unmetered load changes not being updated soon after the event date.

As found in previous audits, inactive ICP days are included in the ICP days submissions, but this process ensures that any consumption that occurs during the inactive period will be reported. However, one consequence of this approach is that the overstatement of Retailer ICP Days due to inactive ICPs being included in this report, is that genuine ICP Days exceptions can be hidden from view, and it is recommended that TODD review the suite of checks they employ around submission file completeness to ensure no ICPs are missed in submission.

WISE

Registry updates were mostly found to be timely and accurate, and corrections were processed promptly and as required.

The process to manage bridged meters by immediately adding a virtual meter that applies an appropriate daily average consumption for the affected/bridged period is an effective solution to the challenges that retailers face with meter bridging.

Readings are well managed, and read attainment is generally high. No submission accuracy issues were identified.

The manual nature of some key processes around registry management, switching, reading management and reconciliation relies on the skill and experience of a few key personnel. There is a key personnel availability risk that was highlighted during the last Covid lockdown where the ability to perform some of these manual tasks remotely caused a breach to be alleged due to delays in delivering submission data to the Reconciliation Manager. WISE would benefit long term by ensuring key tasks and process are rotated between a number of analysts to provide support to these key personnel

HNET

Registry updates were generally found to be timely and accurate, and corrections were processed promptly and as required.

There were only a very small number of switching issues identified.

Readings are well managed, and read attainment is generally high.

Reconciliation functions are well managed however improvements can be made around monitoring reconciliation data at attribute aggregation level in case there is a requirement to zero out any data previously submitted aggregated data records.

The manual nature of some key processes around registry management, switching, reading management and reconciliation relies on the skill and experience of a few key personnel. There is a key personnel availability risk highlighted by some delays in registry updates. HNET would benefit long term by ensuring key tasks and process are rotated between a number of analysts to provide support to these key personnel

Conclusion

The audit found 34 non-compliances, eight recommendations and one issue were raised. The audit risk rating is 56, which results in an indicative audit frequency of three months. Controls were strong for 17 non-compliances, moderate for 14 non-compliances. Three non-compliances had weak controls.

My recommendation for the next audit date is a minimum of 14 months because:

- All but one non-compliance have a low impact.
- Evidence of improvements to controls and reduced non-compliance later in the audit period was demonstrated in many areas.

The matters identified are shown in the tables below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	15.2	**TODD** Some inaccurate data was not corrected as soon as practicable. Profile discrepancy on the day of meter change for upgrades and downgrades. Inaccurate submission for ARC Innovations HHR metering. **WISE** One ICP had an incorrect inactive status event date. **HNET** One ICP had an incorrect Profile code of PV1 where no generation was present.	Strong	Low	1	Identified
Electrical Connection of Point of Connection	2.11	10.33A	**TODD** 41 ICPs did not have full certification within five business days of reconnection. Meter unbridged but not recertified for ICP 0000105283UNE27. **WISE** ICP 1001121843LCC6D's meter was not re-certified on unbridging. **HNET** Six ICPs did not have full certification within five business days of reconnection.	Strong	Low	1	Identified
Changes to registry information	3.3	10 Schedule 11.1	**TODD, HNET** and **WISE** Some registry information was not updated within five business days of the event.	Moderate	Medium	4	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	**TODD** 254 late updates to active status for new connections. Ten newly connected ICPs of a sample of 35 had incorrect active status event dates. Nine were corrected during the audit and 0000050570HRF60 will be corrected from 11/8/21 to 7/8/21	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			once the required network and MEP events have been reversed on the registry. **HNET** Two late updates to active status for new connections.				
ANZSIC codes	0	9 (1(k) of Schedule 11.1	**TODD** Five ICPs had incorrect ANZSIC codes applied. All have been corrected. **HNET** Two incorrect ANZSIC codes.	Strong	Low	1	Cleared
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	**TODD** ICP 0000394464MP147 had an unmetered builder's temporary supply from 16/7/21 until a meter was installed on 23/11/21. No unmetered load was recorded on the registry or in Orion for the period with unmetered load. ICP 0007198101RN234 had an unmetered BTS recorded and was confirmed to have been metered since it became active in 2020. A backdated removal of unmetered load was completed during the audit. ICP 0007200589RNF1B had an unmetered BTS recorded, and it was confirmed that the connection should be made permanent in December 2021. No job has been raised to install metering to date. ICPs 0000020042CP198 and 0000020056CPA3F had their shared unmetered load removed by the distributor effective from 1/12/21. The registry and Orion's unmetered load flag, trader details and daily unmetered kWh have not been updated, and unmetered load submissions are continuing.	Moderate	Low	2	Identified
Management of "active" status	0	17 Schedule 11.1	**TODD** Ten newly connected ICPs of a sample of 35 had incorrect active status event dates. Nine were corrected during the audit and 0000050570HRF60 will be corrected from 11/8/21 to 7/8/21 once the required network and	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			MEP events have been reversed on the registry.				
Management of "inactive" status	0	19 Schedule 11.1	**TODD** Eight ICPs were recorded with 1,11 "electrically disconnected at meter box switch" which should have had the status 1,12 "new connection in progress". One was corrected during the audit, but ICPs 0007200708RNC13, 0000165673CK414, 0007201054RN9A7, 1000028279BP1F9, 1002137708LC9F9, 0007201721RNEB7 and 0000165679CK685 still have incorrect status reasons recorded for historic status records. Incorrect active event dates for ICPs 0008762650CN572 and 0000081478TR1F3. **WISE** One ICP had an incorrect inactive status event date	Strong	Low	1	Cleared
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**TODD** 13 ANs had the AD (advanced metering) response code applied when the AMI flag was set to N.	Strong	Low	1	Cleared
Losing trader must provide final information - standard switch	0	5 Schedule 11.3	**TODD** Up to March 2022 CS average daily consumption is based on the average daily consumption over the previous year, not the last actual read-to-read period. At least ten CS files were confirmed to have incorrect average daily consumption recorded. **WISE** Incorrect calculation of average daily consumption.	Moderate	Low	2	Identified
Retailers must use same reading - standard switch	0	6(1) and 6A Schedule 11.3	**TODD** One RR breach.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**WISE** Two E2 breaches.	Moderate	Low	2	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	**TODD** Up to March 2022 CS average daily consumption is based on the average daily consumption over the previous year, not the last actual read-to-read period. At least ten CS files were confirmed to have incorrect average daily consumption recorded. The CS files for 0000021298EA958 (21/8/21), 0007156981RNB03 (4/11/21), 0037930087PC48C (29/4/21) and 0478644574LC1E4 (19/6/21) were issued with correct read values but incorrect read types. The opening estimate read on the occupier account was used instead of the closing read on the customer account. The CS files for 0000013595TR992 (17/6/21), 0000160532WAEC6 (3/5/21) and 0000463024WE7FF (13/3/20) contained incorrect last actual read dates because reads after the switch out date were not made misreads. **WISE** Calculation methodology for average daily consumption not compliant.	Moderate	Low	2	Identified
Gaining trader changes to switch meter reading - switch move	0	12 Schedule 11.3	**TODD** 14 RR breaches. The RR request for 0001010055ENDB8 17/8/21 was supported by customer photo readings rather than two actual readings.	Strong	Low	1	Identified
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	**TODD** ICP 0000008633CPA4B (1/3/21) had a HH NT issued but should have had a MI NT issued because it was a meter category 2 ICP.	Strong	Low	1	Identified
Losing trader provision of information -	0	15 Schedule 11.3	**TODD** Five ANs had response code AD (advanced metering) invalidly applied. None of the ICPs had the	Strong	Low	1	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
gaining trader switch			AMI flag selected at the time of the switch.				
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**TODD** Three SR breaches. 34 NA breaches. **WISE** One NA breach. **HNET** One SR breach. One NA breach.	Strong	Low	1	Identified
Maintaining shared unmetered load	5.1	11.14	**TODD** ICPs 0000020042CP198 and 0000020056CPA3F had their shared unmetered load removed by the distributor effective from 1/12/21. The registry and Orion's unmetered load flag, trader details and daily unmetered kWh have not been updated, and unmetered load submissions are continuing.	Moderate	Low	2	Identified
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**TODD** While meters were bridged, energy was not metered and quantified according to the code for one ICP. 27 ICPs had generation recorded by the distributor and I flow metering where TODD did not record a generation profile and were not corrected until the audit was completed. **WISE** While meters were bridged, energy was not metered and quantified according to the code for five ICPs. **HNET** For one ICP 0404307035LC42B an incorrect profile code of PV1 was applied when no generation was present.	Moderate	Low	2	Identified
Responsibility for metering at GIP	6.2	5 of Schedule 15.2	**TODD (TGTL)** The MEP and certification for MKE1101TGTLGG were completed prior to previous metering certification expiry.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Collection of information by certified reconciliation participant	6.5	2 Schedule 15.2	**TODD** Four ICPs were not interrogated within their maximum interrogation cycle.	Strong	Low	1	Identified
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**TODD** Exceptional circumstances were not proven for six of the ten ICPs sampled that were not read during the period of supply.	Weak	Low	3	Identified
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**TODD** The best endeavours rrequirements were not met for nine of the ten ICPs sampled that were not read during the previous 12 months.	Weak	Low	3	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	**TODD** The best endeavours requirements were not met for nine of the ten ICPs sampled that were not read during the previous four months. **HNET** Exceptional circumstances not proven for 8 NSPs where the four month read attainment was below 90%.	Weak	Low	3	Identified
Correction of HHR metering information	8.2	19(2) Schedule 15.2	**TODD** HHR corrections for AMI meter exchanges results in some volume not being accounted for.	Moderate	Low	2	Investigating
Meter data used to derive volume information	9.1	3(5) Schedule 15.2	**TODD** Three ICPs which underwent RRs had incorrect switch read types recorded in Orion. Four ICPs had incorrect read types in CS files.	Strong	Low	1	Identified
Calculation of ICP days	9.3	15.6	**TODD for AMS and EDMI data collection** The EIEP3 and GENDF file formats may round the trading period data to two decimal places if the meter does not have a multiplier and the volume for that hour has a non-zero value in the third decimal place. **TODD AMI data** AMI readings with decimal places are rounded to zero decimal places	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			on import into Orion, and the rounded readings are used to calculate submission data.				
Calculation of ICP days	11.2	15.6	**TODD** Zeroing does not occur for AV110 submissions. At least two HHR ICP days differences between AV110 submissions and the registry were caused by backdated withdrawals or NSP changes where data recorded against the old aggregation attributes combination for the period was not zeroed. **WISE** Incorrect ICP days for two ICPs (0351490850LCAAD & 1002056702LCCFC). **HNET** Zeroing does not occur for AV110 submissions. At least two HHR ICP days differences between AV110 submissions and the registry were caused by backdated withdrawals or NSP changes where data recorded against the old aggregation attributes combination for the period was not zeroed.	Moderate	Low	2	Identified
Electricity supplied information provision to the reconciliation manager	0	15.7	**HNET** Electricity supplied file incorrect for the period April to December 2021.	Moderate	Low	2	Identified
HHR aggregates information provision to the reconciliation manager	0	15.8	**TODD** Alleged breach 2103NOVE1 for late provision of submission information.	Strong	Low	1	Identified
Creation of submission information	12.2	15.4	**TODD** Alleged breach 2103NOVE1 for late provision of submission information.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			ICP 0000394464MP147's unmetered builder's temporary supply was not recorded in Orion or the registry resulting in under submission of 199.68 kWh. ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11/10/21 until the meter was replaced and certified on 28/1/22. A correction was not processed to capture estimated consumption during the bridged period. ICP 0000177620HB50F's meter was stopped between 28/7/21 and 9/2/22. A correction was not processed to capture estimated consumption during the bridged period resulting in under submission of 3,335.834 kWh. Missing HHR submission data was identified for an AMI meter exchange for ICP 0005238501RN91B because interval data from the removed meter was only provided up to midnight the day prior to the meter change. **WISE** Alleged breach 2108NOVE1 for late provision of submission information. Inactive consumption was not submitted for one ICP (0000037354HR301 – 4.25 kWh).				
Accuracy of submission information	12.7	15.12	**TODD** Breach relating to late submission of data Inaccurate submission for ARC Innovations HHR metering. ICP 0000394464MP147's unmetered builder's temporary supply was not recorded in Orion	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			or the registry resulting in under submission of 199.68 kWh. ICP 0007198101RN234's unmetered builder's temporary supply was not removed when it became permanent, resulting in over submission. ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11/10/21 until the meter was replaced and certified on 28/1/22. A correction was not processed to capture estimated consumption during the bridged period. ICP 0000177620HB50F's meter was stopped between 28/7/21 and 9/2/22. A correction was not processed to capture estimated consumption during the bridged period resulting in under submission of 3,335.834 kWh. HHR corrections for AMI meter exchanges results in some volume not being accounted for. UML volumes for two out of ten ICPs sampled were incorrect as the UML no longer applies. UML volumes for eight out of ten ICPs sampled did not match the manual calculation for January 2022. **WISE** Alleged breach 2108NOVE1 for late provision of submission information. Inactive consumption was not submitted for one ICP.				
Historical estimate process	12.11	4 and 5 Schedule 15.3	**TODD** HE Scenarios J & K relating to UML load is not producing expected results as the volumes are being profiled using RPS SASV information. **WISE** HE Scenario C (ICP become Inactive then Active again within a month) is not producing expected results resulting in some volumes not being reported	Strong	Low	1	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	**TODD** Historic estimate thresholds were not met for R3 and R7 for a small number of months and revisions. **HNET** Historic estimate thresholds were not met for R3 and R7 for a small number of months and revisions.	Strong	Low	1	Identified
Future Risk Rating						56	

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

RECOMMENDATIONS

Subject	Section	Recommendation	Remedial action
Changes to unmetered load	3.7	**TODD** The metering team reviews new connections on the daily UML report, but switch ins are not currently reviewed by the metering or billing team. I recommend that responsibilities for accuracy of information for switch ins with unmetered load are confirmed.	Identified
Retailers must use same reading - standard switch	4.4	**WISE** Develop a RR template to standardise the process to determine RR changes and provide suitable audit trails.	Cleared
Losing trader must provide final information - switch move	4.10	**TODD** The billing team should consistently check whether a switch is in progress before transferring ICPs to occupier accounts.	Identified
Electricity conveyed & notification by embedded generators	6.1	**TODD** Confirm whether ICP 0030346537PC6CB is exporting generation to the network. If yes, arrange for notification of gifting to be provided to the reconciliation manager if the customer refuses to complete work on the meter board to enable I flow metering to be installed.	Cleared
Electronic meter readings and estimated readings	9.6	**TODD** Develop and implement reporting of missing/estimated interval data used in submission, and a process to escalate these instances to the relevant AMI MEP for resolution.	Investigating
Electricity supplied information provision to the reconciliation manager	11.3	**HNET** Check the GR130 file each month to ensure billed vs submission totals appear to be reasonable.	Identified
HHR aggregates information provision to the reconciliation manager	11.4	**TODD** Review GR090 reports to identify discrepancies not identified through the ICP discrepancy reporting.	Identified
Allocation of submission information	12.3	**TODD** I recommend that generation data is validated against accrual data and also TODDs measurement of unit level volumes aggregated to the relevant BUS level (NSP) prior to submission so that any errors can be detected and corrected before the submission deadline.	Investigating
Allocation of submission information	12.3	**HNET** Extend pre submission checks to compare current submission to previous submission files at row level to enable rows previously submitted that are now no longer required to be zeroed out.	Investigating

ISSUES

Subject	Section	Clause	Description
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	**WISE** Not all switch reads reflect HHR volumes up to switch date where losing retailer was settling ICP as HHR. In the scenario where the losing retailer is settling an ICP as HHR and the gaining retailer is to settle the ICP as NHH there are instances where the switch read provided is an estimate and does not accurately reflect the HHR volumes up to the switch date. The code does not enable the gaining trader to dispute the switch read for a transfer switch unless the difference is more than 200 kWh. However, if the gaining trader was to be settling the ICP as HHR then the 200-kWh threshold does not apply if the gaining trader provides a RR within five business days of the receipt of the CS file.

1. ADMINISTRATIVE

1.1. Exemptions from Obligations to Comply with Code (Section 11)

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

Audit observation

The Electricity Authority website was checked to identify any exemptions currently in place for Nova.

Audit commentary

There is one exemption relevant to the scope of this audit. **Exemption 276** exempts Nova from complying with the obligation in clause 7(1) of Schedule 11.4 of the Electricity Industry Participation Code 2010 to provide to the registry manager the settlement indicator information indicated in line 30 of Table 1 in Schedule 11.4 of the Code. This exemption applies only if:

a) the relevant meter or data storage device has an AMI flag of "Y",
b) the data channel is for export energy, and
c) the data channel is not required to supply volume information under Part 15 of the Code.

The exemption expires on 30 April 2023.

1.2. Structure of Organisation

The organisational charts were provided for the audit.

1.3. Persons involved in this audit

Auditors:

Name	Company	Role
Tara Gannon	Veritek Limited	Lead Auditor
Bernie Cross	Veritek Limited	Supporting Auditor

Personnel assisting with this audit:

Title	Organisation
Switching Manager	Nova Energy
Billing Services Manager	Nova Energy
Billing co-ordinator x 2	Nova Energy
Metering and New Connections Team Leader	Nova Energy

Title	Organisation
Service Performance Manager	Nova Energy
Team Leader Reconciliation	Nova Energy
Energy Analyst x 3	Nova Energy
Digital Operations Manager	Hunet
Service Optimisation Team Manager	Hunet
Digital Operations Manager	WISE

Agent personnel assisting with this audit:

Role	Company
Operations Manager Service Hub	Wells
Data Analyst	EMS
Solution Support Specialist	EDMI NZ Limited
Senior C&I Data Services Specialist	Vector Metering

1.4. Use of Agents (Clause 15.34)

Code reference

Clause 15.34

Code related audit information

A reconciliation participant who uses an agent

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

Audit observation

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

Audit commentary

All agents have been audited in accordance with the Guidelines for Reconciliation Participant Audits. The EMS, EDMI, AMS, MRS and Wells audits were completed more than seven months before this audit report's due date. Additional checks were conducted to confirm whether there have been any changes to procedures, or any events which could affect meter accuracy had occurred. The agent audit reports are expected to be submitted along with this report.

1.5. Hardware and Software

TODD

The key systems used for audited processes are:

- Orion is used for NHH billing, and to generate NHH reading information, which is exported to EnergyMarket,
- Stark is used to retrieve HHR generation information and C&I customer volumes obtained by TODD; HHR volumes are exported from Stark in the required format into the Kinetiq TOU Billing system using Starks Kinetiq data export module, HHR Volumes are then exported to EnergyMarket to produce reconciliation submissions,
- AXOS is used to create invoice data for time of day (ToD) customers; all NHH billing is completed in Orion, and
- EnergyMarket is used to produce NHH and HHR reconciliation submissions; data is refreshed daily with data export from the upstream systems and Registry files.

Systems are backed up, and access to systems is restricted through logins and passwords.

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.

Access to systems is restricted through logins and passwords based on the specific role a user is performing.

HNET

HNET continues to use a bespoke MySQL database on a Linux operating system. Daily backups are performed to a remotely hosted server.

Access to systems is restricted through logins and passwords based on the specific role a user is performing.

1.6. Breaches or Breach Allegations

TODD

There was one alleged breach for TODD during the audit period.

Ref	Date	Clause	Breach Description	Outcome
2103NOVE1	30/4/21	Part 15 clause 15.4 (2)	Submitted reconciliation information three minutes after the deadline.	Early closure

WISE

There was one alleged breach for WISE during the audit period.

Ref	Date	Clause	Breach Description	Outcome
2108NOVE1	19/11/21	Part 15 Schedule 15.4 clause 15.4 (1)	Nova Energy Ltd t/a Wise Prepay (WISE) failed to submit information to the reconciliation manager by 1600 hours on the 13th business day of the reconciliation period.	Early closure

Ref	Date	Clause	Breach Description	Outcome
			WISE submitted their AV-080 (NNH volumes) for all washups after 4pm on BD13. On BD13 at 14:58 WISE sent an email to the Reconciliation Manager to notify that due to the sudden lockdown they were having trouble generating the reports. They also advised then that their submissions might be late. The Reconciliation Manager received the last file from WISE at 17:18.	

HNET

There were no breach allegations during the audit period.

1.7. ICP Data

TODD

The quantity of ICPs by status is shown below.

Status	Number of ICPs 2022	Number of ICPs 2021	Number of ICPs 2020	Number of ICPs 2018	Number of ICPs 2017	Number of ICPs 2016	Number of ICPs 2015
Active (2,0)	95,278	103,318	91,298	78,861	76,477	82,245	81,657
Inactive – new connection in progress (1,12)	356	101	154	20	42	25	38
Inactive – electrically disconnected vacant property (1,4)	352	248	220	256	377	488	518
Inactive – electrically disconnected remotely by AMI meter (1,7)	423	249	168	94	35	16	0
Inactive – electrically disconnected at pole fuse (1,8)	126	159	155	110	104	14	9
Inactive – electrically disconnected due to meter disconnected (1,9)	28	27	28	32	27	23	18
Inactive – electrically disconnected at meter box fuse (1,10)	87	133	136	117	27	1	5
Inactive – electrically disconnected at meter box switch (1,11)	26	52	65	25	25	0	2

Status	Number of ICPs 2022	Number of ICPs 2021	Number of ICPs 2020	Number of ICPs 2018	Number of ICPs 2017	Number of ICPs 2016	Number of ICPs 2015
Inactive – electrically disconnected ready for decommissioning (1,6)	93	102	73	71	80	88	98
Inactive – reconciled elsewhere (1,5)	0	0	0	1	1	1	1
Decommissioned (3)	2,208	1,844	1,590	1,328	1,022	736	2,515

The active ICPs on the list file are summarised by meter category in the table below.

Metering Category	2022	2021	2020	2018	2017	2016	2015
1	93,013	100,501	88,735	76,751	75,511	80,130	79,557
2	2,040	2480	2,344	1,972	1,830	1,977	1,911
3	121	148	130	100	92	85	89
4	35	43	43	29	33	29	27
5	2	3	4	4	4	5	6
9	6	10	11	2	3	12	42
Blank	61	133	31	3	4	7	25

The 67 active ICPs with a metering category of 9 or blank were checked. 65 ICPs were unmetered, and two did not have unmetered load indicated. These ICPs are discussed in **section 2.9**.

WISE

The quantity of ICPs by status is shown below.

Status	2022	2021	2020	2019	2018	Feb 2018
Active (2,0)	4,768	4,870	3,062	2,321	1,688	1,840
Inactive – new connection in progress (1,12)	-	-	-	-	-	-
Inactive – electrically disconnected vacant property (1,4)	5	3	6	10	8	11
Inactive – electrically disconnected remotely by AMI meter (1,7)	132	107	68	53	38	62
Inactive – electrically disconnected at pole fuse (1,8)	3	-	1	1	-	1

Inactive – electrically disconnected due to meter disconnected (1,9)	2	3	1	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	2	-	1	1	2
Inactive – reconciled elsewhere (1,5)	-	-	-	-	-	-
Decommissioned (3)	126	72	47	40	30	16

The active ICPs on the list file are summarised by meter category in the table below.

Metering Category	2022	2021	2020	2019	2018 (November 2018)	2018 (February 2018)
1	4,768	4,870	3,062	2,321	1,688	1,840
2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	-	-	-	-	-
5	-	-	-	-	-	-
9	-	-	-	-	-	-

HNET

The quantity of ICPs by status is shown below.

Status	2022	2021	2020	2019	2018	2017
Active (2,0)	7,701	7,746	5,489	5,365	5,194	4,897
Inactive – new connection in progress (1,12)	-	1	2	1	-	-
Inactive – electrically disconnected vacant property (1,4)	20	21	19	19	18	12
Inactive – electrically disconnected remotely by AMI meter (1,7)	128	55	63	37	37	32
Inactive – electrically disconnected at pole fuse (1,8)	1	1	1	1	-	-

Inactive – electrically disconnected due to meter disconnected (1,9)	2	2	2	3	12	12
Inactive – electrically disconnected at meter box fuse (1,10)	3	2		1	-	-
Inactive – electrically disconnected at meter box switch (1,11)	3	2	1	-	2	2
Inactive – electrically disconnected ready for decommissioning (1,6)	14	6	3	4	-	1
Inactive – reconciled elsewhere (1,5)	-	-	-	-	-	-
Decommissioned (3)	123	98	77	54	32	16

The active ICPs on the list file are summarised by meter category in the table below.

Metering Category	2022	2021	2020	2019	2018	2017
1	7,651	7,691	5,440	5,347	5,179	4,828
2	48	51	45	18	15	15
3	1	4	4	-	-	-
4	1	-	-	-	-	-
5	-	-	-	-	-	-
9	-	-	-	-	-	-

1.8. Authorisation Received

Nova provided email authorisation to collect information in relation to this audit.

1.9. Scope of Audit

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

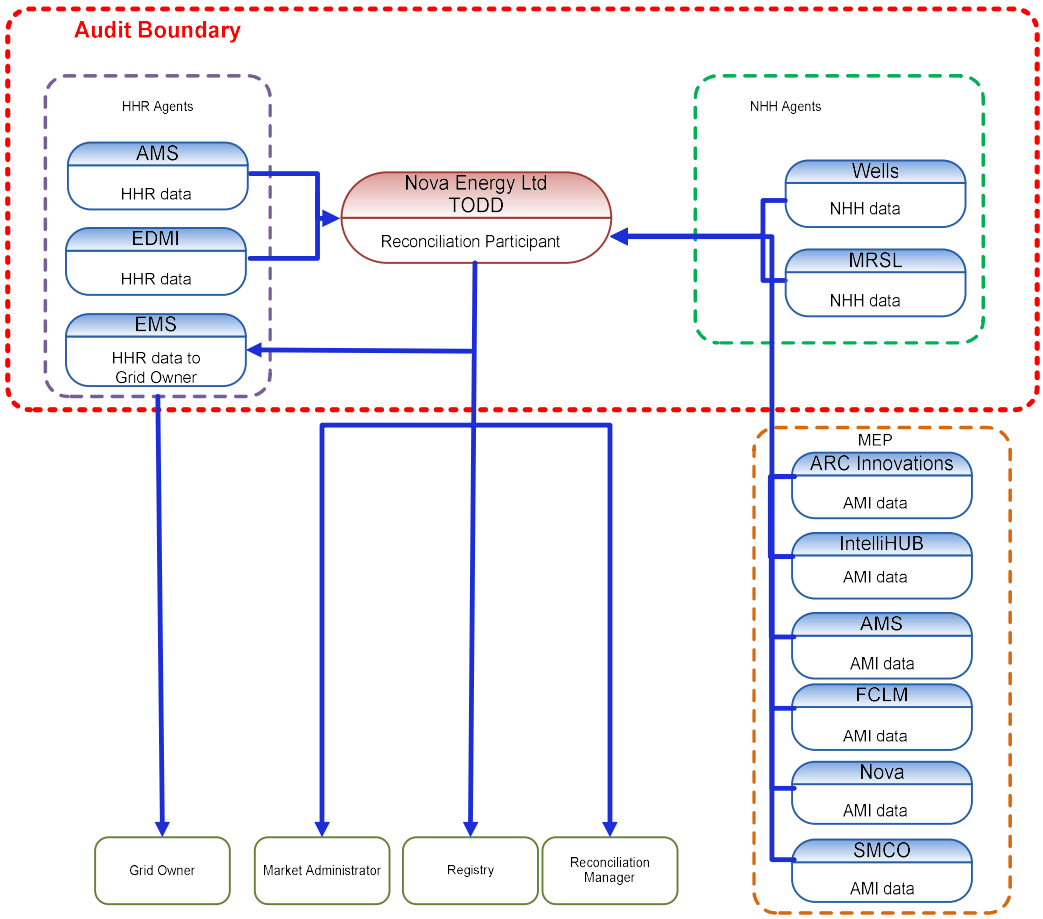
The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.2.

TODD

Registry, meter reading, switching and data validation processes were audited remotely via Teams and Zoom between 4 and 7 April 2022. Reconciliation processes were audited remotely via zoom on 11 April 2022.

A registry list, event detail report and audit compliance report for 1 March 2021 to 31 January 2022 and a registry list snapshot for 31 January 2022 were reviewed.

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



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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks		MEPs providing data
	HHR	NHH	
(a) Maintaining registry information and performing switching			
(b) Gathering and storing raw meter data	AMS EMS EDMI	Wells MRS	Arc IntelliHUB AMS FCLM Nova SMCO
(c)(iii) Creation and management of HHR & NHH volume information			

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks		MEPs providing data
	HHR	NHH	
(d)(i) Calculation of ICP days			
(d)(ii) - delivery of electricity supplied information under clause 15.7			
(d)(iii) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8			
(e) – Provision of submission information for reconciliation			
(f) – Provision of metering information to the Grid Owner	EMS		

EMS provides data collection and submission services for grid connected generators, plus provision of metering information to the pricing manager. AMS and EDMI are agents for data collection only. Wells and MRS provide NHH meter reading services.

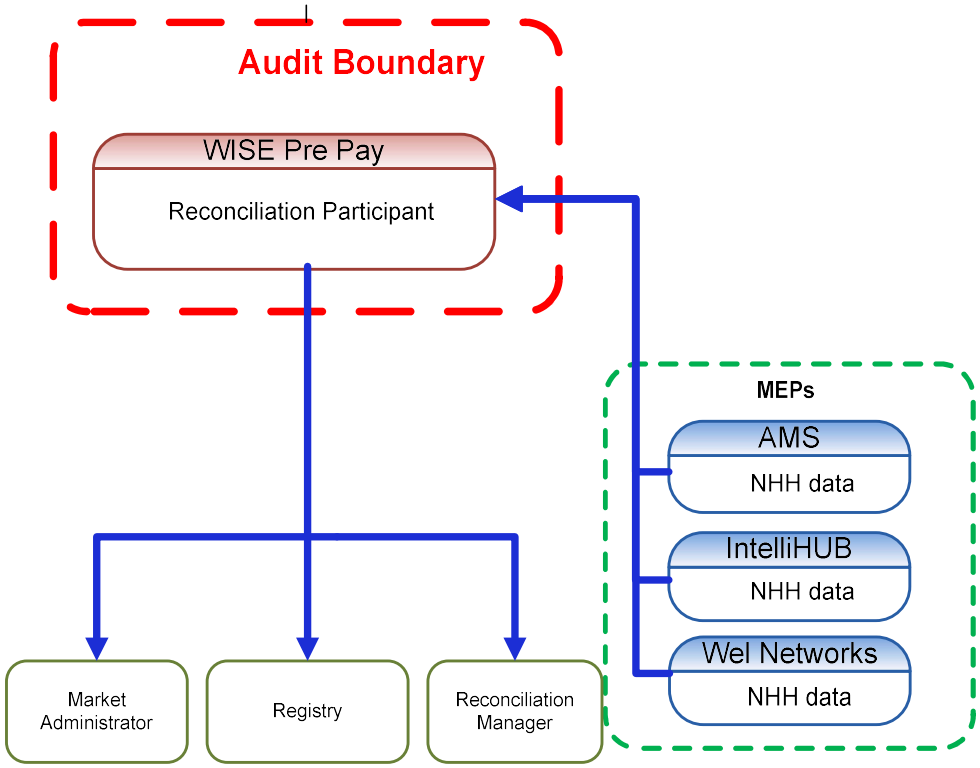
All agents have been audited in accordance with the Guidelines for Reconciliation Participant Audits. The EMS, EDMI, AMS, MRS and Wells audits were completed more than seven months before this audit report's due date. The agent audit reports are expected to be submitted along with this report, and the agents confirmed that there have been no changes to their processes which could have a negative impact on TODD's compliance.

WISE

The audit was carried out via Microsoft Teams meetings on 6 April 2022.

A registry list, event detail report and audit compliance report for 1 March 2021 to 31 January 2022 and a registry list snapshot for 31 January 2022 were reviewed.

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



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

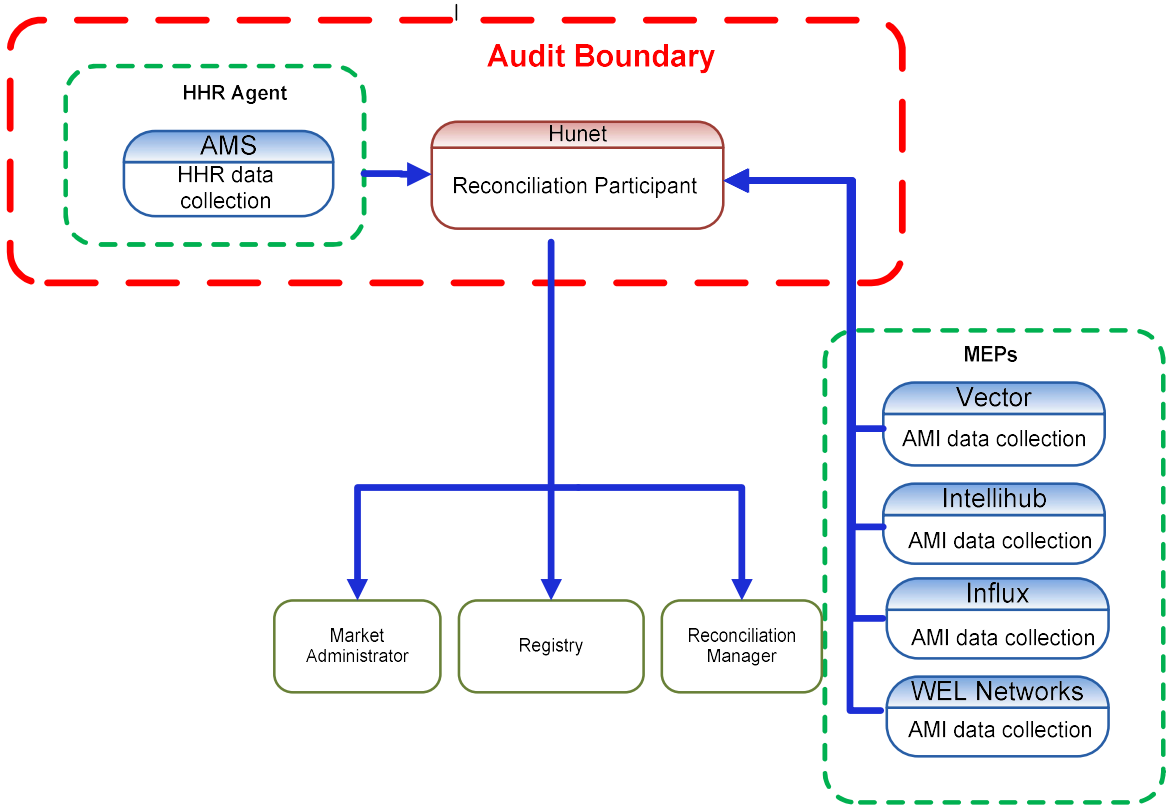
Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs
(a) - Maintaining registry information and performing customer and embedded generator switching	None	
(b) – Gathering and storing raw meter data	None	NGCM – NHH Intellihub - NHH WASN – NHH
(c)(ii) - Creation and management of NHH volume information	None	
(d) – Calculation of ICP days	None	
(da) - delivery of electricity supplied information under clause 15.7	None	
(e) – Provision of submission information for reconciliation	None	

HNET

The audit was carried out via Microsoft Teams meetings on 7 April 2022.

A registry list, event detail report and audit compliance report for 1 March 2021 to 31 January 2022 and a registry list snapshot for 31 January 2022 were reviewed.

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



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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data	Wells – NHH AMS - HHR	NGCM – NHH ARC - NHH Intellihub - NHH FCLM- NHH WASN – NHH Nova - 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		

The Wells and AMS audit reports are expected to be attached and confirm compliance with the Code. Both reports are more than seven months old, therefore additional checks were conducted.

1.10. Summary of previous audit

Nova provided a copy of the report from the previous audit completed in May 2021 by Steve Woods (lead auditor). The current status of the non-compliances, recommendations and issues is recorded in the table below. The status "still existing" is noted if non-compliance with the clause has been found in this audit and does not refer to the specific ICPs where these are detailed. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	15.2	**TODD** Some inaccurate data was not corrected as soon as practicable. Profile discrepancy on the day of meter change for upgrades and downgrades. Inaccurate submission for ARC Innovations HHR metering. **HNET** Under submission of 1,176.73 kWh for July 19 due to inadequate validation.	Still existing
Electrical Connection of Point of Connection	2.11	10.33A	**TODD** Four late certifications for new connections. 58 ICPs with late or no current certification for reconnections. Meter unbridged but not recertified for ICP 0000105283UNE27. **HNET** Two reconnections with expired certification.	Still existing
Changes to registry information	3.3	10 Schedule 11.1	**TODD, HNET and WISE** Some registry information was not updated within 5 business days of the event.	Still existing
Provision of information to the registry manager	3.5	9 Schedule 11.1	**TODD** 55 late updates to active status for new connections. Four incorrect first active dates. **HNET** Late registry update for one new connection.	Still existing

Subject	Section	Clause	Non-compliance	Status
ANZSIC codes	0	9 (1(k) of Schedule 11.1	**TODD** 17 ICPs had incorrect ANZSIC codes applied. All have been corrected. **HNET** Two incorrect ANZSIC codes.	Still existing
Management of "active" status	0	17 Schedule 11.1	**TODD** Four ICPs with the incorrect first active date.	Still existing
Management of "inactive" status	0	19 Schedule 11.1	**WISE** Disconnected ICPs not changed to inactive status unless they are disconnected for more than three days.	Still existing
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**TODD** One incorrect AN code sent.	Still existing, but the cause of the issue was cleared during the audit period.
Losing trader must provide final information - standard switch	0	5 Schedule 11.3	**TODD** CS average daily consumption is based on the average daily consumption over the previous year, not the last actual read-to-read period. At least five CS files were confirmed to have incorrect average daily consumption recorded. ICP 0002703012HB458 was sent with zero incorrectly and should have been sent as 2 kW. **WISE** 6 late CS files. Incorrect calculation of average daily consumption.	Still existing
Retailers must use same reading - standard switch	0	6(1) and 6A Schedule 11.3	**TODD** Six late RR files for transfer switches. **HNET** One late RR file.	Still existing
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**TODD** Three incorrect AN codes sent. **HNET** Two ICPs with proposed or actual switch dates earlier than those specified by the gaining trader.	Still existing

Subject	Section	Clause	Non-compliance	Status
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	**TODD** CS average daily consumption is based on the average daily consumption over the previous year, not the last actual read-to-read period. At least ten CS files were confirmed to have incorrect average daily consumption recorded. One read was sent as an actual for the event date 26/3/20 but the read should have been sent as an estimate with the last read date of 23/3/20 for ICP 0042251124PC489. An incorrect last actual read date and read were recorded for ICP 1001276348LCA17 (12/9/20) from the sample of five ICPs checked. **WISE** Calculation methodology for average daily consumption not compliant.	Still existing
Gaining trader changes to switch meter reading - switch move	0	12 Schedule 11.3	**TODD** 31 late RR files for switch moves. **HNET** RR for ICP 1001110357UNE5C was rejected and should have been accepted.	Still existing
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	**TODD** One HH switch requested more than 90 days from NT sent date.	Still existing
Losing trader provision of information - gaining trader switch	0	15 Schedule 11.3	**TODD** 30 ICPs had response code AD (advanced metering) invalidly applied. None of the ICPs had the AMI flag selected at the time of the switch.	Still existing, but the cause of the issue was cleared during the audit period.
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**TODD** Two SR breaches where the NW arrival date was more than ten business days after the initial NW. 51 NA breaches where the NW is sent more than two calendar months after the CS actual transfer date. One ICP incorrectly rejected. **WISE** 1 late NW. **HNET** 1 late NW.	Still existing

Subject	Section	Clause	Non-compliance	Status
Metering information	0	21 Schedule 11.3	**TODD** For one CS file the switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date.	Cleared
Switch saving protection	4.17	11.15AA to 11.15AC	**WISE** Customers contacted for non-administrative reasons, resulting in discussion of pricing and eventual switch withdrawal.	Cleared
Maintaining shared unmetered load	5.1	11.14	**TODD** The trader daily unmetered kWh was incorrect on the registry for two ICPs.	Still existing
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**TODD** While meters were bridged, energy was not metered and quantified according to the code for nine ICPs. **WISE** While meters were bridged, energy was not metered and quantified according to the code for five ICPs.	Still existing
Responsibility for metering at GIP	6.2	5 of Schedule 15.2	**TODD (TGTL)** The MEP and certification for JRD1101TGTLG were not updated until more than ten business days after metering certification.	Still existing
Derivation of meter readings	0	3(1), 3(2) and 5 Schedule 15.2	**TODD** Ten of the 16 examples with meter conditions reported were not actioned as expected. Customer and photo readings are not specifically validated against at least two readings not provided by the customer. Four examples checked found none were validated against a set of readings from another source. One customer reading was entered as an actual read for ICP 0008009802TU5F3.	Cleared
NHH meter reading application	6.7	6 Schedule 15.2	**TODD** An incorrect last actual read date and read were recorded for ICP 1001276348LCA17 (12/9/20) from the sample of five ICPs checked.	Cleared
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**TODD** Exceptional circumstances were not proven for the ten ICPs sampled that were not read during the period of supply.	Still existing

Subject	Section	Clause	Non-compliance	Status
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**TODD** Two Meter Reading Frequency reports were submitted late.	Still existing
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	**TODD** Exceptional circumstances not proven for three ICPs.	Still existing
Calculation of ICP days	11.2	15.6	**TODD** Zeroing does not occur for AV110 submissions. At least four ICP days differences between AV110 submissions and the registry were caused by backdated withdrawals or downgrades where data recorded against the old aggregation factor combination for the period was not zeroed. ICP 0000329419TPD0B incorrectly had ICP days reported against INV0331 instead of NMA0331 for May 2019 r14. An end of month read was added before the switch in date for ICP 0000031488WE974. Consumption and ICP days between the end of month read and the switch in date was reported in error. **WISE** Incorrect ICP days for five ICPs. **HNET** ICP days one too few for two ICPs.	Still existing
Electricity supplied information provision to the reconciliation manager	0	15.7	**HNET** Electricity supplied file incorrect for the period April to November 2020.	Still existing
HHR aggregates information provision to the reconciliation manager	0	15.8	**TODD and HNET** HHR aggregates file does not contain electricity supplied information.	Still existing
Accuracy of submission information	12.7	15.12	**TODD** An unmetered load correction for ICP 0000026059WE8F3 was not processed accurately. Inaccurate submission for ARC Innovations HHR metering. **HNET** Incorrect R14 submission for one ICP, which was 1,176.73 kWh too low.	Still existing

Subject	Section	Clause	Non-compliance	Status
Historical estimate reporting to RM	13.3	10 Schedule 15.3	**TODD** Historic estimate thresholds were not met for R7 for a small number of months and revisions. **HNET** Historic estimate thresholds were not met for R3 and R7 for a small number of months and revisions.	Still existing

Subject	Section	Description	Recommendation	Status
ANZSIC codes	3.6	Confirm all ANZSIC codes when switching in.	ANZSIC codes	Adopted
Customer and photo read validation	6.6	If customer and photo readings cannot be validated against at least two readings which were not provided by the customer, they should be recorded as misreads or estimates so that they are not treated as actual readings by the reconciliation process.	Customer and photo read validation	Adopted
Electricity supplied information provision to the reconciliation manager	11.3	Check the GR130 file each month to ensure billed vs submission totals appear to be reasonable.	Electricity supplied information provision to the reconciliation manager	Not adopted, re-raised
Review GR090 (ICP missing) reports	11.4	**TODD** Review GR090 reports to identify discrepancies not identified through the ICP discrepancy reporting.	Review GR090 (ICP missing) reports	Not adopted, re-raised
Generation data validation prior to submission	12.3	**TODD** I recommend that generation data is validated against accrual data prior to submission so that any errors can be detected and corrected before the submission deadline.	Generation data validation prior to submission	Not adopted, re-raised
Accuracy of submission information	12.7	Introduce a peer review step if ever submission information is corrected.	Accuracy of submission information	Adopted, corrections are peer reviewed

Subject	Section	Clause	Issue	Status
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	Registry rejected category 2 site MI switch request with error message requiring Nova request this as a HH switch	No further instances identified

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

If the participant becomes aware that in providing information under this Part, the participant has not complied with that obligation, the participant must, as soon as practicable, provide such further information as is necessary to ensure that the participant does comply.

Audit observation

The process to find and correct incorrect information was examined. The registry validation process was examined in detail in relation to the achievement of this requirement. The registry list files and AC020 reports were examined to determine compliance.

Audit commentary

TODD

Status and trader updates are processed manually using the registry web interface, and Orion is updated at the same time. As part of this process, the user checks that the update was successful.

Registry acknowledgements are not specifically reviewed. Any failed or rejected updates are expected to be identified on screen at the time the manual update is attempted, or through the daily registry data validation process.

A suite of daily discrepancy reports is used to identify potentially incorrect information.

1) Unmetered load is validated using:
   a) The daily load check report, which compares Orion and registry unmetered load details and identifies any discrepancies or changes.
   b) The daily new UML report, which identifies any new connections or switch ins with unmetered load so that the unmetered load can be validated and updated as necessary. The metering team reviews data for new connections and raises activities for the billing team where corrections are required. Unmetered load data for switch ins is not currently reviewed by the billing or metering team. A recommendation for improvement is made in **section 3.7**.
2) Meter details reports identify meter details mismatches between Orion and the registry, including missing and removed meters, period of availability and register content mismatches.
3) Distributed generation reports identify mismatch between Orion and registry generation related fields, and inconsistencies between metering, profile, and distributor generation details in Orion or the registry.
4) New connection information is validated using the
   a) InitialEnergisationData report which shows ICPs which are at “new”, “ready” or “inactive - new connection in progress” status and the current values recorded against each field. The report is checked daily to determine whether initial electrical connection dates have been populated for any of the ICPs, which are then investigated so that the registry and Orion can be updated.

b) Orion vs Registry awaiting meter install report shows ICPs where metering is recorded on the registry but not in Orion, and vice versa. The ICPs are investigated, and Orion is updated as necessary.
c) InitialEnergisationDate_Vs_MeterInstallCertDate and InitialEnergisationDate_Vs_TraderStatusDate date reports identify potential active date discrepancies which require investigation.

5) Reconnected meters with expired certification.
6) Status discrepancies between Orion and the registry.

The reconciliation team conducts pre submission checks to ensure that submission information is accurate and consistent with the aggregation factors recorded on the registry. These checks are discussed further in **section 12.3**.

Processes to identify exceptions are strong, but the exceptions are not always investigated and resolved promptly. This has largely been caused by staffing issues, including absences due to Covid-19 and some experienced staff leaving and new staff being trained. By the time the audit was complete, most of the registry data discrepancies relating to ICPs still supplied by TODD had been resolved. Non-compliance for late registry updates is recorded in **section 3.3**.

The registry list file and AC020 report were examined to confirm that information was correct and not misleading. The analysis returned the following findings:

Item No.	Issue	2022 Qty	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
1	Status mismatch between registry and Orion	18	3	3	10	-	-	1	10 new connections had incorrect status event dates. See **sections 3.5** and **3.8**. Eight ICPs had 1,11 status and should have had the 1,12 status. See **section 3.9**.
2	ICP at status "inactive - new connection in progress" (1,12) with an initial electrical connection date populated by the Distributor	10	-	1	3	-	-	12	All were updated to active status during the audit. See **sections 3.5** and **3.8**.
3	Active date variance with Initial Electrical connection Date	486	469	472	12	16	10	56	A sample of ICPs were checked and ten genuine discrepancies were identified. See **section 3.8**.
4	Incorrect submission flag	-	-	-	-	-	-	-	Compliant.

Item No.	Issue	2022 Qty	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
5	Incorrect profiles	-	28	-	-	-	-	-	32 ICPs had RPS HHR profile and HHR and NHH submission type. All were HHR settled ICPs with unmetered load connected and the registry information was correct.
6	Distributor indicates embedded generation present with RPS profile	28	11	5	-	12	16	19	One ICP had its profile corrected prior to the audit and the other 27 had their profiles corrected during the audit. See **section 6.1**.
7	Active ICP with cat 9 and UML="N"	2	3	21	1	1	2	-	One ICP has an accepted MEP nomination, the other ICP is believed to be metered and is under investigation. See **section 2.9**.
8	Active ICP with no MEP recorded and UML="N"	1	2	14	1	2	-	-	An MEP nomination had been made and accepted.
9	Active with blank ANZSIC codes	-	2	-	-	-	-	1	Compliant.
10	Meter cat 3 with residential ANZSIC code	-	-	1	-	-	-	3	Compliant.
11	Active with ANZSIC "T999" not stated	-	-	-	-	-	-	994	Compliant.
12	Active with ANZSIC "T994" don't know	-	-	-	-	-	-	299	Compliant.
13	Incorrect ANZSIC code applied	5	16	6	-	2	-	-	All were corrected. See **section 3.6**.

Item No.	Issue	2022 Qty	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
14	ICPs with Distributor unmetered load populated but retail unmetered load is blank	-	-	-	-	5	6	4	Compliant.
15	ICPs with standard unmetered load flag Y but load is recorded as zero	-	-	-	-	-	-	1	Compliant.
16	ICPs with incorrect shared unmetered load	-	2	1	-	-	6	7	Compliant.
17	ICPs have UML flag N and no shared unmetered load but Distributor field shows shared unmetered load.	-	-	-	-	-	-	1	Compliant.
18	Arc category 2 meters submitted as HHR, with compensation factors of 100 or greater	-	-	2	-	-	-		All Arc category two meters are settled as NHH.

I re-checked ICP 0000120785ENC01 which had a special read for 22 May 2020 incorrectly entered against 18 May 2020 for meter 10086767 and found the reading on the incorrect date had been made a misread.

Processes for correction of incorrect NHH meter readings are reviewed in **section 8.1**. In this section, I reviewed correction processes where volumes were incorrect, but the readings recorded matched the meter register (if metered) including multiplier corrections, defective and faulty meters, inactive consumption, and unmetered load corrections.

Defective meters	Defective meters are typically identified through meter read validation, or through the faults process. Where a defective meter is identified a field services job is raised, and the meter is usually replaced. An excel template is used to calculate consumption for the faulty period based on either the consumption prior to the fault, or consumption on the replacement meter. If necessary, consumption history may also be requested from the previous retailer. The calculations are peer reviewed to ensure that they are for the correct period, and that the consumption estimate is reasonable. An estimated closing read is applied to the faulty meter to capture consumption that occurred during the faulty period. Correction calculation and fault information is copied into an Orion activity for future reference.

	I reviewed five examples of potentially stopped or faulty meters. Three had field services jobs in progress to investigate and replace the affected meters and I saw evidence that the jobs were being monitored and followed up. The other two ICPs required corrections: • ICP 0000146461TR1B3 had an estimate of consumption during the stopped period added into Orion and included in reconciliation submissions, and • ICP 0000177620HB50F had an estimate of consumption during the stopped period calculated, but it had not been added into Orion resulting in under reporting of 3,335.834 kWh for the period from 28/7/21 to 9/2/22; the removal read was 34999 but should have been 38334.83 which is recorded as non-compliance below, and in **sections 12.2** and **12.7** (I saw evidence that the metering team had followed up the correction with the billing team).
Multiplier corrections	A daily discrepancy report is used to identify ICPs where the multiplier recorded in Orion differs from the multiplier recorded on the registry. Investigation is carried out with the MEP to determine the correct multiplier. If the multiplier is incorrect, the invoices for the customer are reversed and then the multiplier is corrected, and the invoices are reissued. The multiplier field in Orion is not date ranged. If a multiplier change is independent of a meter change, the meter is replaced in Orion by another meter with the same serial number, and an "X" is added to the meter number for the replaced meter. The appropriate multiplier for the time period is then applied for each meter. Corrections flow through to revision submissions. Two examples of multiplier discrepancies were provided, and corrected data was provided for reconciliation for one ICP (0110008182EL7E6) and the other ICP it was confirmed that the MEP event was incorrect on the registry and has since been reversed.
Bridged meter corrections	TODD does not initiate meter bridging, but MEPs or their contractors may elect to bridge a meter on reconnection or to resolve a fault for customer welfare reasons where the electricity cannot be connected without bridging. Bridged meters are identified on receipt of reconnection paperwork, through the review of ICPs with zero consumption (particularly where they have been bridged by the previous trader), or when meter faults are reported by customers, MEPs, or distributors. An excel template is used to calculate consumption for the bridged period based on either the consumption prior to bridging, or consumption after the meter is unbridged. If necessary, consumption history may also be requested from the previous retailer. The calculations are peer reviewed to ensure that they are for the correct period, and that the consumption estimate is reasonable. If the bridged consumption is to be billed to the customer, a closing estimate read is recorded on the affected meter which captures the consumption during the bridged period. A new meter is created and opens on the day the meter is unbridged with the recorded meter reading. If the bridged consumption is not to be billed to the customer, a new meter register is created against an occupier account with opening and closing readings which capture the estimated consumption during the bridged period. Regardless of the method applied, correction calculation and fault information is always copied into an Orion activity for future reference. I reviewed 60 examples of ICPs with zero consumption where the ICP had recently undergone a reconnection. I found: • ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11/10/21 until the meter was replaced and certified on 28/1/22, it is on a list for a

	correction to be processed but this has not been completed yet and is recorded as non-compliance below, and in **sections 12.2** and **12.7**, • ICPs 0000032899CP9A2 (reconnected 18/12/21), 0000034494TR17E (reconnected 17/11/21), 1000574349PCED2 (reconnected 19/6/21) had consumption on some meters but not others; jobs to replace the meters are in progress, and as part of this process and post replacement monitoring TODD will confirm whether the meters with no consumption should have recorded volumes and will process corrections, • ICPs 0030402081PC8ED, 0042165304PC8C3 and 1000594323PCECE reconnected in 2021 are being checked with the customers to confirm whether the meters with zero consumption are expected to show volumes; if yes, the meters will be replaced, and corrections processed as necessary, and • meters for the other 53 ICPs were confirmed not to be bridged.
Inactive ICPs with consumption	All consumption is reported for reconciliation, regardless of the ICP status at the time the consumption occurred. I confirmed that consumption during disconnected periods is reported by checking the historic estimate scenarios in **section 12.11**. TODD produces a discrepancy report which identifies consumption for ICPs with inactive status. Each ICP is reviewed to determine whether the consumption is genuine (i.e., based on the difference between validated actual readings). If the consumption is genuine, TODD determines when the consumption began using AMI data, where available, and updates the registry status to "active" from that date and raises a new disconnection service order for the ICP. A list of 16 ICPs where consumption while inactive had been identified by TODD was checked to confirm whether the correct statuses were applied. • the inactive consumption was not genuine for two ICPs, • 14 ICPs were returned to active status for the consumption period, • ICP 0008762650CN572 was returned to active status from 30/4/21 but should have been returned to active status from 23/4/21 when the AMI data first showed consumption which is recorded as non-compliance below and in **section 3.9**, and • ICP 0000081478TR1F3 has recorded inactive consumption since September 2020 and should have been returned to active status from 14/9/20 (when ICP was initially flagged as inactive) as the meter read history indicates the ICP was never disconnected; this is recorded as non-compliance below and in **section 3.9.**
Unmetered load corrections	An UML register records "readings" for ICPs with unmetered load. The readings are calculated as the previous reading + (daily unmetered kWh x the number of days between readings). When an unmetered load correction is required, the customer's invoices are reversed, and the readings for the unmetered load register are adjusted to reflect the correct values and the customer is rebilled. The corrected readings then flow through to reconciliation. I checked five unmetered load corrections and found four were processed correctly and one was a correction to the registry data only, and there was no change to the daily kWh value used for submission.

The following data discrepancies were identified, but not resolved as soon as practicable:

Report section	Non-compliance
Incorrect unmetered load information not updated as soon as practicable	
3.7 12.2 12.7	ICP 0000394464MP147 had an unmetered builder's temporary supply from 16/7/21 until a meter was installed on 23/11/21. No unmetered load was recorded on the registry or in Orion for the period with unmetered load. The expected unmetered load is 1.536 kWh per day and the omission resulted in under submission of 199.68 kWh.
3.7 12.7	ICP 0007198101RN234 had an unmetered BTS recorded and was confirmed to have been metered since it became active in 2020. A backdated removal of unmetered load was completed during the audit. The unmetered load was recorded as 1.536 kWh per day.
3.7 12.7	ICPs 0000020042CP198 and 0000020056CPA3F had their shared unmetered load removed by the distributor effective from 1/12/21. The registry and Orion's unmetered load flag, trader details and daily unmetered kWh have not been updated, and unmetered load submissions are continuing.
2.1 12.7	UML volumes for two out of ten ICPs sampled were incorrect as the UML no longer applies. UML volumes for eight out of ten ICPs sampled did not match the manual calculation for January 2022.
Corrections not processed as soon as practicable	
2.1 12.2 12.7	ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11/10/21 until the meter was replaced and certified on 28/1/22. It is on a list for a correction to be processed but this has not been completed yet.
2.1 12.2 12.7	ICP 0000177620HB50F's meter was stopped between 28/7/21 and 9/2/22. An estimate of consumption during the stopped period calculated, but it had not been added into Orion. This resulted in under reporting of 3,335.834 kWh for the period from 28/7/21 to 9/2/22. The removal read was 34999 but should have been 38334.83.
2.1 3.9	ICP 0008762650CN572 recorded with inactive consumption and was returned to "active" status from 30/4/21 but should have been returned to "active" status from 23/4/21 when the AMI data first showed consumption. Volume and ICP days submissions are correct because consumption and ICP days are reported regardless of status.
2.1 3.9	ICP 0000081478TR1F3 has recorded inactive consumption since September 2020 and should have been returned to "active" status from 14/9/20 (when ICP was initially flagged as "inactive") as the meter read history indicates the ICP was never disconnected. Volume and ICP days submissions are correct because consumption and ICP days are reported regardless of status.

Incorrect registry information not updated as soon as practicable	
3.5 3.8	Some incorrect active status dates which were identified through TODD's validation reports were not investigated and corrected until the audit was completed, including: • ten ICPs at "inactive – new connection in progress" status with initial electrical connection dates populated, and • ten new ICPs with incorrect active dates.
3.9	Seven ICPs[1] which should have been claimed with 1,12 "inactive – new connection in progress" status on the registry were instead claimed with 1,11 "electrically disconnected at meter box switch" and were not corrected as soon as practicable.
6.1	27 ICPs with generation recorded by the distributor and I flow metering where TODD did not record a generation profile, did not have their profiles corrected to RPS PV1 until during the audit.

Missing HHR submission data was identified for an AMI meter exchange for ICP 0005238501RN91B because interval data from the removed meter was only provided up to midnight the day prior to the meter change. The system then estimated consumption as zero up to the meter change time as there was no removed read in the system to enable a more accurate estimation to be performed. This is recorded as non-compliance in **sections 2.1**, **8.2**, **12.2** and **12.7**.

I rechecked the data discrepancies reported in the last audit that required following up and found corrections were processed, or the ICPs had switched out before the corrections could be processed.

The process for upgrades to HHR and downgrades to NHH where a meter change occurs causes a technical non-compliance because the registry and ICP days reporting will only allow a single submission type per day, but the ICP physically has more than one submission and metering type on the day of the meter change. The impact is low because volume submissions are correct, and this is an accepted practice. Upgrades and downgrades are discussed further in **section 6.7**.

As noted in the previous audit, there is an issue with ARC Innovations meters when used for HHR settlement. The on-site setup is that a meter pulses into a data storage device, which counts the pulses and "stores" them every 200 pulses which equals 0.1 kWh. There is only one decimal place, so the smallest increment of consumption is 0.1. TODD currently supplies 281 active ICPs with ARC Innovations meters which are HHR settled. The total kWh per month will be accurate, but if volumes are not recorded and reported against the correct trading period, TODD may not be charged at the wholesale rate that applied during the trading period when the electricity was consumed. The affected meters do not have multipliers and have the highest metering category of 1, so the impact is expected to be minimal.

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

[1] 0007200708RNC13 26/3/21, 0000165673CK414 30/4/21, 0007201054RN9A7 7/4/21, 1000028279BP1F9 16/6/21, 1002137708LC9F9 9/4/21, 0007201721RNEB7 11/5/21 and 0000165679CK685 30/4/21.

Any discrepancies are investigated and resolved.

The analysis of the list file found no discrepancies, as recorded in the table below.

Item No.	Issue	2022	2021	2020	2019	2018	Comments
1	Status mismatch between registry and WISE	-	-	-	-	1	Compliant – some late updates but these were replacing/correcting existing events.
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.
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	2	1	Compliant.

Processes for correction of incorrect NHH meter readings are reviewed in **section 8.1**. In this section, I reviewed correction processes where volumes were incorrect, but the readings recorded matched the meter register including multiplier corrections, defective and faulty meters, and inactive consumption. No unmetered load is supplied.

Defective meters	Where a defective meter is identified, a field services job is raised, and the meter is usually replaced. I reviewed ten examples of possible defective meters. Five had meters replaced and two had communications issues resolved. In the other cases, the data was eventually provided without any further interventions. Corrections for two ICPs where an actual read was not able to be obtained were correctly processed using estimated data from historic consumption.
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. As part of the process to notify the AMI MEP of a bridged meter via a service request, WISE creates and installs an additional virtual meter (existing meter serial number plus suffix) on the ICP and applies a daily average consumption factor from the ICP/meter read history (or a daily value agreed with the customer where meter read history is limited) to ensure the consumption is reasonably assessed each day during the bridged period. This virtual meter is then removed once the meter is unbridged, and the meter has been remotely reconnected. The install and removed readings from the virtual meter are treated as permanent estimates ensuring volume is recorded as historic estimates once the meter bridging has been resolved. The bridged meter remains installed against the ICP for the affected period. WISE provided five examples of bridged meters and in all five cases, the virtual meter provided daily estimated reads using the daily average consumption factor. This virtual meter was then end dated and a removed read (Permanent Estimate) entered once it was confirmed that the meter had been successfully unbridged.
Multipliers	No WISE ICPs have meter multipliers, and no ICPs requiring multiplier corrections were identified.
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, and 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 is inactive (day after the physical disconnection activity). 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 resulted in under reporting of consumption where disconnection occurred 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. 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 26 ICPs with inactive status and consumption after the final reading on the customer's account. 21 had consumption of less than 1 kWh, and I checked the five which had consumption over 1 kWh, four appear to be due to meter creep where the disconnected meter records very low volume (0.001 kWh across intermittent intervals) and this volume is not considered to be genuine. One ICP was advised by the MEP as being remotely disconnected on 17/2/22 but consumption was still occurring from this date so a second attempt to remotely disconnect the ICP was made on 21/2/22 which resulted in volumes no longer being detected.

	The Registry status was not updated to 21/2/22 therefore the volume recorded between 17-21/2/22 has not been included in submission.

HNET

HNET monitors the registry notification files to update their database when registry information changes. The ICP management report is run weekly, and this identifies any consumption on active vacant or disconnected vacant ICPs, status mismatches, meter mismatches, blank or "T9" coded ANZSIC codes.

HNET 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	2022	2021	Jan 2020	May 2019	Januar y 2019	Comments
1	ICP not managed in HNET's system	-	-	-	-	-	Compliant.
2	Status mismatch between registry and HNET	-	-	-	1	-	Compliant.
3	Active with no MEP	-	-	-	-	-	Compliant.
4	Incorrect submission flag	-	-	-	-	-	Compliant.
5	Active with blank ANZSIC codes	-	-	-	-	-	Compliant.
6	Active with ANZSIC "T9.." coded	-	-	-	-	-	Compliant.
7	Active with meter category 9 but MEP and UML "N"	-	-	-		-	Compliant.
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	-	-	-	1	5	Compliant.

HNET had incorrectly applied an incorrect profile code of PV1 for ICP 0404307035LC42B since July 2019 when no generation was present. The profile was corrected during the audit.

The management of the registry information continues to achieve a high level of compliance. High consumption is checked for ICPs over 3,000 units for the consumption period.

Processes for correction of incorrect NHH meter readings are reviewed in **section 8.1**. In this section, I reviewed correction processes where volumes were incorrect, but the readings recorded matched the meter register including multiplier corrections, defective and faulty meters, and inactive consumption. No unmetered load is supplied.

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 status is managed through the "Disco Reco Manager". HNET provided a list of eight ICPs with consumption while disconnected, which were reviewed. In all cases, the consumption was either not genuine (misread) or the reconnection read was adjusted to match the disconnection reads to ensure all volume is reported. I checked five ICPs with vacant consumption and confirmed that the volume has been submitted correctly.
Bridged meter corrections	HNET did not have any bridged meters during the audit period.
Multiplier corrections	HNET 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.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: 10.6, 11.2, 15.2 From: 01-Mar-21 To: 31-Mar-22	**TODD** Some inaccurate data was not corrected as soon as practicable. Profile discrepancy on the day of meter change for upgrades and downgrades. Inaccurate submission for ARC Innovations HHR metering. **WISE** One ICP had an incorrect inactive status event date. **HNET** One ICP had an incorrect Profile code of PV1 where no generation was present. 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	Controls are rated as strong as they are sufficient to mitigate risk most of the time. The audit risk rating is low as the overall volume of ICPs affected is low. Where statuses are incorrect, the reconciliation process ensures that all consumption is reported. Status inaccuracies can have a minor impact on ICP days submissions.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. See sections listed below for further details specific to each area. Items 1, 2 and 3 See Sections 3.5, 3.8 and 3.9 • In all instances data integrity reporting identified the discrepancies as expected. • Due to resource constraints Nova's processes were not followed to make corrections once issues were identified by the data integrity reporting. All corrections have now been made Item 6 See section 6.1. • Recommendation has been accepted. **WISE Response:** Non-Compliance accepted. One ICP had incorrect Inactive status event date recorded in the Registry. See section 3.9 • The ICP was identified as part of the existing reporting, however due to human error the wrong date was used to update the Registry. See section 3.9 • This was corrected to reflect the correct Inactive dates on 27/04/2022 **HNET Response:** Non-Compliance accepted. One ICP had the incorrect profile applied. See section 6.1 • This was due to human error and was corrected in March 2022.	April 2022 March 2022	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: Detailed outcomes are covered in the applicable sections of the audit document **WISE:** WISE will continue to focus on accuracy of event dates and complete and accurate information. **HNET:** A weekly internal review process has been instigated to review all ICPs with PV1 profile to confirm if an export meter is connected	On-going	

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

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

I reviewed the method to receive meter reading information and traced a diverse sample of readings from the source files to Nova's systems.

Audit commentary

TODD

HHR data received from agents

HHR data is collected by AMS and EDMI. Data transmission was reviewed as part of AMS and EDMI's agent audits and this audit and found to be secure and compliant. HHR data is loaded into EnergyMarket for reconciliation and Stark is used to collate C&I data for AMS and EDMI then using Stark's Kinetiq module this data is extracted and uploaded into Kinetiq for billing.

I traced a sample of raw HHR data through to the HHR aggregates submissions for a diverse sample of five ICPs with different agents and MEPs, and compliance is confirmed.

HHR and generation data obtained by TODD

The Stark system retrieves meter information from the generation meters every half hour, and customer meters weekly. I reviewed the processes to ensure that HHR data received by Stark is complete and accurate, and traced a sample of HHR data through to the aggregates submission.

I reviewed controls over completeness and accuracy, including checks for failed downloads, missing channels, and missing trading periods. Data validation is discussed further in **section 9.6**.

HHR generation data obtained by EMS

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

AMI readings for NHH billed sites

NHH AMI data is provided by IntelliHUB (for IntelliHUB, Metrix and Counties Power meters), and AMS (for AMS, Arc and Smartco meters), FCLM, and Nova via SFTP. All other AMI meters are read manually by Wells or MRS.

AMI data is loaded into EnergyMarket, and a daily read file is exported from EnergyMarket to Orion containing ICPs scheduled to be read on that date. Raw meter data is archived on the network.

I traced a diverse sample of reads for five NHH ICPs read by MEPs from the source files to Orion and EnergyMarket. I confirmed that the correct readings and read dates were recorded against each meter register for the sample checked.

Manual readings

Manual NHH data is provided by Wells and MRS via SFTP. I traced a diverse sample of reads for 21 NHH ICPs read by MRS and Wells from the source files to Orion. 15 of these were routine reads and six were special reads. I confirmed that the correct readings and read dates were recorded against each meter register for all but one of the examples checked.

I re-checked ICP 0000120785ENC01 which had a special read for 22 May 2020 incorrectly entered against 18 May 2020 for meter number 10086767 and found the reading on the incorrect date had been made a misread.

WISE

All MEPs 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 five NHH ICPs from the source files to HNET's system covering all MEPs. All the reads matched the source files.

HNET

NHH

All MEPs transfer meter reading information to WISE via SFTP. MEP data transmission processes were reviewed as part of their MEP audits.

The AMI reads are collected twice daily from AMS and IntelliHUB, 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 five NHH ICPs from the source files to HNET's system. All the reads matched the source files.

HHR

HHR data transmission was reviewed as part of AMS's agent audit and found to be compliant.

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

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

The agent audit reports record compliance with this clause.

TODD

Stark

Data within Stark may be edited though Stark's front end, or by importing a replacement data file. Raw data remains in Stark even if it is later edited. Users have individual logins and Stark's audit trails are compliant.

Orion

A complete audit trail was viewed in Orion. The logs include the activity identifier, date and time, and an operator identifier.

EnergyMarket

Users have the ability to edit meter reading and volume data in EnergyMarket but as this data is cleared and reimported daily any edits will be overwritten. Users perform any required changes to data within Orion which enables these changes to flow through to EnergyMarket overnight. This process occurs prior to completing each revision and can also be run manually where updated data is required.

WISE

The logs for meter reading activities, system triggered registry notifications and switching functions within the Wise PEBS system were reviewed.

NET

The logs for meter reading activities, system triggered registry notifications and switching functions within HNET systems were reviewed.

Audit outcome

Compliant

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

Code reference

Clause 10.4

Code related audit information

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

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

Audit observation

I reviewed the current terms and conditions.

Audit commentary

TODD

TODD's terms and conditions include arrangements for meter access and shutdowns and these clauses are mirrored in agreements with MEPs. Nova is also an ATH, and the arrangements are also included in the instructions supplied to field personnel.

WISE

WISE's terms and conditions include consent to access for authorised parties for the duration of the agreement.

HNET

HNET trades as Megatel. Megatel's terms and conditions include consent to access for authorised parties for the duration of the agreement.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

The trader must use its best endeavours to provide access:

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

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

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

Audit observation

I reviewed the current terms and conditions and discussed compliance with these clauses.

Audit commentary

TODD

TODD's terms and conditions include arrangements for meter access and shutdowns and these clauses are mirrored in agreements with MEPs. Nova is also an ATH, and the arrangements are also included in the instructions supplied to field personnel.

TODD supports other parties to obtain access to installations by providing customer contact information and liaising with customers as necessary. TODD confirmed that there have been no instances where access could not be arranged under clause 10.7.

WISE

WISE's terms and conditions include consent to access for authorised parties for the duration of the agreement. WISE confirmed that there have been no instances where access could not be arranged under clause 10.7.

HNET

HNET trades as Megatel. Megatel's terms and conditions include consent to access for authorised parties for the duration of the agreement. HNET confirmed that there have been no instances where access could not be arranged under clause 10.7.

Audit outcome

Compliant

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

Code reference

Clause 10.35(1)&(2)

Code related audit information

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

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

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

Audit observation

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

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

Audit commentary

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

There are currently no error or loss compensation arrangements in place for TODD, HNET or WISE.

Audit outcome

Compliant

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

Code reference

Clause 11.15B

Code related audit information

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

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

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

Audit observation

I reviewed the current terms and conditions.

Audit commentary

The terms and conditions include this requirement for TODD, HNET and WISE.

Audit outcome

Compliant

2.9. Connection of an ICP (Clause 10.32)

Code reference

Clause 10.32

Code related audit information

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

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

Audit observation

The new connection process was examined in detail to evaluate the strength of controls.

Audit commentary

TODD

TODD's new connection application was reviewed. In most cases, the customer or the customer's agent requests a new connection from TODD, who then request a new ICP from the distributor. For some distributors, the customer or their agent requests the new connection directly from the distributor or their approved contractor, and the distributor advises TODD that a new ICP is to be created and seeks their approval.

Once the distributor has provided an ICP, it is entered into Orion and the registry is updated to "inactive - new connection in progress" status. At the same time, a meter installation service request is issued through the Salesforce JIT (Job Issue Tracking) system, a MEP nomination is processed on the registry, and an activity is recorded on the customer account in Orion.

New connections are monitored using:

1. The daily JIT open jobs report, which includes date opened and date required fields and is used to identify open service requests which require follow up.
2. Orion activities, which allow follow up dates to be scheduled. When initially raised, the follow up date is set for two business days after the service order is raised.
3. The daily InitialEnergisationData report which shows ICPs which are at "new", "ready" or "inactive - new connection in progress" status and the current values recorded against each field. The report is checked daily to determine whether initial electrical connection dates have been populated for any of the ICPs, which are then investigated to confirm whether electrical connection has occurred so that the registry and Orion can be updated.
4. The daily Orion vs Registry awaiting meter install report shows ICPs where metering is recorded on the registry but not in Orion, and vice versa. The ICPs are investigated, and Orion is updated as necessary.
5. The daily InitialEnergisationDate_Vs_MeterInstallCertDate and InitialEnergisationDate_Vs_TraderStatusDate date reports identify potential active date discrepancies which require investigation.
6. The electricity new connections report shows all ICPs at "new", "ready" or "inactive - new connection in progress status". It is a snapshot of all registry and Orion information for the ICPs. It is generated daily and checked on an ad hoc basis (usually weekly or monthly) to identify ICPs which remain at these statuses for extended periods.
7. Job progress reports provided by MEPs are reviewed. IntelliHUB provides weekly progress reports, and AMS provides reports every three days.

HHR new connections follow the process as NHH new connections. When determining the correct active date for HHR new connections, Nova reviews the HHR volume information to determine when consumption started.

The AC020 report recorded two active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. ICP 0007447862NV86D had an MEP nomination accepted and was awaiting population of meter asset data. ICP 0234172045LCFD4 is believed to have a FCLM meter installed but FCLM has no record of this, possibly due to an address unit number discrepancy. A site visit has been requested to determine the correct address and metering information.

A sample of 58 new connections were checked and confirmed the process. Findings on the accuracy of data for the sample are recorded in **section 3.5**.

WISE

WISE did not complete any new connections during the audit period and does not intend to complete new connections. The AC020 report did not identify any data discrepancies relating to new connection information, or any active ICPs with metering category 9, null, or zero.

HNET

HNET has very few new connections and do not actively pursue these. 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 HNET's system and the registry. All changes

are loaded directly to the registry by the operator, as discussed in **section 3.5**. Whilst the process is manual, due to the small volume handled, the process works.

There were nine new connections during the audit period. Seven were claimed within five business days and the status updated to 1,12 until the meter was installed. One was not made "ready" by the distributor prior to the meter install date so there was a delay while HNET waited for the distributor to correct their registry status. One ICP was inadvertently claimed by another retailer and made 1,12 without an agreement being in place with the customer. Again, there was a delay while HNET waited for the other retailer and the MEP to reverse their registry events before being able to correctly claim this ICP.

The AC020 report did not record any active ICPs with metering category 9, null, or zero.

Audit outcome

Compliant

2.10. Temporary Electrical Connection of an ICP that is not an NSP (Clause 10.33(1))

Code reference

Clause 10.33(1)

Code related audit information

A reconciliation participant may temporarily electrically connect a point of connection, or authorise 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

The new connection process was examined in detail to evaluate the strength of controls. WISE do not complete new connections.

Audit commentary

TODD and HNET

The TODD and HNET new connection processes ensure that all ICPs are claimed and taken to the "inactive - new connection in progress" status, and the MEP is nominated at the same time.

Temporary electrical connections occur rarely, and no examples were identified during the audit period.

Audit outcome

Compliant

2.11. Electrical Connection of Point of Connection for an ICP that is not an NSP (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 trader is recorded in the registry as the trader responsible for the ICP or has an arrangement with the customer and initiates a switch within two business days of electrical connection,*
    - *if the ICP has metered load, one 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 electrical connection.*

Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The registry list file and AC020 report were examined to confirm process compliance.

Audit commentary

TODD

Metering information for active ICPs

The AC020 report recorded two active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. ICP 0007447862NV86D had an MEP nomination accepted and was awaiting population of meter asset data. ICP 0234172045LCFD4 is believed to have a FCLM meter installed but FCLM has no record of this, possibly due to an address unit number discrepancy. A site visit has been requested to determine the correct address and metering information.

Meter certification for status changes to active

Active ICPs are required to have full metering certification recorded within five business days of the date they become "active".

New Connections

The new connection process ensures that an MEP is nominated at the time the ICP is claimed at "inactive – new connection in progress" status.

The AC020 report recorded 205 ICPs which did not have full certification within five business days of initial electrical connection.

- 204 were permanent unmetered load or unmetered builder's temporary supplies and were not expected to have metering on initial electrical connection.
- One ICP was certified on the active status date, but the MEP updated the registry late.

Reconnections

The daily ExpiredMeterCert_WithReconnection report identifies any ICPs which have been reconnected which do not have current full meter certification. ICPs on the report are allocated to a metering team member who determines whether the meter is already scheduled to be replaced or recertified by the MEP, and if not raises a job.

The AC020 report recorded 41 ICPs which did not have full certification within five business days of reconnection. All of the ICPs were metered and expected to be certified. Some of the meters which were uncertified were scheduled to be replaced as part of an MEP meter deployment process.

Meter recertification for unbridged meters

I reviewed 60 examples of ICPs with zero consumption where the ICP had recently undergone a reconnection. One was found to be genuinely bridged, and the meters were replaced and certified as part of the unbridging process. Six ICPs' meters are under investigation to determine whether they are bridged and the other 53 ICPs were confirmed not to have bridged meters.

WISE

Metering information for active ICPs

The AC020 report did not identify any active ICPs with metering category 9, null, or zero.

New connections

WISE did not complete any new connections during the audit period and does not intend to complete new connections.

Reconnected ICPs

All reconnected ICPs had full meter certification on their reconnection date.

Bridged meters

WISE provided a list of five ICPs which had bridged meters at some time during the audit period. Four were recertified by the MEP when unbridged. ICP 1001121843LCC6D's meter was not re-certified. The customer had tampered with the meter and WISE did raise a service request for the MEP to recertify the ICP once it had been unbridged however the customer switched away three days after the meter was unbridged and before the service request was completed and WISE is no longer the retailer.

HNET

Metering information for active ICPs

The AC020 report did not identify any active ICPs with metering category 9, null, or zero.

New Connections

The AC020 report did not record any ICPs which were not fully certified within five business days of initial electrical connection.

Reconnected ICPs

HNET has reporting to identify these ICPs, and they request the MEP to conduct certification.

The AC020 report recorded six ICPs which were not fully certified within five business days of reconnection. Five late certifications were due to human error as the exception report was not being actioned and no work request was sent to the MEP in order for the meters to be certified. One example was where the customer switched to HNET and then requested the ICP be decommissioned.

Bridged meters

HNET confirmed there were no bridged meters during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: 10.33A From: 01-Mar-21 To: 14-Jan-21	**TODD** 41 ICPs did not have full certification within five business days of reconnection. **WISE** ICP 1001121843LCC6D's meter was not re-certified on unbridging. **HNET** Six ICPs did not have full certification within five business days of reconnection. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating
Low	The controls are recorded as strong. Processes are in place to identify metering certification issues and replace affected meters. The impact on settlement is recorded as minor because installations with expired or interim certification may be less accurate than certified metering installations.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. 41 ICPs late or no current certification • Nova continues to work with MEPs on deployment program(s), BAU field jobs, turn downs due to additional electrical work required and consumer contact challenges etc. • These challenges are on-going across the industry **WISE Response:** Non-Compliance accepted. One ICP did not have the metering certification updated on the Registry within timeframe after being unbridged. • Due to the site switching from WISE shortly after the unbridging this was not identified by WISE's processes. WISE has since followed up with the MEP who has now corrected the Registry as the site was recertified at the time of work being undertaken. **HNET Response:** Non-Compliance accepted. Six late certifications for reconnections	April 2022	Identified

HNET has updated their service request template to capture if there is uncertified metering and due date to ensure updates are made within 5 working days		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Non-compliance will continue to occur as certifications continue to expire • TODD will continue to work with MEPs to improve and/or meet the code timeframes **WISE & HNET:** WISE & HNET will continue to work with MEPs to meet the code timeframes	On-going	

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

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

Audit commentary

TODD

TODD has arrangements for line function services with all relevant distributors and did not begin trading on any new networks during the audit period. GXP is a mandatory ICP field in Orion and cannot be entered unless there is a matching value in the Orion maintenance table.

WISE

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.

WISE began trading on the Electra, Orion and Powerco networks during the audit period. WISE falls under the umbrella of Nova UoSA with these distributors therefore agreements are confirmed as being in place.

HNET

New networks are added to HNET'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.

HNET did not begin trading on any new networks during the audit period.

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

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

Audit commentary

TODD

TODD has appropriate arrangements with all relevant MEPs and did not begin using any new MEPs during the audit period. An MEP cannot be entered against an ICP in Orion unless there is a matching value in the Orion maintenance table.

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 Counties, AMS, IntelliHUB, or WEL Networks are the MEP, and that AMI metering is installed, prior to accepting a customer application.

WISE did not begin using any new MEPs during the audit period.

HNET

HNET ensures there is an arrangement in place for all MEPs whose meters they use. New MEPs are added to HNET'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.

HNET did not begin using any new MEPs during the audit period.

Audit outcome

Compliant

2.14. Connecting ICPs then withdrawing switch (Clause 10.33A(5))

Code reference

Clause 10.33B

Code related audit information

If a trader connects an ICP it is in the process of switching and the switch does not proceed or is withdrawn the trader must:

- *restore the disconnection, including removing any bypass and disconnecting using the same method the losing trader used,*
- *reimburse the losing trader for any direct costs incurred.*

Audit observation

The process for reconnecting ICPs in the process of switching in was examined, including review of reports used in the process.

Traders are only able to update ICP status for event dates where they are responsible for the ICP on the registry.

Audit commentary

If any ICPs reconnected as part of a switch in are then withdrawn the gaining trader is expected to disconnect using the same methodology as the losing trader used.

TODD

TODD's process is to re-disconnect any switches that were reconnected as part of the switch in process but subsequently withdrawn.

WISE

WISE processes around ensuring they only switch in AMI communicating ICPs that are capable of remote disconnections also ensures any ICPs that are subsequently withdrawn are able to be returned to the disconnection state. However, WISE's experience is that where a wrong property switch has occurred, and the affected property was an inactive vacant property with another retailer that is then reconnected by WISE then the other retailer tends to not accept a withdrawal request.

HNET

HNET has a process to re-disconnect any switched ICPs that were reconnected as part of the switch in process but subsequently withdrawn. However, HNETs experience is that where a wrong property switch has occurred, and the affected property was an inactive vacant property with another retailer that is then reconnected by HNET then the other retailer tends to not accept a withdrawal request.

Audit outcome

Compliant

2.15. Electrical disconnection of ICPs (Clause 10.33B)

Code reference

Clause 10.33B

Code related audit information

Unless the trader is recorded in the registry or is meeting its obligation under 10.33A(5) it must not disconnect or electrically disconnect the ICP or authorise the metering equipment provider to disconnect or electrically disconnect the ICP.

Audit observation

The disconnection process was examined. Traders are only able to update ICP status for event dates where they are responsible for the ICP on the registry.

Audit commentary

Nova has a good understanding of this requirement and disconnections do not occur where an NT has been received for TODD, WISE, or HNET.

Audit outcome

Compliant

2.16. Removal or breakage of seals (Clause 48(1C), 48 (1D), 48 (1E), 48 (1F) of Schedule 10.7)

Code reference

Clause 48(1C), 48 (1D), 48 (1E), 48 (1F) of Schedule 10.7

Code related audit information

A trader can remove or break a seal without authorisation from the MEP to:

- *reset a load control switch, bridge or un-bridge a load control switch – if the load control switch does not control a tome block meter channel,*
- *electrically connect load or generation, of the load or generation has been disconnected at the meter,*
- *electrically disconnect load or generation, if the trader has exhausted all other appropriate methods of electrical disconnection,*
- *bridge the meter.*

A trader that removes or breaks a seal in this way must:

- *ensure personal are qualified to remove the seal and perform the permitted work and they replace the seal in accordance with the Code,*
- *replace the seal with its own seal.*
- *have a process for tracing the new seal to the personnel,*
- *update the registry (if the profile code has changed)*
- *notify the metering equipment provider.*

Audit observation

Policies and processes for removal and breakage of seals were reviewed.

A sample of disconnections, reconnections, additions of export metering, and bridged meters were checked for compliance.

Audit commentary

Nova engages MEPs who in turn engage a test house to carry out activities which may require seals to be broken or removed. MEPs and test houses are required to ensure that only qualified personnel perform work and manage and trace seals. The MEPs do not usually provide details of seals in their job completion paperwork.

Nova receives work completion paperwork from the MEPs and uses this information to confirm the correct ICP attributes including status and profile, and then update their systems and the registry.

If Nova becomes aware that a meter has missing or broken seals a job is raised for the MEP to check the meter and replace the seals. Nova typically becomes aware of missing or broken seals through information provided by the customer, network, or meter condition information provided by Wells or MRS.

TODD

I saw evidence of the processes to identify missing or broken seals and arrange for them to be replaced in operation for TODD.

WISE

Two examples of notification of broken seals were identified for WISE. One was a retrospective notification by the MEP who had replaced the seal as part of the scheduled Cat 1 inspection for the ICP. The other example was due to the distributor replacing the network owned relay and the MEP was notified by WISE.

HNET

I saw evidence of the processes to identify missing or broken seals and arrange for them to be replaced in operation for HNET. No examples of broken seals being notified to HNET were identified for this audit period.

Audit outcome

Compliant

2.17. Meter bridging (Clause 10.33C and 2A of Schedule 15.2

Code reference

Clause 10.33C and 2A of Schedule 15.2

Code related audit information

A trader, or a distributor or MEP which has been authorised by the trader, may only electrically connect an ICP in a way that bypasses a meter that is in place ("bridging") if, despite best endeavours:

- *the MEP is unable to remotely electrically connect the ICP,*
- *the MEP cannot repair a fault with the meter due to safety concerns,*
- *the consumer will likely be without electricity for a period which would cause significant disadvantage to the consumer.*

If the trader bridges a meter, the trader must:

- *determine the quantity of electricity conveyed through the ICP for the period of time the meter was bridged,*
- *submit that estimated quantity of electricity to the reconciliation manager,*
- *within one business day of being advised that the meter is bridged, notify the MEP that they are required to reinstate the meter so that all electricity flows through a certified metering installation.*

The trader must determine meter readings as follows:

- *by substituting data from an installed check meter or data storage device*
- *if a check meter or data storage device is not installed, by using half hour data from another period where the trader considers the pattern of consumption is materially similar to the period during which the meter was bridged,*
- *if half hour data is not available, a non-half hour estimated reading that the trader considers is the best estimate during the bridging period must be used.*

Audit observation

The process for bridging meters was discussed and a sample of bridged meters were reviewed.

Audit commentary

TODD

TODD does not initiate meter bridging, but MEPs or their contractors may elect to bridge a meter on reconnection or to resolve a fault for customer welfare reasons where the electricity cannot be connected without bridging.

Bridged meters are identified on receipt of reconnection paperwork, through the review of ICPs with zero consumption (particularly where they have been bridged by the previous trader), or when meter faults are reported by customers, MEPs, or distributors. An excel template is used to calculate consumption for the bridged period based on either the consumption prior to bridging, or consumption after the meter is unbridged. The calculations are peer reviewed to ensure that they are for the correct period, and that the consumption estimate is reasonable. The correction process is described in more detail in **section 2.1**.

I reviewed 60 examples of ICPs with zero consumption where the ICP had recently undergone a reconnection. ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11 October 2021 until the meter was replaced and certified on 28 January 2022. It is on a list for a correction to be processed but this has not been completed yet and is recorded as non-compliance in **sections 2.1**, **12.2** and **12.7**. Six ICPs' meters are under investigation to determine whether they are bridged and the other 53 ICPs were confirmed not to have bridged meters.

WISE

Five bridged meters were identified for WISE. Four ICPs were bridged by either the MEP or field service provider because the remote reconnection failed, and one was confirmed as a tamper. The metering installation was recertified at the time the bridge was removed for the four bridged meter ICPs however the meter tamper ICP was not confirmed as recertified at the time of unbridging and while WISE did raise a field service request to have the meter recertified, the customer switch away shortly after preventing WISE being able to follow this up with the MEP. The correction process was checked and confirmed as accurate and compliant, and the missing recertification is recorded as non-compliance in **section 2.11**.

HNET

HNET confirmed there were no bridged meters during the audit period.

Audit outcome

Compliant

2.18. Use of ICP identifiers on invoices (Clause 11.30)

Code reference

Clause 11.30

Code related audit information

Each trader must ensure the relevant ICP identifier is printed on every invoice or document relating to the sale of electricity.

Audit observation

The process to ensure that the ICP identifier is printed on every invoice or document relating to the sale of electricity was discussed, and an invoice was reviewed.

Audit commentary

ICP identifiers are included on invoices and in correspondence relating to the sale of electricity for TODD, WISE and HNET.

Audit outcome

Compliant

2.19. Provision of information on dispute resolution scheme (Clause 11.30A)

Code reference

Clause 11.30A

Code related audit information

A retailer must provide clear and prominent information about Utilities Disputes:

- *on their website*
- *when responding to queries from consumers*
- *in directed outbound communications to consumers about electricity services and bills.*

If there are a series of related communications between the retailer and consumer, the retailer needs to provide this information in at least one communication in that series.

Audit observation

The process to ensure that information on Utilities Disputes is provided to customers was checked, and websites, terms and conditions, invoices and communications were reviewed.

Audit commentary

TODD

Nova issued a Retail Brief to inform staff of the changes to requirements to communicate information about Utilities Disputes to customers from 1 April 2021. It provides clear instruction to staff on the requirements and how compliance will be achieved.

Clear and prominent information on Utilities Disputes is provided:

- in the footer of staff, marketing, and billing emails,
- in the footer of Nova's letterhead,
- in the footer of each website page,
- in Nova's terms and conditions,
- in sales and outbound call scripts,
- on the back page of customer invoices, and
- on Nova's interactive voice recording welcome message.

WISE

Clear and prominent information on Utilities Disputes is provided:

- in email footers,
- on statements,
- in the footer on WISE's website, and
- on WISE's interactive voice recording welcome message.

HNET

HNET trades as Megatel. Clear and prominent information on Utilities Disputes is provided:

- in email and letter footers,
- on invoices,
- in the footer on Megatel's website,

- on Megatel's interactive voice recording welcome message, and when responding to customer calls as part of the call centre script, and
- in Megatel's terms and conditions.

Audit outcome

Compliant

2.20. Provision of information on electricity plan comparison site (Clause 11.30B)

Code reference

Clause 11.30B

Code related audit information

A retailer that trades at an ICP recorded on the registry must provide clear and prominent information about Powerswitch:

- *on their website*
- *in outbound communications to residential consumers about price and service changes*
- *to residential consumers on an annual basis*
- *in directed outbound communications about the consumer's bill.*

If there are a series of related communications between the retailer and consumer, the retailer needs to provide this information in at least one communication in that series.

Audit observation

The process to ensure that information on Powerswitch is provided to customers was checked, and websites, terms and conditions, invoices and communications were reviewed.

Audit commentary

TODD

Nova issued a Retail Brief to inform staff of the changes to requirements to communicate information about Utilities Disputes to customers from 1 April 2021. It provides clear instruction to staff on the requirements and how compliance will be achieved.

Clear and prominent information on Powerswitch is provided:

- in the footer of staff, marketing, and billing emails,
- in the footer of Nova's letterhead,
- in the footer of each website page,
- in Nova's terms and conditions,
- in sales and outbound call scripts,
- on the back page of customer invoices, and
- on Nova's interactive voice recording welcome message.

Inclusion of information on Powerswitch on invoices achieves compliance with the requirement for annual notification to residential consumers.

WISE

Clear and prominent information on Powerswitch is provided:

- in email footers,
- on statements,
- in the footer on WISE's website, and
- on WISE's interactive voice recording welcome message.

Inclusion of information on Powerswitch on statements achieves compliance with the requirement for annual notification to residential consumers.

HNET

HNET trades as Megatel. Clear and prominent information on Powerswitch is provided:

- in email and letter footers,
- on invoices,
- in the footer on Megatel's website, and
- on Megatel's interactive voice recording welcome message, and when responding to customer calls regarding pricing as part of the call centre script.

Inclusion of information on Powerswitch on invoices achieves compliance with the requirement for annual notification to residential consumers.

Audit outcome

Compliant

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

The new connections process was examined in detail to confirm compliance with the requirement to obtain ICP identifiers for points of connection to local or embedded networks.

Audit commentary

The requirements of this clause are understood and managed by TODD and HNET. WISE does not deal with new connections.

There were no examples identified where points of connection did not have ICPs.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

The new connection process was examined in detail. Findings on the timeliness of updates are listed in **section 3.5**. The registry list file and AC020 report were examined to confirm process compliance.

Audit commentary

The new connection process is detailed in **sections 2.9**. The processes in place ensure that the trader required information is populated as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

The process to manage status changes is discussed in detail in **sections 3.8** and **3.9** below. The process to manage trader updates, including MEP nominations was reviewed.

The registry list and AC020 reports were examined, and a sample of late updates were checked as described in the audit commentary.

Audit commentary

TODD

Status updates are processed manually using the registry web interface, or by importing a file from SalesForce into the registry. Orion is updated at the same time for manual updates, and upon checking the daily status discrepancy report where files are imported.

Trader updates are processed manually using the registry web interface or by importing a manually created file. Orion is updated at the same time.

Processes to identify discrepancies through the daily exception reports are strong, but the exceptions are not always investigated and resolved promptly, and the timeliness of registry updates has decreased during the audit period. This has largely been caused by staffing issues, including absences due to Covid-19 and some experienced staff leaving and new staff being trained. TODD provided an updated AC020 report for October 2021 to March 2022 only, which showed that the timeliness of status and trader updates improved later in the audit period.

Status updates to "active"

TODD's reconnection process is robust and is described in **section 3.8**. The timeliness of status updates to active (for reconnections) is set out in the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	2015	419	73%	9.91
	2016	455	91%	3.4
	2017	652	80%	5
	2018	784	95%	3
	2020	165	89.20%	4.19
	2021	95	93.83%	3.10
	2022	195	82.45%	16.50

TODD provided an updated AC020 report for October 2021 to March 2022 which showed that the timeliness of status updates to active for reconnections had improved later in the audit period:

Status	Review period	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	Oct 21-Mar 22	34	91.94%	6.72

On the original AC020 report, there were 97 reconnected ICPs where the notification date was more than 30 business days after the event date, and 63 ICPs where notification was more than 100 business days after the event date. The latest update was 1,386 business days after the event date. The 15 latest updates were reviewed and found to be corrections where consumption during inactive periods had been discovered as part of data cleansing. The late updates were accurately processed from the correct event date.

Status updates to "inactive"

TODD's disconnection process is described in **section 3.9**. The timeliness of status updates to inactive is set out in the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Inactive	2015	260	77.47%	7.53
	2016	118	90.67%	8.62
	2017	283	83.58%	12.73
	2018	87	96.28%	3.00

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
	2020	39	98.34%	3.95
	2021	29	98.64%	1.91
	2022	146	94.54%	5.41

TODD provided an updated AC020 report for October 2021 to March 2022 which showed that the timeliness of status updates to inactive had improved later in the audit period:

Status	Review period	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	Oct 21-Mar 22	30	97.25%	2.48

I checked all nine late updates to "inactive - new connection in progress" identified on the original AC020 report. Four of the updates were made prior to the initial electrical connection date and are considered to be on time. Five updates occurred after the initial electrical connection date and were genuinely late.

The other 137 late updates recorded on the original AC020 report were reviewed. There were 63 disconnected ICPs where the notification date was more than 30 business days after the event date, and 30 ICPs where notification was more than 100 business days after the event date. The latest update was 1,359 business days after the event date. I checked the five latest (or all late) status updates to each disconnection status reason code and found they were backdated corrections to resolve data discrepancies. The statuses and event dates applied were correct.

Trader updates

The timeliness of trader updates is set out in the table below.

Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
2018	393	91.59%	15.37
2020	430	96.04%	6.56
2021	5,585	58.52%	111.16
2022	4,008	77.99%	57.74

TODD provided an updated AC020 report for October 2021 to March 2022 which showed that the timeliness of trader updates had improved later in the audit period, and I note that few backdated profile changes were recorded on this report.

Status	Review period	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	Oct 21-Mar 22	268	97.32%	1.31

3,447 of the 4,008 late updates on the original AC020 report were backdated changes to submission type. Annually, the reconciliation team identifies ICPs with NHH submission type which are receiving consistent AMI data and are eligible to move to HHR profile and submission type. The changes are backdated and typically start from the switch in date, or the beginning of the month that the next revision 14 will be produced for, whichever is later. These bulk updates typically occur around March-April each year (3,408 of the 3,447 late updates occurred in March 2021) and also result in NHH balancing area differences on the GR170 as revision submissions remove the NHH volumes and report them as HHR. This is discussed further in **section 12.12**. Submission type changes made more than seven months after the event date can result in distortion of the PR030 seasonal adjusted shape values which traders use to create historic estimates and apportion consumption between revision periods, because the last version of the files used by traders is published following revision seven based on the submission information provided at that time.

3,662 trader updates on the original AC020 report were more than 30 business days after the event date, and 3,552 updates were more than 100 business days after the event date. The latest update was 1,359 business days after the event date. I checked a sample of late updates as described in the table below.

ANZSIC updates - changes	The five latest updates were checked and found to be ANZSIC code corrections to resolve exceptions identified during the previous audit. The trader event details were correct.
Unmetered load	The five latest updates were checked and found to be delays in processing additions and removals of unmetered load. The trader event details were correct.
MEP nominations	I checked the ten latest MEP nominations and found they were not genuine breaches and related to profile changes which reversed or replaced the previous event which the AC020 report invalidly identified as an MEP nomination.
Profile updates	Six updates made more than 30 business days after the event date were checked, and five were found to be delays processing profile changes resulting from changes to metering details for the addition or removal of distributed generation. The other was not a genuine profile change. The profile change for 1000585593PC33B was made from the incorrect date on the registry; 13/8/20 instead of 30/7/20. The date has not been corrected because the ICP has since switched out.
Submission type updates	The 20 latest updates were checked and found were changes to submission type following review of AMI data to determine whether NHH AMI ICPs are eligible to move to HHR profile. The trader event details were correct.

The AC020 report recorded 99 ANZSIC code updates more than 20 business days after initial electrical connection or switch in. I checked the ten latest updates and found five were not genuine changes to ANZSIC codes, and five were delayed by backdated new connections or switch completion.

WISE

Status updates to "active"

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 IntelliHUB, WEL Networks and AMS. The reconnection data is imported into PEBS.

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 status updates to active (for reconnections) is set out in the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	May 2019	26	85%	3.6
	Jan 2020	25	89.5%	3.0
	Jan 2021	21	96.53%	1.59
	Jan 2022	1	99.84%	0.72

The late status update (14 days) for ICP 0367987953LCD4E was due to the need for the switch to complete before WISE was able to perform the status update.

Status updates to "inactive"

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.

The timeliness of status updates to inactive is set out in the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Inactive	May 2019	19	95%	3.6
	Jan 2020	6	98.44%	2.94
	Jan 2021	4	99.45%	1.36
	Jan 2022	4	99.64%	0.92

Findings for the four late status updates were:

- one was due to the initial inactive status having the incorrect date so the correction of this resulted in a late update – the error in application of status event dates is due to the manual nature of this process, and
- three were due to inadvertent replacement of an existing status event in error – in these cases only the reason code was updated; again, these errors can be attributed to the manual nature of the status management process.

Trader updates

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.

The timeliness of trader updates is set out in the table below. The only trader updates which occurred were as part of the switching process upon CS completion.

Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
May 2019	13	87%	2.9
Jan 2020	1	98.53%	1.35
Jan 2021	-	100%	1.75
Jan 2022	-	-	-

The AC020 report recorded one ANZSIC code update more than 20 business days after switch in. It was delayed by a backdated switch completion.

HNET

Status updates to "active"

HNET issues service requests to the field and the service provider returns the completed service request to HNET 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 status updates to "active" (for reconnections) is set out in the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	Jan 2019	8	94%	3
	May 2019	3	96%	4.9
	Jan 2020	4	96.64%	3.5
	Jan 2021	3	98.89%	0.81
	Jan 2022	3	98.31%	0.89

I reviewed the reasons for the three late updates to "active" status and found that all three late updates were due to switching delays as HNET could not complete the status update until the switch was completed.

Status updates to "inactive"

The timeliness of status updates to inactive is set out in the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Inactive	May 2019	11	95%	6.34
	Jan 2020	3	98.55%	1.83
	Jan 2021	1	99.66%	0.19

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
	Jan 2022	3	99.29%	0.20

I reviewed the reasons for the three late updates to inactive status and found that:

- one related to late paperwork received from the field service provider,
- one related to delays seeking clarification from the field service provider as two different results were provided to HNET in separate emails for the same service request, and
- one related to a late update from 1,12 "new connection in progress" status due to the network status event date (25 February 2021) for "ready" status being later than the meter install date (23 February 2021) and HNET required the distributor to amend their network status event first so they could first claim the ICP and apply the 1,12 status before updating the status to "active" the next day (the meter install date).

Trader updates

When an MEP change is required, HNET 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 no MEP rejections during audit period. Meter mismatches are also identified through the registry discrepancy process.

The timeliness of trader updates is set out in the table below.

Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
May 2019	2	94.29%	3
Jan 2020	10	61.54%	221.35
Jan 2021	2	95.65%	0.54
Jan 2022	3	98.76%	0.76

All three late updates were MEP nominations which were made within eight business days of the event date. I reviewed the three late updates and found:

- two related to the ARC deployment project where HNET were not nominating NGCM until after the meter change occurred – this was identified in the last audit and HNET are now nominating NGCM as each tranche of ICPs are scheduled for meter replacements, and
- one related to a meter change arranged by the previous retailer but the MEP nomination was not completed prior to the switch completion; once HNET were made aware of the issue by the MEP they completed the nomination.

The AC020 report recorded three ANZSIC code updates more than 20 business days after initial electrical connection or switch in. All were delayed by backdated new connections or backdated switch completion.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: 10 Schedule 11.1 From: 01-Mar-21 To: 28-Jan-22	**TODD, HNET** and **WISE** Some registry information was not updated within five business days of the event. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls for the timeliness and accuracy of status and trader updates are moderate for TODD and have improved as the audit period progressed. HNET and WISE controls are also moderate. Errors are identified and corrected by both HNET and WISE as soon as possible however due to the manual nature of these processes human error cannot be eliminated. The audit risk rating is medium. While the vast majority of updates to the registry occur within the required timeframe, submission type changes made more than seven months after the event date can result in distortion of the PR030 seasonal adjusted shape values which traders use to create historic estimates and apportion consumption between revision periods, because the last version of the files used by traders is published following revision seven based on the submission information provided at that time.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. See Sections 3.5, 3.8 and 3.9 for further details • In all instances data integrity reporting identified the discrepancies as expected. • Due to resource constraints, the corrective actions required following Nova's robust exception identification processes were not always completed during the audit period. • All corrections have now been made. **WISE & HNET Response:** Non-Compliance accepted. Some registry information was not updated within 5 business days of the event. • HNET & WISE display on-going commitment to timely status updates which is reflected in our compliance results. • In instances where backdated corrections are made, we elect to provide complete and accurate information and acknowledge this creates contention with Clause 10 Schedule 11.1.	On-going	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: Nova has considered and redistributed internal workflows to improve resource availability to this area. Further, we anticipate that the impact to staff availability due to COVID-19, and an incremental easing of the recruitment market moving forward, will result in increased compliance. **HNET:** HNET has updated the service request template to capture uncertified metering and due date to ensure updates are made within 5 working days **WISE & HNET:** On-going work with our industry stakeholders to improve compliance time frames. Where required, we elect to provide complete and accurate information over timeliness. Our focus will continue to be on accuracy of event dates and complete and accurate information.	On-going	

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

The new connection, MEP nomination and decommissioning processes were reviewed, and the registry list and audit compliance reports were examined to confirm process compliance.

A sample of MEP nomination rejections and decommissioned ICPs were examined.

Audit commentary

TODD

Retailers Responsibility to Nominate and Record MEP in the Registry

All of the 13,960 MEP nominations made during the audit period were accepted.

For new connections, MEP nomination occurs when the ICP is at "inactive - new connection in progress" (1,12) status as part of the service request process. All new connections have an MEP nominated.

For existing ICPs undergoing MEP changes, an MEP nomination is processed at the time the service order is raised.

Trader updates including MEP nominations are usually processed one by one using the registry user interface, but files are prepared and uploaded to the registry where large groups of ICPs require MEP nominations at the same time. The proposed MEP is not stored in Orion, and there are no changes to Orion metering data when an MEP nomination is processed.

The AC020 report recorded two active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. ICP 0007447862NV86D had an MEP nomination accepted and was awaiting population of meter asset data. ICP 0234172045LCFD4 is believed to have a FCLM meter installed but FCLM has no record of this, possibly due to an address unit number discrepancy. A site visit has been requested to determine the correct address and metering information.

ICP Decommissioning

TODD continues with their obligations under this clause. ICPs that are vacant and either active or inactive are still maintained in Orion.

When an ICP is decommissioned, an attempt is made to read the meter at the time of removal and if this is not possible then the last actual meter reading is used. This last actual reading is normally the one taken at the time of disconnection. TODD also advises the MEP responsible that the site is to be decommissioned, or has been decommissioned, dependent on the distributor's process.

A sample of ten ICPs were examined and confirmed that an attempt to read the meter was made at the time of removal, and the MEP was notified.

WISE

Retailers Responsibility to Nominate and Record MEP in the Registry

All ICPs have an MEP recorded and no active ICPs had metering category 9, null, or zero.

No MEP nominations were recorded on the event detail report.

ICP Decommissioning

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 sample of ten ICPs were examined and confirmed that an attempt to read the meter was made at the time of removal, and the MEP was notified.

HNET

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. All ICPs have an MEP recorded and no active ICPs had metering category 9, null, or zero.

All 234 MEP nominations made were accepted.

ICP Decommissioning

HNET continues with their obligations under this clause. ICPs that are vacant and active, or inactive are still maintained in the database. HNET 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 sample of ten ICPs were examined and confirmed that an attempt to read the meter was made at the time of removal, and the MEP was notified.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The new connection processes were examined in detail to evaluate the strength of controls, and the registry list and audit compliance reports were examined to confirm process compliance.

Audit commentary

TODD

New connection information timeliness

The new connection process is described in detail in **section 2.9**. MEP nomination occurs when the ICP is at "inactive - new connection in progress" (1,12) status as part of the service request process.

The timeliness of status updates to ”active” (for new connections) is set out in the table below.

Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
2015	183	11%	21.7
2016	6	94%	2.3
2017	7	97%	2.0
2018	7	97%	2.3
2019	34	96.21%	2.18
2020	55	95.41%	2.20
2022	254	78.85%	7.00

TODD provided an updated AC020 report for October 2021 to March 2022 which showed that the timeliness of status updates to active for new connections was similar to the compliance level found during the audit.

There has been a decline in the percentage of updates on time and average business days since the previous audit. This has largely been caused by staffing issues, including absences due to Covid-19 and some experienced staff leaving and new staff being trained.

There were 46 updates where the notification date was more than 30 business days after the event date, and six updates where the notification date was more than 100 business days after the event date. The latest update was 185 business days after the event date. I checked the 20 latest NHH new connections and all late HHR new connections. I found the correct status and event date was applied, and the updates were delayed because of late confirmation of the correct status event date, or because the update corrected the event date of the original active status record.

As discussed in **section 3.3**, I checked all nine late updates to “inactive - new connection in progress” identified on the AC020 report. Four of the updates were made prior to the initial electrical connection date and are considered to be on time. Five updates occurred after the initial electrical connection date and were genuinely late.

The AC020 report recorded that all ICPs had an MEP nomination accepted within 14 business days.

<u>New connection information accuracy</u>

The accuracy of new connection information is validated using:

1. The daily InitialEnergisationData report which shows ICPs which are at “new”, “ready” or “inactive - new connection in progress” status and the current values recorded against each field. The report is checked daily to determine whether initial electrical connection dates have been populated for any of the ICPs, which are then investigated to confirm whether electrical connection has occurred so that the registry and Orion can be updated.
2. The daily Orion vs Registry awaiting meter install report shows ICPs where metering is recorded on the registry but not in Orion, and vice versa. The ICPs are investigated, and Orion is updated as necessary.
3. The daily InitialEnergisationDate_Vs_MeterInstallCertDate and InitialEnergisationDate_Vs_ TraderStatusDate date reports identify potential active date discrepancies which require investigation.

New connections are also monitored using Salesforce JIT and installation progress information provided by MEPs.

The AC020 report recorded ten ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress", which were all updated to the correct active status date during the audit. The ICPs had appeared on the InitialEnergisationData report but had not been investigated and resolved until the audit due to resourcing issues.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 486 ICPs with date discrepancies. For 82 ICPs the active date and initial electrical connection date was consistent and the ICP was unmetered. The other 404 exceptions were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	1	The status date was entered incorrectly and was corrected during the audit.
IECD ≠ active date and MCD = active date	17	A sample of five were checked, and the correct status dates were recorded.
IECD ≠ active date and MCD ≠ active date	2	The status dates were entered incorrectly. One ICP has switched out, and the other has been updated to the correct active status date.
IECD = active date and no MCD	50	A sample of five were checked, and the correct status dates were recorded.
IECD ≠ active date and no MCD	2	The status dates were entered incorrectly. One ICP has switched out, and the other has been updated to the correct active status date.
IECD ≠ active date and unmetered	4	Two of the status dates were correct, and two were entered incorrectly. One ICP has been decommissioned, and the other has been updated to the correct active status date.
No IECD and MCD = active date	256	A sample of five were checked, and the correct status dates were recorded.
No IECD and MCD ≠ active date	1	The status date for 0000050570HRF60 was entered incorrectly and is to be corrected to 7/8/21 once the MEP and network reverse their records.
No IECD and no MCD	22	A sample of five were checked. Three of the status dates were correct and two were entered incorrectly. The incorrect status dates were corrected during the audit.
No IECD and unmetered	49	A sample of five were checked, and the correct status dates were recorded.
Total	404	

The incorrect status dates do not have an impact on submission accuracy, because any inactive consumption is reported. The ten genuine exceptions found in the sample of 35 ICPs appeared in the

InitialEnergisationDate_Vs_MeterInstallCertDate and/or InitialEnergisationDate_Vs_TraderStatusDate date reports but had not been investigated and resolved until the audit due to resourcing issues.

I checked the accuracy of the active status event date for 0007201725RNFBD which was identified as a potential non-compliance in another trader's audit and found that the correct active status date was recorded by the time the audit was completed. The original paperwork had been missed, resulting in a delay in updating the registry.

WISE

WISE did not complete any new connections during the audit period and does not intend to complete new connections. The AC020 report did not identify any data discrepancies relating to new connection information, or any active ICPs with metering category 9, null, or zero.

HNET

HNET'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.

The timeliness of status updates to "active" (for new connections) is set out in the table below.

Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Mar 18	1	50%	24
Jan 19	0	100%	4
Jan 20	1	66.67%	8.33
Jan 21	1	90%	8.8
Jan 22	2	78.85%	7

Both late updates were made within 20 business days of the event date:

- one ICP (1002135891UNE14) related to a late update from 1,12 "new connection in progress" status due to the network status event date (25 February 2021) for "ready" status being later than the meter install date (23 February 2021) and HNET required the distributor to amend their network status event first so they could first claim the ICP and apply the 1,12 status before updating the status to "active" the next day (the meter install date),
- one ICP (1099581979CNA16) was inadvertently claimed by another retailer and made 1,12 without an agreement being in place with the customer., there was a delay while HNET waited for the other retailer and the MEP to reverse their registry events before being able to correctly claim this ICP.

The AC020 report recorded that all ICPs had an MEP nomination accepted within 14 business days.

<u>New connection information accuracy</u>

The AC020 report did not record any ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress", or "ready" status.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified two ICPs with date discrepancies:

- 1099581976CN5C8 – the meter install/certification date aligns with the retailer active date; the IECD was added by the distributor afterwards, and

- 1002152380LC7DE – the meter install/certification date aligns with the retailer active date; the IECD was added by the distributor afterwards.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: 9 of schedule 11.1 From: 01-Mar-21 To:31-Mar-21	**TODD** 254 late updates to active status for new connections. Ten newly connected ICPs (of a sample of 35) had incorrect active status event dates. Nine were corrected during the audit and 0000050570HRF60 will be corrected from 11/8/21 to 7/8/21 once the required network and MEP events have been reversed on the registry. **HNET** Two late updates to active status for new connections. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate. Validation reporting is in place to detect potentially incorrect active status dates, but these are not always resolved in a timely manner. The audit risk rating is low, the discrepancies have been corrected or are in the process of being corrected. The late updates were caused by resourcing, corrections or delays in receiving confirmation of the correct active status date, and/or waiting for other parties to correct their registry records.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. 254 late updates to active status on New Connections. 10 ICPS with incorrect first active date. • 9 were corrected during audit. • ICP 0000050570HRF60 has now been corrected on the Registry and is reflecting the correct date of 07/08/2021 • Data integrity reporting identified the discrepancies as expected. • Due to resource constraints, the corrective actions required following Nova's robust exception identification processes were not always completed during the audit period. All corrections have now been made.	April 2022	Identified

HNET Response: Non-Compliance accepted. Two late updates to active status for New Connections • HNET updates the Registry as soon as paperwork is received from the MEP HNET will continue to work with MEPs to ensure that timeframes are achieved in accordance with the code.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Nova is developing an improvement for New Connections to increase efficiency and decrease the reliance on manual updates. This will reduce the risk of human error and the dependency on staff resource. Delivery by Q4 2022 • In the interim Nova has considered and redistributed internal workflows to improve resource availability to this area. Further, we anticipate that the impact to staff availability due to COVID-19, and an incremental easing of the recruitment market moving forward will result in increased compliance. **HNET:** On-going work with our industry stakeholders to improve compliance time frames	On-going	

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

The process to capture and manage ANZISC codes was examined. The registry list and AC020 reports were reviewed and ANZSIC codes were checked for a sample of ICPs to determine compliance.

Audit commentary

TODD

Customer industry information is obtained on application, and account managers have been asked to record business trading name and industry information where this is available. When a customer application is loaded into Orion the ANZSIC code is recorded. TODD checks this ANZSIC code matches the registry using the daily Switching_CommANZSIC switches report, which compares Orion and registry ANZSIC codes for any ICPs with an expected or actual switch in date within the last ten days with an active account status. If a discrepancy is found, the code is checked by reviewing application and trading name information and updated in Orion where the switch is in progress, or Orion and the

registry where the switch is complete. Once the switch is complete differences between the Orion and registry ANZSIC codes will be identified using the daily OrionVsRegistry_FullANZSICMismatch report.

The OrionVsRegistry_FullANZSICMismatch report identifies ICPs with:

- different ANZSIC code values in Orion and the registry,
- blank or T9 series ANZSIC codes in Orion or the registry,
- codes less than six digits in Orion or the registry,
- commercial price plans with residential ANZSIC codes, and
- residential price plans with non-residential ANZSIC codes.

Exceptions are reviewed to confirm the correct code and updated in Orion and on the registry. Prior to 16 March 2021 this report only considered new ICPs, and historic discrepancies were not consistently identified and resolved. From 16 March 2021 the report was expanded to include all ICPs with a current active account and price plan, with active or inactive status (except 1,12 "inactive - new connection in progress" and 1,6 "inactive - ready for decommissioning").

The validity of ANZSIC codes was checked using the AC020 report, and I found:

- no ICPs with T99 series or blank ANZSIC codes,
- six ICPs with metering category two had residential ANZSIC codes, which were confirmed to be residential ICPs, and
- no ICPs with metering category three or above had residential ANZSIC codes.

To confirm the validity of the ANZSIC codes I checked a diverse sample of 100 active ICPs across the 20 most popular ANZSIC codes. Each code checked was applied to at least 0.2% of the total ICPs. Five of the 100 ICPs had incorrect codes and were updated during the audit. The codes had been set prior to the change on 16 March 2021 to include all ICPs in the ANZSIC code validation; and were consistent in Orion and the registry.

WISE

The validity of ANZSIC codes was checked, and I found no ICPs with T99 series or blank ANZSIC codes. No ICPs with metering category two or above are supplied.

To confirm the validity of the ANZSIC codes selected I checked a diverse sample of 30 active ICPs across all ANZSIC codes, including all ICPs with non-residential codes. All ANZSIC codes checked were confirmed to be correct.

HNET

ANZSIC codes are checked as part of the credit check process. The company register is reviewed for business customers. Sometimes there may not be a credit check conducted and for these examples, the ANZSIC code could end up being incorrect.

The validity of ANZSIC codes was checked, and I found:

- no ICPs with T99 series or blank ANZSIC codes, and
- no ICPs with metering category two or above had residential ANZSIC codes.

To confirm the validity of the ANZSIC codes selected I checked a diverse sample of 50 active ICPs across the ten most popular ANZSIC codes. 48 were confirmed as being correct and two have incorrect ANZSIC assignment based on the business name.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: 9 (1(k) Schedule 11.1 From: 01-Mar-21 To:31-Jan-22	**TODD** Five ICPs had incorrect ANZSIC codes applied. All have been corrected. **HNET** Two incorrect ANZSIC codes. Potential impact: None Actual impact: None Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls for TODD have increased to strong, now that validation reports have been expanded to include all ICPs. The exceptions occurred before the validation process was updated. Controls for HNET are moderate because most ANZSIC codes are checked on switch in, and a small number of exceptions were identified overall. Because most of the ICPs are supplied by TODD, and their processes are well designed and followed the controls are assessed to be strong overall. The audit risk rating is low this has no direct impact on submission accuracy.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Five ICPs had incorrect ANZSIC codes applied. • All have been corrected during audit **HNET Response:** Non-Compliance accepted. Two ICPs had incorrect ANZSIC codes applied. • All have been corrected during audit	April 2022	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Existing reporting was expanded to include all ICPs, rather than only new to Nova ICPS's, to find inaccuracies with ANZSIC records on 16 March 2021 • New reporting was created focusing on new Commercial sites to confirm the ANZSIC code against the business record on the Companies register implemented 4 May 2021	May 2021	

HNET: • A six-monthly internal audit sample review across all ANZSIC codes has been instigated, with the first occurring May 2022. • ANZSIC codes on all switch in sites will be confirmed at time of switch.	May 2022	

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

The process to manage unmetered load was examined. The registry list and AC020 reports were examined to identify:

- any ICPs where unmetered load is recorded by the distributor but not the trader, and
- any ICPs where the trader's unmetered load is not within ±1 kWh of the distributor's figure (where it is possible to calculate this if the Distributor is using the recommended format).

Audit commentary

TODD

TODD supplies 363 ICPs with unmetered load connected. 92 have shared unmetered load and 271 have standard unmetered load. No distributed unmetered load is supplied.

Unmetered load is validated using:

- the daily load check report, which compares Orion and registry unmetered load details and identifies any discrepancies or changes, and
- the daily new UML report, which identifies any new connections or switch ins with unmetered load so that the unmetered load can be validated and updated as necessary; the metering team reviews data for new connections and raises activities for the billing team where corrections are required, however data for switch ins is not currently reviewed by the billing or metering team.

Description	Recommendation	Audited party comment	Auditor comments
Confirm responsibility for switch ins on the daily new UML report	The metering team reviews new connections on the daily UML report, but switch ins are not currently reviewed by the metering or billing team. I recommend that responsibilities for accuracy of information for switch	TODD accepts this recommendation. Refresher training on the existing controls will be delivered to the Billing team to clarify these responsibilities in Q3 2022	Identified

Description	Recommendation	Audited party comment	Auditor comments
	ins with unmetered load are confirmed.		

The billing team is responsible for ensuring that unmetered load is correctly recorded in Orion and on the registry.

Active ICPs with no metering or unmetered load recorded by TODD

The AC020 report recorded two active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. ICP 0007447862NV86D had an MEP nomination accepted and was awaiting population of meter asset data. ICP 0234172045LCFD4 is believed to have a FCLM meter installed but FCLM has no record of this, possibly due to an address unit number discrepancy. A site visit has been requested to determine the correct address and metering information.

Accuracy of trader unmetered load information

All unmetered ICPs have daily unmetered kWh recorded, and all ICPs with distributor unmetered load recorded also had trader unmetered load recorded.

Six ICPs have unmetered load details recorded by TODD but no unmetered load details recorded by the distributor. ICP 0007198101RN234 had an unmetered BTS recorded and was confirmed to have been metered since it became active in 2020. A backdated removal of unmetered load was completed during the audit. This is recorded as non-compliance for inaccurate registry information in **section 2.1** and below, and inaccurate submission information in **section 12.7**. Nova confirmed that their unmetered load details were correct for the other five ICPs.

The AC020 report recorded nine ICPs with shared unmetered load where the report calculation based on the distributor unmetered load details differed from the retailer value by more than ±0.1 kWh. I manually recalculated the unmetered load values and found none of the differences were genuine; they were caused by the report being unable to calculate accurately due to the format of the distributor unmetered load details.

ICPs 0000020042CP198 and 0000020056CPA3F had their shared unmetered load removed by the distributor effective from 1 December 2021. The registry and Orion's unmetered load flag, trader details and daily unmetered kWh have not been updated, and unmetered load submissions are continuing.

The previous audit found ICPs 1000555666PC131 and 0000005765CP0E8 had daily unmetered kWh of 0.072 recorded instead of 0.077 because the wattage was divided by the number of ICPs sharing the load and then multiplied by the burn hours rather than the kWh figure being divided by the number of ICPs sharing the load. The loads have been corrected on the registry, in Orion, and submission data.

Unmetered BTS

There are 53 active unmetered BTS supplies, all of which were initially electrically connected on or after 11 February 2020. I checked the 20 ICPs with the oldest initial electrical connection dates, and found they had been switched out, were still in progress, had become permanent metered connections and had their unmetered load decommissioned, or were in the process of becoming permanent metered connections. I found that in some instances there were delays in removing unmetered load following confirmation that it should be decommissioned, resulting in late trader updates (recorded as non-compliance in **section 3.3**). ICP 0007200589RNF1B had an unmetered BTS recorded, and it was confirmed that the connection should be made permanent in December 2021. No job has been raised to install metering to date, but the task should have been identified when notification was received. This is recorded as non-compliance below.

ICP 0000394464MP147 had an unmetered builder's temporary supply from 16 July 2021 until a meter was installed on 23 November 2021. No unmetered load was recorded on the registry or in Orion for the period with unmetered load. The expected unmetered load is 1.536 kWh per day and the omission resulted in under submission of 199.68 kWh. This is recorded as non-compliance for inaccurate registry information in **section 2.1** and below, missing submission information in **section 12.2**, and inaccurate submission information in **section 12.7**.

WISE

WISE has not supplied any ICPs with distributor or trader unmetered load details recorded during the audit period and does not intend to supply unmetered load. No unmetered load discrepancies were found on the AC020 report.

Validation is in place to prevent ICPs switching in with unmetered load, or having unmetered load added. If shared unmetered load is applied by a distributor to an ICP where WISE is the retailer, then this customer is contacted and advised that WISE can no longer supply this property and the customer needs to find a new retailer.

HNET

HNET has not supplied any ICPs with distributor or trader unmetered load details recorded during the audit period and does not intend to supply unmetered load. No unmetered load discrepancies were found on the AC020 report.

Validation is in place to prevent ICPs switching in with unmetered load, or having unmetered load added. If shared unmetered load is applied by a distributor to an ICP where HNET is the retailer, then this customer is contacted and advised that HNET can no longer supply this property and the customer needs to find a new retailer.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: 9(1)(f) of Schedule 11.1 From: 05-Nov-20 To: 21-Apr-22	**TODD** ICP 0000394464MP147 had an unmetered builder's temporary supply from 16/7/21 until a meter was installed on 23/11/21. No unmetered load was recorded on the registry or in Orion for the period with unmetered load. ICP 0007198101RN234 had an unmetered BTS recorded and was confirmed to have been metered since it became active in 2020. A backdated removal of unmetered load was completed during the audit. ICP 0007200589RNF1B had an unmetered BTS recorded, and it was confirmed that the connection should be made permanent in December 2021. No job has been raised to install metering to date. ICPs 0000020042CP198 and 0000020056CPA3F had their shared unmetered load removed by the distributor effective from 1/12/21. The registry and Orion's unmetered load flag, trader details and daily unmetered kWh have not been updated, and unmetered load submissions are continuing. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	Monitoring controls are well designed and identify new unmetered load and unmetered load discrepancies daily, but the exceptions identified are not consistently investigated and resolved promptly due to resourcing.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. • 0000394464MP147 had unrecorded UML for the period 16/7/2021 to 23/11/2021 when the permanent metering was installed. The site has now switched to another retailer and therefore this cannot be corrected. • 0007198101RN234 had the backdated removal of UML processed during the audit • 0007200589RNF1B is pending decommission as a new ICP was generated for the permanent metering. Two ICPs should have had shared UML removed from the registry in December 2021. See Section 5.1	May 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Nova accepts the recommendation from the auditor to clarify responsibilities within the operational teams for UML. • Refresher training on the existing controls will be delivered by Q3 2022, and monthly compliance refresher sessions will commence with the Metering team in May 2022 This area has been impacted by the resource constraints caused by COVID-19 with increased unplanned leave and experienced, knowledgeable team members leaving the business. Nova expects to see a return to our historical compliance achievement in the coming months.	On-going	

3.8. Management of "active" status (Clause 17 Schedule 11.1)

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

Before an ICP is given the "active" status, the trader must ensure that:

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

Audit observation

The new connection processes were examined in detail as discussed in **sections 2.9** and **3.5**.

The reconnection process was examined using the AC020 and event detail reports.

- The timeliness and accuracy of data for new connections is assessed in **section 3.5**.
- The timeliness of data for reconnections is assessed in **section 3.3**, and a sample of 35 updates were checked for accuracy.

For new connections which had been electrically connected during the audit period, the initial electrical connection date, earliest active date, and meter certification date were compared to determine the accuracy of the connection dates.

Audit commentary

TODD

Requirements for active ICPs

Orion requires at least one meter to be created for each ICP. If an ICP is unmetered, a "dummy" meter is created. TODD's policy is only to allow one customer account per ICP on a particular date.

Reconnections

Reconnection service requests are issued through the Salesforce JIT (Job Issue Tracking) system. A JIT open jobs report is run daily, and includes date opened and date required fields which are used to identify open service requests requiring follow up to determine whether they have been completed and/or obtain paperwork.

All jobs raised request paperwork be returned to the metering team's shared email inbox. The metering team receive the paperwork and process the status update in Orion (including readings where available) and close the job in JIT. At the end of each day, most MEPs also provide a "bulk" file of all jobs completed which are updated in SalesForce. Once this is complete a file of completed jobs is extracted from SalesForce and compared to the registry, and where data does not match a registry update is created. Daily discrepancy reporting identifies ICPs which have different statuses recorded in Orion and the registry, which are investigated and resolved.

Where a late update is required a "metering compliance" activity is recorded against the customer account in Orion. This explains the non-compliance, why it occurred, who was responsible and any actions which could have been taken to prevent the breach. These metering compliance activities are discussed at the metering team's fortnightly meetings, and reviewed to identify common themes and issues, and changes that could be made to prevent further breaches.

The accuracy of updates for reconnections were checked by reviewing a sample of 15 updates to confirm that the correct status and dates were applied. All were confirmed to be correct.

New connections

The new connection process is described in detail in **section 2.9**. The status is updated to "active" once paperwork is received confirming that the ICP has been connected. Validation is in place to identify ICPs where the distributor or MEP has indicated that the ICP is connected, but trader details have not been updated, and discrepancies between the active status date, meter certification date and initial electrical connection date. Progress with new connections is closely monitored, and a detailed description of the validation process is provided in **section 2.9**.

The AC020 report recorded ten ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress, which were all updated to the correct active status date during the audit. The ICPs had appeared on the InitialEnergisationData report but had not been investigated and resolved until the audit due to resourcing issues.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 486 ICPs with date discrepancies. For 82 ICPs the active date and initial electrical connection date was consistent and the ICP was unmetered. The other 404 exceptions were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	1	The status date was entered incorrectly and was corrected during the audit.
IECD ≠ active date and MCD = active date	17	A sample of five were checked, and the correct status dates were recorded.
IECD ≠ active date and MCD ≠ active date	2	The status dates were entered incorrectly. One ICP has switched out, and the other has been updated to the correct active status date.
IECD = active date and no MCD	50	A sample of five were checked, and the correct status dates were recorded.
IECD ≠ active date and no MCD	2	The status dates were entered incorrectly. One ICP has switched out, and the other has been updated to the correct active status date.
IECD ≠ active date and unmetered	4	Two of the status dates were correct, and two were entered incorrectly. One ICP has been decommissioned, and the other has been updated to the correct active status date.
No IECD and MCD = active date	256	A sample of five were checked, and the correct status dates were recorded.
No IECD and MCD ≠ active date	1	The status date for 0000050570HRF60 was entered incorrectly and is to be corrected to 7/8/21 once the MEP and network reverse their records.
No IECD and no MCD	22	A sample of five were checked. Three of the status dates were correct and two were entered incorrectly. The incorrect status dates were corrected during the audit.
No IECD and unmetered	49	A sample of five were checked, and the correct status dates were recorded.
Total	404	

The incorrect status dates do not have an impact on submission accuracy, because any inactive consumption is reported. The ten genuine exceptions found in the sample of 35 ICPs appeared in the InitialEnergisationDate_Vs_MeterInstallCertDate and/or InitialEnergisationDate_Vs_TraderStatusDate date reports but had not been investigated and resolved until the audit due to resourcing issues.

I checked the accuracy of the active status event date for 0007201725RNFBD which was identified as a potential non-compliance in another trader's audit and found that the correct active status date was recorded by the time the audit was completed. The original paperwork had been missed, resulting in a delay in updating the registry.

WISE

New connections

WISE did not complete any new connections during the audit period and does not intend to complete new connections. The AC020 report did not identify any data discrepancies relating to new connection information, or any active ICPs with metering category 9, null, or zero.

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 IntelliHUB, WEL Networks, and AMS. The reconnection data is imported into PEBS.

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 three business days (it was five days during the last audit) 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 ten reconnections were checked, all had the correct status and date applied.

HNET

New connections

HNET'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 MEP. HNET's processes ensure that there is only one customer associated with any ICP and that there is a method of quantification.

The AC020 report did not record any ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress", or "ready" status.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified two ICPs with date discrepancies:

- 1099581976CN5C8 – the meter install/certification date aligns with the retailer active date; the IECD was added by the distributor afterwards, and
- 1002152380LC7DE – the meter install/certification date aligns with the retailer active date; the IECD was added by the distributor afterwards.

Reconnections

HNET 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 HNET's system and the registry overnight. The operations manager checks that all jobs have been processed as expected.

A typical sample of ten reconnections were checked, all had the correct status and date applied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: 17 Schedule 11.1 From: 04-Feb-20 To: 05-Oct-20	**TODD** 10 newly connected ICPs of a sample of 35 had incorrect active status event dates. Nine were corrected during the audit and 0000050570HRF60 will be corrected from 11/8/21 to 7/8/21 once the required network and MEP events have been reversed on the registry. 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	The controls are rated as moderate, validation reporting is in place to detect potentially incorrect active status dates, but these are not always resolved in a timely manner. The audit risk rating is low, the discrepancies have been corrected or are in the process of being corrected.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. 10 ICPs with incorrect first active date. See Section 3.5 • Data integrity reporting identified the discrepancies as expected. • Due to resource constraints, the corrective actions required following Nova's robust exception identification processes were not always completed during the audit period. All corrections have now been made. • ICP 0000050570HRF60 has now been corrected on the Registry and is reflecting the correct date of 07/08/2021	April 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Nova is developing an improvement for New Connections to increase efficiency and decrease the reliance on manual updates. This will reduce the risk of human error and the dependency on staff resource. Delivery by Q4 2022 • In the interim Nova has considered and redistributed internal workflows to improve resource availability to this area. Further, we anticipate that the impact to staff availability due to COVID-19, and an incremental easing of the recruitment market moving forward will result in increased compliance.	On-going	

3.9. Management of "inactive" status (Clause 19 Schedule 11.1)

Code reference

Clause 19 Schedule 11.1

Code related audit information

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

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

Audit observation

The disconnection process was examined using the AC020 and event detail reports. The timeliness of data for disconnections is assessed in **section 3.3**, and a sample of updates were checked for accuracy.

The registry list file was examined to identify any ICPs that had been at the "inactive - new connection in progress" for more than 24 months.

Audit commentary

TODD

Inactive - new connection in progress

The status "inactive - new connection in progress" is used by TODD to claim new ICPs as soon as they become "ready".

As discussed in **section 3.3**, I checked all nine late updates to "inactive - new connection in progress" identified on the AC020 report. Four of the updates were made prior to the initial electrical connection date and are considered to be on time. Five updates occurred after the initial electrical connection date and were genuinely late.

ICPs at "new", "ready" or "inactive - new connection in progress" status with an initial electrical connection date populated are identified as part of the daily data validation process and investigated. A report of all ICPs with "new", "ready" or "inactive - new connection in progress" status is run daily and reviewed weekly to monthly, to identify any ICPs which have been at the status for an extended period for investigation.

Review of the registry list identified 11 ICPs that have been at "inactive - new connection in progress" status for more than 24 months. All 11 ICPs had the correct status recorded:

- four are in progress, and the customer will advise when they are ready to connect,
- five are part of the Counties Power ICP deconsolidation process and Counties Power is investigating to confirm whether the ICPs will be connected or decommissioned, and
- two are expected to be decommissioned, and TODD is awaiting confirmation of this from the network before moving the ICPs to "inactive – ready for decommissioning" status.

Inactive Status (excluding new connection in progress)

Disconnection service requests are issued through the Salesforce JIT (Job Issue Tracking) system. A JIT open jobs report is run daily, and includes date opened and date required fields which are used to identify open service requests which require follow up to determine whether they have been completed and/or obtain paperwork.

All jobs raised request paperwork be returned to the metering team's shared email inbox. The metering team receive the paperwork and process the status update in Orion (including readings where available) and close the job in JIT. At the end of each day, most MEPs also provide a "bulk" file of all jobs

completed which are updated in SalesForce. Once this is complete a file of completed jobs is extracted from SalesForce and compared to the registry, and where the data does not match a registry update is created. Daily discrepancy reporting identifies ICPs which have different statuses recorded in Orion and the registry, which are investigated and resolved.

Where a late update is required a "metering compliance" activity is recorded against the customer account in Orion. This explains the non-compliance, why it occurred, who was responsible and any actions which could have been taken to prevent the breach. These metering compliance activities are discussed at the metering team's fortnightly meetings, and reviewed to identify common themes and issues, and changes that could be made to prevent further breaches.

The accuracy of inactive status information was checked:

- the AC020 report recorded 58 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no, all were correct and the ICP was subsequently updated to non-communicating after the disconnection, and
- a diverse sample of 40 updates to disconnected status were checked, the updates had the correct status reason and event date applied except for the sample of five ICPs updated to 1,11 "electrically disconnected at meter box switch" which should all have had the status 1,12 "new connection in progress" so I checked the other 14 updates to 1,11 made during the audit period and found a further three that should have been recorded with status 1,12 (one was later corrected to 1,12 and the other 11 ICPs had the 1,11 status event reversed or replaced with an "active" status prior to the audit).

Inactive consumption

All consumption is reported for reconciliation, regardless of the ICP status at the time the consumption occurred. I confirmed that consumption during disconnected periods is reported by checking the historic estimate scenarios in **section 12.11**.

TODD produces a discrepancy report which identifies consumption for ICPs with inactive status. Each ICP is reviewed to determine whether the consumption is genuine (i.e., based on the difference between validated actual readings). If the consumption is genuine, TODD determines when the consumption began using AMI data where available and updates the registry status to "active" from that date and raises a new disconnection service order for the ICP.

A list of 16 ICPs where consumption while inactive had been identified by TODD was checked to confirm whether the correct statuses were applied.

- The inactive consumption was not genuine for two ICPs.
- 14 ICPs were returned to "active" status for the consumption period.
- ICP 0008762650CN572 was returned to "active" status from 30 April 2021 but should have been returned to "active" status from 23 April 2021 when the AMI data first showed consumption. This is recorded as non-compliance below and in **sections 2.1 and 11.2**.
- ICP 0000081478TR1F3 has recorded inactive consumption since September 2020 and should have been returned to "active" status from 14 September 2020 (when ICP was initially flagged as "inactive") as the meter read history indicates the ICP was never disconnected. This is recorded as non-compliance below and in **sections 2.1 and 11.2.**

The previous audit exception relating to an incorrect disconnection read for 0000000538CPA9C has been cleared.

WISE

Inactive - new connection in progress

WISE does not complete new connections or use "inactive - new connection in progress" status. No ICPs are currently at "inactive - new connection in progress" status.

Inactive Status (excluding new connection in progress)

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 IntelliHUB, WEL Networks, and AMS. The reconnection data is imported into PEBS.

Since April 2021 the process for updating the registry status is that prior to the registry status being updated to inactive, WISE's system checks for consumption following confirmation that a disconnection was successfully completed. If no consumption is detected between two actual reads post disconnection, then the system will update the registry status. I reviewed a sample of sample of Inactive status updates for various reasons and confirmed that the status updates were being completed within two business days.

WISE apply the correct disconnection date and read, and apply the AMI read for the disconnection or reconnection date. Where an ICP has switched out, WISE ensures that the disconnection read is applied as the switch event reading, to ensure that any vacant consumption is 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
- a review of a report of vacant and inactive ICPs with consumption after the final read date on the customer account.

The AC020 report recorded 19 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. All were correct and the ICP was subsequently updated to non-communicating after the disconnection.

I reviewed the reason codes and disconnection dates for a diverse sample of 14 disconnections and found all had the correct status date and code applied.

WISE provided a list of 26 ICPs with inactive status and consumption after the final reading on the customer's account. 21 had consumption of less than 1 kWh, and I checked the five which had consumption over 1 kWh and found one was related to a failed disconnection where a second and successful disconnection was completed a few days after the initial disconnection attempt, however the registry status event date was not amended to reflect this. This is recorded as non-compliance below and in **sections 2.1** for incorrect registry information, **12.2** for missing submission information, and **12.7** for incorrect submission information. Four appear to be associated with small amounts of meter creep consumption which is not genuine.

HNET

Inactive - new connection in progress

No ICPs are currently at "inactive - new connection in progress" status.

Inactive Status (excluding new connection in progress)

The status of "inactive" is only used once HNET's approved contractor has confirmed that the ICP has been disconnected. HNET 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 updates both HNET's system and the registry overnight. The operations manager checks that all jobs have been processed as expected.

The AC020 report recorded 24 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. All were correct and the ICP was subsequently updated to non-communicating after the disconnection.

I reviewed the reason codes and disconnection dates for a diverse sample of 14 disconnections and found all had the correct status date and code applied.

HNET provided a list of eight ICPs with consumption while disconnected, which were reviewed. In all cases, the consumption was due to a mismatch of disconnection/reconnection reads – these were corrected to ensure all volumes were included in settlement.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: 19 Schedule 11.1 From: 26-Mar-21 To: 04-Jun-21	**TODD** Eight ICPs were recorded with 1,11 "electrically disconnected at meter box switch" which should have had the status 1,12 "new connection in progress". One was corrected during the audit, but ICPs 0007200708RNC13, 0000165673CK414, 0007201054RN9A7, 1000028279BP1F9, 1002137708LC9F9, 0007201721RNEB7 and 0007201721RNEB7 still have incorrect status reasons recorded for historic status records. Incorrect active event dates for ICPs 0008762650CN572 and 0000081478TR1F3. **WISE** One ICP had an incorrect inactive status event date. Potential impact: Low Actual impact: None Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are assessed to be strong overall. • The incorrect status reason codes for TODD occurred due to a training issue and the incorrect records were created by one user ID. The issue did not recur after June 2021. • . The impact was assessed to be low overall: • For TODD the inactive status was correct although the reason code was not. There is no impact on volume or ICP days submissions. • For WISE one ICP had an incorrect inactive status event date as this event was not amended once it was identified that the disconnection was unsuccessful.

Actions taken to resolve the issue	Completion date	Remedial action status

TODD Response: Non-Compliance accepted. Eight ICPs recorded as 1,11 instead of 1,12 • One corrected in audit • Two corrected shortly after audit • Five switched to another retailer before the correction could be made Two ICPs with incorrect active event dates • One has been corrected • One is still under investigation to confirm dates as this was caused by a house fire with conflicting information provided **WISE Response:** Non-Compliance accepted. One ICP had incorrect Inactive status event date recorded in the Registry • The ICP was identified as part of the existing reporting, however due to human error the wrong date was used to update the Registry. This was corrected to reflect the correct Inactive dates on 27/04/2022	April 2022	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Our focus will continue to be on accuracy of event dates and complete and accurate information. • Nova will monitor disconnected ICPs on an on-going basis and where required, look for opportunities for improvements. **WISE:** WISE will continue to focus on accuracy of event dates and complete and accurate information.	On-going	

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.

I analysed a registry list of ICPs with "new" or "ready" status.

Audit commentary

TODD

Once the distributor has provided an ICP at "ready" status, it is entered into Orion and the registry is updated to "inactive - new connection in progress" status.

ICPs at "new", "ready" or "inactive - new connection in progress" status with an initial electrical connection date populated are identified as part of the daily data validation process and investigated. A report of all ICPs with "new", "ready" or "inactive - new connection in progress" is run daily and reviewed weekly to monthly, to identify any ICPs which have been at the status for an extended period for investigation.

ICP 1099577103CND8B has been at "ready" status for more than two years. It is part of Counties Power's ICP consolidation process, but it not linked to one of the original ICPs to be deconsolidated. It is currently under investigation with Counties Power to confirm whether the ICP is still required. No ICPs have been at "new" status for more than two years.

Any requests from distributors on ICPs which have been at "new" or "ready" status for more than two years are investigated and responded to when they are received, and none have been received during the audit period.

Inactive - new connection in progress status

Review of the registry list identified 11 ICPs that have been at "inactive - new connection in progress" status for more than 24 months. All 11 ICPs had the correct status recorded as described in **section 3.9**.

New status

No ICPs had been at "new" for more than 24 months.

Ready status

One ICP has been at "ready" status for more than 24 months. ICP 1099577103CND8B is part of an ICP deconsolidation project where multiple connections had been combined into single ICPs to reduce fixed daily charges for the customer.

WISE

No ICPs are currently at "new", "ready" or "inactive - new connection in progress" status. WISE did not complete any new connections during the audit period and does not intend to complete new connections.

HNET

No ICPs are currently at "inactive - new connection in progress" status.

Four ICPs are at "ready" status and one ICP is at "new" status. None of the ICPs have an initial electrical date populated or have been at their status for more than two years.

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 Nova deem all conditions to be met. A typical sample of NTs were checked for each trader code to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

TODD

TODD's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. An NT is raised from Orion once an agreement is reached and credit approval is received, and the withdrawal process is used if the customer changes their mind.

TODD uses several reports to ensure that NT files are issued on time, which are reviewed daily.

1. The **Pre-Switch Error Report** identifies NT files held by Orion where an NW process is underway, or if an NT needs to be held until closer to the switch date to prevent an event date breach from occurring.
2. The **Held Switches Report** identifies NT files which are held for credit approval or further application information. Orion normally automatically releases the NT when the required information is provided. The report is reviewed to identify ICPs which have continued to be held after all information is received, so that they can be manually released.
3. The **Switch Tab Issues Report** identifies ICPs where Orion information is incomplete or inconsistent and will prevent the NT file from being sent to the registry, such as a blank MARIA ID.

Switch type is selected based on information provided by the customer on application. Transfer switch type is applied where a customer is transferring between retailers at an address.

Review of the event detail and registry list reports found 1,708 transfer switch NTs were issued, and all had metering category 1 or 2.

The eight 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 (the customer makes an initial payment to maintain a credit balance), 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.

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

Review of the event detail and registry list reports found 457 transfer switch NTs were issued, and all had metering category 1. The five NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected.

HNET

HNET'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.

Review of the event detail and registry list reports found 440 transfer switch NTs were issued, and all had metering category 1 or 2. 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

4.2. 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

The event detail reports were reviewed to:

- identify AN files issued by Nova during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and

- a diverse sample ANs were checked for each trader code to determine whether the codes had been correctly applied.

The switch breach history reports were examined for the audit period.

Audit commentary

TODD

Orion imports NT files and automatically generates AN files which are manually transferred to the registry. TODD monitors the switch breach history report twice daily, to ensure that the required files are generated from Orion and sent to the registry. The switch breach history report did not record any late AN files.

Proposed event dates are set by importing the NT files received from the registry into the NT file checker excel template. The template checks the proposed event date requested by the losing trader for transfer switches and adjusts it to be within three business days of the NT receipt date if the gaining trader's requested date is likely to cause a breach of the event date requirements. A very small number of ICPs usually require adjustment, and in most cases the gaining trader's requested date is applied. A copy of the original NT file which contains the revised proposed event dates is imported into Orion. Orion generates the AN response code according to a system hierarchy and applies the proposed event date in the file copy.

Up to 27 October 2021 Orion's AN response code selection hierarchy applied the AD (advanced metering) code if the meter type was HHR or the advanced metering flag was yes. Only ICPs with the advanced metering flag set to yes should have the AD code applied, and Orion's logic was corrected for files generated after 27 October 2021. To confirm that the process is now operating as expected, I reviewed solution documentation and checked all 3,159 transfer ANs issued with an AD response code with event dates between 27 October 2021 and 31 March 2022. Three of the files were created prior to the implementation of the change and had the AMI flag set to no, the other 3,156 files were created after the change and the AD code was correctly applied.

The original event detail report was reviewed for all 774 transfer ANs to assess compliance with the setting of event dates requirements.

- 470 ANs (90.7%) had proposed event dates within five business days of the NT receipt date, and
- all ANs had proposed event dates within ten business days of the NT receipt date.

AN response codes were examined to determine whether they were accurately applied:

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	4	All had the AA code validly applied.
AD (Advanced metering)	624	611 ICPs had the advanced metering flag set to Y and AD was correctly applied. 13 ICPs had the advanced metering flag set to N including two unmetered ICPs. I checked both unmetered ICPs and a sample of five metered ICPs and found they were created by Orion before the criteria for application of AD were revised in October 2021.
CO (Contracted customer)	36	I checked a sample of five and found the CO code was validly applied.

Response code	Quantity of ANs	Findings
MU (Unmetered supply)	4	All had the MU code validly applied.
OC (Unmetered supply)	95	I checked a sample of five and found the OC code was validly applied.
PD (Premises electrically disconnected)	11	All ICPs were disconnected at the time the AN was issued and PD was correctly applied.

The switch breach history report did not record any AN breaches.

WISE

AN codes are manually applied by the operator.

The event detail report was reviewed for all 28 transfer ANs to assess compliance with the setting of event dates requirements. All ANs had proposed event dates within five business days of the NT receipt date.

All transfer ANs had the AD (advanced metering) response code correctly applied, because the ICPs had the advanced metering code set to Y.

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

HNET

AN codes are determined by a hierarchy and these are updated to the registry via HNET's switching module.

The event detail report was reviewed for all 120 transfer ANs to assess compliance with the setting of event dates requirements:

- 119 ANs (99.2%) had proposed event dates within five business days of the NT receipt date, and
- all ANs had proposed event dates within ten business days of the NT receipt date.

AN response codes were examined to determine whether they were accurately applied:

Response code	Quantity of ANs	Findings
AD (Advanced metering)	15	All ICPs had the advanced metering flag set to Y and AD was correctly applied.
CO (Contracted customer)	105	A sample of five ANs were reviewed and confirm that the correct response code was applied

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: 3 and 4 Schedule 11.3 From: 01-Mar-21 To: 27-Oct-21	**TODD** 13 ANs had the AD (advanced metering) response code applied when the AMI flag was set to N. Potential impact: None Actual impact: None Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls have improved to strong with implementation of new AMI hierarchy logic on 27/10/21 to ensure that the AD code is only applied where the AMI flag is set to Y. The audit risk rating is low as metering information is also available to the gaining trader directly from the registry.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. 13 ICPs had response code AD (advanced metering) invalidly applied. None of the ICPs had the AMI flag selected at the time of the switch • As this was a technical breach, no action was taken to correct the AN information provided Further development was undertaken, and improved logic implemented to resolve the system hierarchy logic that was applying the incorrect code	October 2021	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: New hierarchy AN logic was deployed to ensure that AD is only sent when the AMI flag is set to Y	October 2021	

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

The event detail reports were reviewed to identify CS files issued by Nova during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records per trader code. 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.

CS files with average daily kWh that was negative, zero, or over 200 kWh were identified. A sample of these CS files were checked to determine whether the average daily consumption was correct.

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 reports for the audit period were reviewed to identify late CS files.

Audit commentary

TODD

CS timeliness

CS files generated by Orion are manually transferred to the registry. TODD uses several reports to monitor the timeliness of switching files:

- the switch breach history report is monitored twice daily, to ensure that the required files are generated from Orion and sent to the registry, and
- the Switch Out Issue to Fix report identifies any data that is incomplete or inconsistent in Orion which prevents the CS file from being generated, such as missing switch event readings or withdrawals in progress; the exceptions are worked through daily.

The switch breach history report did not record any late transfer CS files.

CS content

TODD has a daily suite of reports which are used to ensure that information provided in CS files is accurate, including:

- inactive ICPs with missing closing reads which identifies ICPs which are no longer supplied by TODD, and
- active with other/inactive with TODD which identifies ICPs supplied by another retailer on the registry which are still recorded as active in Orion; these are usually timing differences.

The registry functional specification requires average daily kWh to be based on the average daily consumption for the last read-to-read period. Up to March 2022, the average daily kWh provided in TODD's CS files was based on the average daily kWh recorded on Orion's meter tab, which reflects the average daily consumption over the previous year for each meter register. While this was not technically consumption for the last read-to-read period, it did provide a reasonable indication of the average daily consumption.

In March 2022 a system change was made to apply the average daily consumption between the last two actual reads at the time the CS file is generated for all meter registers. If less than two actual reads are available, the average daily kWh recorded on Orion's meter tab is applied, and if there is no value on the

meters tab zero is applied. I checked the solution document, solution testing for a sample of six ICPs, and a sample of three CS files generated from the live system after the change and confirmed that average daily consumption is calculated as described. Because of the order the CS generation process is completed in, the average daily kWh is calculated from the last two actual reads *before* the switch event read. The average is calculated in the morning when the switching tab is updated and import of AMI switch event reads occurs around 3pm. After AMI readings are added closing estimate reads are inserted where there is no AMI reading available, but these are ignored by the average daily kWh process.

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

Average daily kWh	Count of transfer CS files	Comment
Negative	-	Compliant.
Zero	3	The average daily kWh was correct.
More than 200 kWh	5	The CS files were generated prior to the change of logic in March 2022 and average daily kWh was based on consumption of the past year instead of the last read to read period.

I checked all 188 transfer switch CS files for inconsistencies between last actual read dates and switch event read types:

- no CS files had estimated switch event reads where the last actual read date was on the last day of responsibility,
- no CS files had actual switch event reads where the last actual read date was before the last day of responsibility,
- no CS files had last actual read dates after TODD's last day of responsibility, and
- two CS files had a CS premises rows only; one was unmetered, and no metering lines were required while the other had HHR settled meter category 2 HHR metering with the AMI flag set to no.

The accuracy of the content of CS files was confirmed by checking a further five transfer CS files. The file content was correct apart from the average daily kWh, which was based on average daily consumption over the past year because the files were generated prior to the logic change in March 2022.

The switch breach history report did not record any breaches for transfer switches.

WISE

CS timeliness

CS files are manually transferred to the registry once a customer is moved out in PEBS, and their current account balance is confirmed for reimbursement. The switch breach history report did not record any breaches for transfer switches.

CS content

Estimated daily kWh is calculated based on the daily average consumption 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, and a customer's account balance is recalculated daily. 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 code requirements the current methodology is recorded as non-compliant.

No transfer CS files with average daily kWh that was negative, zero, or over 200 kWh were recorded on the event detail report.

I checked all nine transfer switch CS files for inconsistencies between last actual read dates and switch event read types. No inconsistencies were found; all CS files had a last actual read date on the last day of responsibility and an actual read type. All CS files contained the expected rows.

The accuracy of the content of CS files was confirmed by checking a sample of five transfer CS files. These files were correct except for the incorrect method to calculate the average daily kWh.

HNET

CS timeliness

HNET'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.

CS content

Estimated daily kWh is calculated based on the daily average consumption for the last actual read-to-read period. Analysis of the estimated daily kWh in the event detail report identified no CS file with average daily kWh over 200, and no CS files with negative or zero average daily kWh.

I checked all 23 transfer switch CS files for inconsistencies between last actual read dates and switch event read types. No inconsistencies were found; all CS files had a last actual read date on the last day of responsibility and an actual read type. All CS files contained the expected rows.

The accuracy of the content of CS files was confirmed by checking a sample of five transfer CS files. These files were all correct.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: 5 Schedule 11.3 From: 01-Mar-21 To: 31-Mar-22	**TODD** Up to March 2022 CS average daily consumption is based on the average daily consumption over the previous year, not the last actual read-to-read period. At least ten CS files were confirmed to have incorrect average daily consumption recorded. **WISE** Incorrect calculation of average daily consumption. 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	For TODD, the controls have improved to strong with implementation the new average daily kWh logic in March 2022 which ensures that average daily kWh

	reflects the daily consumption between the last two actual readings. The audit risk rating is low because the values provided do reflect a reasonable estimate of daily average consumption for the ICPs. For WISE, the controls over CS file generation rated as moderate because most file content is correct. The average daily consumption is not calculated as described in the Registry Functional Specification and the controls over this portion of the process are weak. Overall, I have assessed the controls to be moderate. The audit risk rating is assessed to be low as the average daily consumption values applied in the CS files give a reasonable estimate of the average daily consumption for the ICP.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. During the audit period, CS average daily consumption was based on the average daily consumption over the previous year, not the last actual read-to-read period. At least ten CS files were confirmed to have incorrect average daily consumption recorded. • Development undertaken by Nova to correct the consumption calculation was implemented on 29 March 2022 **WISE Response:** Non-Compliance accepted. Incorrect calculation of average daily consumption WISE will change our process to calculate and send average daily consumption based on the last two actual readings at the time of sending the CS file.	March 2022 Q2 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: Development to change the daily consumption calculation to last actual read-to-read period completed and delivered March 2022. **WISE:** As above.	March 2022 Q2 2022	

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

6A Gaining trader disputes reading.

(1) If a gaining trader disputes a switch event meter reading under clause 6(1)(b), the gaining trader must, no later than four months after the event date, provide to the losing trader a revised switch event meter reading supported by two validated meter readings.

(2) On receipt of a revised switch event meter reading from the gaining trader under subclause (1), the losing trader must either—

(a) if the losing trader accepts the revised switch event meter reading, or does not respond to the gaining trader, use the revised switch event meter reading; or

(b) if the losing trader does not accept the revised switch event meter reading, advise the gaining trader (giving all relevant details) no later than five business days after receiving the revised switch event meter reading.

Audit observation

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

The event detail report was analysed to identify all read change requests and acknowledgements during the audit period. A sample of RR and AC files issued for transfer switches were checked to confirm that the content was correct, and that Nova's systems reflected the outcome of the RR process.

I also checked for CS files with estimated readings provided by other traders where no RR was issued, to determine whether the correct readings were recorded in Nova's systems.

The switch breach history report for the audit period was reviewed.

Audit commentary

TODD

RR

RR requests are generally initiated via email between the two parties and once agreement has been reached, an RR file is sent to complete the process. RR request reads for the switch in date are entered against the affected meter registers on the reads tab in Orion, and the action required is updated on the switching tab. A file of RRs is generated from Orion and manually transferred to the registry.

Incoming AC acknowledgement files are imported into Orion, and a copy of the incoming AC files directly from the registry is also forwarded to the staff member managing RRs. Staff review the AC responses and manually update the read types for the affected ICP; either making the requested RR reads misreads if the RR was rejected, or making the requested RR reads opening estimate or actual readings if they are accepted.

TODD issued 39 RR files for transfer switches. 37 were accepted and two were rejected. A sample of all rejected files and five accepted files were checked. In all cases there was a genuine reason for TODD's RR, the file content was accurate and supported by two actual reads obtained by TODD (or was as requested by the other trader), and the reads recorded in TODD's system reflected the outcome of the RR process. For 1000020571BP1EF (17 August 2021) the opening read was recorded as an opening actual rather than an estimate in Orion, due to the read type not being corrected when the AC was processed. This is recorded as non-compliance in **section 9.1.**

The switch breach history report recorded one RR breach for a transfer switch, which was delayed while TODD obtained two actual readings to confirm that an RR was required.

AC

Incoming RR files generate an item on the daily "switching meter read import report" which allows the user to check the requested reading against other readings for the ICP meter register and import it. A copy of the incoming RR file directly from the registry is also forwarded to the staff member managing ACs. If the request is within validation limits it will be accepted, and if it does not it will be declined by choosing the correct response code on the Orion switching tab. A file of ACs is generated from Orion and manually transferred to the registry.

The switch breach history report is also used to monitor AC files required. TODD did not issue any AC files for transfer switches, and the switch breach history report did not record any AC breaches.

CS files with estimated reads where no RR is issued

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

WISE

RR

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 did not issue any RR files for transfer switches, and the switch breach history report did not record any RR breaches.

Being able to rely on an accurate switch read is an important component to WISE's prepay product as customers need to maintain a credit balance to avoid the disconnection process. Where an inaccurate switch read is provided this can place additional stress on a customer's ability to maintain an initial credit balance. Where the losing trader is settling an ICP as HHR it is expected that the switch read will be an actual read or an accurate estimate derived from the actual interval data provided by the AMI MEP. However, WISE is experiencing examples where the switch read is an estimate calculated from a retailer's NHH billing system and does not reflect the total volume submitted as interval data by the losing retailer. The existing code clauses do not enable WISE to challenge these inaccurate switch reads as they only submit volumes as NHH. I have noted this as an issue.

Subject	Section	Clause	Description
Not all switch reads reflect HHR volumes up to switch date where losing retailer was settling ICP as HHR	4.4	6A Schedule 11.3	In the scenario where the losing retailer is settling an ICP as HHR and the gaining retailer is to settle the ICP as NHH there are instances where the switch read provided is an estimate and does not accurately reflect the HHR volumes up to the switch date. The code does not enable the gaining trader to dispute the switch read for a transfer switch unless the difference is more than 200 kWh. However, if the gaining trader was to be settling the ICP as HHR then the 200-kWh threshold does not apply if the gaining trader provides a RR within five business days of the receipt of the CS file.

I reviewed the process used to calculate the proposed read request which is performed by a single operator manually on a calculator and this information is then manually transferred into an email. I recommend that the process to determine a proposed read request change be standardised using a

template which can then be copied into the email as supporting information and can also then be used as an audit trail of the calculation.

Recommendation	Description	Audited party comment	Remedial action
Regarding 6(1) and 6A Schedule 11.3	Develop a RR template to standardise the process to determine RR changes and provide suitable audit trails.	WISE accepts this recommendation. A RR template has been developed and introduced to the team members responsible for the RR process on 8 April 2022	Identified

AC

No AC files were issued for transfer switches and the switch breach history report did not record any AC breaches.

CS files with estimated reads where no RR is issued

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

HNET

RR

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.

HNET issued two RR files for transfer switches which were accepted. In both cases there was a genuine reason for HNET's RR, the file content was accurate and supported by two actual reads obtained by TODD (or was as requested by the other trader), and the reads recorded in HNET's system reflected the outcome of the RR process.

The switch breach history report did not record any RR breaches.

AC

No AC files were issued for transfer switches and the switch breach history report did not record any AC breaches.

CS files with estimated reads where no RR is issued

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: 6(1) and 6A Schedule 11.3 From: 21-Dec-21 To: 21-Dec-21	**TODD** One RR breach. 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 over the read renegotiation process are strong. The audit risk rating is low. The volume of late RR files was small.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. One inaccurate read type recorded in a RR file. • Human error resulted in a read being recorded as estimated instead of actual. No corrective action was taken as there was no material impact to the customer or gaining retailer		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: Nova will continue with on-going refresher training, review processes and where possible identify improvement opportunities	On-going	

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

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

Audit commentary

These RR requests are processed in the same way as those received for greater than 200 kWh except emails are not normally exchanged in advance for these. Each request is evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

TODD, WISE and HNET did not issue any RR requests under clause 6(2) and (3) of Schedule 11.3, or any AC files for transfer switches.

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

I confirmed with Nova 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 TODD, HNET or WISE.

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 Nova deem all conditions to be met. A typical sample of NTs were checked for each trader code to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

TODD

TODD's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. An NT is raised from Orion once an agreement is reached and credit approval is received, and the withdrawal process is used if the customer changes their mind.

Nova uses several reports to ensure that NT files are issued on time, which are reviewed daily.

1. The **Pre-Switch Error Report** identifies NT files held by Orion where an NW process is underway, or if an NT needs to be held until closer to the switch date to prevent an event date breach from occurring.
2. The **Held Switches Report** identifies NT files which are held for credit approval or further application information. Orion normally automatically releases the NT when the required information is provided. The report is reviewed to identify ICPs which have continued to be held after all information is received, so that they can be manually released.
3. The **Switch Tab Issues Report** identifies ICPs where Orion information is incomplete or inconsistent and will prevent the NT file from being sent to the registry, such as a blank MARIA ID.

Switch type is selected based on information provided by the customer on application. A switch move is selected where a customer has moved into an address.

Review of the event detail and registry list reports found 7,733 switch move NTs were issued, and all had metering category 1 or 2.

The 12 NT files checked had the correct switch type selected based on the information provided by the customer. Five of the 12 files were sent more than two business days after the customer's application approval, because 1) withdrawals were required before the switch could be requested, or 2) the wrong property was requested originally and an NT for the correct property was issued once the address was confirmed. I have considered that completing any necessary withdrawals and obtaining confirmation of the correct address is part of TODD's pre-conditions before requesting the switches, and compliance is recorded.

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 customer making an initial payment to maintain a credit balance) 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.

Review of the event detail and registry list reports found 645 switch move NTs were issued, and all had metering category 1. The five NT files checked were sent within two business days of pre-conditions

being cleared, and the correct switch type was selected based on the information provided by the customer.

HNET

HNET'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.

Review of the event detail and registry list reports found 1,027 switch move NTs were issued, and all had a metering category of 1 or 2. Five NT files were checked:

- four were sent within two business days of pre-conditions being cleared, and the correct switch type was selected based on the information provided by the customer, and
- one relating to a NTMI where HNET provided an incorrect switch date. The losing trader proposed an alternative switch date aligning with the move out date of their previous customer. HNET confirmed this alternative switch date with their customer and the switch was completed.

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

The event detail reports were reviewed to:

- identify AN files issued by Nova during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- a diverse sample ANs were checked for each trader code to determine whether the codes had been correctly applied.

The switch breach history reports were examined for the audit period.

Audit commentary

TODD

Orion imports NT files and automatically generates AN files which are manually transferred to the registry. TODD monitors the switch breach history report twice daily, to ensure that the required files are generated from Orion and sent to the registry. The Switch Out Issue to Fix report identifies any data that is incomplete or inconsistent in Orion which prevents the CS file from being generated, such as missing switch event readings or withdrawals in progress, and the exceptions are worked through daily. The switch breach history report did not record any late AN or CS files.

Proposed event dates are set by importing the NT files received from the registry into the NT file checker excel template. The template checks the proposed event date requested by the losing trader for switch moves and highlights any likely cause a breach of the event date requirements, so that they can be checked, and a withdrawal issued if necessary. The file is then imported into Orion. Orion generates the AN response code according to a system hierarchy and applies the proposed event date in the file copy.

Up to 27 October 2021 Orion's AN response code selection hierarchy applied the AD (advanced metering) response code if the meter type was HHR or the advanced metering flag was yes. Only ICPs with the advanced metering flag set to yes should have the AD code applied, and Orion's logic was corrected for files generated after 27 October 2021. To confirm that the process is operating as expected, I reviewed solution documentation and checked all 3,824 switch move ANs issued with an AD response code with event dates between 27 October 2021 and 31 March 2022. All were created after the change and the AD code was correctly applied.

The original event detail was reviewed for all 650 switch move ANs to assess compliance with the setting of event dates requirements:

- all had proposed event dates within ten business days of the NT receipt date,
- no ANs had a proposed event date before the gaining trader's requested date, and
- all AN proposed event dates matched the gaining trader's proposed event date.

AN response codes were examined to determine whether they were accurately applied:

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	9	All had the AA code validly applied.
AD (Advanced metering)	505	492 ICPs had the advanced metering flag set to Y and AD was correctly applied. 13 ICPs had the advanced metering flag set to N including two unmetered ICPs. 13 ICPs had the advanced metering flag set to N including two unmetered ICPs. I checked both unmetered ICPs and a sample of five metered ICPs and found they were created by Orion before the criteria for application of AD were revised in October 2021.
CO (Contracted customer)	34	I checked a sample of five and found the CO code was validly applied.
MU (Unmetered supply)	2	Both ICPs were unmetered at the time the AN was issued and MU was correctly applied.

Response code	Quantity of ANs	Findings
OC (Unmetered supply)	88	I checked a sample of five and found the OC code was validly applied.
PD (Premises electrically disconnected)	6	All ICPs were disconnected at the time the AN was issued and PD was correctly applied.

WISE

AN codes are applied manually by the operator.

The event detail was reviewed for all 43 switch move ANs to assess compliance with the setting of event dates requirements:

- all had proposed event dates within ten business days of the NT receipt date,
- no ANs had a proposed event date before the gaining trader's requested date, and
- all AN proposed event dates matched the gaining trader's proposed event date.

AN response codes were examined to determine whether they were accurately applied:

Response code	Quantity of ANs	Findings
OC (Unmetered supply)	41	A sample of five ANs were reviewed, and all were confirmed as correct
PD (Premises electrically disconnected)	2	All ICPs were disconnected at the time the AN was issued and PD was correctly applied.

The switch breach history report recorded three E2 breaches. Two of the breaches were genuine and the switch completion date was prior to the gaining trader's requested date. Both were due to human error due to the manual nature of this process.

HNET

AN codes are determined by a hierarchy and these are updated to the registry via HNET's switching module. HNET's switch management console provides staff with good visibility of switch file due dates.

The event detail report was reviewed for all 102 switch move ANs to assess compliance with the setting of event dates requirements:

- all had proposed event dates within ten business days of the NT receipt date, and
- no ANs had a proposed event date before the gaining trader's requested date.

AN response codes were examined to determine whether they were accurately applied:

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	2	Two files had AA validly applied, ICP 1000585429PCA1C was vacant and the AMI was flagged as non-communicating at the time of the switch request.

Response code	Quantity of ANs	Findings
AD (Advanced metering)	9	All ICPs had the advanced metering flag set to Y and AD was correctly applied.
CO (Contracted customer)	87	A sample of five ICPs were reviewed and confirmed that the ICPs were not vacant at the time of the receipt of the NTMI.
PD (Premises electrically disconnected)	4	All ICPs were disconnected at the time the AN was issued and PD was correctly applied.

The switch breach history report for the audit period recorded no late AN or CS files for switch moves.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) Schedule 11.3 From: 01-Mar-21 To: 27-Oct-21	**WISE** Two E2 breaches. Potential impact: None Actual impact: None Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are assessed as moderate due to the manual processes employed and a single operator is responsible for this task meaning there is little opportunity for any independent QA checks prior to submitting the AN file. The audit risk rating is assessed as low.

Actions taken to resolve the issue	Completion date	Remedial action status
WISE Response: Non-Compliance accepted. Two ICPs had event dates prior to the requested date. WISE continues to review their processes and look to implement improvements over these controls.	On-going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
WISE: WISE will undertake process review to strengthen controls in conjunction with staff refresher training	On-going	

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 event date under subclause (1)(b), the losing trader must, no later than 10 business days after receiving the notice referred to in subclause (1), also complete the switch by providing to the registry manager the information described in subclause (1)(a), but in that case the event date is the event date determined by the losing trader.*

Audit observation

The event detail report was reviewed to identify AN files issued by Nova during the audit period, and assess compliance with the requirement to meet the setting of event dates requirement. The switch breach history report was reviewed.

Audit commentary

TODD

All AN proposed event dates matched the gaining trader's proposed event date, and all proposed event dates were compliant.

WISE

All proposed event dates were compliant, and switches were completed as required by this clause.

HNET

All proposed event dates were compliant, and switches were completed as required by this clause.

Audit outcome

Compliant

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

The event detail reports were reviewed to identify CS files issued by Nova during the audit period. The accuracy of the content of CS files was confirmed by checking a sample records per trader code. 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.

CS files with average daily kWh that was negative, zero, or over 200 kWh were identified. A sample of these CS files were checked to determine whether the average daily consumption was correct.

Audit commentary

TODD

TODD has a daily suite of reports which are used to ensure that information provided in CS files is accurate, including:

- inactive ICPs with missing closing reads which identifies ICPs which are no longer supplied by TODD,
- active with other/inactive with TODD which identifies ICPs supplied by another retailer on the registry which are still recorded as active in Orion; these are usually timing differences, and
- the Switch Out Issue to Fix report identifies any data that is incomplete or inconsistent in Orion which prevents the CS file from being generated, such as missing switch event readings or withdrawals in progress; the exceptions are worked through daily.

As discussed in **section 4.3**, up to March 2022, the average daily kWh provided in TODD's CS files was based on the average daily kWh recorded on Orion's meter tab, which reflects the average daily consumption over the previous year for each meter register. In March 2022 a system change was made to apply the average daily consumption between the last two actual reads at the time the CS file is generated for all meter registers. If less than two actual reads are available, the average daily kWh recorded on Orion's meter tab is applied, and if there is no value on the meters tab zero is applied. I checked the solution document, solution testing for a sample of six ICPs, and a sample of three CS files generated from the live system after the change and confirmed that average daily consumption is calculated as described. Because of the order the CS generation process is completed in, the average daily kWh is calculated from the last two actual reads *before* the switch event read. The average is calculated in the morning when the switching tab is updated and import of AMI switch event reads occurs around 3pm. After AMI readings are added closing estimate reads are inserted where there is no AMI reading available, but these are ignored by the average daily kWh process.

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

Average daily kWh	Count of switch move CS files	Comment
Negative	-	Compliant.
Zero	35	A typical sample of five files were checked. Four were confirmed to have zero consumption in the last read to read period, and ICP 0000014758CP10A had daily average consumption of 3 kWh during the last read to read period. The CS file was generated prior to the change of logic in March 2022.
More than 200 kWh	12	An extreme case sample of the five highest values were checked. The CS files were generated prior to the change of logic in March 2022 and average daily kWh was based on consumption of the past year instead of the last read to read period.

I checked the 406 switch move CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions.

- Four CS files had estimated switch event reads where the last actual read date was on the last day of responsibility. Billing had moved the ICPs from the customer's account to a new occupier account on the day that the switch was to be completed, after the switching team had completed their pre-CS validations. The CS file sent the opening estimate reading on the new occupier account (which matched the closing read on the customer's account) as the CS reading.
- No CS files had actual switch event reads where the last actual read date was before the last day of responsibility.
- Nine CS files had last actual read dates after TODD's last day of responsibility. Readings after the switch out date are identified as part of the Switch Out Issue to Fix report and are meant to be made misreads so that they are ignored by the CS process. I checked a sample of five files with last actual reads the largest number of days after the event date. Three CS files all had reads after the switch out date which should have been made misreads, and either the user had not followed the correct process or had not saved their changes after making the reads misreads. Two CS files were requested for the wrong date by the losing trader and were later withdrawn and re-requested.
- Two CS files had last actual read dates on TODD's last day of responsibility, and the correct CS readings were applied.
- Eight CS files had a CS premises rows only. Two were unmetered and no metering lines were required. The other six had HHR settled meter category 1 or 2 HHR metering with the AMI flag set to no.

Description	Recommendation	Audited party comment	Auditor comments
Creation of occupier accounts	The billing team should consistently check whether a switch is in progress before transferring ICPs to occupier accounts.	TODD accepts this recommendation. The Billing team will review their vacant (Occupant) process to include check for in progress switches and have this in place by Q4 2022.	Identified

The accuracy of the content of CS files was confirmed by checking a further five switch move CS files. The file content was correct apart from the average daily kWh, which was based on average daily consumption over the past year because the files were generated prior to the logic change in March 2022.

The switch breach history report did not record any breaches for switch moves.

WISE

Estimated daily kWh is calculated based on the daily average consumption over 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.

Analysis of the estimated daily kWh in the event detail report identified two CS files with zero average daily kWh, and none with average daily kWh which was negative or over 200 kWh. In both cases where zero kWh daily average was provided, these ICPs had been vacant inactive for an extended period of time prior to the switch.

I checked the nine switch move CS files for inconsistencies between last actual read dates and switch event read types:

- no CS files had estimated switch event reads where the last actual read date was on the last day of responsibility,
- no CS files had actual switch event reads where the last actual read date was before the last day of responsibility, and
- all CS files contained the expected rows.

The accuracy of the content of CS files was confirmed by checking a sample of five switch move CS files. These files were incorrect in relation to the incorrect method to calculate the average daily kWh.

HNET

Estimated daily kWh is calculated based on the daily average consumption for the last actual read-to-read period.

Analysis of the estimated daily kWh in the event detail report identified no CS files with zero average daily kWh, and none with average daily kWh which was negative or over 200 kWh.

I checked the 23 switch move CS files for inconsistencies between last actual read dates and switch event read types:

- no CS files had estimated switch event reads where the last actual read date was on the last day of responsibility,
- no CS files had actual switch event reads where the last actual read date was before the last day of responsibility, and
- all CS files contained the expected rows.

The accuracy of the content of CS files was confirmed by checking a sample of five switch move CS files.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: 11 Schedule 11.3 From: 01-Mar-21 To: 31-Mar-22	**TODD** Up to March 2022 CS average daily consumption is based on the average daily consumption over the previous year, not the last actual read-to-read period. At least ten CS files were confirmed to have incorrect average daily consumption recorded. The CS files for 0000021298EA958 (21/8/21), 0007156981RNB03 (4/11/21), 0037930087PC48C (29/4/21) and 0478644574LC1E4 (19/6/21) were issued with correct read values but incorrect read types. The opening estimate read on the occupier account was used instead of the closing read on the customer account. The CS files for 0000013595TR992 (17/6/21), 0000160532WAEC6 (3/5/21) and 0000463024WE7FF (13/3/20) contained incorrect last actual read dates because reads after the switch out date were not made misreads. **WISE** Calculation methodology for average daily consumption not compliant. Potential impact: Low Actual impact: Low Audit history: Twice

	Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	For TODD, the controls are moderate overall: • controls over average daily kWh have improved to strong with implementation the new logic in March 2022 which ensures that average daily kWh reflects the daily consumption between the last two actual readings; the audit risk rating is low because the values provided do reflect a reasonable estimate of daily average consumption for the ICPs, and • controls are appropriately designed to ensure that correct switch reads and read types are provided, but the process is not always followed correctly, resulting in a small number of incorrect read types and last actual read dates; the audit risk rating is low because all read types are treated as validated or permanent estimates for switching, and the last actual read date can be used to help determine the accuracy of switch event dates but does not have a direct impact on the switching or reconciliation process. For WISE, the controls over CS file generation rated as moderate because most file content is correct. The average daily consumption is not calculated as described in the Registry Functional Specification and the controls over this portion of the process are weak. The audit risk rating is assessed to be low as the average daily consumption values applied in the CS files give a reasonable estimate of the average daily consumption for the ICP.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. CS average daily consumption was based on the average daily consumption over the previous year, not the last actual read-to-read period. At least ten CS files were confirmed to have incorrect average daily consumption recorded. • Development undertaken by Nova to correct the consumption calculation was implemented on March 2022 Four ICPs had CS files issued with incorrect read types. • The current process for vacant sites resulted in inaccurate read types being captured as the opening estimate read was included in the CS files. The recommendation has been accepted with an improved process to be implemented by Q4 2022 Three ICPs had incorrect last actual read dates provided • Actual reads received after the switch out date were not misread prior to the creation of the CS file due to human error. This resulted in the CS file containing last actual read dates that were after the switch effective date.	Q4 2022	Identified
WISE Response:	Q2 2022	

Non-Compliance accepted. Incorrect calculation of average daily consumption WISE will change our process to calculate and send average daily consumption based on the last two actual readings at the time of sending the CS file.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: Development to change the daily consumption calculation to last actual read-to-read period completed and delivered 29 March 2022. Vacant site processes are currently being reviewed with improvements to be implemented by Q4 2022 Refresher training was delivered in April 2022 to reduce the risk of missing the action to misread actual reads gained post switch effective date prior to CS creation. **WISE:** As above.	Q4 2022	

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

(1) 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.

(2) If the gaining trader elects to use the new switch event meter reading, the gaining trader must advise the losing trader of the new switch event meter reading and the event date to which it refers as follows:

(a) if the switch event 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, or

(b) 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 event meter reading.

(2A) Despite sub-clauses (1) and (2), subclause (2B) applies if—

(a) the losing trader trades electricity at the ICP through a metering installation with a submission type of non-half hour in the registry; and

(b) the gaining trader will trade electricity at the ICP through a metering installation with a submission type of half hour in the registry, as a result of the gaining trader's arrangement with the customer or embedded generator; and

(c) a switch event meter reading provided by the losing trader under subclause (1) has not been obtained from an interrogation of a certified metering installation with an AMI flag of Y in the registry.

(2B) No later than five business days after receiving final information from the registry manager under clause 22(d)—

(a) the gaining trader may provide the losing trader with a switch event meter reading obtained from an interrogation of a certified metering installation with an AMI flag of Y in the registry; and

(b) the losing trader must use that switch event meter reading

(3) If the gaining trader disputes a switch event meter reading under subclause (2)(b), the gaining trader must, no later than four months after the actual event date, 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—

(a) no later than five business days after receiving the switch event meter reading from the gaining trader, the losing trader, if it does not accept the switch event meter reading, must advise the gaining trader (giving all relevant details), and the losing trader and the gaining trader must use reasonable endeavours to resolve the dispute in accordance with the dispute procedure contained in clause 15.29 (with all necessary amendments); or

(b) if the losing trader advises its acceptance of the switch event meter reading received from the gaining trader, or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader.

Audit observation

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

The event detail report was analysed to identify all read change requests and acknowledgements during the audit period. A sample of RR and AC files issued for transfer switches were checked to confirm that the content was correct, and that Nova's systems reflected the outcome of the RR process.

I also checked for CS files with estimated readings provided by other traders where no RR was issued, to determine whether the correct readings were recorded in Nova's systems.

The switch breach history report for the audit period was reviewed.

Audit commentary

TODD

RR

RR requests are generally initiated via email between the two parties and once agreement has been reached, an RR file is sent to complete the process. RR request reads for the switch in date are entered against the affected meter registers on the reads tab in Orion, and the action required is updated on the switching tab. A file of RRs is generated from Orion and manually transferred to the registry.

Incoming AC acknowledgement files are imported into Orion, and a copy of the incoming AC files directly from the registry is also forwarded to the staff member managing RRs. Staff review the AC responses and manually update the read types for the affected ICP; either making the requested RR reads misreads if the RR was rejected, or making the requested RR reads opening estimate or actual readings if they are accepted.

TODD issued 440 RR files for switch moves. 341 were accepted and 99 were rejected. A sample of five rejected files and five accepted files were checked. In all cases there was a genuine reason for TODD's RR, the file content was accurate, and the reads recorded in TODD's system reflected the outcome of the RR process. For 0000017285TRABD (12 October 2021) and 0000140925UN80C (9 August 2021) the agreed switch read type was incorrectly recorded in Orion, due to the read type not being corrected when the AC was processed. This is recorded as non-compliance in **section 9.1.** One of the ten RR files (0001010055ENDB8 17 August 2021) was supported by customer photo readings rather than at least two actual readings.

The switch breach history report recorded 14 RR breaches for switch moves. The ten latest files were checked and were delayed while TODD obtained two actual readings to confirm that an RR was required.

AC

Incoming RR files generate an item on the daily "switching meter read import report" which allows the user to check the requested reading against other readings for the ICP meter register and import it. A copy of the incoming RR file directly from the registry is also forwarded to the staff member managing ACs. If the request is within validation limits it will be accepted, and if it does not it will be declined by choosing the correct response code on the Orion switching tab. A file of ACs is generated from Orion and manually transferred to the registry.

TODD issued two AC files for switch moves which accepted the other trader's RR file. The system reflected the outcome of the RR process.

The switch breach history report did not record any AC breaches.

CS files with estimated reads where no RR is issued

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

WISE

RR

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 12 read change requests for move switches. Four were rejected and eight were accepted. In all cases there was a genuine reason for WISE's RR, the file content was accurate and supported by two actual reads obtained by WISE (or was as requested by the other trader), and the reads recorded in WISE's system reflected the outcome of the RR process. The four rejected RRs resulted in agreement with the other trader and another RR was sent.

The switch breach history report did not record any RR breaches.

AC

No AC files were issued for switch moves and the switch breach history report did not record any AC breaches.

CS files with estimated reads where no RR is issued

A 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.

HNET

RR

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.

HNET issued 35 RR files for switch moves. Nine were rejected and 26 were accepted. Five accepted files and five rejected files were checked. In all cases there was a genuine reason for HNET's RR, the file content was accurate and supported by two actual reads obtained by HNET (or was as requested by the other trader), and the reads recorded in HNET's system reflected the outcome of the RR process. The five rejected RRs resulted in agreement with the other trader and another RR was sent.

The switch breach history report did not record any RR breaches.

AC

No AC files were issued for switch moves and the switch breach history report did not record any AC breaches.

CS files with estimated reads where no RR is issued

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: 12 Schedule 11.3 From: 17-Aug-21 To: 15-Dec-21	**TODD** 14 RR breaches. The RR request for 0001010055ENDB8 17/8/21 was supported by customer photo readings rather than two actual readings. 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 over the read renegotiation process are strong. A small number of RR breaches occurred because of delays in obtaining the two actual reads required to issue an RR. Read attainment during the audit period has been impacted by Covid-19. One of the ten RRs checked was not supported by validated actual readings, contrary to TODD's process. This is likely to be an isolated incident. The audit risk rating is low. The late RR files are expected to improve data accuracy, and revised reconciliation data is washed up once the RR process is completed.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. 14 late RR files for switch moves • Nova maintains following best practices and only sends files outside of timeframe when required to correct invoicing for customers. One ICP with RR sent using customer photos reads instead of actual reads. • Human error meant that Nova's processes were not followed, and customer reads were used to calculate a new RR read, instead of actual reads.		Identified

As there was no financial impact Nova choose not to correct this.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • The staff member who made the error on customer reads is no longer with Nova. Nova will continue with ongoing refresher training, review processes and where possible identify improvement opportunities.	On-going	

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

Code reference

Clause 13 Schedule 11.3

Code related audit information

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

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

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

A gaining trader must advise the registry manager of the switch and expected event date no later than 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

The switch gain process was examined to determine when Nova deem all conditions to be met. A typical sample of HH NTs were checked to confirm whether they were notified to the registry within three business days.

HH NTs on the event detail reports were matched to the metering information on the registry list reports to confirm whether the correct switch type was selected.

Audit commentary

TODD

TODD's commercial and industrial team provide customer contracts to the switching team once agreement with the customer has been reached. The switching team runs a manual credit check and escalates any credit check failures to the credit team. An NT is generated from Orion once credit approval is received. NT files are run through an Excel NT file checker prior to being sent to the registry to identify and correct any discrepancies in the NT information.

Five HH NT files were issued during the period, all were issued within two business days of pre-conditions being cleared. Four had a meter category of three or higher at the time the switch was requested. ICP 0000008633CPA4B (1 March 2021) is a category 2 site that was requested as HH. This anomaly was identified in the file checker, but the user did not follow the correct process and adjust the switch type before sending the NT. The ICP was settled as HHR by the current and previous trader and there is no impact on submission.

The previous audit issue relating to inconsistencies between metering categories and switch types has been resolved using the file checker process, with the exception of 0000008633CPA4B (1 March 2021) above which occurred because the correct process was not followed.

Meter certification details were checked for the 7,733 switch move NTs and 1,708 transfer switch NTs issued; all had metering category 1 or 2.

The switch breach history report did not record any breaches for HH NT files.

WISE

Review of the event detail and registry list reports confirmed WISE did not complete any half hour switches and no ICPs with meter category 3 or higher were supplied. The switch breach history report did not record any breaches for HH NT files.

HNET

HNET issued one HH NT file for an ICP with a category 4 meter. The NT file was sent on the event date as the pre-conditions were cleared ahead of the proposed switch date and HNETs system waits in these cases for the event date to occur before initiating the switch. The correct switch type was selected.

Metering categories were checked for all TR and MI NT files, and I found that the only ICP with metering category 3 or above was requested as a HH switch.

The switch breach history report did not record any breaches for HH NT files.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.12 With: 14 Schedule 11.3 From: 01-Mar-21 To: 01-Mar-21	**TODD** ICP 0000008633CPA4B (1/3/21) had a HH NT issued but should have had a MI NT issued because it was a meter category 2 ICP. Potential impact: Low Actual impact: None Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong as processes in place are robust. The audit risk rating is low as only one ICP was affected, and there was no impact on submission.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. One breach where a HH file type was sent instead of MI • This was caused by human error not following correct process once identified in our pre-switch controls. As no impact to the customer or gaining trader, Nova did not send a switch reversal		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: Refresher training has been delivered to all staff responsible for this process.	April 2022	

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

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

> *15(a) - provide to the registry manager a valid switch response code as approved by the Authority; or*
>
> *15(b) - provide a request for withdrawal of the switch in accordance with clause 17.*

Audit observation

The event detail reports were reviewed to identify AN files issued by Nova during the audit period, and a sample were reviewed to determine whether the codes had been correctly applied.

The switch breach history reports were examined for the audit period.

Audit commentary

TODD

Orion imports HH NT files and automatically generates an AN. Orion generates the response code according to a system hierarchy and applies the gaining trader's requested date as the proposed switch event date.

I checked the eight HH AN files on the event detail report:

- one ICP had OC (occupied premises) correctly applied,
- two ICPs had CO (contracted customer) correctly applied, and
- the other five ANs had the AD (advanced metering) AN response code applied invalidly because none of the ICPs had the AMI flag selected at the time of the switch.

As reported in the last audit, Orion's AN response code hierarchy selected the AD response code where the meter type was HHR, rather than only where the AMI flag was set to Y. The process was corrected to only apply AD where the AMI flag was set to Y from 27 October 2021. I examined solution documentation and three ANs issued from the live system after the change and confirmed that the codes were correctly applied. I also checked an event detail report for files with event dates from 27 October 2021 to 31 March 2022 and found that no HH ANs had been issued with the AD response code.

There were no late AN files recorded in the switch breach history report.

WISE

WISE did not issue any HH ANs, and no late AN files were recorded on the switch breach history report.

HNET

HNET issued one AN for a HH switch. The correct response code was provided, and no late AN files were recorded on the switch breach history report.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.13 With: 15 Schedule 11.3 From: 25-Mar-21 To: 17-Jun-21	**TODD** Five ANs had response code AD (advanced metering) invalidly applied. None of the ICPs had the AMI flag selected at the time of the switch. 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 now strong because the system issue resulting in the AD code being applied for HHR meters where the AMI flag was set to N has been resolved, and the issue has not occurred since October 2021. The impact is low, because metering details can be confirmed from other information recorded on the registry.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Five ICPs had response code AD (advanced metering) invalidly applied. None of the ICPs had the AMI flag selected at the time of the switch • As this was a technical breach, no action was taken to correct the AN information provided Further development was undertaken to resolve the system hierarchy logic that was causing the incorrect code to be used	October 2021	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: New hierarchy AN logic was deployed to ensure that AD is only sent when the AMI flag is set to Y	October 2021	

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

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

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

> *16(a)- give the losing trader or MEP for the ICP an opportunity to interrogate the metering installation immediately before the ICP is electrically disconnected or the metering equipment is removed; or*
>
> *16(b)- carry out an interrogation and, no later than five business days after the metering installation is electrically disconnected or removed, advise the losing trader of the results and metering component numbers for each data channel in the metering installation.*

Audit observation

The HH switching process was examined. The switch breach history report for the audit period was reviewed to identify late CS files.

Audit commentary

TODD

CS content

TODD manually creates HH CS files, as Orion is not configured to complete this task. The content of all five HH CS files was compliant.

CS timeliness

TODD uses the daily Switching_TOU timeliness report to identify CS files which are due. The person creating the HH CS files for the day works through the report, and it is independently checked by the person who sends the files to the registry. Typically, a mass import/export of switching files is processed each morning, and a smaller run is processed each afternoon for any files which are close to breaching the switch timeliness requirements. In addition, the registry switch breach history report is run and reviewed twice daily. The operator also adds an activity on the customer's account that prompts them to check for the AN response three days after the NT has been sent.

The switch breach history report for the audit period did not record any late HH CS files.

WISE

Review of the event detail and registry list reports confirmed WISE did not complete any half hour switches and no ICPs with meter category 3 or higher were supplied. The switch breach history report did not record any breaches for HH CS files.

HNET

HNET completed one HH switch, and the CS content was compliant. The switch breach history report for the audit period did not record any late HH CS files.

Audit outcome

Compliant

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 five business days after receiving notice from the registry manager of a switch, the trader receiving the withdrawal must advise the registry manager that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal (clause 18(d))*
- *on receipt of a rejection notice from the registry manager, in accordance with clause 18(d), a trader may re-submit the switch withdrawal request for an ICP in accordance with clause 18(c). All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request (clause 18(e))*
- *if the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within 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

The event detail reports were reviewed to:

- identify all switch withdrawal requests issued by Nova, and check a sample of NWs for each trader code, and
- identify all switch withdrawal acknowledgements issued by Nova and check a sample of NWs for each trader code.

The switch breach history reports were checked for any late switch withdrawal requests or acknowledgements.

Audit commentary

TODD

NW

Withdrawals are managed in Orion. An activity is loaded for the switching team when a withdrawal is required. The switching team works through the activities daily, selects that the switch should be cancelled and chooses the NW reason from a drop-down box. A file of NWs is generated from Orion and manually transferred to the registry.

Returned AW files are imported into Orion. If Orion is unable to update the ICP information automatically, the ICP will be reviewed as part of the daily "Review Maria Exception Report" as an AW import error for resolution.

81 (9.27%) of the 874 NWs issued by TODD were rejected. I checked a diverse sample of 14 NWs including at least two for each advisory code and found all had the correct code applied and were validly issued based on information available at the time of issue.

The switch breach report recorded:

- three SR breaches where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; these were delayed due to investigations that needed to be completed before the NW could be resolved, and
- 34 NA breaches where the NW arrival date was more than two calendar months after the CS actual transfer date; I checked the 15 files with the largest number of days overdue and found they were either due to late advice from the customer, backdated switches or were subsequent withdrawals made after the initial request was rejected.

AW

AWs are managed in Orion. Incoming NW files generate an item on the daily "Review Maria Exception Report" which are reviewed and actioned on the switching tab by choosing a response code and updating the ICP information as necessary. The switch breach history report is also used to monitor AW files required. A file of AWs is generated from Orion and manually transferred to the registry.

21 (2.7%) of the 757 AWs issued by TODD were rejections. I reviewed a diverse sample of 14 rejections by TODD including at least three rejected AWs per advisory code, and confirmed they were rejected based the information available at the time the response was issued.

WISE

NW

Switch withdrawals are managed manually.

12 (15.6%) of the 77 NWs issued by WISE were rejected. I checked a diverse sample of 13 NWs including at least two for each advisory code and eight rejected NWs and found all had the correct code applied and were validly issued based on information available at the time of issue.

The switch breach report recorded one NA breach where the NW arrival date was more than two calendar months after the CS actual transfer date. This was due to the customer providing an incorrect ICP when they signed up.

AW

Three (6.1%) of the 49 AWs issued by WISE were rejections. I confirmed they were rejected based the information available at the time the response was issued.

The switch breach history report did not record any AW breaches.

HNET

NW

Switch withdrawals are managed manually.

12 (6.25%) of the 192 NWs issued by HNET were rejected. I checked a diverse sample of 14 NWs including at least two for each advisory code and eight rejected NWs and found all had the correct code applied and were validly issued based on information available at the time of issue.

The switch breach report recorded:

- one SR breach where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; the delay was caused by the losing retailer repeatedly rejecting the withdrawal request while they attempted to contact the customer for confirmation of the switch withdrawal, the switch withdrawal was eventually accepted by the other retailer, and
- one NA breach where the NW arrival date was more than two calendar months after the CS actual transfer date; the NTMI date required amending due to Covid related delays in the customer being able to move properties and the Customer notified HNET late of the need to amend the switch date so that the customer was not responsible for the electricity at a property they were not owners of.

AW

15 (17.9%) of the 84 AWs issued by HNET were rejections. I reviewed a diverse sample of 14 rejections by HNET including at least three rejected AWs per advisory code, and confirmed they were rejected based the information available at the time the response was issued.

The switch breach history report did not record any AW breaches.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: 17 and 18 Schedule 11.3 From: 27-May-21 To: 29-Nov-21	**TODD** Three SR breaches. 34 NA breaches. **WISE** One NA breach. **HNET** One SR breach. One NA breach. 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 over the withdrawal process are robust. The audit risk rating is assessed to be low as the impact to the market is minimal.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. 3 SR breaches, 34 NA breaches • Nova considers it is in the best interest of the customer to correct data to invoice accurately and that we comply with Clause 11.2 of part 11 "to provide complete and accurate information". • Nova recognises this may cause some low impact non-compliances **WISE Response:** Non-Compliance accepted. One NA technical breach • One NW file was sent past compliance timeframes due to identifying an incorrect ICP as being gained for a new customer. **HNET Response:** Non-Compliance accepted. One SR breach • HNET sent the original NW within timeframe. The breach occurred as the losing retailer repeatedly rejected the NW, eventually accepting.		Identified

One NA technical breach HNET sent the NW to correct the gain date for their customer as soon as they were made aware of the move in date changing for the customer as a result of COVID=19 restrictions.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD, WISE & HNET: Nova will continue with on-going refresher training, review processes and where possible identify improvement opportunities	On-going	

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

> *21(a)- the trader who carries out the interrogation, switch event meter reading must ensure that the interrogation is as accurate as possible, or that the switch event meter reading is fair and reasonable.*
>
> *21(b) and (c) - the cost of every interrogation or switch event meter reading carried out in accordance with clauses 5(b) or 11(b) or (c) must be met by the losing trader. The costs in every other case must be met by the gaining trader.*

Audit observation

The meter reading process in relation to meter reads for switching purposes was examined.

Audit commentary

The reads applied in switching files were examined in **section 4.3** for standard switches, **section 4.10** for switch moves, and **sections 4.4** and **4.11** for read changes. The meter readings used in the switching process are validated meter readings or permanent estimates.

Nova's policy regarding the management of meter reading expenses is compliant, and no inaccurate switch event readings were identified for TODD, WISE or HNET.

Audit outcome

Compliant

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

Code reference

Clause 11.15AA to 11.15AC

Code related audit information

A losing retailer (including any party acting on behalf of the retailer) must not initiate contact to save or win back any customer who is switching away or has switched away for 180 days from the date of the switch.

The losing retailer may contact the customer for certain administrative reasons and may make a counteroffer only if the customer initiated contacted with the losing retailer and invited the losing retailer to make a counteroffer.

The losing retailer must not use the customer contact details to enable any other retailer (other than the gaining retailer) to contact the customer.

Audit observation

Win-back processes were discussed. The event detail reports were analysed to identify all withdrawn switches with a CX code applied 180 days of switch completion.

Audit commentary

TODD

TODD contacts customers via email to notify them that the switch is in progress, they do not complete win backs or offer any enticements.

Review of the event detail report identified 182 NWs issued with a CX withdrawal reason code issued within 180 days of switch completion where TODD was the losing trader. I checked all three rejected withdrawals and seven accepted withdrawals and confirmed no counteroffers were made in relation to these withdrawals. The customer initiated the withdrawal in all instances.

WISE

Because WISE provide a prepay service and customers are usually in a credit balance position, WISE will contact the customer to confirm current balance position as part of the process to respond to the NT request. I listened to two calls between WISE and the customer and no discussions around pricing or any counteroffers were made.

Review of the event detail report identified 15 NWs issued with a CX withdrawal reason code issued within 180 days of switch completion where WISE was the losing trader. One was initially rejected but accepted on reissue, and the others were accepted. I checked a sample of ten withdrawals including the rejected file and confirmed no counteroffers were made in relation to these withdrawals. The customer initiated the withdrawal in all instances.

HNET

HNET contacts customers via email to notify them that the switch is in progress. If the customer is contracted past the proposed switch date, then HNET will inform the customer of the contract break fee applicable. HNET do not complete win backs or offer any enticements.

Review of the event detail report identified 58 NWs issued with a CX withdrawal reason code issued within 180 days of switch completion where HNET was the losing trader. All were accepted. I checked a sample of ten and confirmed no counteroffers were made in relation to these withdrawals. The customer initiated the withdrawal in all instances.

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

I reviewed the processes to identify shared unmetered load. The registry list and AC020 reports were examined to determine compliance.

Audit commentary

TODD

TODD supplies 92 ICPs with shared unmetered load. Shared unmetered load is validated using:

- the daily load check report, which compares Orion and registry unmetered load details and identifies any discrepancies or changes, and
- the daily new UML report, which identifies any new connections or switch ins with unmetered load so that the unmetered load can be validated and updated as necessary; the metering team reviews data for new connections and raises activities for the billing team where corrections are

required, however data for switch ins is not currently reviewed by the billing or metering team and a recommendation to clarify responsibilities is made in **section 3.7**.

The AC020 report recorded nine ICPs with shared unmetered load where the report calculation based on the distributor unmetered load details differed from the retailer value by more than ± 0.1 kWh. I manually recalculated the unmetered load values and found none of the differences were genuine; they were caused by the report being unable to calculate accurately due to the format of the distributor unmetered load details.

ICPs 0000020042CP198 and 0000020056CPA3F had their shared unmetered load removed by the distributor effective from 1 December 2021. The registry and Orion's unmetered load flag, trader details and daily unmetered kWh have not been updated, and unmetered load submissions are continuing.

The previous audit found ICPs 1000555666PC131 and 0000005765CP0E8 had daily unmetered kWh of 0.072 recorded instead of 0.077 because the wattage was divided by the number of ICPs sharing the load and then multiplied by the burn hours rather than the kWh figure being divided by the number of ICPs sharing the load. The loads have been corrected on the registry, in Orion and submission data.

WISE

WISE has not supplied any ICPs with distributor or trader unmetered load details recorded during the audit period and does not intend to supply unmetered load. No unmetered load discrepancies were found on the AC020 report.

Validation is in place to prevent ICPs switching in with unmetered load, or having unmetered load added.

HNET

HNET has not supplied any ICPs with distributor or trader unmetered load details recorded during the audit period and does not intend to supply unmetered load. No unmetered load discrepancies were found on the AC020 report.

Validation is in place to prevent ICPs switching in with unmetered load, or having unmetered load added.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: 11.14 From: 01-Dec-21 To: 21-Apr-22	**TODD** ICPs 0000020042CP198 and 0000020056CPA3F had their shared unmetered load removed by the distributor effective from 1/12/21. The registry and Orion's unmetered load flag, trader details and daily unmetered kWh have not been updated, and unmetered load submissions are continuing. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	Monitoring controls are well designed and identify new unmetered load and unmetered load discrepancies daily, but the exceptions identified are not consistently investigated and resolved promptly due to resourcing. The impact on submission is minor.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. See Section 3.7 for accepted recommendation on clarifying responsibilities for UML. The two ICPs in question have been corrected, with UML updated in both the Registry and Orion.	May 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD Response: Refresher training will be delivered in the business to embed process knowledge. This issue has been compounded by resource constraints caused by COVID-19. we expect to see a return to our historical compliance in this area within the coming months.	Q3 2022	

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

The AC020 reports were examined to determine compliance.

Audit commentary

TODD

TODD supplies 363 ICPs with unmetered load connected. Three ICPs have unmetered under veranda lighting with a total unmetered load between 3,000 and 6,000 kWh per annum. Under veranda lighting is an approved load type.

WISE

WISE has not supplied any ICPs with distributor or trader unmetered load details recorded during the audit period and does not intend to supply unmetered load. No unmetered load discrepancies were found on the AC020 report.

HNET

HNET has not supplied any ICPs with distributor or trader unmetered load details recorded during the audit period and does not intend to supply unmetered load. No unmetered load discrepancies were found on the AC020 report.

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

The AC020 reports were examined to determine compliance.

Audit commentary

TODD

The AC020 trader compliance report was examined. No ICPs have annual unmetered load over 6,000 kWh.

WISE and HNET

WISE and HNET have not supplied any ICPs with distributor or trader unmetered load details recorded during the audit period, and do not intend to supply unmetered load.

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

Nova does not wish to trade on DUML ICPs and will not switch any of these ICPs in. The registry list and AC020 reports were examined to determine compliance.

Audit commentary

No DUML ICPs are supplied, and Nova does not intend to supply DUML under any of its codes.

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 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 energised 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

Processes for metering, submission, and distributed generation were reviewed. The registry lists and AC020 reports were examined to determine compliance.

Audit commentary

TODD

Metering installations installed

TODD's new connection process includes a check that metering is installed before electrical connection occurs, and that any unmetered load is quantified. The MEP is nominated, and a meter installation service request is issued at the time the ICP is claimed at "inactive – new connection in progress" status. All new connections have an MEP nominated.

The AC020 report recorded two active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. ICP 0007447862NV86D had an MEP nomination accepted and was awaiting population of meter asset data. ICP 0234172045LCFD4 is believed to have a FCLM meter installed but FCLM has no record of this, possibly due to an address unit number discrepancy. A site visit has been requested to determine the correct address and metering information.

No ICPs are settled using subtraction.

Distributed generation

Daily discrepancy reports identify ICPs where there is mismatch between Orion and registry generation related fields, and inconsistencies between metering, profile, and distributor generation details in Orion or the registry. As for other registry validation reports, processes to identify exceptions are strong, but the exceptions are not always investigated and resolved promptly.

Distributed generation discrepancies were checked using the AC020, registry list, and meter installation details reports:

Exception type	Quantity	Commentary
ICPs with generation recorded by the distributor and I flow metering where TODD did not record a generation profile	32	Four ICPs had the settlement indicator for the EG register set to no. One has since switched out, and another is in the process of having generation metering installed, and the other two do not have generation recorded by TODD. One ICP had its profile corrected to RPS PV1 prior to the audit, and 27 had their profile corrected to RPS PV1 during the audit.
Non-zero generation capacity and no I flow meter or generation profile	22	Nine ICPs are currently under investigation to determine whether they are generating and/or arrange for I flow metering to be installed. Eight ICPs had I flow metering installed and their profiles updated after the report was run. Two ICPs with HHR metering are receiving HHR I flow data. The MEP had incorrect information recorded on the registry. Two ICPs were confirmed not to have generation installed, and no I flow metering or generation profiles were required. Powerco confirmed ICP 0030346537PC6CB has had generation installed since 2019. The customer has refused to complete work required on their meter board before I flow metering can be installed. I recommend checking whether the ICP is exporting volumes to the network, and if so, providing notification of gifting to the reconciliation manager.
Generation profile and a generation capacity of zero recorded by the distributor	8	The ICPs were confirmed to have solar generation and I flow metering installed, and TODD's profiles were correct.
Generation profile inconsistent with the distributor's fuel type	8	All eight ICPs had other fuel type with PV1 profile and were confirmed to have solar generation.

Description	Recommendation	Audited party comment	Auditor comments
Investigation of whether notification of gifting is required for ICP 0030346537PC6CB	Confirm whether ICP 0030346537PC6CB is exporting generation to the network. If yes, arrange for notification of gifting to be provided to the reconciliation manager if the customer refuses to complete work on the meter board to enable I flow metering to be installed.	TODD accepts this recommendation A notification of gifted generation (15.13) has been provided to the RM for 0030346537PC6CB.	Adopted

Bridged meters

TODD does not initiate meter bridging, but MEPs or their contractors may elect to bridge a meter on reconnection or to resolve a fault for customer welfare reasons where the electricity cannot be connected without bridging.

I reviewed 60 examples of ICPs with zero consumption where the ICP had recently undergone a reconnection. ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11 October 2021 until the meter was replaced and certified on 28 January 2022. It is on a list for a correction to be processed but this has not been completed yet and is recorded as non-compliance in **sections 2.1**, **12.2** and **12.7**. Six ICPs' meters are under investigation to determine whether they are bridged and the other 53 ICPs were confirmed not to have bridged meters.

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 no ICPs with generation capacity recorded by the distributor, and the AC020 report did not record any distributed generation discrepancies.

Bridged meters

WISE provided a list of five 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. Consumption was correctly calculated and applied for the bridged period for all five ICPs.

HNET

Metering installations installed.

HNET's new connection process 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

HNET's registry list as of showed 36 active ICPs with a non-zero generation capacity listed by the distributor. One of these (ICP 0000193088UN8F0) did not have I flow metering installed. The high-risk database indicates solar is connected to ICP 0000193088UN8F0. However, the MEP confirmed there were no "reverse power" events recorded for this ICP and the customer has confirmed to HNET that the solar installation has since been decommissioned and removed. HNET requested the distributor to arrange for the installation type attribute on the registry to be updated from 'B' to 'L'. This was completed on 7 April 2022.

The registry list recorded 19 ICPs with a profile compatible with generation and a generation capacity of zero recorded by the distributor. These were examined and found:

- 16 relate to I flow registers where the settlement indicator is set to 'N' therefore consumption information from these registers is not expected to be included in submission files and volumes from these registers is confirmed as zero,
- two were correctly set up and the distributor information is incorrect, and

- one was an incorrect manual assignment of profile codes on the registry and has now been corrected.

Review of the AC020 report found no ICPs with generation recorded by the distributor and I flow metering where HNET did not record a generation profile.

Where a generation profile was recorded, I checked that the profile was consistent with the fuel type listed by the distributor and identified one exception (0007145523RN594). HNETs system can only submit I flow volumes using PV1 profile code therefore where the fuel type is not 'solar' this means that HNET cannot submit distributed generation volumes using the correct profile. However this ICP was confirmed as having a solar plus battery distributed generation configuration which can be submitted using the PV1 profile code therefore compliance was confirmed.

Bridged meters

HNET confirmed there were no bridged meters during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: 10.13 From: 19-Feb-21 To: 20-Jan-22	**TODD** While meters were bridged, energy was not metered and quantified according to the code for one ICP. 27 ICPs had generation recorded by the distributor and I flow metering where TODD did not record a generation profile and were not corrected until the audit was completed. **WISE** While meters were bridged, energy was not metered and quantified according to the code for five ICPs. **HNET** For one ICP 0404307035LC42B an incorrect profile code of PV1 was applied when no generation was present. 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 strong for bridged meters, and moderate for distributed generation. Controls are moderate overall because they are not sufficient to ensure that distributed generation profile issues are promptly resolved, or in the case of HNET EG1 profile ICPs, able to be readily resolved. The audit risk rating is low as the volumes for the sample of bridged meters were confirmed to be as accurate as possible. For distributed generation revised data will be provided through the revision process.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. 27 ICPs did not have a generation profile correctly recorded. • Data integrity reporting identified the discrepancies as expected. • Due to resource constraints, the corrective actions required following Nova's robust exception identification processes were not always completed during the audit period. One ICP did not have energy correctly metered and quantified while bridged according to the code. • Data integrity reporting identified the discrepancy as expected but the process to resolve this was not followed. • The correction has now been made in Orion and is due to be invoiced. **WISE Response:** Non-Compliance accepted. • The existence of bridged meters where energy was not metered or quantified during bridge period is acknowledged **HNET Response:** Non-Compliance accepted. One ICP had the incorrect profile applied. See section 6.1 • This was due to human error and was corrected in March 2022.	April 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: Nova expects COVID-19 to have reduced impact moving forward which will result in increased compliance. Additional training will be carried out for the members of the team who manage the data integrity reports on these items to be completed Q3 2022 **WISE:** WISE continues to work with MEPs through service level agreements and on-going regular operational meetings to ensure bridging of meters continues to be an undesirable outcome **HNET:**	Q3 2022	

A weekly internal review process has been instigated to review all ICPs with PV1 profile to confirm if an export meter is connected		

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 the GIPs which Nova is responsible for, and the certification expiry date for those GIPs.

Audit commentary

TODD

The TODD participant code is not responsible for any GIPs. TGTL (Todd Generation Taranaki Limited) is responsible for the GIPs shown in the table below.

Responsible party	Description	NSP	MEP	Certification expiry date
TGTL	MCKEE	MKE1101TGTLGG	ACCM	26/7/22
TGTL	JUNCTION ROAD	JRD1101TGTLG	ACCM	9/1/23

Both NSPs had current certification at the time the audit was completed. MKE1101TGTLGG had a change of certification expiry from 1 April 2021 to 26 July 2022. Accucal did not complete certification until 22 March 2022 due to challenges in TGTL being able to sufficiently plan and fully isolate the metering point to enable certification work to be undertaken. The updated certification details were updated on 25 March 2022. This late certification is recorded as a non-compliance.

WISE and HNET

WISE and HNET are not responsible for any GIPs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.2 With: 5 of Schedule 15.2 From: 02-Jan-21 To: 31 Dec 2021	**TODD (TGTL)** The MEP and certification for MKE1101TGTLGG wasnot completed before the previous certification expired. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	At the time of the audit the controls were rated as weak because although a process was in place, the required fields were not populated as expected. Nova has since developed a tracking system which includes all metering points, which will be subject to regular reviews to ensure certification and notification occurs as required. I have recorded the controls as strong at the time of the audit report and the effectiveness of the controls will be checked during the next audit. The audit risk rating is low because the no issues were identified at the time the installation was recertified.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. • Permission restrictions on the Reconciliation Manager's (RM) portal resulted in Accucal not being able to update the certification date for MKE1101TGTLGG. • RM provided Accucal with access to make updates on TGTL's behalf at which state the certification dates were updated.	May 2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: The RM has granted Accucal permissions to make updates on behalf of the TGTL code Todd Generation have implemented a new tracking system for Generation Meters to monitor certification expiry and plan maintenance on these assets. Increased compliance with reduced risk of certification breaches is expected as an outcome.	April 2022	

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

The registry list was reviewed to determine which profiles were used by each participant code, and the AC020 report was reviewed to identify exceptions.

Audit commentary

TODD

Examination of the list files found that HNET have only used the RPS, PV1, EG1 and HHR profiles, and control devices are not used for reconciliation purposes.

WISE

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

HNET

Examination of the list files found that HNET have only used the RPS, PV1 and HHR profiles, and control devices are not used for reconciliation purposes.

Audit outcome

Compliant

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

Processes relating to defective metering were examined.

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

EMS identify faulty meters for generation. Their processes were reviewed as part of their agent audit.

Audit commentary

Defective meters are typically identified through the meter reading validation process, or from information provided by the meter reader, the network, the MEP, or the customer. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect.

TODD

NHH meters

Five potentially defective meters and one bridged meter were identified by customers, or through TODD's validation processes. The MEP was notified in all cases.

Corrections for the defective and bridged meters and are discussed in **section 2.1**.

HHR meters

AMS and EMS confirmed that no meter defects had occurred during the audit period.

Generation meters

Compliance with this clause for generation meters has been demonstrated by EMS as part of their agent audit.

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 ten possible defective meter examples provided, the MEP was notified, and appropriate action was taken. Five had meters replaced and two had comms issues resolved. In the other cases, the data was eventually provided without any further interventions. Corrections for two where an actual read was not able to be obtained were correctly processed using estimated data from historic consumption.

HNET

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 defective meters were provided. The MEP was notified in all cases. Corrections in relation to these ICPs are discussed in **section 2.1**.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

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

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

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

2(6) – The interrogation systems must record:

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

Audit observation

The data collection and clock synchronisation processes were examined.

Nova's agents and MEPs are responsible for the collection of HHR and 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 Nova were reviewed.

Nova collects some HHR data, and generation data, using Stark. I walked through the clock synchronisation process.

Audit commentary

TODD

All information used to determine volume information is collected from the services interface or the metering installation by TODD, one of their agents, or the MEP.

<u>Data collected by agents and MEPs</u>

Agents and MEPs monitor clock synchronisation, and this is covered as part of their audits.

The agents and MEPs notify TODD when clock synchronisation events occur for HHR and AMI meters. TODD's metering team review the events for AMI meters, and TODD's reconciliation team review the events for commercial and industrial HHR meters. Each event is checked to determine whether it is a significant or persistent issue which requires a fault job to be raised, otherwise the difference is monitored to check that it is resolved.

I viewed four examples of commercial and industrial meter clock synchronisation events and found all had been resolved in later periods and no estimations were required. There is a process in place to estimate data where a clock synchronisation event affects multiple trading periods for a HHR settled meter. AMS and EMS confirmed that no clock synchronisation events outside acceptable thresholds had occurred during the audit period. TODD provided two examples of commercial and industrial meter clock

synchronisation events for FCLM meters that were outside the acceptable thresholds, data was reviewed once the meters were synchronised, and no data corrections were required.

I reviewed examples of recent reported clock synchronisation events for AMI meters where data is provided by AMS and Intellihub and confirmed that no action was required. The ARC time difference report provided to TODD monthly is not reviewed by the reconciliation team. There were no recent events for BOPE AMI meters.

AMS' agent audit recorded four ICPs where data was not collected within the maximum interrogation cycle:

ICP	Last connection attempt	Last Collected Interval	Comment
0238663043LC52C	7/4/21 8:05	19/9/20 0:00	The meters are turned off and cannot be accessed because the site is vacant and locked.
0007152722RNF57	7/4/21 4:15	13/5/20 4:00	The meters are turned off and cannot be accessed because the site is vacant and locked.
0006752853RNE9E	7/4/21 4:10	13/2/19 1:30	Mains are switched off.
0001952510TGA81	7/4/21 4:13	14/1/19 6:00	ICP is to be decommissioned.

Data collected by TODD

The Stark system retrieves meter information from the generation meters every half hour. The frequency of interrogation ensures that the meter is interrogated more than once during each interrogation cycle.

TODD synchronises their server every minute against an internet time source. During each interrogation, the data logger internal clock is compared with the data collection system clock, and any errors less than or equal to 300 seconds are adjusted automatically.

Review of the Stark communications logs did not identify any time errors over 300 seconds for meters used for reconciliation. Because data is retrieved every 30 minutes, large time differences are unlikely to occur. If time errors over 300 seconds occur, TODD determines whether a correction is required after assessing materiality and arranges for the MEP to correct the clock.

Stark's audit trails are discussed in **section 2.4**.

WISE

All information used to determine volume information is collected from the services access 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. I viewed two examples of notified meter clock synchronisation events from the AMI MEP and found both had been resolved in later periods and no estimations were required

All active ICPs have the AMI or HHR flag set to Y. No manual reads are received for non-AMI meters. If a non-AMI meter is supplied, readings are estimated until the meter is upgraded, and a removal reading is obtained. WISE intends to only accept customer applications where the meter is recorded as AMI capable on the registry.

The samples checked for MEPs confirmed the data in WISE's database matched the data in the files.

HNET

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

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

All active ICPs have the AMI or HHR flag set to Y. Manual meter reads are obtained for non-AMI meters by Wells on behalf of HNET. Reads and meter condition information is provided in a standardised format to enable HNET to review any exceptions for further investigation or requiring any fieldwork to resolve the issue.

All data is imported into HNET's system without manual intervention. The samples checked for data providers confirmed the data in HNET's database matched the data in the files.

TODD manages the review of clock synchronisation events for HNET C&I HHR ICPs where AMCI and EDMI advise that such an event has occurred.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.5 With: 2 Schedule 15.2 From: 14-Jan-19 To: 07-Apr-21	**TODD** Four ICPs were not interrogated within their maximum interrogation cycle. Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because most ICPs were interrogated within their maximum interrogation cycle, and AMS had attempted to resolve the issues preventing interrogation. The impact is low because the ICPs are not expected to be consuming energy.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Monitoring and investigation occurred on all sites impacted. One site is pending decommission, the remaining three will be resolved when the mains are turned back on.	On-going	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: Monthly monitoring of missing data resulting in estimates for C&I TOU ICPs for billing and reconciliation. Site visits are initiated to obtain data / restore comms in instances where a temporary vacancy is not expected.	On-going	

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined.

Processes to provide meter condition information were reviewed as part of Wells' and MRS' agent audits. Nova's processes to manage meter condition information were reviewed.

Processes for customer and photo reads were reviewed.

Audit commentary

TODD

I traced reads for a sample of 21 manually read ICPs from the source files to Orion. All were recorded and labelled correctly.

<u>Data validation</u>

During manual interrogation, the meter register value is collected and entered into a hand-held device by MRS and Wells. This reading enters TODD's systems and is labelled as a reading, which denotes that it is a meter reading collected and validated by a meter reader.

MRS and Wells monitor meter condition as required by schedule 15.2 and provide information on meter condition along with the daily reads. MRS emails a weekly list of ICPs with meter condition issues to the metering team each Monday, and Wells emails a list monthly. I reviewed a sample of these notifications

from Wells and MRS and found that electricity service orders had been raised to investigate and resolve all the identified issues.

Meter condition issues can also be identified through TODD's meter read validation process or customer enquiries.

Customer and photo readings

MRS and Wells provide customer readings in the notes field and record a no read. A system estimate is generated for billing, and forward estimate is created for reconciliation.

Customers may provide readings by phone or through Nova's website, these readings are loaded into Orion with a read type of "customer". The Code requires customer readings to be validated against a set of readings from another source in order to be treated as validated for reconciliation. "Customer" readings are validated according to the NHH read validation process and treated as validated readings for both billing and reconciliation, or if not validated, readings are changed to the "misread" read type so that they are ignored for reconciliation. As part of the daily export of data to EnergyMarket, customer reads are checked to determine whether there are two actual readings which are at least 30 days apart for the meter register. If yes, the customer read is exported to EnergyMarket as a customer read for use in reconciliation calculations. If not, the read is excluded from the export. All NHH readings, including customer readings are validated for reasonableness and accuracy according to the NHH read validation process discussed in **section 9.5**.

The process for the billing team to validate each customer provided reading against at least two readings from another source was moved to the reconciliation team from September 2021, because the volume of customer readings increased due to meter readers being unable to obtain access to meters inside some buildings due to Covid-19 lockdowns, traffic light levels, and residents isolating.

I rechecked ICP 0008009802TU5F3 where a customer read for meter 10002686 on 9 March 2020 was entered as an actual read but not validated against two readings from another source and found it has now been validated against subsequent actual reads.

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 either the meter starts communicating again, is replaced, or the Customer switches to another retailer as the WISE prepay product is reliant on a communicating AMI meter. Staff check the ICP on the registry to confirm AMS, IntelliHUB, or WEL Networks is the MEP, and that a communicating AMI metering is installed, prior to accepting a customer application.

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

WISE does review photo reads where these have been provided with meter change paperwork from the field service agent to verify the removed meter reading is correct. These removed reads are manually entered into the PEBS system and treated as a permanent estimate as no further reads will be provided for this device.

HNET

All active ICPs have the AMI or HHR flag set to Y.

For manually collected readings, the meter register value is collected and entered into a hand-held device. This reading enters HNET'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 one read file from each provider which confirmed the data in HNET'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 accuracy.

Wells provide photos as part of special read requests to confirm the accuracy of the reads retrieved from the field. As the special read is provided from an appropriately trained meter reading agent it is treated as a validated actual meter reading.

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. The event detail reports were examined to identify ICPs which had undergone upgrades or downgrades, and the upgrade and downgrade process was reviewed.

Audit commentary

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 MRS and Wells are applied correctly.

TODD

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** and found to be accurate.

I walked through the process for NHH to HHR and HHR to NHH meter changes, including reviewing five downgrades and three upgrades, which confirmed that NHH meter reads are applied at the end of the day for both upgrades and downgrades.

Where an upgrade or downgrade does not coincide with meter change for a category 1 or 2 meter, the changes are applied effective from midnight and the movement between NHH and HHR aligns with the actual volume data.

Where a downgrade from HHR to NHH metering occurs, HHR volumes are submitted up to the HHR meter removal date and NHH volumes are submitted from the NHH meter installation date, which is usually the same as the HHR meter removal date. ICP days up to the HHR meter removal date are reported as HHR, and ICP days after that are reported as NHH.

Where an upgrade from NHH to HHR metering occurs, the NHH closing read is recorded on the NHH meter removal date and volumes up to the closing read are submitted as NHH. HHR submission begins from the HHR meter installation date, which is usually the same as the NHH meter removal date. ICP days up to the NHH meter removal date are reported as NHH, and ICP days after that are reported as HHR.

The process for upgrades and downgrades where a meter change occurs causes a technical non-compliance because the registry and ICP days reporting will only allow a single submission type per day, but the ICP physically has more than one submission and metering type on the day of the meter change. The impact is low because volume submissions are correct, and this is an accepted practice.

WISE

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 only supplies NHH ICPs and no ICP upgrades or downgrades were identified on the event detail report.

HNET

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**.

No ICP upgrades or downgrades were identified on the event detail report.

Audit outcome

Compliant

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was examined.

Reporting on ICPs not read during the period of supply was examined, and a sample of ICPs were checked.

Audit commentary

A validated meter reading must be obtained in respect of every meter register for every NHH metered ICP for which the participant is responsible, at least once during the period of supply to the ICP by the reconciliation participant, unless exceptional circumstances prevent this from occurring. This may be a validated meter reading at the time the ICP is switched to, or from, the reconciliation participant.

The NHH meter reading frequency guidelines published by the Electricity Authority define "Exceptional circumstances" as meaning "circumstances in which access to the relevant meter is not achieved despite the reconciliation participant's best endeavours". "Best endeavours" is defined as:

"Where a reconciliation participant failed to interrogate an ICP as a result of access issues, the reconciliation participant had made a minimum of three attempts to contact the customer, by using at least two methods of communication".

TODD

TODD's read attainment process for manually read meters was suspended in August 2021 due to meter readers being unable to read some meters because of Covid-19 lockdowns, traffic light levels, staff absences, and residents isolating. The Billing Manager advised that the process will be reinstated once the country moves to the orange traffic light level, which is expected to improve both meter read attainment and TODD's call centre capacity to manage inbound calls from customers regarding read attainment. Prior to August 2021, the process for active metered and occupied ICPs which were not commercial or industrial was:

Period without an actual reading	Read attainment action
Attempted read date	A card was left in the customer's letterbox explaining that the meter reader could not gain access and asking the customer to contact TODD to resolve the issue and provide a customer reading.
45 days	An SMS notification was sent, and a call note added, where the customer had a valid mobile number.
75-80 days	A second SMS notification was sent, and a call note added, where the customer had a valid mobile number.
90 days	Send an email (if an email is held) or a letter.
180 days	A third SMS notification was sent, and a call note added, where the customer had a valid mobile number.
7 months	A billing activity was created for review. These activities were worked through by the billing team. Action taken would vary depending on the situation and could include arranging a special reading or phoning the customer to try to resolve the issue. TODD no longer issues high estimate bills where readings cannot be obtained to prevent customer hardship. Due to workloads these activities were not consistently actioned prior to suspension of the process.

Where the customer did not have a valid mobile number several steps of the process could not be completed.

ICPs with unread AMI meters are automatically shifted to a manual meter reading route if no AMI reads are received for 30 days. MEPs also provide lists of non-communicating ICPs, and service orders are raised to resolve the issues, and a project is underway to arrange for MEPs to fix meters with

communication issues. The metering team uses reports to identify billing AMI meters not on AMI routes and notifies Billing to return the ICPs to AMI routes once regular readings are being received.

Read attainment for commercial and industrial ICPs is managed by the account managers.

A report of 23 ICPs not read during the period of supply was provided for the period March 2021 to January 2022. Of these, 12 (52.2%) were supplied for less than 50 days. I reviewed the ten ICPs with the longest periods of supply (73-519 days) and found:

- four ICPs were compliant and either had actual reads on a customer account before moving to a vacant (occupier) account, or the best endeavours requirement was met before the ICP moved to an occupier account, and
- six ICPs did not meet the best endeavours requirement due to suspension of the read attainment process before or during their period of supply, or because the switch was backdated and there was insufficient time to complete the process.

WISE

ICPs with missing reads are checked twice weekly. If a communications issue is preventing reads from being attained and it 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. All ICPs had at least one actual reading during the period of supply where the period of supply ended between July and December 2021.

HNET

HNET 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 results in a high level of read attainment. All customers are contacted using two different forms of communication at least three times.

All ICPs had at least one actual reading during the period of supply where the period of supply ended between July and December 2021.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: 7(1) and (2) Schedule 15.2 From: 19-May-21 To: 10-Dec-21	**TODD** Exceptional circumstances were not proven for six of the ten ICPs sampled that were not read during the period of supply. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3

Audit risk rating	Rationale for audit risk rating
Low	Controls are rated as weak for TODD because the read attainment process for NHH non-AMI meters has been suspended since August 2021, making it unlikely that the best endeavours requirements will be met for most ICPs. The impact of the suspension is low, because even if the process was operating it may not be possible to achieve read attainment because of Covid-19 restrictions.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Due to the changing COVID alert levels since August 2021, Nova paused the customer communication processes developed to achieve read attainment to support staff, contractor, and public health. • Our processes to increase read attainment will be reinstated from 1 June 2022, following the country entering Orange Alert Level. The process was not immediately reinstated to allow opportunity to attempt internal meters and confirm status of access issues.	June 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • The processes described by the auditors will be reinstated from 1 June 2022. Nova expects to see increased read attainment from this point. Nova's view is prioritizing public safety throughout the COVID 19 response over meter read attainment was the appropriate approach,	June 2022	

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

The meter reading process was examined. Monthly reports were provided and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2.

A sample of ICPs not read in the previous 12 months were reviewed to determine whether reasonable endeavours were used to attain reads, and if exceptional circumstances existed.

Audit commentary

TODD

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
July 2021	284	25	31	99.96%
August 2021	287	26	39	99.95%
September 2021	286	29	53	99.93%
October 2021	287	38	59	99.92%
November 2021	287	32	58	99.92%
December 2021	288	32	52	99.93%

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment for AMI and commercial and industrial ICPs. Read attainment processes for NHH non-AMI meters were suspended in August 2021.

TODD provided a list of ICPs unread for 12 months as of 31 December 2021. I reviewed ten ICPs not read in the previous 12 months determine whether exceptional circumstances exist, and if TODD had used their best endeavours to obtain readings. The best endeavours requirements were not met in nine instances due to 1) valid mobile numbers not being held for the customer, 2) the billing activities not being actioned due to workloads, and/or 3) the read attainment process being suspended.

TODD provides monthly reports on meter reading frequency to the Electricity Authority. I reviewed the reports for July to December 2021 and confirmed that the content of the reports met the requirements of clauses 8 and 9 of schedule 15.2 and were submitted on time.

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
July 2021	39	-	-	100.0%
August 2021	39	-	-	100.0%
September 2021	41	-	-	100.0%
October 2021	43	-	-	100.0%
November 2021	44	-	-	100.0%

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
December 2021	44	-	-	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 July 2021 to December 2021 were provided and I found the reports were in the required format. I checked the timeliness of submissions to the EA for August 2021 to November 2021 and found the reports were submitted on time.

HNET

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
July 2021	91	-	-	100.0%
August 2021	102	-	-	100.0%
September 2021	110	-	-	100.0%
October 2021	118	-	-	100.0%
November 2021	118	-	-	100.0%
December 2021	121	-	-	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 July 2021 to December 2021 were provided and I found the reports were in the required format. I checked the timeliness of submissions to the EA for June 2021 to November 2021 and found the reports were submitted on time.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: 8(1) and (2) Schedule 15.2 From: Jan-21 to Dec-21	**TODD** The best endeavours requirements were not met for nine of the ten ICPs sampled that were not read during the previous 12 months. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Weak Breach risk rating: 3

Audit risk rating	Rationale for audit risk rating
Low	Controls are rated as weak for TODD because the read attainment process for NHH non-AMI meters has been suspended since August 2021, making it unlikely that the best endeavours requirements will be met for most ICPs. The impact of the suspension is low, because even if the process was operating it may not be possible to achieve read attainment because of Covid-19 restrictions.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. See section 6.8 Due to the changing COVID alert levels since August 2021, Nova paused the customer communication processes developed to achieve read attainment to support staff, contractor, and public health. • Our processes to increase read attainment will be reinstated from 1 June 2022, following the country entering Orange Alert Level. The process was not immediately reinstated to allow opportunity to attempt internal meters and confirm status of access issues.	June 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • The processes described by the auditors will be reinstated from 1 June 2022. Nova expects to see increased read attainment from this point. Nova's view is prioritizing public safety throughout the COVID 19 response over meter read attainment was the appropriate approach,	June 2022	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The meter reading process was examined. Monthly reports were reviewed.

A sample of ICPs connected to NSPs that did not meet the threshold were checked to determine if exceptional circumstances existed.

Audit commentary

TODD

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
July 2021	297	5	350	99.58%
August 2021	299	6	384	99.54%
September 2021	297	10	423	99.49%
October 2021	297	10	498	99.40%
November 2021	297	13	677	99.17%
December 2021	297	14	680	99.17%

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment for AMI and commercial and industrial ICPs. Read attainment processes for NHH non-AMI meters were suspended in August 2021.

I checked the NSPs where 90% read attainment was not achieved for December 2021 and found they each had 20 or fewer ICPs connected, and an average of five ICPs connected.

TODD provided a list of ICPs unread for four months as of 31 December 2021. I reviewed ten unread ICPs connected to NSPs where the threshold was not met and found the best endeavours requirements were not met in eight instances due to 1) valid mobile numbers not being held for the customer, 2) the billing activities not being actioned due to workloads, and/or 3) the read attainment process being suspended.

The content and accuracy of meter reading frequency reports to the Electricity Authority was assessed in **section 6.9** and found to be accurate. The reports were submitted on time.

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
July 2021	46	-	-	100%
August 2021	46	-	-	100%
September 2021	47	-	-	100%

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
October 2021	48	-	-	100%
November 2021	47	-	-	100%
December 2021	47	-	-	100%

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

HNET

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
July 2021	126	-	7	99.90%
August 2021	130	1	9	99.88%
September 2021	130	2	7	99.91%
October 2021	129	3	16	99.79%
November 2021	128	3	29	99.61%
December 2021	128	9	63	99.15%

I checked the NSPs where 90% read attainment was not achieved for December 2021 and found they each had eight or fewer ICPs connected, and an average of three ICPs connected. I found that due to manual read attainment efforts being suspended due to Covid Lockdowns meant the quarterly special read process Wells performs was suspended. All nine affected ICPs were businesses which required the business to be open to obtain a read from the inside meter. Reads have now been obtained for all nine ICPs. Exceptional circumstances were not proven for these ICPs.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.10 With: 9(1) and (2) Schedule 15.2 From: Sep-21 to Dec-21	**TODD** The best endeavours requirements were not met for eight of the ten ICPs sampled that were not read during the previous four months. **HNET** Exceptional circumstances not proven for nine NSPs where the four-month read attainment was below 90%. Potential impact: Low 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 for TODD because the read attainment process for NHH non-AMI meters has been suspended since August 2021, making it unlikely that the best endeavours requirements will be met for most ICPs. The impact of the suspension is low, because even if the process was operating it may not be possible to achieve read attainment because of Covid-19 restrictions.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. See section 6.8 Due to the changing COVID alert levels since August 2021, Nova paused the customer communication processes developed to achieve read attainment to support staff, contractor, and public health. • Our processes to increase read attainment will be reinstated from 1 June 2022, following the country entering Orange Alert Level. • The process was not immediately reinstated to allow opportunity to attempt internal meters and confirm status of access issues. **HNET Response:** Non-Compliance accepted. HNET accepts that exceptional circumstances were not proven for 9 NSPs. COVID-19 and the resulting public health measures have increased the difficulties in gaining reads.	June 2022	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: • The processes described by the auditors will be reinstated from 1 June 2022. Nova expects to see increased read attainment from this point. • Nova's view is prioritizing public safety throughout the COVID 19 response over meter read attainment was the appropriate approach, **HNET:** HNET will continue to actively work with external agents to gain actual reads in the earliest timeframe possible	June 2022	

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

TODD

NHH data is collected by:

- MRS and Wells for manually read meters, and
- ARC, IntelliHUB, FCLM, Nova and AMS for AMI meters.

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

WISE

NHH data is provided by MEPs. The data interrogation log requirements were reviewed as part of their MEP audits.

HNET

NHH data is provided by MEPs and Wells. The data interrogation log requirements were reviewed as part of their MEP and agent audits.

Audit commentary

Compliance with this clause has been demonstrated by Nova's agents and 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

TODD

HHR data is collected by AMS and EDMI as agents. HHR interrogation data requirements were reviewed as part of their agent audits.

TODD uses Stark to retrieve HHR data from the generation meters and some customer meters. The data collection process was reviewed.

EMS reports generation data to the reconciliation manager as TODD's agent. Their processes for HHR data collection were reviewed as part of their agent audit.

WISE

Review of a registry list for the audit period confirmed that WISE has not supplied any ICPs with submission type HHR.

HNET

HNET supplies eight HHR ICPs where the metering installation category is 3 or 4. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

Compliance with this clause has been demonstrated by AMS, EDMI, and EMS as part of their agent audits.

TODD interrogates generation station and customer meters using Stark, and data is obtained via the services access interface.

Audit outcome

Compliant

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

TODD

HHR data is collected by AMS and EDMI as agents. HHR interrogation data requirements were reviewed as part of their agent audits.

TODD uses Stark to retrieve HHR data from generation meters. The interrogation process was discussed, and the interrogation data was viewed.

EMS reports generation data to the reconciliation manager as TODD's agent. HHR interrogation data was reviewed as part of their agent audit.

WISE

Review of a registry list for the audit period confirmed that WISE has not supplied any ICPs with submission type HHR.

HNET

HNET supplies eight HHR ICPs. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

Compliance with this clause has been demonstrated by AMS, EDMI, and EMS as part of their agent audits.

The following information is collected by Stark during each interrogation of HHR metering:

- the unique identifier (device ID) of the meter or data logger,
- the connection time, disconnection time and recorder time,
- the half-hour metering information for each trading period,
- event log, and
- interrogation log.

Audit outcome

Compliant

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

TODD

HHR data is collected by AMS and EDMI as agents. HHR interrogation log requirements were reviewed as part of their agent audits.

TODD uses Stark to retrieve HHR data from the generation meters and some customer meters. The interrogation process was discussed, and the interrogation logs were viewed.

EMS reports generation data to the reconciliation manager as TODD's agent. HHR interrogation logs were reviewed as part of their agent audit.

WISE

Review of a registry list for the audit period confirmed that WISE has not supplied any ICPs with submission type HHR.

HNET

HNET supplies eight HHR ICPs. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

Compliance with this clause has been demonstrated by AMS, EDMI, and EMS as part of their agent audits.

An interrogation log is available in Stark and was viewed during the audit. The log contains the following information:

- date,
- time,
- operator ID,
- data logger ID (always the same),
- clock errors, and
- interrogation method (always the same).

Audit outcome

Compliant

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

TODD

HHR data is collected by AMS, EDMI and EMS as agents. Trading period duration was reviewed as part of their agent audits.

TODD uses Stark to retrieve HHR data from the generation meters every half hour, and customer meters weekly. Evidence of trading period duration checks was reviewed.

WISE

Review of a registry list for the audit period confirmed that WISE has not supplied any ICPs with submission type HHR.

HNET

HNET supplies eight HHR ICPs. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

Compliance with this clause has been demonstrated by EMS, AMS and EDMI as part of their agent audits.

Stark's logs record an event if the number of seconds recorded does not match the expected number for the half hour. Clock synchronisation is discussed further in **section 6.5**.

Audit outcome

Compliant

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

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.

Nova's agents retain a copy of the raw meter data, and their compliance with the archiving and storage requirements were reviewed as part of their agent audits. Nova's own audit trails were reviewed in **section 2.4**.

Audit commentary

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

TODD

Password protection is in place to ensure that unauthorised personnel cannot access meter data in Stark, EnergyMarket, or Orion.

NHH

I reviewed raw NHH meter read data from 2017 during the audit. Data is archived for more than 48 months as required by the code. I traced reads for a sample of 26 ICPs from the source files to Orion for NHH meters. The readings were the same for all ICPs, confirming the security of the process.

Review of audit trails in **section 2.4** confirmed that reads cannot be modified without an audit trail being created. Users are not able to edit actual meter readings, apart from changing the read status to misread.

HHR and Generation

I viewed raw HHR meter data and generation data from before April 2018 during the audit. Data is archived for more than 48 months as required by the code.

Review of audit trails in **section 2.4** confirmed that HHR reads, and volume reads cannot be modified without an audit trail being created in Stark, and data can be edited in EnergyMarket however as the data is refreshed overnight from Orion, if a user did make an edit to this data, then it would be overwritten overnight. Edits to data are performed in Orion and these are then transferred to EnergyMarket.

WISE

I viewed meter readings from 2018 to confirm they had been retained for at least 48 months. I traced readings for one ICP each for all MEPs from the source data to PEBS. All reads matched the source data. This confirmed that the reads had not been modified.

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.

HNET

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

Readings cannot be modified without an audit trail being created. Validation occurs in a temporary table before it becomes a permanent record and meter readings are not edited. Audit trails are discussed in further detail in **section 2.4.**

Audit outcome

Compliant

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

Code reference

Clause 21(5) Schedule 15.2

Code related audit information

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

Audit observation

Processes to record and archive non-metering information were reviewed.

Audit commentary

Nova does not deal with any non-metering information.

Audit outcome

Compliant

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

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

Code reference

Clause 19(1) & (1A) Schedule 15.2

Code related audit information

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 with 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. Corrections to volumes where meter readings match the value recorded by the meter, such as where a multiplier is incorrect, a meter is defective or bridged, or inactive consumption is identified were reviewed in **section 2.1**.

Audit commentary

TODD

Where errors are detected during validation of non-half hour meter readings a check reading will be performed for manually read meters, or AMI readings for surrounding days will be checked. If an original meter reading cannot be confirmed from review of other actual readings, an estimated reading is used and is appropriately labelled. If readings are replaced, the original reading is labelled as a "misread" and the new reading is then entered as either an estimate or actual reading.

I reviewed examples of corrections to determine whether they had been processed correctly and flowed through to revision submissions. The findings are listed in **section 2.1**.

Transposed meter readings are identified through the meter read exceptions, because the affected meter registers will appear to have high or low consumption. The transposed readings received are entered against the ICP's meter registers with a read type of "misread" which will be ignored for billing and reconciliation, and then re-entered against the correct register based on photos which should have been provided by the meter reader as part of their high and low reading validation. An email is sent to the meter reader advising of the issue, to prevent recurrence. I viewed corrections and correspondence with meter readers for a sample of transposed readings to confirm the process.

WISE

Where errors are detected during the validation process, WISE reviews AMI readings for surrounding dates. If an original meter reading cannot be confirmed by another reading, the original read is 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 reading is 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.

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

HNET

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.

HNET 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.

Audit outcome

Compliant

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:

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

Audit observation

Processes for correction of HHR meter readings were reviewed. Examples of HHR corrections were provided for review.

EMS completes corrections to generation data as TODD's agent. Compliance was assessed in their agent audit report.

Audit commentary

TODD

<u>HHR</u>

Where errors or missing data are detected during validation of half-hour metering information, and check metering data is not available, data from a period with a quantity and profile expected to be similar to the estimated period is used. The process is the largely the same for HHR and AMI meters.

Ten examples of HHR corrections were provided – all relating to C&I meter exchanges where consumption was not recorded for the period the meter change occurred.

In these cases, the corrections were based on the best information available. Audit trails were demonstrated and are discussed further in **section 2.4**.

I reviewed an example of an AMI meter exchange (ICP 0005238501RN91B) and identified that interval data from the removed meter was only provided up to midnight the day prior to the meter change. The system then estimated consumption as zero up to the meter change time as there was no removed read in the system to enable a more accurate estimation to be performed. As a result, some volume was not accounted for in these HHR corrections across an AMI meter changes.

Generation

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

WISE

WISE does not deal with HHR data.

HNET

No corrections were required for HNET HHR ICPs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.2 With: 19(2) Schedule 15.2 From Jan-21 to Dec-21	**TODD** HHR corrections for AMI meter exchanges results in some volume not being accounted for. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate for TODD because for AMI meter changes the automated process does not handle this scenario well, resulting in some unaccounted for consumption. C&I HHR data corrections have more robust checks in place to ensure all volume is reflected in submission. The risk rating is low as the market impact is assessed as minor to both HHR submissions and also the downstream calculation of seasonal shapes by the Reconciliation Manager.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Nova is investigating options to integrate the meter removal read manually taken at the register level with the AMI reads at the data stream level to use both in the half-hour estimation process. • This is complicated by register read indexes being out of step in some cases with the AMI midnight reads delivered by the MEP making the two sets of reads incompatible e.g., ARC meters. • The option of always removing an ICP from HHR submission (changing to RPS) when an AMI-to-AMI meter exchange occurs is being considered as an alternative.	Q4 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: If an appropriate estimation option cannot be found to account for the partial day, affected ICPs can be backdated to remove them from HHR reconciliation and move them back to RPS prior to the meter exchange.	Q4 2022	

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

Error and loss compensation arrangements were discussed.

Audit commentary

There are currently no error or loss compensation arrangements in place for TODD, HNET or WISE.

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

Corrections are discussed in **sections 2.1**, **8.1** and **8.2.** Audit trails are discussed in **section 2.4**.

EMS completes corrections to generation data as TODD's agent. Compliance was assessed in their agent audit report.

Audit commentary

TODD

NHH

Raw meter data is held by the MEPs and agents. Compliance was confirmed as part of their agent and MEP audits. An appropriate audit trail is created when NHH meter reading data is modified in Orion. These audit trails are discussed further in **section 2.4**.

HHR

HHR data is collected by EMS, EDMI and AMS as agents, and by TODD using Stark.

Compliance with the requirements to retain raw reading data was assessed as part of EMS, EDMI and AMS' agent audits. TODD retains the raw meter reading data within Stark, and audit trails are created when data is changed. These audit trails were viewed during the audit and are discussed further in **section 2.4**.

Generation

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

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.**

HNET

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

A sample of reads and volumes were traced from the source files to Nova'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 2.1, 8.1** and **8.2**.

Audit commentary

TODD

All estimated readings are clearly identified as required by this clause, and the sample of reads checked in **section 2.3** were recorded with the correct read types.

The previous audit issues relating to unvalidated customer readings being used to calculate historic estimate have been resolved. The process for the billing team to validate each customer provided reading against at least two readings from another source was moved to the reconciliation team from September 2021. This was because the volume of customer readings increased due to meter readers being unable to obtain access to meters inside some buildings due to Covid-19 lockdowns, traffic light levels, and residents isolating. All NHH readings, including customer readings are validated for reasonableness and accuracy according to the NHH read validation process discussed in **section 9.5**. As part of the daily export of data to EnergyMarket, customer reads are checked to determine whether there are two actual readings which are at least 30 days apart for the meter register. If yes, the customer read is exported to EnergyMarket as a customer read for use in reconciliation calculations. If not, the read is excluded from the export.

I rechecked ICP 0008009802TU5F3 where a customer read for meter 10002686 on 9 March 2020 was entered as an actual read but not validated against two readings from another source and found it has now been validated against subsequent actual reads.

I found the following reads which had incorrect read types recorded. There was no impact on submission because all switching reads are treated as validated or permanent estimates for reconciliation:

Report section	Incorrect read details
4.4	ICP 1000020571BP1EF's (17/8/21) opening read was recorded as an opening actual rather than an estimate in Orion, due to the read type not being corrected when the AC was processed.
4.11	ICP 0000017285TRABD's (12/10/21) opening read was recorded as an opening actual rather than an estimate in Orion, due to the read type not being corrected when the AC was processed. ICP 0000140925UN80C's (9/8/21) opening read was recorded as an opening estimate rather than an actual in Orion, due to the read type not being corrected when the AC was processed.

Report section	Incorrect read details
4.10	The CS files for 0000021298EA958 (21/8/21), 0007156981RNB03 (4/11/21), 0037930087PC48C (29/4/21) and 0478644574LC1E4 (19/6/21) were issued with correct read values but incorrect read types. The opening estimate read on the occupier account was used instead of the closing read on the customer account.

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.

HNET

Volume information is directly derived from validated meter readings, estimated readings, or permanent estimates. I found that read types were recorded correctly.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.1 With: 3(3) Schedule 15.2 From: 09-Aug-21 To: 12-Oct-21	**TODD** Three ICPs which underwent RRs had incorrect switch read types recorded in Orion. Four ICPs had incorrect read types in CS files. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls over the read renegotiation process are strong, a small number of errors occurred where a step was missed when updating the readings. The audit risk rating is low because there is no impact on the submission process; all switch event readings are treated as validated by the reconciliation process.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Three inaccurate read types recorded in a RR file. See sections 4.4 and 4.11 • Human error resulted in a read being recorded as estimated instead of actual. • No corrective action was taken as there was no material impact to the customer or gaining retailer Four ICPs had CS files issued with incorrect read types. See section 4.10	Q4 2022	Identified

The current process for vacant sites resulted in inaccurate read types being captured as the opening estimate read was included in the CS files. The recommendation has been accepted with an improved process to be implemented by Q4 2022		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Vacant site processes are currently being reviewed with improvements to be implemented by Q4 2022 Nova will continue with on-going refresher training, review processes and where possible identify improvement opportunities	Q4 2022	

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

Audit commentary Code reference

Clause 3(4) Schedule 15.2

Code related audit information

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

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit observation

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

Audit commentary

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 for derive volume information must not be rounded or truncated from the stored data from the metering installation.

Audit observation

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

NHH data is collected by MEPs and agents, and most HHR data is collected by AMS and EDMI as agents. TODD uses Stark to retrieve HHR data from the generation meters.

EMS reports generation data to the reconciliation manager as TODD's agent. Their processes for HHR data were reviewed as part of their agent audit.

Audit commentary

TODD

The MEP or agent retains raw, unrounded data.

Compliance with this clause has been demonstrated by EMS as part of their agent audit. Because the agent report was more than seven months old on the audit due date, I confirmed that there had been no changes to agent systems or processes which could affect TODD's compliance.

AMS provides data in EIEP3 format and EDMI provides data in the GEN file format. Both these file formats round data to two decimal places. Data is normally received from meters in either whole watt hours (equivalent to kWh to three decimal places) or kWh to three decimal places. In addition, some EM5300 meters have been configured to provide a higher degree of precision, and fractions of watt hours (or kWh to four decimal places) are recorded. The EIEP3 and GEN file formats may round the trading period data to two decimal places if the meter does not have a multiplier and the volume for that half hour has a non-zero value in the third decimal place. TODD currently have five metering installation category 1 ICPs where the HHR data is provided by AMCI/EDMI using the EIEP3/GEN formats resulting in some rounding of the consumption information as this data is not multiplied.

NHH AMI data is provided by IntelliHUB (for IntelliHUB, Metrix and Counties Power meters), and AMS (for AMS, Arc and Smartco meters), FCLM, and Nova via SFTP. I traced a sample of data received from the MEPs to Orion and EnergyMarket, and found the MEPs provide readings with up to three decimal places included. These readings are rounded on import into Orion, and the rounded reads are also used by EnergyMarket for submission.

Where NHH AMI data is not provided, meters are read manually by Wells or MRS. Wells and MRS provide readings without decimal places.

I viewed data collected by Nova in Stark, and confirmed it is not rounded or truncated.

WISE

NHH Meter readings are not truncated or rounded.

HNET

NHH Meter readings are not truncated or rounded.

HHR data is managed by TODD on HNETs behalf.

AMS provides data in EIEP3 format and EDMI provides data in the GEN file format for HNET HHR ICPs and provides this data to TODD. Both these file formats round data to two decimal places. Data is normally received from meters in either whole watt hours (equivalent to kWh to three decimal places) or kWh to three decimal places. In addition, some EM5300 meters have been configured to provide a higher degree of precision, and fractions of watt hours (or kWh to four decimal places) are recorded. The EIEP3 and GEN file formats may round the trading period data to two decimal places if the meter does not have a multiplier and the volume for that half hour has a non-zero value in the third decimal place. I did not find any examples for HNET where HHR data had been rounded as all HHR data has a multiplier applied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.3 With: 3(5) Schedule 15.2 From: 1-Jun-20 To: 14-Apr-22	**TODD for AMS and EDMI data collection** The EIEP3 and GENDF file formats may round the trading period data to two decimal places if the meter does not have a multiplier and the volume for that hour has a non-zero value in the third decimal place. **TODD AMI data** AMI readings with decimal places are rounded to zero decimal places on import into Orion, and the rounded readings are used to calculate submission data. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate because they are not sufficient to ensure that submission information is consistently calculated from unrounded data. For HHR, the impact is assessed to be low for the EIEP3 format, because a small number of ICPs are expected to be affected and the issue only affects the third decimal place under certain circumstances. There is no impact for the GENDF file format, because AMS completes submission for GENH ICPs. For AMI, the impact is assessed to be low because the ICP level differences are expected to be very small, and the overall differences are expected to be small because there will be under and overs due to the rounding technique.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Nova will investigate with AMS/EDMI to confirm If unrounded values can be delivered	Q3 2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above	Q3 2022	

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

The HHR data estimate processes were examined, and a sample of estimates were reviewed.

Generation data is reported by EMS as Nova's agent. Estimation was reviewed as part of their agent audit.

Audit commentary

TODD

HHR

If TODD has not received data prior to the deadline for providing submission information, estimated data is provided. C&I HHR estimates are based on check meter data or readings where available, or data is used from a period with a quantity and profile expected to be similar to the estimated period. Estimates are calculated using a query, and the user determines whether they should be based on the same day for the previous six weeks, or the same day for the previous year depending on the seasonal profile of the load. The process takes into account the trading period, weekday and public holidays when determining a similar time period to base the estimates on. If an ICP has insufficient history to calculate an estimate based on historic information, estimates of consumption from the customer contract will be used.

A review of a sample of ten temporary C&I estimates showed that they had been based on periods with a quantity and profile similar to what was expected. I saw evidence of investigation to identify a suitable period to use for estimation. Three estimates of the sample of ten were identified as being outside the +/-10% threshold once actual data was eventually delivered for these ICPs. TODD had made reasonable endeavours to provide an accurate estimation of the HHR volumes however the variability of the customers consumption pattern means the estimation accuracy of +/- 10% was not achieved.

AMI HHR estimation process uses consumption data for a prior period (up to six weeks) and it does not take into account public holidays. This estimation is then scaled if the estimated period is a data gap and there are midnight reads available either side of this data gap. If the period requiring estimation exceeds six weeks then a linear estimation is applied using an ICP daily average consumption.

There is a requirement to use "reasonable endeavours" to ensure this data is accurate to within 10%. I compared the R0 and R7 HHRAGGS files for April 2021 at ICP level and found four AMI ICPs (1000008500BPC3A, 0355867125LCA6F, 0000173219UNC28, 0006630061MLAF6) where the initial submitted volume was different by more than 10% when compared to the R7 volumes. TODD had made reasonable endeavours to provide an accurate estimation of the HHR volumes however the variability of the customers consumption pattern means the estimation accuracy of +/- 10% was not achieved.

Generation

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

WISE

Wise does not supply any HHR ICPs.

HNET

Where any HHR estimations are required then TODD will undertake this function on HNETs behalf.

Estimation has not occurred for any HNET HHR ICPs during this audit period.

Audit outcome

Compliant

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 zero values.*

Audit observation

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

Audit commentary

TODD

NHH data is validated by several processes.

Meter reader validation

For meters read by MRS and Wells, a localised validation occurs at the hand-held device to ensure the reading is within expected high/low parameters. Readings which fail this validation are required to be re-entered, and if the two readings are the same the second reading will be accepted. If the second reading is different, (potentially indicating the first reading was incorrect) then the second reading is required to be re-entered. MRS and Wells also provide meter condition information, as discussed in **section 6.6.** Compliance is confirmed for all agents regarding data validation.

Orion validation

Orion validates readings on import. The read file import is scheduled to run automatically at 7.30am after retrieving the files from the SFTP directory. The billing team receives an email each morning confirming whether the file import has been successful. If the file format or field content is unexpected, the upload will fail, and the file will be checked and re-uploaded.

Orion initially checks that there is an open ICP meter register which matches the ICP meter register which the reading is provided for. If there is no match, an exception will be created.

Orion validates the reading, and generates the following read import exceptions:

- there is already a read for this meter on this day, with separate exceptions generated where the read is the same or different to the other reading,

- attempted import of an opening reading from a meter read file (opening readings are only expected as part of the meter exchange process, new connection process, or switching process),
- meter read is exceptionally high,
- meter read is exceptionally low,
- the account is on the no bill cycle,
- the read is earlier than previously billed reads,
- there is more than one open account or more than one matching meter,
- the meter reader is unknown, and
- the meter read date is in the future.

Exceptions are reviewed on Orion's meter read import exceptions report, and either accepted or rejected (and made misreads). Summary reporting on daily meter read exceptions are monitored to identify trends and/or potential issues which may need to be followed up with the meter readers.

Once read exceptions have been processed, billing information is generated, and the billing exceptions report is produced. The billing exceptions include:

- credit invoices,
- large invoices,
- billing periods of less than 20 days or more than 40 days,
- consumption which is more than 300% of the previous invoice,
- ICPs with meters which are missing reads or missing usage transactions, and
- ICPs which have actual readings for master ICPs and estimated reads for child ICPs.

Invoicing is completed overnight for the ICPs where billing exceptions have been cleared. A sample of invoices are spot checked as part of the daily quality assurance checks. Abnormally high and low invoices are identified using SQL queries and checked to confirm they are correct.

Vacant consumption

When an ICP becomes vacant, a letter is sent to the new occupier requesting that they sign up for electricity supply. The vacant disconnection process is managed by the credit team and is initiated ten days after a customer moves out. Letters to the occupier are sent in the first instance. The first is sent at ten days and a further reminder is seven days later. If there is no response to the last letter after seven days a request to disconnect is issued. Vacant disconnections are generally physical disconnections so that the site can be checked to ensure that there is no occupant and there is no medical dependency. TODD continues to read vacant ICPs, and all vacant consumption is included in reconciliation submissions.

Inactive consumption

TODD produces a discrepancy report which identifies consumption for ICPs with inactive status, which is reviewed by the metering team. Each ICP is reviewed to determine whether the consumption is genuine (i.e., based on the difference between validated actual readings). If the consumption is genuine, TODD determines when the consumption began and updates the registry status to "active" from that date and raises a new disconnection service order for the ICP.

TODD continues to read disconnected ICPs, and all consumption during disconnected periods is included in reconciliation submissions.

Zero consumption

The daily zero usage reports are used to identify ICPs which have three or more consecutive readings indicating zero consumption on one or more of their meters. The reports are reviewed by the metering team. If there is not a known reason for the zero consumption, they will contact the customer to determine why and raise a service order to replace the meter if there is believed to be a fault. Once a fault is confirmed, the correction process described in **section 2.1** is followed. Not all exceptions have

been reviewed due to workloads, there are currently around 1,500 zero consumption exceptions to be reviewed.

If a meter register is confirmed to be unused a METZeroUsage activity is added in Orion, to explain why there is zero consumption and whether it is acceptable (e.g., the meter is not utilised, but the customer does not wish to remove it, a service request was raised and the meter was confirmed not to be faulty, or the meter is confirmed to be disconnected).

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. No reads are received as part of a disconnection/reconnection service request. Once the status is updated in the registry then PEBS will use the available midnight read for this date in the submission process.

Read import validation – AMI reads only

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 dates and times are valid, and match 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 2 kWh 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.

Removed meter reads are loaded and validated manually by users (including a sense check and reviewing the photo of removed reads where available).

In the event that an actual read is genuinely lower than the previous reading (including reads provided by losing retailer in the CS file), 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. Because WISE do not submit volumes using the HHR submission type and profile, switch reads cannot be disputed with the losing trader where the read difference is less than 200 kWh even if WISE have access to a more accurate switch read. However, where the losing retailer is submitting volumes as HHR but provides an estimated switch read calculated from the losing retailers billing system

rather than from the HHR data received or estimated for the ICP, there is a risk that some consumption volumes will be reported by both the losing and gaining trader or not reported at all by either retailer. There is no current requirement under the code to ensure that a losing retailer who is submitting volumes as HHR must provide an actual AMI midnight read, or as a part of the CS file to ensure continuity of volume information across retailers. This issue is relevant to WISE due to the prepay product provided as customers must maintain a credit balance as part of the supply agreement with WISE. Where an inaccurate switch is provided then a customer's account balance may become negative immediately after the switch is completed. This in turn could result in a disconnection being initiated due to this inaccurate switch read provided by the losing retailer.

I have recorded this as an issue in **section 4.4**.

Reconciliation submissions

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

HNET

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.

HNET system validation

When data is uploaded into HNET'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 HNET's system twice a month, which checks:

- high consumption for ICPs with read-to-read consumption over 3,000 units - ICPs were allocated to groups based on consumption - a comparison is made between actual and expected consumption and a check read request is raised to Wells where the meter is manually read or AMI reads are queried back to the AMI MEP, or where the ICP has recently switched, the CS read is reviewed for accuracy,
- readings lower than the previous reading - negative consumption,
- correct number of dials, and
- zero consumption across a week.

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

All billing is undertaken in a single billing run 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 2.1**.

Reconciliation submissions

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

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 the meter and data storage device event log for any event that could have affected the integrity of metering data must be investigated.*
>
> *17(4)(g) – a review of the relevant metering data where there is an event that could have affected the integrity of the metering data,*

If there is an event that could affect the integrity of the metering data (including events reported by MEPs but excluding where the MEP is responsible for investigating and remediating the event) the reconciliation must investigate and remediate any events.

If the event may affect the integrity or operation of the metering installation the reconciliation participant must notify the metering equipment provider.

Audit observation

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

Audit commentary

TODD

<u>EnergyMarket validations</u>

All HHR electronic data is validated in EnergyMarket, as well as on receipt. The EnergyMarket validation includes comparison with expected, or previous flow patterns, and checks for missing data and are discussed in further detail in **section 12.3**.

<u>HHR data received from agents</u>

HHR data is collected by AMS and EDMI as agents, and data validation was reviewed as part of their agent audits. AMS and EDMI provide event information to TODD, which is reviewed and acted upon.

- AMS review their event information and email events requiring action to TODD as they are identified.
- EDMI emails information on events with their business day one downloads.

I viewed examples of event information provided by AMS and EDMI and found TODD had taken action to investigate and resolve issues where required.

HHR and generation data obtained by TODD

Stark retrieves meter information from the generation meters every half hour, and customer meters weekly. I viewed the check data in Stark, which includes checks for:

- missing data,
- invalid data,
- unexpected zero volumes,
- meter data storage device events, and
- clock synchronisation events.

The Stark meter data storage device event reports are reviewed prior to initial submissions each month, and events are investigated and resolved as required. I walked through this process and reviewed examples of events.

EMS also directly obtains HHR generation data, which is used to produce generation submissions. As part of this, EMS validates generation volumes and reviews event data. Compliance is recorded in the EMS agent audit report.

AMI data

Data for ICPs with AMI metering which are billed as NHH, have their read data validated through the NHH validation described in **section 9.5**. This meets the requirements of the Code.

NHH AMI data is provided by IntelliHUB (for IntelliHUB, Metrix and Counties Power meters), and AMS (for AMS and Smartco meters), FCLM, and Nova via SFTP. All other AMI meters are read manually by Wells or MRS.

All the MEPs provide meter event information to TODD, which is manually reviewed. The MEPs provide emails specifying issues and action required to be taken, which are actioned as they are received. AMS, Intellihub and FCLM also provide full event reports which are reviewed weekly. I reviewed some recent examples of meter events and found that appropriate action had been taken as necessary.

Non-communicating AMI sites are notified to TODD after 30 consecutive days of no reads, and these are then put in manual read rounds until the issue is resolved. ICPs with unread AMI meters are automatically shifted to a manual meter reading route if no AMI reads are received for 30 days. MEPs also provide lists of non-communicating ICPs, and service orders are raised to resolve the issues. A project is underway to arrange for MEPs to fix meters with communication issues. The metering team uses reports to identify billing AMI meters not on AMI routes and notifies Billing to return the ICPs to AMI routes once regular readings are being received.

An assessment of the count of AMI HHR intervals estimated for use in the TODD HHR submission for the January 2022 submission was performed. TODD performed estimations for 406,000 intervals out of a total number of intervals submitted of 24 million intervals (1.69% of all intervals estimated). The volume associated with these estimations was 0.74 GWh out of 13.7 GWh of overall HHR submission volume (0.54%).

While the percentage of intervals estimated is relatively low as a proportion of total intervals used for HHR submission, the number of individual ICPs impacted is a higher percentage. The impact of this outstanding estimated interval data at the 7-month wash up period in terms of both submission accuracy (+/- 10%) and also the impact to the last opportunity to produce accurate seasonal shapes for NHH submission for all NHH retailers cannot be quantified as there is no formal reporting in place or escalation of outstanding data gaps to the AMI MEP or a process to transition these affected ICPS to NHH submission type in a more timely manner where the issue cannot be resolved quickly.

Description	Recommendation	Audited party comment	Remedial action
Identification and escalation of missing AMI interval data to MEPs	Develop and implement reporting of missing/ estimated interval data used in submission, and a process to escalate these instances to the relevant AMI MEP for resolution or transition back to NHH submission type.	TODD accepts this recommendation. Nova acknowledges the benefit of dedicated/timely reporting for non-communicating AMI that have failed the resolution process and have become permanently non-communicating. Existing reporting of HHR estimates is included in R3/R7/R14 submissions appearing alongside the NHH forward estimates, however, it can be improved as actioning a profile change is a cumbersome manual task that requires backdating the change from HHR to RPS once the case is determined to be effectively permanently non-communicating several months after losing comms.	Identified

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 manually. 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.
- IntelliHUB provides meter events that require a service order to be raised via email, and a monthly summary of meter events via FTP.
- Wel Networks provides a full meter event report with meter serial number as the primary key. This report is reviewed regularly.

HNET

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

MEPs send HNET notifications via email of meters that require a service request to be raised to investigate. I sighted three such requests and all were actioned.

HNET does not independently review full event logs from the AMI MEPs but does review meter condition reports and notifications as part of BAU. No meter events which could affect accuracy were identified during the audit.

C&I HHR data relating to HNET is managed by TODD on HNETs behalf. TODD perform all data collection, data validation tasks, estimation, event log reviews and submission tasks.

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

This process is managed by EMS and was assessed as part of their agent audit.

Audit Commentary

Review of the EMS report confirmed that HHR metering information is provided in a compliant manner.

Audit outcome

Compliant

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

This process is managed by EMS and was assessed as part of their agent audit.

Audit Commentary

Review of the EMS report confirmed that HHR metering information is provided in a compliant manner.

Audit outcome

Compliant

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

This process is managed by EMS and was assessed as part of their agent audit.

Audit Commentary

Review of the EMS report confirmed that loss adjustment is managed in a compliant manner.

Any loss adjustment relative to the grid injection point is normally made within the metering installation at the time of installation and commissioning.

Audit outcome

Compliant

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

This process is managed by EMS and was assessed as part of their agent audit.

Audit commentary

EMS is the agent to the grid owner and conducts this notification. Compliance is confirmed in the EMS audit report.

Audit outcome

Compliant

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 notify 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

Processes to create buying and selling notifications were reviewed. I checked whether any breach allegations had been made.

Audit commentary

TODD

Review of the registry list confirmed that TODD has only applied the HHR, RPS, EG1 and PV1 profiles during the audit period. Trading notifications are not required for these profiles.

WISE

Wise only uses the RPS profile, therefore trading notifications are not required.

HNET

HNET only uses the HHR, RPS and PV1 profiles, therefore 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

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

I reviewed the GR100 ICP days comparison reports for the audit period and investigated a sample of variances.

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

Audit commentary

TODD

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 NHH ICP days for December 2021 for 50 NSPs with a small number of ICPs each, and HHR ICP days for 50 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 TODD files and the RM return file (GR100) for all available revisions for 22 months. The consistent low negative percentage figures indicate that the TODD ICP days are higher than those on the registry, because inactive ICP days are included in TODD's submissions (approximately 1,050 ICPs included for part or full month).

Month	Ri	R1	R3	R7	R14
Jan 2020	-	-	-	-	-0.81%
Feb 2020	-	-	-	-	-0.90%
Mar 2020	-	-	-	-	-0.80%
Apr 2020	-	-	-	-	-0.75%
May 2020	-	-	-	-	-0.70%
Jun 2020	-	-	-	-0.68%	-
Jul 2020	-	-	-	-0.73%	-
Aug 2020	-	-	-	-0.80%	-
Oct 2020	-	-	-0.84%	-	-
Nov 2020	-	-	-0.87%	-	-
Dec 2020	-0.81%	-0.85%	-0.87%	-0.78%	-
Jan 2021	-0.85%	-0.80%	-0.85%	-0.78%	-

Month	Ri	R1	R3	R7	R14
Feb 2021	-0.86%	-0.88%	-0.77%	-0.78%	-
Mar 2021	-0.86%	-0.87%	-0.79%	-0.79%	-
Apr 2021	-0.74%	-0.77%	-0.77%	-0.78%	-
May 2021	-0.79%	-0.81%	-0.83%	-0.82%	-
Jun 2021	-0.82%	-0.84%	-0.84%	-	-
Jul 2021	-0.90%	-0.96%	-0.90%	-	-
Aug 2021	-0.92%	-0.93%	-0.93%	-	-
Sep 2021	-0.94%	-0.95%	-0.95%	-	-
Oct 2021	-0.98%	-0.98%	-	-	-
Nov 2021	-0.98%	-0.97%	-	-	-

I reviewed five NHH and five HHR NSP level ICP days differences and found:

- eight differences occurred because TODD reports inactive ICP days on the AV110, compliance is recorded because TODD's ICP days matched the days that submission information provided for, and
- zeroing does not occur for AV110 submissions; two differences were caused by backdated withdrawals or downgrades where data recorded against the old aggregation factor combination for the period was not zeroed.

To confirm the upgrade and downgrade process, a sample of five upgrades to HHR and three downgrades to NHH were checked. All followed the process described in **section 6.7**. Submission types are checked against a registry list with history as part of the pre-submission checks described in **section 12.3**, and discrepancies are identified and resolved.

I identified two ICPs with incorrect status dates as discussed in **sections 2.1** and **3.9**. This has no impact on submission because volumes and ICP days are reported for ICPs with active and inactive status.

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 the ICP days calculation in the HE scenarios, and by checking 25 NSPs on the December 2021 AV110 report against the expected days calculated from the registry list with history. 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 23 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-20				0.10%	
Feb-20			0.09%	0.09%	0.06%
Mar-20			0.08%	0.08%	0.06%
Apr-20	0.06%	0.08%	0.08%	0.08%	0.05%
May-20	0.07%	0.07%	0.07%	0.07%	0.05%
Jun-20	0.15%	0.06%	0.07%	0.07%	
Jul-20	0.07%	0.07%	0.07%	0.07%	
Aug-20	0.08%	0.07%	0.07%	0.05%	
Sep-20	0.07%	0.09%	0.06%		
Oct-20	0.07%	0.07%	0.07%		
Nov-20			0.06%		
Dec-20	0.05%	0.05%	0.04%	0.04%	
Jan-21	0.03%	0.05%	0.04%	0.04%	
Feb-21	0.01%	0.03%	0.03%	0.03%	
Mar-21	0.02%	0.05%	0.02%	0.02%	
Apr-21	0.00%	0.02%	0.02%	0.02%	
May-21	0.02%	0.03%	0.02%	0.02%	
Jun-21	0.01%	0.02%	0.02%	0.02%	
Jul-21	0.08%	0.02%	0.02%		
Aug-21	0.05%	0.05%	0.04%		
Sep-21	0.05%	0.03%	0.04%		

Month	Ri	R1	R3	R7	R14
Oct-21	0.04%	0.07%	0.06%		
Dec-21	0.05%	0.04%			

I checked all discrepancies remaining at revision seven or later, for submission periods in 2021 and found these relate to two ICPs (1002056702LCCFC from June 2019 and 0351490850LCAAD from July 2019) where the registry status had been reversed manually on the registry and these registry updates had not been reflected in PEBS. These have now been resolved.

HNET

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 the ICP days calculation in the HE scenarios, and by checking all NSPs on the December 2021 AV110 report against the expected days calculated from the registry list with history. The ICP days calculation was confirmed to be correct.

HHR ICP Days for HNET is submitted separately by TODD for the ten C&I ICPs managed on behalf of HNET. The calculations were confirmed as correct, and some exceptions were identified via the GR-100 ICP Comparison report from the Reconciliation Manager where HNET reported ICP Days values for NSPs that the registry did not. TODD do not perform any record zeroing in the ICP Days report to remove previous submitted data for where an ICP has undergone a backdated switch out or the ICP/NSP relationship has been updated by the distributor and is no longer associated with the initial NSP. This lack of zeroing results in exceptions being identified in the GR-100 Reconciliation Manager report.

The following table shows the ICP days difference between HNET's database and the RM return file (GR100) for all available revisions for 23 months. Negative percentage figures indicate that HNET's ICP days are higher than those contained on the registry, and positive percentage figures indicate that the HNET's ICP days are lower than those contained on the Registry.

Month	Ri	R1	R3	R7	R14
Jan-20	-	-	-	-	0.00%
Feb-20	-	-	-	-	0.00%
Mar-20	-	-	-	-	0.00%
Apr-20	-	-	-	-	0.00%
May-20	-	-	-	-	0.00%
Jun-20	-	-	-	0.00%	-
Jul-20	-	-	-	0.00%	-
Sep-20	-	-	-	-	0.00%

Month	Ri	R1	R3	R7	R14
Oct-20	-	-	0.00%	-	-
Nov-20	-0.01%	0.00%	0.00%	0.00%	-
Dec-20	-0.01%	0.00%	0.00%	0.00%	-
Jan-21	0.14%	-0.01%	0.00%	0.00%	-
Feb-21	0.01%	0.01%	0.00%	0.00%	-
Mar-21	0.00%	-0.04%	-	-0.01%	-
Apr-21	0.00%	-0.01%	-	-0.01%	-
May-21	0.00%	-0.01%	-0.01%	-	-
Jun-21	-0.06%	0.00%	0.00%	-	-
Jul-21	0.01%	-0.02%	-	-	-
Aug-21	0.00%	-0.01%	-0.01%	-	-
Sep-21	-0.03%	-	-	-	-
Oct-21	-0.01%	0.00%	-	-	-
Dec-21	-0.03%	-	-	-	-

I checked all HHR discrepancies and identified one ICP was included in the HNET HHR ICP Days report for June 2021 but not in the Registry ICP days report due to a late backdated switch.

I checked the one NHH discrepancy remaining at revision 7 and confirmed this related to a timing issue for a backdated switch that was completed on 14 Dec 2021 for a switch date of 18 May 2021. The R7 had been generated already for May 2021 at this stage.

Zeroing does not occur for AV110 submissions by HNET. ICP 1001253692UN438 was the only ICP at WRD0331; submission of ICP days occurred for April 2021, then there was a backdated switch out with an event date of 01/04/21. Zeroing occurred in the Day 13 HHR vols file but did not occur in the ICP days file. ICP 0478620594LCF86 had the same scenario but the POC was PAK0331 and the month was June 2021.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.2 With: 15.6 From: Jan-21 To: Dec-21	**TODD** Zeroing does not occur for AV110 submissions. At least two HHR ICP days differences between AV110 submissions and the registry were caused by backdated withdrawals or NSP changes where data recorded against the old aggregation attributes combination for the period was not zeroed. **WISE** Incorrect ICP days for two ICPs (0351490850LCAAD & 1002056702LCCFC). **HNET** Zeroing does not occur for AV110 submissions. At least two HHR ICP days differences between AV110 submissions and the registry were caused by backdated withdrawals or NSP changes where data recorded against the old aggregation attributes combination for the period was not zeroed. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate overall. • The incorrect ICP days affects only two ICPs. • Zeroing processes are in place at NSP level for volume information, but not ICP days. The impact is assessed to be low based on the differences identified.

Actions taken to resolve the issue	Completion date	Remedial action status
WISE Response: Non-Compliance accepted. Two ICPs with Incorrect ICP days • Caused by incorrect information updated into PEBS due to processes not being followed in full. • PEBS was corrected in audit resolving the issue **TODD & HNET Response:** Unable to identify the non-compliance in the AV110 HHR ICP days as the submissions appear to have been provided in accordance with 15.6. The issue with zeroing appears to result from legacy behaviour in the RM's system that is not supported by the Code, rather than because of non-compliant trader submissions.	April 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

WISE: Further controls have been put in place preventing the inputting of incorrect information into PEBS **TODD & HNET:** As above	April 2022	

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

Code reference

Clause 15.7

Code related audit information

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

> *15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

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

GR130 reports were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

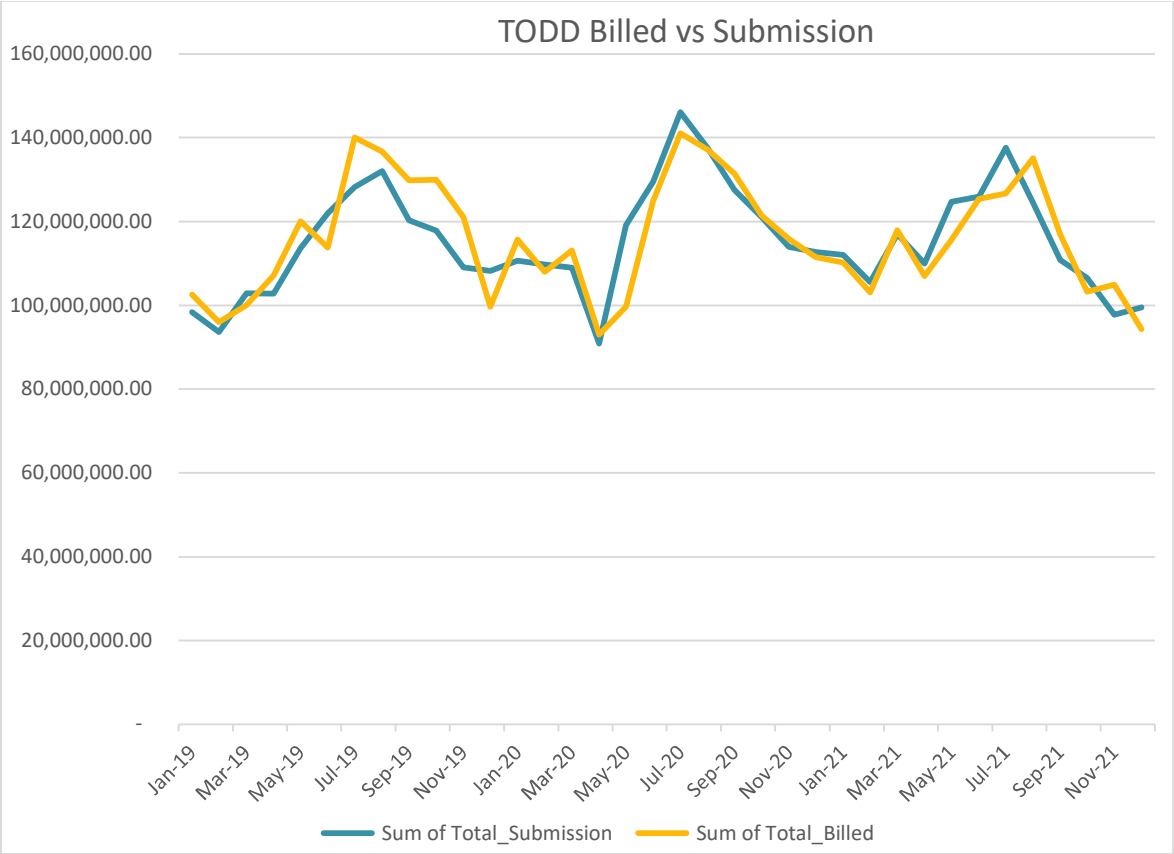
Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late.

Audit commentary

TODD

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 the period January 2019 to December 2021, and the results are shown chart below. The total difference is 0.8% for the year ending December 2021 (billed lower than submission), and 0.9% for the two years ending December 2021 (billed lower than submission).



Monthly, TODD compares billed volume, submitted volume, rolling 12-month difference, and percentage difference. The data is checked for reasonableness and to identify any anomalies.

No alleged breaches occurred relating to late submission data.

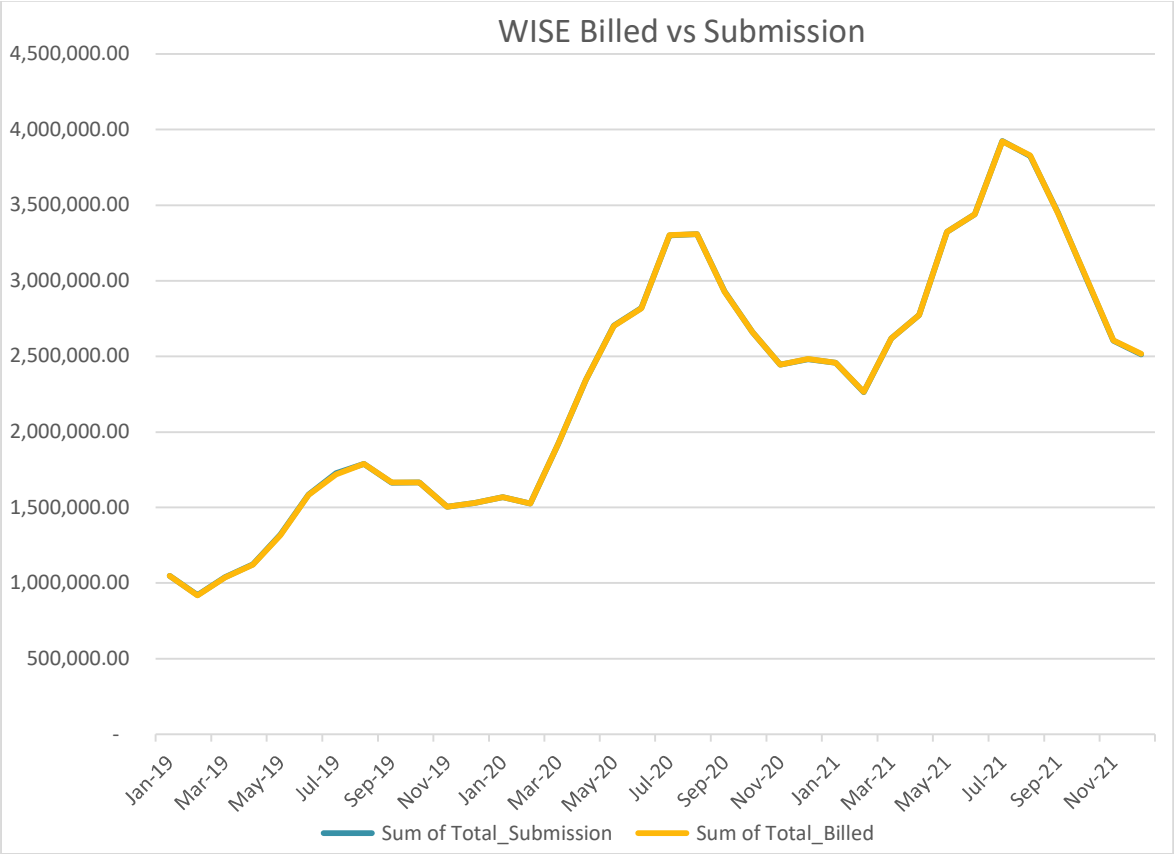
WISE

No breaches were recorded for late provision of as billed 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 the period January 2019 to December 2021, and the results are shown chart below. The total difference is 0.02% for the year ending December 2021 (billed higher than submission).

Where a billing estimation is identified as being incorrect on receipt of a later actual read then the under/ over estimation of volume is addressed as a financial credit to the customer as part of the next day's billing calculation.



As discussed in **section 2.1,** inactive vacant consumption is being submitted when the ICP switches away.

HNET

No breaches were recorded for late provision of as billed submission information.

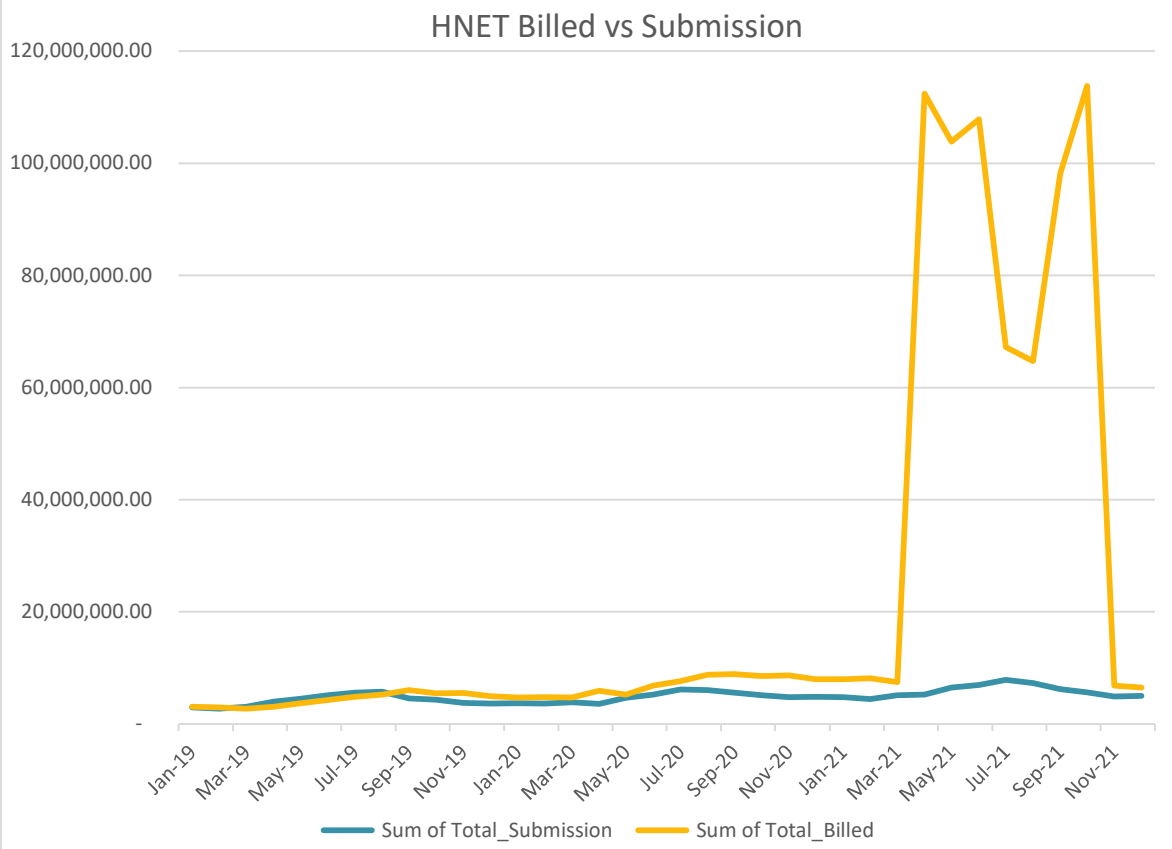
The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

HHR ICPs have a C&I billing calculation created by TODD via the Kinetiq system, and the invoiced kWh figures are then manually entered into HNET's database, to create both the invoice to the customer and also an electricity supplied file.

I also checked the difference between submission and electricity supplied information for the period January 2019 to December 2021, and the results are shown in the chart below. Billed data is significantly higher than submitted from April 2021 onwards. This was caused by the incorrect application of a compensation factor applied to a HHR ICP in the billing calculation when the data has already been adjusted for the billing multiplier. A similar scenario was identified in the previous audit which continued until identified as part of the audit analysis. Monitoring of the alignment between electricity submitted and electricity supplied is not currently performed and a recommendation to include this check was made in the previous audit. I have repeated this recommendation.

Recommendation	Description	Audited party comment	Remedial action
Regarding clause 15.7	Check the GR130 file each month to ensure billed vs submission totals appear to be reasonable.	HNET accepts this recommendation. HNET now reviews GR130 reports monthly to confirm whether the relationship between billed and submitted data appears reasonable beginning April 2022.	Adopted

The previous audit issue where HHR ICP (0003133483AA735) had a compensation factor of 100 applied to the billed total twice affecting April to November 2020 has been resolved through the revision process.



As discussed in **section 2.1,** active vacant consumption is being submitted.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.3 With: 15.7 From: 01-Apr-21 To: 31-Dec-21	**HNET** Electricity supplied file incorrect for the period April to December 2021. Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate, as they are sufficient to mitigate the risk of incorrect as billed data for most ICPs. The impact is rated as low because there is no impact on market submission, and only one ICP was affected.

Actions taken to resolve the issue	Completion date	Remedial action status
HNET Response: Non-Compliance accepted. Electricity supplied file incorrect for the period April to December 2021 • A process error meant that a compensation factor was applied twice to certain ICPs. • A fix in the process was implemented in March 2022 Billed vs Submission volumes for the last six months have been reviewed and proven compliant	March 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
HNET Response: As per the auditor's recommendation, beginning April 2022 GR130 reports are reviewed monthly to confirm whether the relationship between billed and submitted data appears reasonable	April 2022	

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

Code reference

Clause 15.8

Code related audit information

Using relevant volume information, each retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity consumed 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

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data for a sample of submissions.

The GR090 ICP Missing files were examined. An extreme case sample of ICPs missing were checked.

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

Audit commentary

TODD

There was one alleged breach for late provision of submission information. This related to an ICP being recorded in the AV-140 twice as the ICP transitioned between AMI HHR and C&I HHR. AMI & C&I HHR data is prepared in separate systems and is then appended into a single set of files for submission. Initial validation is performed on the separate distinct datasets and no issues were identified.

Once both datasets were merged together the AV-140 file ready for submission had two records for the same ICP resulting in the RM system rejecting the file. By the time the file was corrected and resubmitted the deadline had passed by three minutes. TODD have moved the file merge and verification process to allow more time to ensure the files are correctly formatted prior to submission.

Ref	Date	Clause	Breach Description	Outcome
2103NOVE1	30/4/21	Part 15 clause 15.4 (2)	Submitted reconciliation information three minutes after the deadline.	Early closure

I checked the process for aggregation of HHR data is correct, by matching HHR aggregates information to the volumes for ten submissions. One submission was reconciled at NSP and flow direction level and I confirmed that the differences related to rounding. I also traced a sample of raw HHR data through to the HHR aggregates submission.

The GR090 ICP Missing files were examined for all revisions for October 2020 to December 2021. An extreme case sample of 30 ICPs missing from more than five submissions were checked:

- 27 ICPs had inactive status on the registry and were reported with a zero volume in the aggregates submission, resulting in a discrepancy,
- three ICPs had inactive status on the registry and were reported with a non-zero volume in the aggregates submission; ICPs 0000042252UN4B9 and 0000004812UN243 were also recorded as exceptions in the previous audit and backdated status updates to active were completed prior to this audit, while the third ICP affected is ICP 0000081478TR1F3 and TODD are investigating the cause of the discrepancy, and
- the GR090 ICP missing report is not reviewed, as Nova relies on their other validation checks; I again recommend Nova considers reviewing the GR090 report, as it would allow issues like the HHTOD mapping discrepancy to be detected quickly as the affected ICPs would have appeared on the report as missing from the registry.

Description	Recommendation	Audited party comment	Remedial action
Review GR090 (ICP missing) reports	**TODD** Review GR090 reports to identify discrepancies not identified through the ICP discrepancy reporting.	TODD is investigating this recommendation. Nova will investigate matching existing reporting against GR090 report to identify any potential gaps. It is not expected that the GR090 will be able to be utilised as-is because it provides only a subset of the mass market ICPs with granularity of one month.	Investigating

WISE

WISE does supply any HHR ICPs.

HNET

HHR aggregates files are prepared and sent by TODD in HNETs behalf using the same process as applied for TODD HHRAGGS file. HNET does not actively monitor the GR-090 ICPMISS report from the Reconciliation Manager to ensure that previously submitted data has been correctly zeroed out. I reviewed data from July to December 2021 and no exceptions were identified therefore the process is confirmed to be compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.4 With: 15.8 From: 30-Apr-21 To: 30-Apr-21	**TODD** Alleged breach 2103NOVE1 for late provision of submission information. Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls over accuracy and timeliness of submission data are strong. The issue was isolated. The audit risk rating is low based on the submission being three minutes late.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. The AV-140 HHRAGGR submission has been fixed to aggregate together ICP volumes that appear for the same ICP from both the mass market AMI HHR system (Energy Market) and the	Q2 2022	Identified

C&I HHR system (Stark) e.g., upgrades/downgrades mid-month.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above	Q2 2022	

12. SUBMISSION COMPUTATION

12.1. Daylight saving adjustment (Clause 15.36)

Code reference

Clause 15.36

Code related audit information

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

Audit observation

HHR data is collected by AMS and EDMI as agents, and EMS reports generation data to the reconciliation manager as Nova's agent. Daylight savings adjustments were reviewed as part of their agent audits.

HHR data is also received from AMS for Arc and AMS AMI meters billed as HHR.

TODD uses the Stark system to retrieve HHR data from the generation meters every half hour, and customer meters weekly.

Audit commentary

TODD

AMI data provided is daylight savings adjusted, and HHR and generation data is adjusted for daylight savings in EnergyMarket using the trading period run on technique. I observed this system process and confirmed that it is working correctly for ICPs going into and coming out of daylight savings.

Compliance with this clause has been demonstrated by AMS, EDMI, and EMS as part of their agent audits, and AMS' MEP audit.

WISE

WISE does supply any HHR ICPs.

HNET

Compliance with this clause has been demonstrated by AMS as part of their agent audit. AMS provides this HHR data to TODD who process this data through STARK into EnergyMarket where TODD performs the submission task on HNET's behalf.

Audit outcome

Compliant

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

Processes to ensure that HHR, NHH and generation submissions are accurate were reviewed. A list of breaches was obtained from the Electricity Authority.

Audit commentary

TODD

One alleged breach was recorded for late provision of submission information. This related to an ICP being recorded in the AV-140 twice as the ICP transitioned between AMI HHR and C&I HHR. AMI & C&I HHR data is prepared in separate systems and is then appended into a single set of files for submission. Initial validation is performed on the separate distinct datasets and no issues were identified.

Once both datasets were merged together the AV-140 file ready for submission had two records for the same ICP resulting in the RM system rejecting the file. By the time the file was corrected and resubmitted the deadline had passed by three minutes. TODD have moved the file merge and verification process to allow more time to ensure the files are correctly formatted prior to submission.

Ref	Date	Clause	Breach Description	Outcome
2103NOVE1	30/4/21	Part 15 clause 15.4 (2)	Submitted reconciliation information three minutes after the deadline.	Early closure

Generation

Generation data is reported by EMS as TODD's agent. Compliance with this clause has been demonstrated by EMS as part of their agent audit. TODD validates generation submissions; this process is discussed in **section 12.3**.

HHR

HHR submissions were checked in **section 11.4** and found to be compliant. A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **section 8.2**. HHR volumes are reviewed prior to submission, these checks are discussed in **section 12.3**.

Missing HHR submission data was identified for an AMI meter exchange for ICP 0005238501RN91B because interval data from the removed meter was only provided up to midnight the day prior to the meter change. The system then estimated consumption as zero up to the meter change time as there was no removed read in the system to enable a more accurate estimation to be performed. This is recorded as non-compliance below and in **sections 2.1**, **8.2**, and **12.7**.

NHH

TODD prepares NHH submissions in EnergyMarket using reconciliation consumption generated in Orion. A sample of NHH ICPs were checked to make sure they are handled correctly, including unmetered load, distributed generation, and vacant ICPs with consumption:

- five ICPs with injection/export registers were checked and found that generation consumption was correctly submitted,
- five ICPs with vacant consumption were checked and found that vacant consumption was correctly submitted,
- any consumption while disconnected will be reported, and this was confirmed by checking the historic estimate scenario in **section 12.11**, and

- ten ICPs with unmetered volumes were reviewed, including seven ICPs with standard and three ICPs with shared unmetered where both the daily kWh values were checked and also the January 2022 submission volumes were compared to a manual calculation of daily kWh volume and the number of days the ICP was active and with TODD as the retailer and found that:
    - for two ICPs the distributor shared UNM details have been removed indicating the shared UML no longer applies,
    - for the remaining eight ICPs the calculated volume for January 2022 was different by between 0.185 and 2.463 kWh. These differences are described in **section 12.7.**

A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **sections 2.1** and **8.1**. NHH volumes are reviewed prior to submission, these checks are discussed in **section 12.3**.

These inputs into submission calculations were incorrect, due to incorrect data being entered into Orion or corrections not being processed, and resulted in missing submission data:

Report section	Non-compliance
2.1 3.7 12.2 12.7	ICP 0000394464MP147 had an unmetered builder's temporary supply from 16/7/21 until a meter was installed on 23/11/21. No unmetered load was recorded on the registry or in Orion for the period with unmetered load. The expected unmetered load is 1.536 kWh per day and the omission resulted in under submission of 199.68 kWh. This is recorded as non-compliance for inaccurate registry information in **section 2.1** and **3.7**, missing submission information in **section 12.2**, and inaccurate submission information in **section 12.7**.
2.1 12.2 12.7	ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11/10/21 until the meter was replaced and certified on 28/1/22. It is on a list for a correction to be processed but this has not been completed yet.
2.1 12.2 12.7	ICP 0000177620HB50F's meter was stopped between 28/7/21 and 9/2/22. An estimate of consumption during the stopped period calculated, but it had not been added into Orion. This resulted in under reporting of 3,335.834 kWh for the period from 28/7/21 to 9/2/22. The removal read was 34,999 but should have been 38,334.83.

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 3.9 -** all ICPs with genuine consumption while disconnected were appropriately corrected,
- no ICPs with distributed generation were supplied, and
- no ICPs with unmetered load were supplied.

There was one alleged breach for late provision of submission information:

Ref	Date	Clause	Breach Description	Outcome
2108NOVE1	19/11/21	Part 15 Schedule 15.4 clause 15.4 (1)	Nova Energy Ltd t/a Wise Prepay (WISE) failed to submit information to the reconciliation manager by 1600 hours on the 13th business day of the reconciliation period. WISE submitted their AV-080 (NNH volumes) for all washups after 4pm on BD13. On BD13 at 14:58 WISE sent an email to the Reconciliation Manager to notify that due to the sudden lockdown they were having trouble generating the reports. They also let them know then that their submissions might be late. The Reconciliation Manager received the last file from WISE at 17:18.	Early closure

These inputs into submission calculations were incorrect, and resulted in missing submission data:

Report section	Non-compliance
2.1 3.9 12.2 12.7	One ICP (0000037354HR301) was advised by the MEP as being remotely disconnected on 17/2/22 but consumption was still occurring from this date so a second attempt to remotely disconnect the ICP was made on 21/2/22 which resulted in volumes no longer being detected. The Registry status was not updated to 21/2/22 therefore the volume recorded between 17-21/2/22 (4.25 kWh) has not been included in submission. This is recorded as non-compliance for inaccurate registry information in **section 2.1** and **3.9**, missing submission information in **section 12.2**, and inaccurate submission information in **section 12.7**.

HNET

There were no alleged breaches for late provision of submission information.

NHH

NHH prepares NHH submissions using their database. A sample of NHH ICPs were checked to confirm whether they were handled correctly:

- five ICPs with vacant consumption were checked and found that vacant consumption was correctly submitted,
- disconnected ICPs with consumption were reviewed in **section 3.9 -** all ICPs with genuine consumption while disconnected were appropriately corrected,
- ten ICPs with injection/export registers were checked and found that generation consumption was correctly submitted, and
- no ICPs with unmetered load were supplied.

HHR

HHR submissions were checked in **section 11.4** and found to be compliant. There were no HHR corrections or estimations during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.2 With: 15.4 From: 30-Apr-21 To: 14-Apr-22	**TODD** Alleged breach 2103NOVE1 for late provision of submission information. ICP 0000394464MP147's unmetered builder's temporary supply was not recorded in Orion or the registry resulting in under submission of 199.68 kWh. ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11/10/21 until the meter was replaced and certified on 28/1/22. A correction was not processed to capture estimated consumption during the bridged period. ICP 0000177620HB50F's meter was stopped between 28/7/21 and 9/2/22. A correction was not processed to capture estimated consumption during the bridged period resulting in under submission of 3,335.834 kWh. Missing HHR submission data was identified for an AMI meter exchange for ICP 0005238501RN91B because interval data from the removed meter was only provided up to midnight the day prior to the meter change. **WISE** Alleged breach 2108NOVE1 for late provision of submission information. Inactive consumption was not submitted for one ICP (0000037354HR301 – 4.25 kWh). Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls over timeliness and accuracy of submission data are strong. The exceptions were caused by incorrect inputs into the process rather than systemic issues. The audit risk rating is low based on the volume of under and over submission, and that the late submission was three minutes late.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. See sections 2.1, 3.7, 8.4 and 11.2. ICP 0000177620HB50F's meter was stopped • Stopped meter was exchanged on 09/02/2022 and closing read estimated on 08/04/2022. It is not unusual to obtain usage following the meter exchange to establish an estimate retrospectively. This will be washed up. **WISE Response:** Non-Compliance accepted.	On-going	Identified

One instance of late provision of submission information • WISE identified that due to the sudden announcement of a lockdown due to COVID-19 the deadline for submission information was unlikely to be met. WISE notified the Reconciliation Manager by email as soon as this was identified. One instance of incorrect inactive consumption not being submitted. • See section 3.9, This has been corrected and was due to human error.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above **WISE:** WISE has amended their submission processes to ensure reports are automatically generated prior to the report submission date and time. Under this amended process, WISE is confident submission information will consistently be delivered on time.	On-going	

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 by the registry for the relevant consumption period at the time the reconciliation participant assembles the submission information. Volume information must be derived in accordance with Schedule 15.2.

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

Audit observation

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

Processes to ensure that HHR, NHH, and generation submissions are accurate were reviewed. A sample of GR170 and AV080 files were compared, to confirm zeroing occurs.

Audit commentary

TODD

<u>Generation</u>

Generation submissions are validated post submission as part of the Clearing Manager invoice review. TODD compares the invoiced consumption to accruals TODD has calculated based on the generation volumes.

I recommend that generation submissions are validated against the accruals (if available) and also TODDs measurement of unit level volumes aggregated to the relevant BUS level (NSP) where there is more than one generation unit connected to a GIP BUS prior to submission, to ensure that any errors are identified and resolved prior to the submission deadline.

Recommendation	Description	Audited party comment	Remedial action
Generation data validation prior to submission	**TODD** I recommend that generation data is validated against accrual data and also TODDs measurement of unit level volumes aggregated to the relevant BUS level (NSP) prior to submission so that any errors can be detected and corrected before the submission deadline.	Todd accepts this recommendation Generation submissions made by EMS (the NSPVOLS) on Nova's behalf are checked against independently downloaded meter data (e.g. the accruals) to confirm it is a match, but there may not be time to confirm this prior to the initial submission deadline. If any differences are ever identified, then it will be addressed with EMS for resolution in the next washup.TODD does not have any unit level generation metering that feeds into and is aggregated by another master bus level meter that is then used in submissions so the separate check of unit level metering vs bus level metering should not be applicable.	Identified

HHR

As discussed in **section 9.6**, TODD's HHR data validation processes are compliant with the requirements of Clause 17 Schedule 15.2.

All HHR data is reviewed prior to submission by comparing to the previous month for initial submissions and previous submissions for the same month for revisions. The data is reviewed at ICP level and NSP level, with a focus on negatives, highs, lows, and large variances. Exceptions are investigated, and field services jobs are raised if there are concerns about the accuracy of the information recorded. HHR data changes are checked against the HHR change tracking spreadsheet to ensure that they are valid.

HHR commercial and industrial sites are individually reviewed prior to submission, including viewing consumption history charts.

Aggregation factors are checked against a registry list with history and a discrepancy report is produced. The report identifies ICPs which are missing from the reconciliation results or the registry, inactive ICPs with consumption, vacant ICPs with consumption, and discrepancies between the aggregation factors in the registry and EnergyMarket. The retail team also has access to this reporting, and the reconciliation team will follow up with the retail team if exceptions require further investigation.

NHH

The process for the calculation of NHH volumes was examined by checking five NSPs with a small number of ICPs. NHH volume calculation was confirmed to be correct.

Zeroing occurs automatically in the EnergyMarket database. A zero line is added if an aggregation factor combination appeared in a previous submission for the period but is not included in the current submission. GR170 and AV080 files for six revisions were compared, and I found all NSPs included in the GR170 were included in the AV080, confirming that zeroing is occurring as required.

NHH metered and unmetered volumes are reviewed prior to submission by comparing to the previous month for initial submissions and previous submissions for the same month for revisions. The data is reviewed at ICP level and NSP level, with a focus on negatives, highs, lows, and large variances.

EnergyMarket receives its aggregation factor information from Orion and Stark. Aggregation factors are checked against a registry list with history and a discrepancy report is produced. The report identifies ICPs which are missing from the reconciliation results or the registry, inactive ICPs with consumption, vacant ICPs with consumption, and discrepancies between the aggregation factors in the registry and EnergyMarket. The retail team also has access to this reporting, and the reconciliation team will follow up with the retail team if exceptions require further investigation.

Prior to the revision 14 submission, TODD reviews the ICP level submission data and investigates any ICPs with forward estimate remaining. If there are no actual readings a permanent estimate reading is inserted.

Monthly, TODD compares billed volume, submitted volume, and a rolling 12-month total difference and percentage difference after submission. The data is checked for reasonableness and to identify any anomalies.

WISE

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

Submission data is compared to previous submission files at NSP level to ensure volumes are consistent and also checks that submissions relate to trading notifications and are correct. WISE does review its AV-080 submission file at attribute (Network, POC, Connection Type, Profile, Loss Code, Flow Direction, Dedicated NSP flag) aggregation level to confirm if any previous submission records require zeroing out. GR170 and AV080 files for six revisions were compared, and I found all NSPs included in the GR170 were included in the AV080, confirming that zeroing is occurring as required.

HNET

Detailed meter register level supporting data was provided for nine submissions and reviewed to confirm that the AV080 report is correctly aggregated. I reviewed the aggregation for four NSPs for August 2021 and the NHH volume calculation was confirmed to be correct.

Submission data is compared to previous submission files at NSP level to ensure volumes are consistent and also checks that submissions relate to trading notifications and are correct. HNET does not review its AV-080 submission file at attribute (Network, POC, Connection Type, Profile, Loss Code, Flow Direction, Dedicated NSP flag) aggregation level to confirm if any previous submission records require zeroing out. I recommend that HNET add this additional check to the submission checks process. GR170 and AV080 files for six revisions were compared, and I found all NSPs included in the GR170 were included in the AV080, confirming that zeroing was not required for these revisions.

Description	Recommendation	Audited party comment	Remedial action
Expand POC submission checks prior to submission to include all aggregation rows	**HNET** Extend pre submission checks to compare current submission to previous submission files at row level to enable rows previously submitted but that are now no longer required to be zeroed out.	HNET accepts this recommendation. HNET will investigate and implement a solution with the support of TODD	Investigating

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

Review of the NSP table confirmed that Nova is not a grid owner.

Audit commentary

Nova is not a grid owner.

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

The registry list and NSP table were reviewed.

Audit commentary

Nova does not own any local or embedded networks and is not required to provide NSP submission information.

Audit outcome

Not applicable

12.6. Grid connected generation (Clause 15.11)

Code reference

Clause 15.11

Code related audit information

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

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

Audit observation

TODD

Generation data is reported by EMS as TODD's agent. Creation of generation submissions was reviewed as part of their agent audit.

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

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

Audit commentary

TODD

No breaches had been recorded for late provision of submission information. Compliance with this clause has been demonstrated by EMS as part of their agent audit.

HNET and **WISE**

HNET and WISE are not a grid connected generators; compliance was not assessed.

Audit outcome

Compliant

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

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **sections 2.1**, **8.1** and **8.2**.

Audit commentary

TODD

There was one alleged breach for late provision of submission information, which is recorded as non-compliance in **section 12.2**. This related to an ICP being recorded in the AV-140 twice as the ICP transitioned between AMI HHR and C&I HHR. AMI & C&I HHR data is prepared in separate systems and is then appended into a single set of files for submission. Initial validation is performed on the separate distinct datasets and no issues were identified.

Once both datasets were merged together the AV-140 file ready for submission had two records for the same ICP resulting in the RM system rejecting the file. By the time the file was corrected and resubmitted the deadline had passed by three minutes. TODD have moved the file merge and verification process to allow more time to ensure the files are correctly formatted prior to submission.

Ref	Date	Clause	Breach Description	Outcome
2103NOVE1	30/4/21	Part 15 clause 15.4 (2)	Submitted reconciliation information three minutes after the deadline.	Early closure

Arc Innovations meters settled as HHR

As noted in the previous audit, there is an issue with ARC Innovations meters when used for HHR settlement. The on-site setup is that a meter pulses into a data storage device, which counts the pulses and "stores" them every 200 pulses which equals 0.1 kWh. There is only one decimal place, so the smallest increment of consumption is 0.1. TODD currently supplies 281 active ICPs with ARC Innovations meters which are HHR settled. The total kWh per month will be accurate, but if volumes are not recorded and reported against the correct trading period, TODD may not be charged at the wholesale rate that applied during the trading period when the electricity was consumed. The affected meters do not have multipliers and have the highest metering category of 1, so the impact is expected to be minimal.

Non-compliance is recorded in **section 2.1** due to information not being complete and accurate. Compliance is recorded in this section because TODD is unable to obtain more accurate information.

Previous audit exceptions

I rechecked the data discrepancies reported in the last audit that required following up and found corrections were processed, or the ICPs had switched out before the corrections could be processed.

Customer readings are now appropriately validated against a set of readings from another source before being used to calculate submission data. As part of the daily export of data to EnergyMarket, customer reads are checked to determine whether there are two actual readings which are at least 30 days apart for the meter register. If yes, the customer read is exported to EnergyMarket as a customer read for use in reconciliation calculations. If not, the read is excluded from the export.

Submission data inaccuracies

These inputs into submission calculations were incorrect, due to incorrect data being entered into Orion or corrections not being processed:

Report section	Non-compliance
2.1 3.7 12.2 12.7	ICP 0000394464MP147 had an unmetered builder's temporary supply from 16/7/21 until a meter was installed on 23/11/21. No unmetered load was recorded on the registry or in Orion for the period with unmetered load. The expected unmetered load is 1.536 kWh per day and the omission resulted in under submission of 199.68 kWh. This is recorded as non-compliance for inaccurate registry information in **section 2.1** and **3.7**, missing submission information in **section 12.2**, and inaccurate submission information in **section 12.7**.
3.7 12.7	ICPs 0000020042CP198 and 0000020056CPA3F had their shared unmetered load removed by the distributor effective from 1/12/21. The registry and Orion's unmetered load flag, trader details and daily unmetered kWh have not been updated, and unmetered load submissions are continuing.
3.7 12.7	ICP 0007198101RN234 had an unmetered BTS recorded and was confirmed to have been metered since it became active in 2020. A backdated removal of unmetered load was completed during the audit. The unmetered load was recorded as 1.536 kWh per day.
2.1 12.2 12.7	ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11/10/21 until the meter was replaced and certified on 28/1/22. It is on a list for a correction to be processed but this has not been completed yet.
2.1 12.2 12.7	ICP 0000177620HB50F's meter was stopped between 28/7/21 and 9/2/22. An estimate of consumption during the stopped period calculated, but it had not been added into Orion. This resulted in under reporting of 3,335.834 kWh for the period from 28/7/21 to 9/2/22. The removal read was 34,999 but should have been 38,334.83.
2.1 12.7	UML volumes for two out of ten ICPs sampled were incorrect as the UML no longer applies. UML volumes for eight out of ten ICPs sampled did not match the manual calculation for January 2022.

Missing HHR submission data was identified for an AMI meter exchange for ICP 0005238501RN91B because interval data from the removed meter was only provided up to midnight the day prior to the meter change. The system then estimated consumption as zero up to the meter change time as there was no removed read in the system to enable a more accurate estimation to be performed. This is recorded as non-compliance in **sections 2.1**, **8.2**, **12.2** and **12.7**.

WISE

There was one alleged breach for late provision of submission information, which is recorded as non-compliance in **section 12.2**.

Ref	Date	Clause	Breach Description	Outcome
2108NOVE1	19/11/21	Part 15 Schedule 15.4 clause 15.4 (1)	Nova Energy Ltd t/a Wise Prepay (WISE) failed to submit information to the reconciliation manager by 1600 hours on the 13th business day of the reconciliation period. WISE submitted their AV-080 (NNH volumes) for all washups after 4pm on BD13. On BD13 at 14:58 WISE sent an email to the	Early closure

Ref	Date	Clause	Breach Description	Outcome
			Reconciliation Manager to notify that due to the sudden lockdown they were having trouble generating the reports. They also let them know then that their submissions might be late. The Reconciliation Manager received the last file from WISE at 17:18.	

As a consequence of the Auckland lockdown the WISE reconciliation team were required to work remotely. This resulted in a reduced internet capability impacting the generation of reports required for submission. As soon as WISE were aware that they could not deliver all submission files on time the RM was notified and kept informed of progress until the last submission file was delivered. The RM was able to pause the reconciliation process until all files were delivered meaning there was no material impact to the reconciliation process.

These inputs into submission calculations were incorrect, and resulted in missing submission data:

Report section	Non-compliance
2.1 3.9 12.2 12.7	One ICP (0000037354HR301) was advised by the MEP as being remotely disconnected on 17/2/22 but consumption was still occurring from this date so a second attempt to remotely disconnect the ICP was made on 21/2/22 which resulted in volumes no longer being detected. The Registry status was not updated to 21/2/22 therefore the volume (4.25 kWh) recorded between 17-21/2/21 has not been included in submission. This is recorded as non-compliance for inaccurate registry information in **section 2.1** and **3.9**, missing submission information in **section 12.2**, and inaccurate submission information in **section 12.7**.

HNET

No breaches were recorded for late provision of submission information.

In **section 6.1** I found that HNET's system can only submit I flow volumes using PV1 profile code. Therefore, where the fuel type is not 'solar' this means that HNET cannot submit distributed generation volumes using the correct profile. One exception was identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: 15.12	**TODD** Breach relating to late submission of data. Inaccurate submission for ARC Innovations HHR metering. ICP 0000394464MP147's unmetered builder's temporary supply was not recorded in Orion or the registry resulting in under submission of 199.68 kWh. ICP 0007198101RN234's unmetered builder's temporary supply was not removed when it became permanent, resulting in over submission.

	ICP 1099569767CN556's controlled meter was confirmed to be bridged from 11/10/21 until the meter was replaced and certified on 28/1/22. A correction was not processed to capture estimated consumption during the bridged period. ICP 0000177620HB50F's meter was stopped between 28/7/21 and 9/2/22. A correction was not processed to capture estimated consumption during the bridged period resulting in under submission of 3,335.834 kWh. HHR corrections for AMI meter exchanges results in some volume not being accounted for. UML volumes for two out of ten ICPs sampled were incorrect as the UML no longer applies. UML volumes for eight out of ten ICPs sampled did not match the manual calculation for January 2022. **WISE** Alleged breach 2108NOVE1 for late provision of submission information. Inactive consumption was not submitted for one ICP (0000037354HR301 – 4.25 kWh).
From:28-Jul-21 To: 14-Apr-22	. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	The controls over accuracy of submission data are moderate. The NHH exceptions were caused by incorrect inputs into the process rather than systemic issues The automated HHR corrections for AMI meter changes does not ensure all volume has been accounted for. Late delivery submission files had a minor impact to the RMs ability to start the Reconciliation process. The audit risk rating is low based on the volume of under and over submission.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Refer to individual sections 2.1, 3.7, 8.2, 11.4 Inaccurate submission for ARC Innovations HHR metering • The remaining ARC meters continue to be included for displacement with newer AMI. ICP 0000177620HB50F's meter was stopped • Stopped meter was exchanged on 09/02/2022 and closing read estimated on 08/04/2022. It is not unusual to obtain usage following the meter exchange to	2024 Completed	Identified

establish an estimate retrospectively. This will be washed up. UML volumes • The billing team are performing a review of the UML data held **WISE Response:** Non-Compliance accepted. One instance of late provision of submission information WISE identified that due to the sudden announcement of a lockdown due to COVID-19 the deadline for submission information was unlikely to be met. WISE notified the Reconciliation Manager by email as soon as this was identified.	Q3 2022	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above. **WISE:** WISE has amended their submission processes to ensure reports are automatically generated prior to the report submission date and time. Under this amended process, WISE is confident submission information will consistently be delivered on time.	On-going	

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

NHH volumes 14-month revisions were reviewed to identify any forward estimate still existing.

Audit commentary

TODD

The 14-month revisions for July to September 2020 were all 100% HE.

Prior to the revision 14 submission, TODD reviews the ICP level submission data and investigates any ICPs with forward estimate remaining. If there are no actual readings a permanent estimate reading is inserted.

WISE

The 14-month revisions for July to September 2020 were all 100% HE.

HNET

The 14-month revisions for July to September 2020 were all 100% HE.

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)(b)):*
  - *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 apply to the raw meter data (clause 2(3):*
  - *a) for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))*
  - *b) for each NSP the compensation factor that is recorded in the metering installations most recent certification report (clause 2(3)(b)).*

Audit observation

Aggregation and content of reconciliation submissions was reviewed, and the registry list and AC020 reports were reviewed.

Audit commentary

TODD

Compliance with this clause was assessed:

- HHR volume is reported for all ICPs with a meter category 3 or higher,
- unmetered load submissions were checked in **section 12.2**,
- no profiles requiring a certified control device are used,
- no loss or compensation arrangements are required, and
- aggregation of the AV080, AV090 and AV140 reports is compliant.

The registry list and AC020 report were reviewed:

- no ICPs were recorded with meter category 3 or higher and a NHH submission flag,
- no ICPs had profile RPS HHR and submission type NHH and HHR with no unmetered load recorded.

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, 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. This information flows through to the submission system and is applied to the relevant revision periods.

HNET

Compliance with this clause was assessed:

- no ICPs with unmetered load are supplied,
- no control devices are used for reconciliation purposes,
- no ICPs have error or loss compensation arrangements,
- aggregation of the AV080 report was reviewed in sections **13.2** and **12.3** and confirmed compliant, and
- HHR volumes and HHR aggregates files are prepared and supplied by TODD, these were confirmed to be accurate.

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 and HHR volume information and multipliers are correctly applied. 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 techniques described in clauses 4 to 7 to create historical estimates and forward estimates.

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

AV080 submissions were reviewed, 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

TODD

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

WISE

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

HNET

I reviewed a sample of AV080 submission data and confirmed that forward and historic estimates are included and identified as such.

Audit outcome

Compliant

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

Code reference

Clauses 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 historical estimates of volume information for each ICP when the relevant seasonal adjustment shape is available, and the reconciliation participant is not using an approved profile in accordance with clause 4A.

If the Authority has approved a profile for the purpose of apportioning volume information (in kWh) to part or full consumption periods, a reconciliation participant may use the profile despite the relevant seasonal adjustment shape being available; and if it uses the profile, must otherwise prepare the historical estimate in accordance with the methodology in clause 4.

*If a seasonal adjustment shape is not available, and the **reconciliation participant** is not using an approved **profile** under clause 4A, 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

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

Audit commentary

TODD

The process for managing SASVs was examined. SASVs are downloaded from the reconciliation manager portal along with the other reconciliation reports. Following download, the RPS SASV file is imported manually into EnergyMarket. Neither the PV1/EG1 SASV values are imported into EnergyMarket causing DG volumes to be unprofiled. The outcome is the same as the SASV values for PV1/EG1 are currently identical values providing a flat profile.

The table below shows that all scenarios are calculating as expected and correct SASVs (seasonal adjusted shape values) are applied.

Review of examples with consumption during an inactive period confirmed that all consumption during inactive periods is captured and reported.

Review of unmetered load examples confirmed that an UML register records "readings" for ICPs with unmetered load. The readings are calculated as the previous reading + (daily unmetered kWh x the number of days between readings). These readings are recorded as estimated and treated as permanent estimates by the historic estimate process. The UML load is then profiled using the RPS SASV information resulting in some small difference in the expected volumes to be submitted. UML load is not expected to be profiled in this way if the source of the information is the Daily kWh value populated on the registry. There is no impact if the "readings" are always entered for the last day of the month, but there is an impact where the readings are not entered for the last day of the month.

Photo readings and customer readings are treated as actual validated reads by the historic estimate process, unless they are not validated, then the read type is changed to misread.

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.	Non-Compliant – volume is profiled using RPS
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Non-Compliant – volume is profiled using RPS
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.	Compliant, the customer read was validated and used by the historic estimate process
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 was made a misread and ignored 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 that all scenarios checked, apart from Scenario C are calculating as expected and correct SASV (seasonal adjusted shape values) are applied.

Review of examples with consumption during an inactive period has identified an issue where there are multiple actual reads present during the month and an inactive period. Where PEBS identifies an inactive period, it excludes the SASV values for the inactive period as disconnection/reconnection reads are not consistently applied. However, when there are multiple actual reads present the SASV assignment is corrupted resulting in an under calculation of HE volumes. WISE have investigated the root cause of this issue and have adjusted the logic to resolve this issue and the under submission of volumes will be resolved via the wash up process.

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.	Non-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
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

Test	Scenario	Test expectation	Result
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.	Not applicable – no photo reads
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly.	Not applicable – no ICPs with multipliers supplied

HNET

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 that all scenarios checked are calculating as expected and correct SASV (seasonal adjusted shape values) are applied.

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
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.	No example, but this was compliant during previous audits.
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day.	Compliant

Test	Scenario	Test expectation	Result
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.	Not applicable – no photo reads
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly.	Compliant

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.11 With: Clauses 4 and 5 Schedule 15.3 From: 01-Mar-21 To: 31-Mar-22	**TODD** HE Scenarios J & K relating to UML load is not producing expected results as the volumes are being profiled using RPS SASV information. **WISE** HE Scenario C (ICP become Inactive then Active again within a month) is not producing expected results resulting in some volumes not being reported. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating
Low	**TODD** Controls are rated as strong as the process used is consistent for all NHH volumes calculated using actual or virtual meter registers and volume differences are small. **WISE** Controls are rated as strong as the frequency of the conditions required for this HE scenario to occur are rare. The audit risk rating is low as the overall volume of ICPs affected is low.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-compliance accepted RPS profiling can be removed for UML load. The UML profile has been used for UML submissions historically and it was found that the RM allocates UML profile submission volumes using the RPS profile intramonth so this has perhaps led to a misunderstanding that submissions should also be profiled using the RPS profile. **WISE Response:** Non-Compliance accepted. Wise is reviewing the HE calculation process to resolve the issue when an ICP becomes active and then inactive within one month so the correct HE value can be reflected in submissions.	Q2 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above **WISE:** As above	Q2 2022	

12.12. Forward estimate process (Clause 6 Schedule 15.3)

Code reference

Clause 6 Schedule 15.3

Code related audit information

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

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

Audit observation

The process to create forward estimates was reviewed.

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

Audit commentary

TODD

To minimise forward estimates, TODD runs a process to add end of month AMI readings to Orion where they are available. This is completed mid-month to add the previous month's end readings.

Forward estimates are created based the daily average consumption between the previous two actual reads. Initial submissions use a flat line profile to calculate the forward estimate, and revisions are profiled using SASV.

Where there were less than two actual readings the forward estimate is created as a zero forward estimate value. TODD have less than 8% of NHH settled ICPs that do not have a communicating AMI meter installed and only a small proportion of these do not have at least two actual reads to calculate a suitable daily average for forward estimate purposes.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh in relation to forward estimations. The table below shows the number of balancing areas where this target was not met.

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

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Mar 2020	9	16	15	11	193
April 2020	2	2	2	5	195
May 2020	-	-	-	-	196
June 2020	-	-	-	-	201
Jul 2020	-	-	-	1	200
Aug 2020	-	-	-	-	201
Sep 2020	-	-	1		204
Oct 2020	-	-	-		205
Nov 2020	-	-	-		205
Dec 2020	-	2	2		206
Jan 2021	-	1	1		210
Feb 2021	1	-	-		210

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Mar 2021	-	-	-		210
April 2021	-	-			210
May 2021	-	-			211
June 2021	-	-			212
Jul 2021	-	-			214
Aug 2021	-				212
Sep 2021	-				213
Oct 2021	-				21

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Mar 2020	14.01%	17.21%	17.81%	19.35%
April 2020	3.32%	6.86%	6.90%	9.14%
May 2020	-2.70%	-2.28%	-2.32%	-0.85%
June 2020	-2.74%	-2.61%	-2.68%	-1.45%
Jul 2020	-2.04%	-2.43%	-2.50%	-1.30%
Aug 2020	-2.52%	-2.92%	-1.31%	-1.37%
Sep 2020	1.26%	0.70%	2.52%	
Oct 2020	1.76%	1.27%	3.32%	
Nov 2020	0.86%	0.57%	2.52%	
Dec 2020	1.48%	3.66%	3.28%	
Jan 2021	0.15%	1.93%	1.93%	

Month	Revision 1	Revision 3	Revision 7	Revision 14
Feb 2021	2.01%	1.63%	1.52%	
Mar 2021	0.11%	0.16%	0.16%	
April 2021	-0.83%	-0.56%		
May 2021	-2.14%	-1.88%		
June 2021	-1.22%	-0.80%		
Jul 2021	-1.25%	-0.97%		
Aug 2021	0.60%			
Sep 2021	1.22%			
Oct 2021	2.55%			

I reviewed all the balancing area differences where the variation between revisions was more than ± 15% and ± 100,000 kWh for submission periods May 2020 onwards, and found they were all due to backdated profile changes from RPS to HHR, high forward estimates, and SASV fluctuations during the COVID-19 lockdown period and also caused by the impacts of the back dated profile (RPS to HHR) changes to the SASV revisions.

Profiles are usually reviewed annually, and profile changes from NHH to HHR are backdated to revision 14 for eligible ICPs. Compliance is recorded because the differences outside the thresholds were not caused by deficiencies in Nova's forward estimate process.

The late profile updates are recorded as non-compliance in **section 3.3**.

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
Mar 2020	-	-	-	-	8
April 2020	-	-	-	-	8

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
May 2020	-	-	-	-	8
June 2020	-	-	-	-	8
Jul 2020	-	-	-	-	9
Aug 2020	-	-	-	-	9
Sep 2020	-	-	-		10
Oct 2020	-	-	-		10
Nov 2020	-	-	-		9
Dec 2020	-	-	-		9
Jan 2021	-	-	-		9
Feb 2021	-	-	-		9
Mar 2021	-	-	-		9
April 2021	-	-			10
May 2021	-	-			10
June 2021	-	-			10
Jul 2021	-	-			10
Aug 2021	-				10
Sep 2021	-				10
Oct 2021	-				10

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Mar 2020	-0.24%	-0.11%	-0.17%	-0.22%

Month	Revision 1	Revision 3	Revision 7	Revision 14
April 2020	-0.28%	-0.30%	-0.21%	-0.26%
May 2020	-0.20%	-0.24%	-0.24%	-0.28%
June 2020	-0.61%	-0.34%	-0.34%	-0.40%
Jul 2020	-0.17%	-0.07%	-0.11%	-0.14%
Aug 2020	-0.01%	0.02%	-0.04%	-0.04%
Sep 2020	-0.27%	-0.17%	-0.22%	
Oct 2020	-0.32%	-0.19%	-0.28%	
Nov 2020	-0.22%	-0.36%	-0.37%	
Dec 2020	-0.26%	-0.31%	-0.31%	
Jan 2021	-0.09%	0.00%	0.00%	
Feb 2021	-0.08%	-0.05%	-0.05%	
Mar 2021	-0.15%	-0.07%	-0.07%	
April 2021	-0.15%	-0.04%		
May 2021	-0.42%	-0.12%		
June 2021	-0.18%	-0.03%		
Jul 2021	-0.26%	-0.22%		
Aug 2021	-0.11%			
Sep 2021	-0.15%			
Oct 2021	-0.15%			

HNET

HNET'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 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
Mar 2020	-	-	-	-	53
April 2020	-	-	-	-	55
May 2020	-	-	-	-	56
June 2020	-	-	-	-	61
Jul 2020	-	-	-	-	65
Aug 2020	-	-	-	-	68
Sep 2020	-	-	-		72
Oct 2020	-	-	-		72
Nov 2020	-	-	-		75
Dec 2020	-	-	-		75
Jan 2021	-	-	-		75
Feb 2021	-	-	-		75
Mar 2021	-	-	-		78
April 2021	-	-			79
May 2021	-	-			78
June 2021	-	-			78
Jul 2021	-	-			78
Aug 2021	-				79

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Sep 2021	-				79
Oct 2021	-				79

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Mar 2020	0.06%	0.85%	1.00%	1.33%
April 2020	0.05%	1.45%	1.66%	1.90%
May 2020	0.34%	0.42%	0.41%	0.54%
June 2020	-0.25%	-0.19%	0.13%	-0.18%
Jul 2020	-0.25%	-0.36%	-0.53%	-0.44%
Aug 2020	0.18%	0.21%	0.14%	0.16%
Sep 2020	-0.01%	0.41%	0.46%	
Oct 2020	0.11%	0.38%	0.31%	
Nov 2020	0.20%	0.73%	0.53%	
Dec 2020	0.11%	0.36%	0.49%	
Jan 2021	0.05%	0.59%	0.84%	
Feb 2021	0.17%	0.46%	0.54%	
Mar 2021	0.10%	-0.05%	0.01%	
April 2021	-0.49%	-0.80%		
May 2021	-0.26%	-0.34%		
June 2021	-0.22%	-0.20%		
Jul 2021	-0.21%	-0.32%		

Month	Revision 1	Revision 3	Revision 7	Revision 14
Aug 2021	0.29%			
Sep 2021	0.11%			
Oct 2021	0.11%			

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

The event detail report was examined to identify all ICPs which had a profile change during the report period.

A sample of ICPs with profile changes were reviewed to confirm that there was an actual or permanent estimate reading on the day of the profile change.

Audit commentary

TODD

In the event of a profile change, TODD uses a validated meter reading on the day that the change is effective. A sample of 13 profile changes were checked and an actual meter reading was recorded on the day of the profile change, and the day before the profile change.

WISE

WISE only uses the RPS profile, and no profile changes have occurred.

HNET

HNET only uses the HHR, PV1 and RPS profiles. No profile changes were identified on the event detail report.

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

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**, aggregation of HHR volumes is discussed in **section 11.4** and NSP volumes are discussed in **section 12.6**.

Audit commentary

TODD

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level:

- NSP code,
- reconciliation type,
- profile,
- loss category code,
- flow direction,
- dedicated NSP, and
- trading period for half hour metered ICPs and consumption period or day for all other ICPs.

The submitted data was also compared to billed data in **section 11.3** and appeared reasonable.

WISE

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level:

- NSP code,
- reconciliation type,
- profile,
- loss category code,
- flow direction,
- dedicated NSP, and
- trading period for half hour metered ICPs and consumption period or day for all other ICPs.

The submitted data was also compared to billed data in **section 11.3** and appeared reasonable.

HNET

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level:

- NSP code,
- reconciliation type,
- profile,
- loss category code,
- flow direction,
- dedicated NSP, and
- trading period for half hour metered ICPs and consumption period or day for all other ICPs.

The submitted data was also compared to billed data in **section 11.3** and billed data was significantly higher than submitted from April 2021 onwards. This was caused by the incorrect application of a compensation factor applied to an HHR ICP in the billing calculation when the data has already been adjusted for the billing multiplier. A similar scenario was identified in the previous audit which continued until identified as part of the audit analysis. Monitoring of the alignment between electricity submitted and electricity supplied is not currently performed and a recommendation to implement this check has been applied to **section 11.3**

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

Audit observation

I reviewed the rounding of data on the AV090, AV140 and AV080 reports as part of the aggregation checks. AV130 submissions were reviewed in **section 12.6**.

Audit commentary

TODD

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

WISE

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

HNET

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

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.3

Code related audit information

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

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

- *at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))*
- *at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))*
- *100% for revised data provided at the month 14 revision (clause 10(3)(c)).*

Audit observation

The timeliness of submissions of historic estimate was reviewed in **section 12.2**.

I reviewed a sample of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

TODD

The quantity of historical estimates is contained in the submission file and is not a separate report.

Overall TODD's compliance in this area is high. Prior to the revision 14 submission, TODD reviews the ICP level submission data and investigates any ICPs with forward estimate remaining. If there are no actual readings a permanent estimate reading is inserted.

Historic estimate targets were met for all revision 14 submissions checked but were not met for some revision 3 and 7 submissions. I checked a sample of 12 differences and confirmed that they related to ICPs where reads had not been obtained in time for these revisions. In nine of the 12 sampled NSP/consumption periods actual reads have now been obtained. Read attainment rates are discussed in **sections 6.9, 6.10** and **6.11**.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jul 2020			283	283
Aug 2020			284	284
Sep 2020			288	288
Feb 2021		292		293
Mar 2021		292		293
Apr 2021		293		293
Jun 2021	291			295
Jul 2021	288			297
Aug 2021	281			295

The table below shows that the percentage HE at a summary level for all NSPs is well above the required targets. A permanent estimate read type is used to deal with any ICPs without an actual reading at 14 months.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jul 2020	-	-	100.00%
Aug 2020	-	-	100.00%
Sep 2020	-	-	100.00%

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Feb 2021	-	99.82%	-
Mar 2021	-	99.82%	-
Apr 2021	-	99.80%	-
Jun 2021	99.01%	-	-
Jul 2021	98.48%	-	-
Aug 2021	97.79%	-	-

WISE

The quantity of historical estimates is contained in the submission file and is not a separate report. Historic estimate targets were 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
Jul 2020			43	43
Aug 2020			43	43
Sep 2020			45	45
Feb 2021		47		47
Mar 2021		47		47
Apr 2021		48		48
Jun 2021	49			49
Jul 2021	49			49
Aug 2021	49			49

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
Jul 2020	-	-	100.00%
Aug 2020	-	-	100.00%
Sep 2020	-	-	100.00%
Feb 2021	-	100.00%	-
Mar 2021	-	100.00%	-
Apr 2021	-	100.00%	-
Jun 2021	99.99%	-	-
Jul 2021	100.00%	-	-
Aug 2021	100.00%	-	-

HNET

The quantity of historical estimates is contained in the submission file and is not a separate report.

Historic estimate targets were met for all revision 14 submissions checked but were not met for some revision 3 and 7 submissions. I checked a sample of 12 differences and confirmed that they related to ICPs where reads had not been obtained. 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
Jul 2020			108	108
Aug 2020			115	115
Sep 2020			124	124
Feb 2021		128		128
Mar 2021		131		131
Apr 2021		130		131

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jun 2021	127	-	-	130
Jul 2021	125	-	-	130
Aug 2021	120	-	-	131

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
Jul 2020	-	-	100.00%
Aug 2020	-	-	100.00%
Sep 2020	-	-	100.00%
Feb 2021	-	100.00%	-
Mar 2021	-	100.00%	-
Apr 2021	-	99.93%	-
Jun 2021	99.19%	-	-
Jul 2021	98.79%	-	-
Aug 2021	97.96%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: 10 of Schedule 15.3 From: Apr 21 r7, Jun to Aug 21 r3	**TODD** Historic estimate thresholds were not met for R3 and R7 for a small number of months and revisions. **HNET** Historic estimate thresholds were not met for R3 and R7 for a small number of months and 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	Controls are rated as strong, as they are sufficient to mitigate the risk of not meeting the threshold most of the time. The NSPs where the target wasn't met have a low total number of ICPs. The audit risk rating is low because the overall percentage of HE is high.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD & HNET Response: Non-Compliance accepted. The threshold was not met for some NSPs for revisions 3 and 7 because small number of ICPs are connected at the NSPs. NSPs with a small number of ICPs are susceptible to HE thresholds if one ICP can't be read i.e., due to access issues which was seriously impacted by Covid-19. See sections 6.8, 6.9 and 6.10 on read attainment	On-going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD & HNET: Continue focusing on optimising its standard by identifying and monitoring its performance and opportunities for improvement	On-going	

CONCLUSION

TODD

TODD has made improvements to its processes during the audit period, including implementing recommendations made in the previous audit.

Switching processes continue to be highly compliant, but a small number of last actual read date and read type exceptions were identified where TODD's well designed processes had not been correctly followed.

For registry information there was a decline in the percentage of registry updates on time and average business days since the previous audit. I also found that data discrepancies were being identified daily through exception reporting but not consistently investigated and actioned promptly. Both these issues were largely caused by staffing issues, including absences due to Covid-19 and some experienced staff leaving and new staff being trained. Exceptions identified as part of the audit were corrected wherever possible before the audit report was finalised. The timeliness of registry updates increased in the latter part of the audit period.

Read attainment has also been impacted by Covid-19, and the process to contact the customer to resolve issues preventing meter readers from obtaining reads has been suspended since August 2021. The process is expected to be reinstated once New Zealand moves to a lower traffic light setting.

NHH and HHR volume validation processes continue to be of a high standard, with very few reconciliation data accuracy issues identified, and where issues were identified they had a low impact and additional controls were promptly put in place to prevent recurrence. Most of the submission accuracies occurred due to incorrect inputs into the reconciliation process, such as unmetered load changes not being updated soon after the event date.

As found in previous audits, inactive ICP days are included in the ICP days submissions, but this process ensures that any consumption that occurs during the inactive period will be reported. However, one consequence of this approach is that the overstatement of Retailer ICP Days due to inactive ICPs being included in this report is that genuine ICP Days exceptions can be hidden from view, and it is recommended that TODD review the suite of checks they employ around submission file completeness to ensure no ICPs are missed in submission.

WISE

Registry updates were mostly found to be timely and accurate, and corrections were processed promptly and as required. Disconnected ICPs are not changed to inactive status unless they are disconnected for more than three days, which has a minor impact on the correct use of the inactive status.

The process to manage bridged meters by immediately adding a virtual meter that applies an appropriate daily average consumption for the affected/bridged period is an effective solution to the challenges that retailers face with meter bridging.

Readings are well managed, and read attainment is generally high. No submission accuracy issues were identified.

The manual nature of some key processes around registry management, switching, reading management and reconciliation relies on the skill and experience of a few key personnel. There is a key personnel availability risk that was highlighted during the last Covid lockdown where the ability to perform some of these manual tasks remotely caused a breach to be alleged due to delays in delivering submission data to the Reconciliation Manager. WISE would benefit long term by ensuring key tasks and process are rotated between a number of analysts to provide support to these key personnel

HNET

Registry updates were generally found to be timely and accurate, and corrections were processed promptly and as required.

There were only a very small number of switching issues identified.

Readings are well managed, and read attainment is generally high.

Reconciliation functions are well managed however improvements can be made around monitoring reconciliation data at attribute aggregation level in case there is a requirement to zero out any data previously submitted aggregated data records.

The manual nature of some key processes around registry management, switching, reading management and reconciliation relies on the skill and experience of a few key personnel. There is a key personnel availability risk highlight by some delays in registry updates. HNET would benefit long term by ensuring key tasks and process are rotated between a number of analysts to provide support to these key personnel

Conclusion

The audit found 34 non-compliances, eight recommendations and one issue were raised. The audit risk rating is 56, which results in an indicative audit frequency of three months. Controls were strong for 17 non-compliances, moderate for 14 non-compliances. Three non-compliances had weak controls.

My recommendation for the next audit date is in a minimum of 14 months because:

- All but one non-compliance have a low impact.
- Evidence of improvements to controls and reduced non-compliance later in the audit period was demonstrated in many areas.

PARTICIPANT RESPONSE

TODD, WISE & HNET appreciate the flexible approach employed by Veritek during this audit, supporting the use of video conferencing capabilities during a period of increased alert levels nationwide and the significant effort and contributions made by our operational teams to the audit process while under COVID-19 restrictions.

The impact of COVID-19 is seen in several areas during this audit period, including:

- Access to customers meters for both read attainment and meter maintenance within compliance timeframes
- Contractor availability
- Resource impacts in internal teams due to unplanned leave, turnover of experienced staff and recruitment challenges experienced right across the industry.

With those impacts in mind, considerable efforts have still been made to focus on identified areas of improvement from the 2021 audit. Of particular note are:

- TODD switching designed and implemented improved system logic to achieve compliance in the AN hierarchy with audit sections 4.2 and 4.13
- TODD switching also designed and implemented improved system logic for the calculation of daily average consumption to achieve compliance with audit sections 4.3 and 4.10
- Audit section 6.6 shows that customer and photo read validations are now compliant
- WISE improved their inactive status update process and now update the required registry status the next day if it is confirmed that there has been no consumption to achieve compliance with audit section 3.9.
- Our meter deployment programme prioritises the removal of ARC meters to reduce the impact of the data discrepancy issues.

While TODD, WISE & HNET's overall risk rating has increased since 2021, 33 of our 34 non-compliances continue to be low risk with minor impact.

Nova Energy Ltd. continues to demonstrate a strong commitment to compliance, continuous improvement, and management of robust exception suites as demonstrated in the improvements listed above. We believe that our commitment to excellence, delivery on accepted recommendations and implementation of system and process improvements over time supports a minimum next audit period of 18 months.