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: 22 May 2023

Date audit report completed: 11 July 2023

Audit report due date: 15 July 2023

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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 further improvements to its processes during the audit period.

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 an improvement in the percentage of registry updates on time and average business days since the previous audit. Data discrepancies are being identified daily through exception reporting but are not being consistently investigated and actioned promptly, largely due to resourcing challenges. The new connection process has been moved to the smart metering team due to resource challenges within the business which has seen in the decline in timeliness of new connection updates. Exceptions identified as part of the audit were corrected wherever possible before the audit report was finalised.

Read attainment, including four month attainment levels, have also improved during the audit period due to the focused effort to address access issues and install AMI metering where possible.

Once identified, defective meters are promptly replaced, however there was some inconsistency in the application and timeliness of volume corrections in Orion which then flow into the reconciliation processes.

Unmetered load accuracy has also improved during the audit period however the current monitoring process is reliant on consistently formatted registry unmetered load details. Where the distributors unmetered load details information is not in the Authority's recommended format the data is not checked, resulting in a few exceptions identified during this audit period.

A number of bridged meters were identified during the audit that were missed by the current processes to monitor and report bridged meters to MEPs. Additional reporting is now in place to identify and correct bridged meters, and reduce the impacts on both the customer and reconciliation.

NHH and HHR volume validation processes continue to be of a high standard. Some submission accuracy issues occurred and were caused by inaccurate inputs into the reconciliation process, like meters not being set up correctly, or upgrades or downgrades processed from incorrect dates. I found that with handover of processes to new staff in the reconciliation team, some checks that usually identify issues such as estimated HHR data that requires replacement, or incorrectly processed meter changes, had not consistently been completed. TODD intends to reinstate these checks to ensure that any future discrepancies are resolved promptly and will correct the errors identified during the audit and provide revised submission information. Some minor recommendations for improvement have been made.

WISE

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. WISE is addressing this key person risk by cross training other personnel to ensure there is sufficient coverage of tasks within the organisation which will result in long term robustness of the WISE market interactions.

Registry updates and switching files were mostly found to be timely and accurate, and corrections were processed promptly and as required. There were a few additional non compliances due to user errors during this audit period which occurred while cross training additional personnel.

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

WISE is reliant on AMI remote meter reads to monitor ICPs both active and inactive. However where a meter stops communicating for an inactive ICP, WISE does not have a process to monitor whether an ICP has become active or if the ICP needs to be decommissioned.

HNET

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. HNET is also addressing their key person risk by cross training other personnel to ensure there is sufficient coverage of tasks within the organisation which will result in long term robustness of HNET's market interactions.

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

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.

Conclusion

The audit found 35 non-compliances, 15 recommendations and one issue were raised. The future risk rating has improved from 56 to 51. The next audit frequency indicator recommends that the next audit be conducted in six months.

Controls were strong for 19 non-compliances and moderate for 15 non-compliances. One non-compliance had weak controls. I have considered this in conjunction with Nova Energy's responses, which indicate that process improvements have or will be made to resolve a number of the issues identified. I recommend the next audit be conducted in 18 months.

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. Volume corrections for three ICPs with defective meters have not been applied. Volume corrections not applied for bridged ICP 0000542837TU334 between 22 July 2022 to 11 January 2023. Two unmetered load corrections applied without virtual boundary reads resulting in the apportionment of consumption volumes applied into incorrect periods. ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022. and consumption for submission periods from November 2019 to September 2021 has not been reported. ICP 0329488094LC1C3 did not have its HHR estimates for December 2022 replaced. Inaccurate submission for ARC Innovations HHR metering. **WISE** One ICP had an incorrect ANZSIC code which has now been updated.	Strong	Low	1	Identified
Retailer responsibility for electricity conveyed - access to metering installations	2.6	10.7(2),(4),(5) and (6)	**HNET** Access was not arranged for one ICP 0436764334LC885 to enable the MEP to complete meter compliance work.	Strong	Low	1	Identified
Electrical Connection of Point of Connection	2.11	10.33A	**TODD** 38 ICPs did not have full certification within five business days of reconnection.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			WISE Two ICPs did not have full certification within five business days of reconnection. ICP 0030284093PC947 was not recertified on resolution of the tamper. **HNET** Three ICPs did not have full certification within five business days of reconnection.				
Meter bridging	2.17	10.33C and 2A of Schedule 15.2	**TODD** 15 ICPs where the MEP was notified of a bridged meter later than one business day from when TODD was notified. Volume corrections not applied for bridged ICP 0000542837TU334 between 22 July 2022 to 11 January 2023.	Moderate	Low	2	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	Low	2	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	**TODD** 249 late updates to "active" status for new connections. Four newly connected ICPs (of a sample of 18) had incorrect "active" status event dates. All were corrected during the audit. **HNET** Three late updates to "active" status for new connections.	Moderate	Low	2	Identified
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	**TODD** Two ICPs had incorrect ANZSIC codes applied. These have been corrected. **WISE** Incorrect ANZSIC code for ICP 0000130320UN5F0. **HNET** Two incorrect ANZSIC codes.	Strong	Low	1	Identified
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	**TODD** Five ICPs where unmetered load no longer present but	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			unmetered load details recorded by TODD was not end dated. Three standard unmetered load ICPs were found to have a daily kWh value that was different to a calculation derived from the distributors UNM details information with an assessed impact of 2,394 kWh per annum.				
Management of "active" status	3.8	17 Schedule 11.1	**TODD** Four newly connected ICPs (of a sample of 18) had incorrect "active" status event dates. All were corrected during the audit.	Moderate	Low	2	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	**TODD** Seven ICPs with inactive consumption did not have their status updated to "active" for the periods with consumption. Five ICPs were recorded with incorrect status codes. Four were reversed and replaced and ICP 1002158202LC555 still has incorrect status reasons recorded for historic status records. **WISE** Two ICPs (0008112982HB234, 1002059298LCDEF) had incorrect status reason codes initially applied.	Strong	Low	1	Identified
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**TODD** Two ANs had the AD (advanced metering) response code applied when the AMI flag was set to N. 16 ICPs had a proposed event date more than ten business days after the NT update date. The AN for three ICPs AN had the AA (acknowledge and accept) response code applied when the AMI flag was set to Y and the meter was constantly returning meter reads to TODD. **WISE** One AN had the AA (acknowledge and accept) response code applied when the AMI flag was set to Y and the meter was constantly returning meter reads to WISE.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			One AN had the OC (occupied premises) response code applied for a transfer switch when the AMI flag was set to Y and the meter was constantly returning meter reads to WISE where the correct code should have been AD.				
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	**TODD** Four CS files were confirmed to have incorrect average daily consumption recorded. The CS file for ICP 0000520264EN644 recorded an incorrect last actual read date. **WISE** Incorrect methodology used to calculate average daily consumption. The CS file for ICP 0000069500TRFC3 recorded an incorrect last actual read date. **HNET** Average daily consumption was incorrect for 0005440530RN478.	Strong	Low	1	Identified
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	**TODD** The read type for one RR file was incorrectly recorded as actual instead of estimate. The read for one rejected RR file was not updated in Orion to reflect the provided CS read resulting in an under submission of 116 kWh. Two RR breaches.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**TODD** The AN for five ICPs AN had the AA (acknowledge and accept) response code applied when the AMI flag was set to Y and the meter was constantly returning meter reads to TODD. **WISE** One E2 breach.	Strong	Low	1	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	**TODD** Three CS files were confirmed to have incorrect average daily consumption recorded.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			One CS file (ICP 0001721890PC8B5) had estimated switch event reads where the last actual read date was after the last day of responsibility. The CS files for 0000057236CP111, 1099574638CN945, 0090436400WRDBF, 0001261440TGF84 and 0000637890WE966 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. One CS file (ICP 0082060862WEEA2) had actual switch event reads where the last actual read date was before the last day of responsibility. **WISE** Calculation methodology for average daily consumption not compliant. ICP 0458221287LCBE0 had estimated switch event reads where the last actual read date was on the last day of responsibility. ICPs 0452070031LC072 and 0387970525LC701 had actual switch event reads where the last actual read date was before the last day of responsibility. Average daily consumption was incorrect for 0000003166UNB7D due to an incorrect switch read applied for register two. **HNET** Incorrect last actual read dates applied to four CS files.				
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	**TODD** 22 RR breaches.	Strong	Low	1	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**TODD**	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			NW (ICP 0000048335CP554) was issued in error. Six SR breaches. 42 NA breaches. **WISE** Incorrect NW advisory code for one ICP. Five NA breaches. One SR breach. **HNET** Two NW's (ICPs 0125742304LC071 and 0080042437WE016) were issued in error. One SR breach. Three NA breaches.				
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 19 ICPs. 18 from a sample of 20 ICPs had generation recorded by the distributor and I flow metering where TODD did not record a generation profile. Five ICPs with distributed generation do not have settled I flow registers installed and there is no record added to the gifting register. **WISE** While meters were bridged, energy was not metered and quantified according to the code for 15 ICPs. **HNET** While meters were bridged, energy was not metered and quantified according to the code for one ICP. For ten ICPs an incorrect profile code of PV1 was applied when no generation was present. ICP 0244638179LCF59 with distributed generation does not have settled I flow registers	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			installed and there is no record added to the gifting register.				
Reporting of defective metering installations	6.4	Clause 10.43(2) and (3)	**TODD** The MEP was not advised of 15 bridged meters.	Moderate	Low	2	Identified
Collection of information by certified reconciliation participant	6.5	2 Schedule 15.2	**TODD** Three ICPs were not interrogated within their maximum interrogation cycle. Two have since switched out, and the other ICP is disconnected.	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. **HNET** Exceptional circumstances were not proven for two ICPs that were not read during the period of supply.	Moderate	Low	2	Identified
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**TODD** The best endeavours requirements were not met for ICP 0000039211TR55D that was not read during the previous 12 months. **HNET** The best endeavours requirements were not met for ICP 0000446386UNECA that was not read during the previous 12 months.	Moderate	Low	2	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	**TODD** The best endeavours requirements were not met for all ten ICPs sampled that were not read during the previous four months.	Moderate	Low	2	Identified
Identification of readings	9.1	3(5) Schedule 15.2	**TODD** One ICP which underwent RRs had incorrect switch read type recorded in Orion. Five ICPs had incorrect read types in CS files.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Meter data used to derive volume information	9.3	15.6	**TODD and HNET for AMS and EDMI data collection** Prior to June 2022 the EIEP3 and GEN file format 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.	Moderate	Low	2	Disputed
Half hour estimates	9.4	Clause 15 Schedule 15.2	**TODD** HHR estimates were not replaced by actual data for two ICPs as part of TODD's business as usual process. The estimates were replaced during the audit.	Strong	Low	1	Identified
Electronic meter readings and estimated readings	9.6	Clause 17 Schedule 15.2	**TODD** Stark meter events for generation meters are not being reviewed. AMI Meter event logs and time synchronisation reports are not consistently reviewed, and no formal process is in place to ensure complete reviews are conducted. Four ICPs with time synchronisation corrections between 3,597 and 3,602 seconds where no investigation or volume correction applied. **WISE** AMI Meter event logs are not consistently reviewed, and no formal process is in place to ensure complete reviews are conducted. **HNET** AMI Meter event logs are not consistently reviewed, and no formal process is in place to ensure complete reviews are conducted.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Calculation of ICP days	11.2	15.6	**TODD** ICP days were duplicated for December 2022 for ICP 0003875008AL995 because it was recorded as an active TOU ICP in Orion and Stark. 0000036953DE5C4 was downgraded from HHR to RPS on 27 August 2022. HHR data after the downgrade was not removed from Stark and the ICP was reported as both NHH-RPS and HHR-HHR until 31 October 2022. ICP days and volumes were duplicated for ICP 0003875008AL995 for December 2022 because it was active in the Orion and Stark as HHR, which resulted in over submission of 31 days. **WISE** Incorrect ICP days for 18 combinations on NSP/consumption month due to PEBS not correctly reflecting the registry status for 21 ICPs. **HNET** Zeroing does not occur for AV110 submissions. Four NHH ICP days differences between AV110 submissions and the registry were caused by either human error or mismatched event dates in MySQL system.	Moderate	Low	2	Identified
HHR aggregates information provision to the reconciliation manager	11.4	15.8	**TODD** ICP 0005083575RN47D had an incorrect volume recorded in the September 2022 aggregates file. ICP days and volumes were duplicated for ICP 0003875008AL995 for December 2022 because it was active in the Orion and Stark as HHR, which resulted in over submission of 28,574.3 kWh.	Strong	Low	1	Identified
Creation of submission information	12.2	15.4	**TODD**	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Alleged breach 2205NOVE1 for late provision of submission information. 1000510763PC9CF was upgraded from NHH to TOU on 21 December 2022. The profile change coincided with a network pricing change. The HHR meter was not properly set up in Stark to receive data until a meter change on 7 February 2023. Zeros had been estimated from 21 December 2022 until 6 February 2023. ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022. Correctly calculated volumes have been included in NHH submissions for the October 2021 submission period onwards, but consumption for submission periods from November 2019 to September 2021 has not been reported. **WISE** GR-100 ICP Days comparison report identified 21 ICPs were missing from either R7 or R14 revision submission due to PEBS not correctly reflecting the registry "active" status. Incorrect ICP days for 27 combinations on NSP/ consumption month due to PEBS not correctly reflecting the registry status for 21 ICPs. **HNET** Alleged breach 2208NOVE2 for incorrect provision of HHR data and ICP days.				
Accuracy of submission information	12.7	15.12	**TODD** Alleged breach 2205NOVE1 for late provision of submission information. Some inaccurate submission information was not corrected as soon as practicable. **WISE** Some inaccurate submission information was not corrected as soon as practicable.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			HNET Alleged breach 2208NOVE2 for incorrect provision of HHR data and ICP days. Some inaccurate submission information was not corrected as soon as practicable.				
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	**TODD** TODD does not enter permanent estimate readings before revision 14 is created, and some forward estimate remains at revision 14.	Weak	Low	3	Identified
Historical estimate process	12.11	4 and 5 Schedule 15.3	**TODD** HE Scenarios J & K relating to UML load are not producing expected results as the volumes are being profiled using RPS SASV information.	Strong	Low	1	Identified
Forward estimate process	12.12	6 Schedule 15.3	**TODD** Some balancing area differences where the variation between revisions was more than ± 15% were caused by forward estimates which were higher or lower than the actual data. **WISE** Some balancing area differences where the variation between revisions was more than ± 15% were caused by either data corruption or forward estimates which were higher or lower than the actual data.	Strong	Low	1	Identified
Historical estimate reporting to RM	13.3	10 Schedule 15.3	**TODD** Historic estimate thresholds were not met for Aug-Oct 21 r14, Mar-May 22 r7, and Jul-Sep 22 r3. **HNET** Historic estimate thresholds were not met for R3 for a small number of months and revisions.	Strong	Low	1	Identified
Future Risk Rating						51	

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
Periodically check meter category 2 or higher meters with no multiplier	2.1	**TODD** At least 6-9 monthly, check ICPs with meter category 2 or higher meters with no multiplier, so that any multiplier issues can be resolved prior to revision 14.	Identified
Independently confirm ANZSIC code updates identified by automated word check program	3.6	**HNET** I recommend that a manual check is added to the ANZSIC code update program to enable a user to independently review any proposed ANZSIC code update identified by the automated work check program prior to any updates being made to the registry.	Identified
Changes to unmetered load	3.7	**TODD** I recommend that a manual check is undertaken periodically on ICPs where the distributor UNM details is not formatted consistently to ensure the daily kWh value is correctly calculated.	Identified
Escalate proposed transfer date potential errors with gaining traders	3.9	**HNET** I recommend that where inactive consumption is detected just prior to a switch event date that HNET engages with the gaining trader to have the proposed transfer date reviewed and amended where it is confirmed to be incorrect.	Identified
Process to monitor connection status of non-communicating inactive ICPs.	3.9	**WISE and HNET** Implement a process to ensure non communicating inactive ICPS are also monitored to ensure the correct connection status is known for all ICPS where WISE or HNET are responsible.	Identified
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
Provide training on the upgrade and downgrade process	6.7	**TODD** Provide further training on the upgrade and downgrade process to ensure: • meters are correctly set up in systems to start/cease collecting data from the correct date and prevent overlaps where ICPs are reported as NHH and HHR, and • upgrades and downgrades are processed effective from the correct date.	Identified
Review Orion validation thresholds	9.5	**TODD** Review meter read is exceptionally high and meter read is exceptionally low validation thresholds to ensure these remain relevant.	Identified

Review Stark meter events	9.6	**TODD** Regularly review Stark meter events to identify and resolve any issues which could affect meter accuracy	Identified
Compare the HHR volumes and aggregates submission totals prior to submission	11.4	**TODD** Compare the HHR volumes and aggregates submission totals prior to submission. Investigate any differences over ±10 kWh for I flows and ±90 kWh for X flows, to determine whether they are caused by ICP issues that require correction.	Identified
Advise the reconciliation team of backdated switches	12.2	**TODD** Advise the reconciliation team where an ICP switches in with an event date more than 12 months ago. The reconciliation team should ensure that all consumption is reported within a 14-month window.	Identified
Report missing volumes for ICP 0000033012TCD70	12.2	**TODD** Create a correction to report the omitted volumes for the submission periods between November 2019 to September 2021 for ICP 0000033012TCD70.	Identified
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.	Identified
Review historic estimate processes for unmetered load ICPs to improve accuracy	12.11	**TODD** Review historic estimate processes for unmetered load ICPs to improve accuracy, including considering whether end of month readings could be entered.	Identified
Use of disconnection and reconnection reads when calculating historic estimate	12.11	**TODD** Consider validating disconnection and reconnection readings for use in the historic estimate process to ensure that consumption is allocated to the correct submission period.	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

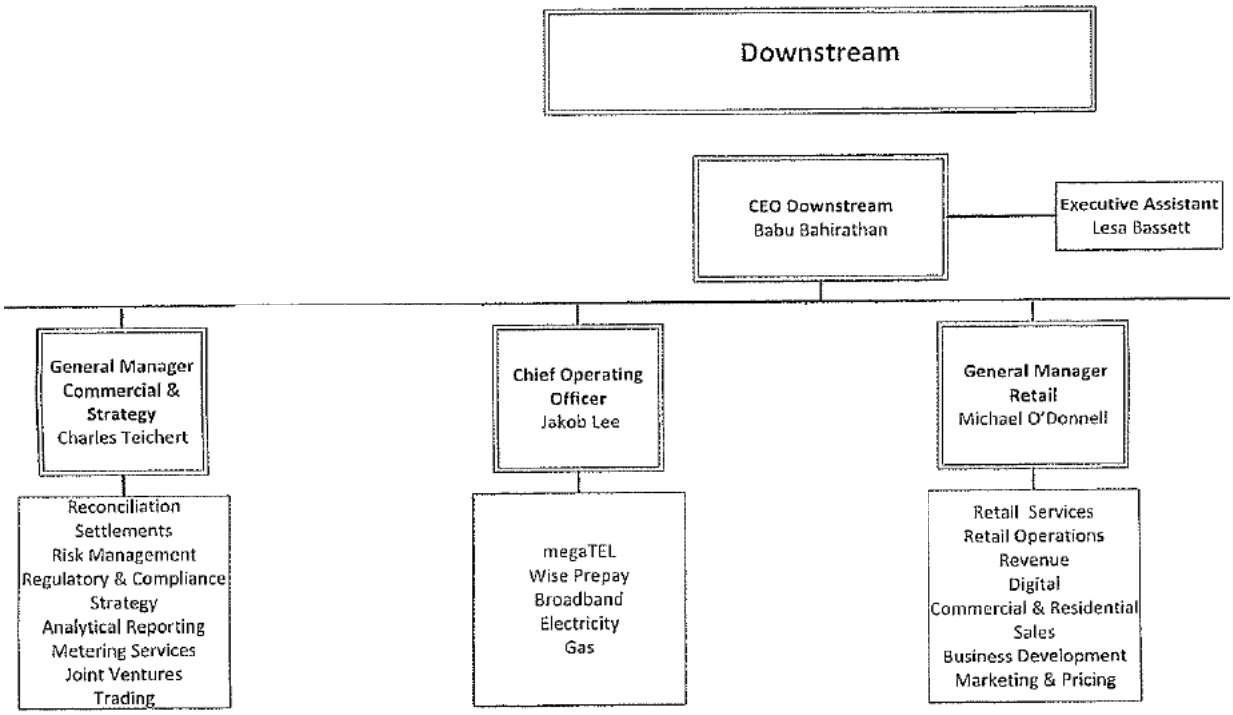
The Electricity Authority website was checked to identify any exemptions currently in place for Nova.

Audit commentary

There are no exemptions relevant to the scope of this audit. Exemption 276 relates to Nova's MEP activities.

1.2. Structure of Organisation

An organisation chart was provided.



1.3. Persons involved in this audit

Auditors:

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

Personnel assisting with this audit:

Title	Organisation
Energy Connections Manager	Nova Energy
Billing Services Manager	Nova Energy
Manager Metering Services	Nova Energy
Smart Metering and New Connections Team member x2	Nova Energy
Smart Metering and New Connections Team Leader	Nova Energy
Service Performance Manager	Nova Energy
Team Leader Reconciliation	Nova Energy
Energy Analyst x 2	Nova Energy
Digital Operations 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	Clause	Breach Description	Outcome
2205NOVE1	Part 15 clause 15.4 (1)	Nova failed to deliver submission information to the reconciliation manager by the deadline on two occasions.	Early closure

WISE

There were no breach allegations during the audit period.

HNET

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

Ref	Clause	Breach Description	Outcome
2208NOVE2	Part 15 clause 15.2 (1) (a)	Nova Energy t/as Megatel (HNET) is alleged to have submitted incorrect ICP days and half-hourly volume submissions for 202106 R14.	Early closure

1.7. ICP Data

TODD

The quantity of ICPs by status is shown below.

Status	2023	2022	2021	2020	2018	2017	2016	2015
Active (2,0)	85,985	95,278	103,318	91,298	78,861	76,477	82,245	81,657
Inactive – new connection in progress (1,12)	247	356	101	154	20	42	25	38
Inactive – electrically disconnected vacant property (1,4)	375	352	248	220	256	377	488	518
Inactive – electrically disconnected remotely by AMI meter (1,7)	411	423	249	168	94	35	16	0
Inactive – electrically disconnected at pole fuse (1,8)	134	126	159	155	110	104	14	9
Inactive – electrically disconnected due to meter disconnected (1,9)	32	28	27	28	32	27	23	18

Status	2023	2022	2021	2020	2018	2017	2016	2015
Inactive – electrically disconnected at meter box fuse (1,10)	78	87	133	136	117	27	1	5
Inactive – electrically disconnected at meter box switch (1,11)	23	26	52	65	25	25	0	2
Inactive – electrically disconnected ready for decommissioning (1,6)	92	93	102	73	71	80	88	98
Inactive – reconciled elsewhere (1,5)	0	0	0	0	1	1	1	1
Decommissioned (3)	2,451	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	2023	2022	2021	2020	2018	2017	2016	2015
1	83,906	93,013	100,501	88,735	76,751	75,511	80,130	79,557
2	1,936	2,040	2480	2,344	1,972	1,830	1,977	1,911
3	99	121	148	130	100	92	85	89
4	26	35	43	43	29	33	29	27
5	2	2	3	4	4	4	5	6
9	6	6	10	11	2	3	12	42
Blank	10	61	133	31	3	4	7	25

WISE

The quantity of ICPs by status is shown below.

Status	2023	2022	2021	2020	2019	2018	Feb 2018
Active (2,0)	5,280	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)	6	5	3	6	10	8	11
Inactive – electrically disconnected remotely by AMI meter (1,7)	176	132	107	68	53	38	62
Inactive – electrically disconnected at pole fuse (1,8)	4	3	-	1	1	-	1

Inactive – electrically disconnected due to meter disconnected (1,9)	5	2	3	1	1	-	-
Inactive – electrically disconnected at meter box fuse (1,10)	1	-	-	-	-	-	-
Inactive – electrically disconnected at meter box switch (1,11)	-	-	-	-	-	-	-
Inactive – electrically disconnected ready for decommissioning (1,6)	1	1	2	-	1	1	2
Inactive – reconciled elsewhere (1,5)	-	-	-	-	-	-	-
Decommissioned (3)	177	126	72	47	40	30	16

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

Metering Category	2023	2022	2021	2020	2019	2018 (Nov 2018)	2018 (Feb 2018)
1	5,280	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	2023	2022	2021	2020	2019	2018	2017
Active (2,0)	8,220	7,701	7,746	5,489	5,365	5,194	4,897
Inactive – new connection in progress (1,12)	9	-	1	2	1	-	-
Inactive – electrically disconnected vacant property (1,4)	21	20	21	19	19	18	12
Inactive – electrically disconnected remotely by AMI meter (1,7)	73	128	55	63	37	37	32
Inactive – electrically disconnected at pole fuse (1,8)	1	1	1	1	1	-	-

Inactive – electrically disconnected due to meter disconnected (1,9)	4	2	2	2	3	12	12
Inactive – electrically disconnected at meter box fuse (1,10)	2	3	2		1	-	-
Inactive – electrically disconnected at meter box switch (1,11)	3	3	2	1	-	2	2
Inactive – electrically disconnected ready for decommissioning (1,6)	16	14	6	3	4	-	1
Inactive – reconciled elsewhere (1,5)	-	-	-	-	-	-	-
Decommissioned (3)	142	123	98	77	54	32	16

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

Metering Category	2023	2022	2021	2020	2019	2018	2017
1	8,164	7,651	7,691	5,440	5,347	5,179	4,828
2	54	48	51	45	18	15	15
3	1	1	4	4	-	-	-
4	1	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.

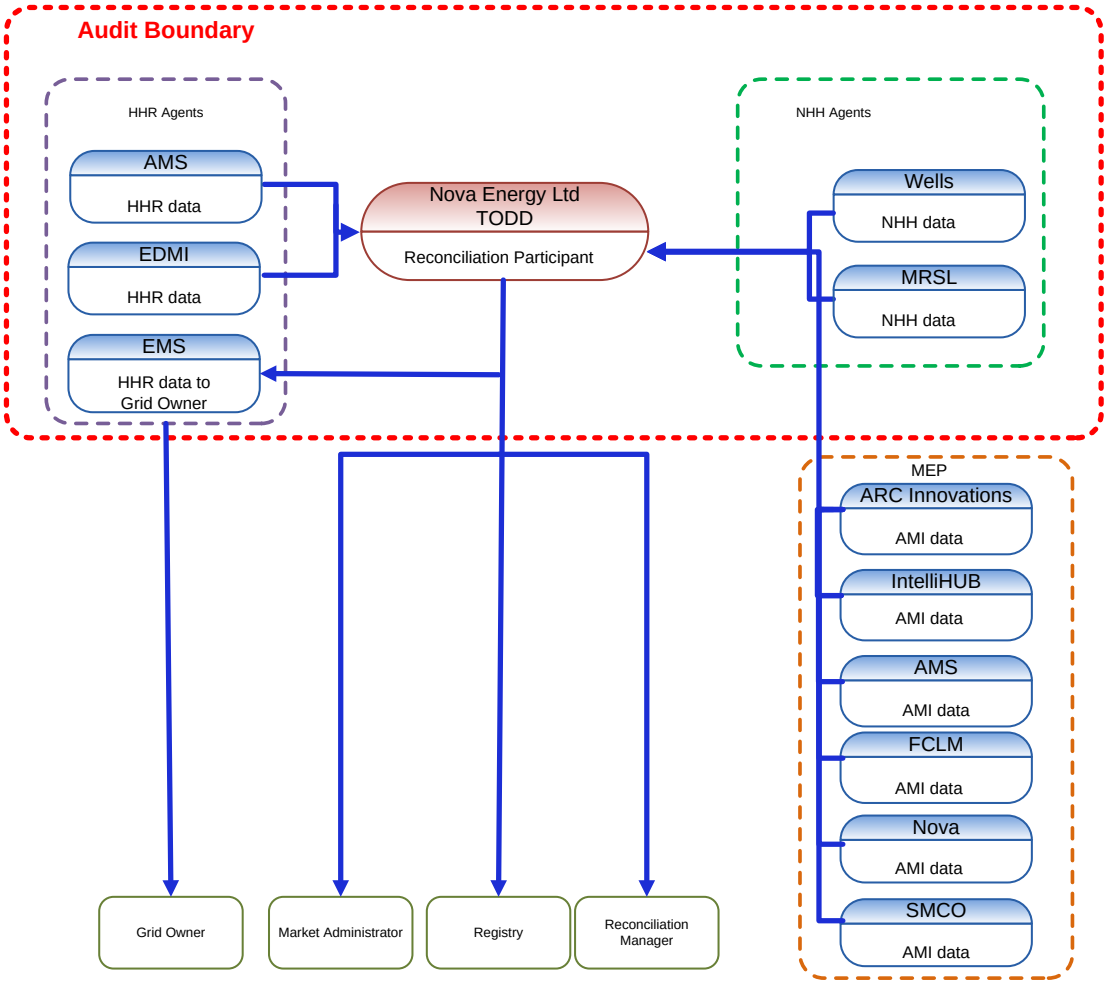
The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.2.

TODD

Registry, meter reading, switching and data validation processes were audited on site between 22 and 26 May 2023. Reconciliation processes were audited remotely via zoom between 22 and 23 May 2023.

A registry list, event detail report and audit compliance report for 1 March 2022 to 8 February 2023 and a registry list snapshot for 8 February 2023 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	AMS (NGCM, SMCO) ARC Innovations (ARCS) Influx (FCLM) IntelliHUB (IHUB) - incl Metrix (MTRX), BOPE and Counties Power (COUP)
(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	EMS		
(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 grid owner. AMS and EDMI are agents for data collection only. Wells and MRS provide NHH meter reading services.

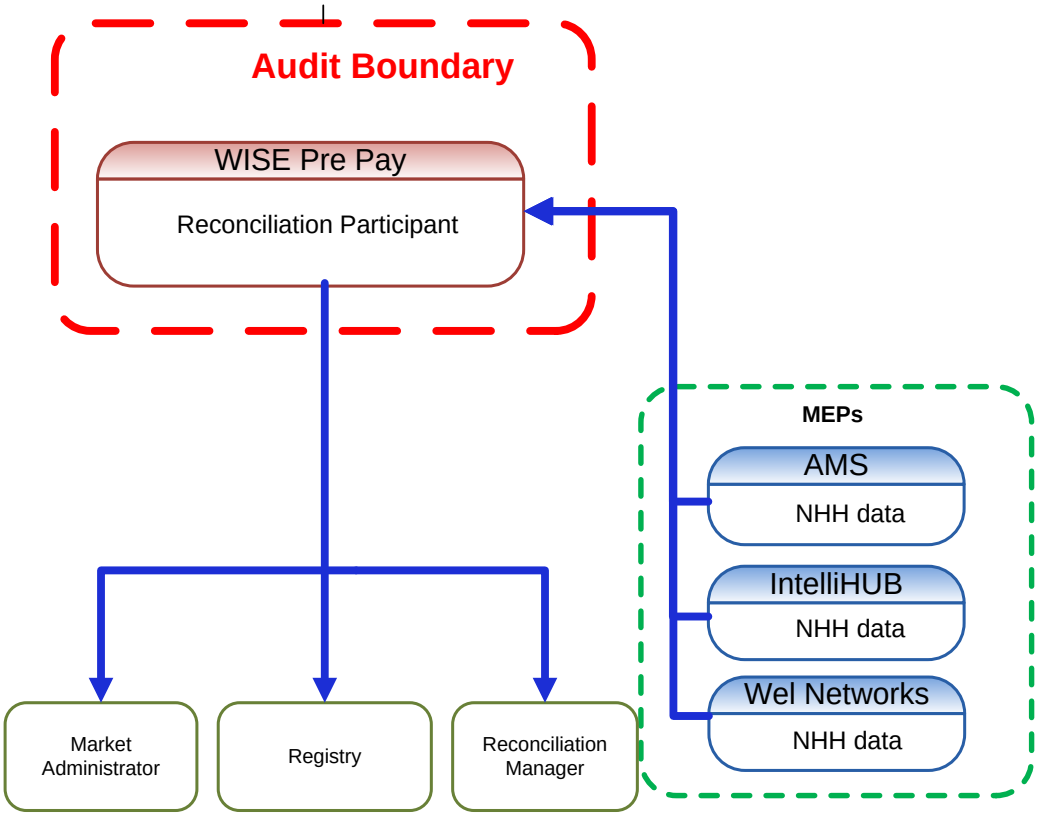
All agents have been audited in accordance with the Guidelines for Reconciliation Participant Audits. The EMS, EDMI, AMS, MRS and Wells audits were completed more than seven months before this audit report's due date. The agent audit reports are expected to be submitted along with this report, and the 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 24 May 2023.

A registry list, event detail report and audit compliance report for 1 March 2022 to 3 February 2023 and a registry list snapshot for 3 February 2023 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:

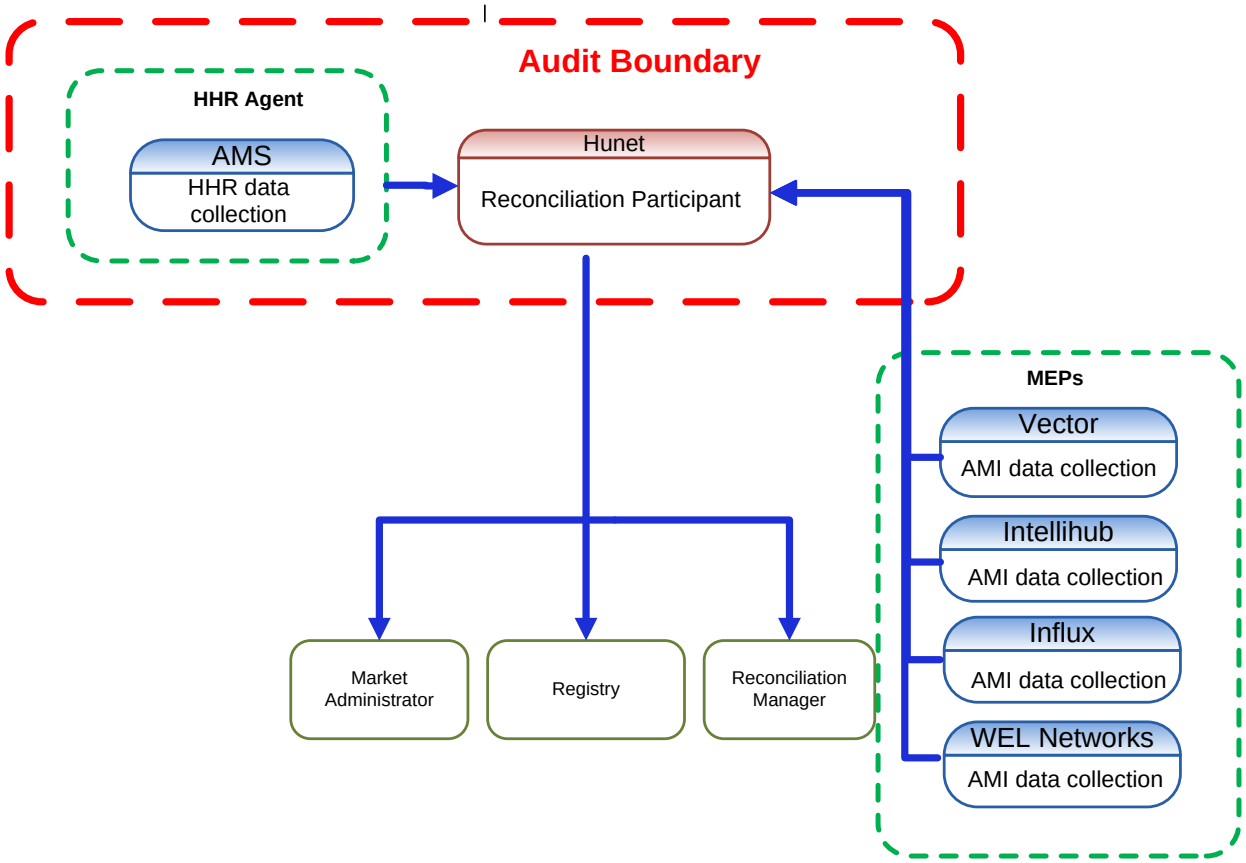
Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs
(a) - Maintaining registry information and performing customer and embedded generator switching	None	
(b) – Gathering and storing raw meter data	None	AMS – NHH IntelliHUB - NHH Wel Networks – NHH
(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 25 May 2023.

A registry list, event detail report and audit compliance report for 1 March 2022 to 8 February 2023 and a registry list snapshot for 8 February 2023 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	AMS - HHR	AMS (incl Smartco) (NGCM, SMCO) ARC Innovations (ARCS Influx (FCLM) IntelliHUB (IHUB) - incl Metrix (MTRX), BOPE and Counties Power (COUP) Wel Networks (WASN)
(c)(ii) - Creation and management of NHH volume information		

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs
(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. The agents have been audited in accordance with the Guidelines for Reconciliation Participant Audits. 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 HNET's compliance.

1.10. Summary of previous audit

Nova provided a copy of the report from the previous audit completed in April 2022 by Tara Gannon (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. **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.	Still existing
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 un-bridged but not recertified for ICP 0000105283UNE27. **WISE** ICP 1001121843LCC6D's meter was not re-certified on un-bridging. **HNET** Six ICPs did not have full certification within five business days of reconnection.	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Still existing
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 August 2021 to 7 August 2021 once the required network and MEP events have been reversed on the registry. **HNET** Two late updates to "active" status for new connections.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	**TODD** Five ICPs had incorrect ANZSIC codes applied. All have been corrected. **HNET** Two incorrect ANZSIC codes.	Still existing
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 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. 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 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.	Still existing
Management of "active" status	3.8	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 August 2021 to 7 August 2021 once the required network and MEP events have been reversed on the registry.	Still existing

Subject	Section	Clause	Non-compliance	Status
Management of "inactive" status	3.9	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	Still existing
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.	Still existing
Losing trader must provide final information - standard switch	4.3	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.	Still existing
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	**TODD** One RR breach	Still existing
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**WISE** Two E2 breaches.	Still existing

Subject	Section	Clause	Non-compliance	Status
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 August 2021), 0007156981RNB03 (4 November 2021), 0037930087PC48C (29 April 2021) and 0478644574LC1E4 (19 June 2021) 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 June 2021), 0000160532WAEC6 (3 May 2021) and 0000463024WE7FF (13 March 2020) 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.	Still existing
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	**TODD** 14 RR breaches. The RR request for 0001010055ENDB8 17 August 2021 was supported by customer photo readings rather than two actual readings.	Still existing
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	**TODD** ICP 0000008633CPA4B (1 March 2021) had a HH NT issued but should have had a MI NT issued because it was a meter category 2 ICP.	Cleared
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	**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.	Cleared
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.	Still existing

Subject	Section	Clause	Non-compliance	Status
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 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.	Cleared
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.	Still existing
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.	Cleared
Collection of information by certified reconciliation participant	6.5	3(1), 3(2) and 5 Schedule 15.2	**TODD** Four ICPs were not interrogated within their maximum interrogation cycle.	Still existing
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.	Still existing
NHH meters interrogated annually	6.9	8(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 12 months.	Still existing
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%.	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Cleared
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.	Still existing
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 on import into Orion, and the rounded readings are used to calculate submission data.	Still existing
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.	Still existing
Electricity supplied information provision to the reconciliation manager	11.3	15.7	**HNET** Electricity supplied file incorrect for the period April to December 2021.	Cleared
HHR aggregates information provision to the reconciliation manager	11.4	15.8	**TODD** Alleged breach 2103NOVE1 for late provision of submission information.	Still existing

Subject	Section	Clause	Non-compliance	Status
Creation of submission information	12.2	15.4	**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 October 2021 until the meter was replaced and certified on 28 January 2022. A correction was not processed to capture estimated consumption during the bridged period. ICP 0000177620HB50F's meter was stopped between 28 July 2021 and 9 February 2022. 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).	Still existing

Subject	Section	Clause	Non-compliance	Status
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 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 October 2021 until the meter was replaced and certified on 28 January 2022. A correction was not processed to capture estimated consumption during the bridged period. ICP 0000177620HB50F's meter was stopped between 28 July 2021 and 9 February 2022. 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.	Still existing
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	Still existing
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	Still existing

Subject	Section	Description	Status
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.	Adopted, but a recommendation is made for further improvement
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.	Not re-raised
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.	Not adopted, raised again.
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.	Not re-raised
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.	Adopted, but a recommendation is made. **TODD** Regularly review Stark meter events to identify and resolve any issues which could affect meter accuracy.
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.	Not re-raised
HHR aggregates information provision to the reconciliation manager	11.4	**TODD** Review GR090 reports to identify discrepancies not identified through the ICP discrepancy reporting.	Not adopted. TODD does not review the GR090 ICP missing files, instead relying on their checks of submission data against a registry list with history.

Subject	Section	Description	Status
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.	Not adopted.
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.	Not adopted, raised again.

Subject	**Section**	**Clause**	**Issue**	Status
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.	Raised again.

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 smart metering team reviews data for new connections and raises activities for the billing team where corrections are required. Unmetered load data where the distributor UNM details information is not consistently formatted is not currently reviewed by the billing or smart metering team. A recommendation for improvement is made in **section 3.7**.
2) Meter detail reports identify meter detail 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. ICPs are notified to the MEP.
6) Status discrepancies between Orion and the registry. These are investigated so that the registry or Orion can be updated.

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, and the resourcing challenges have been resolved through redistribution of tasks between teams. 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	2023 Qty	2022 Qty	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
1	Status mismatch between registry and Orion	16	18	3	3	10	-	-	1	Four new connections had incorrect status event dates. See **sections 3.5** and **3.8**. Five ICPs were recorded with incorrect status codes. See **section 3.9**. Seven ICPs with inactive consumption did not have their status updated to "active" for the periods with consumption. See **section 3.9**.
2	ICP at status "inactive - new connection in progress" (1,12) with	10	10	-	1	3	-	-	12	Nine were updated to "active" status

Item No.	Issue	2023 Qty	2022 Qty	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
	an initial electrical connection date populated by the Distributor									during the audit. One had a network event reversed by the distributor. See **sections 3.5** and **3.8**.
3	Active date variance with Initial Electrical connection Date	6	486	469	472	12	16	10	56	A sample of ICPs were checked and four genuine discrepancies were identified. See **section 3.8**.
4	Incorrect submission flag	-	-	-	-	-	-	-	-	Compliant.
5	Incorrect profiles	-	-	28	-	-	-	-	-	27 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	35	28	11	5	-	12	16	19	Four ICPs had their profile corrected during the audit. See **section 6.1**.
7	Active ICP with cat 9 and UML="N"	1	2	3	21	1	1	2	-	Four ICPs now have metering events loaded by the MEP. ICP (0234172045LCFD4) is

Item No.	Issue	2023 Qty	2022 Qty	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
										believed to be metered and is under investigation. See **section 2.9**.
8	Active ICP with no MEP recorded and UML="N"	4	1	2	14	1	2	-	-	Four ICPs now have metering events loaded by the MEP
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	2	5	16	6	-	2	-	-	All were corrected. See **section 3.6**.
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	-	2	1	-	-	6	7	Two ICPs where shared UML has been removed by the distributor, but TODD was still submitting this load. See **section 3.7**

Item No.	Issue	2023 Qty	2022 Qty	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
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.

These new data accuracy discrepancies were identified, and found not to be resolved as soon as practicable:

- 0000179220TR119 was upgraded from NHH to HHR on 5 April 2022, and the ICP was updated to HHR profile the day after the meter change instead of the day of the meter change,
- 0000173047TR764 was downgraded from HHR to RPS on 13 October 2022; the change should have been processed from 14 October 2022, and
- seven ICPs with inactive consumption did not have their status updated to "active" for the periods with consumption as discussed in **section 3.9**.

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, apart from:

- ICP 0000081478TR1F3 which 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; volume and ICP days submissions are correct because consumption and ICP days are reported regardless of status,
- two 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, and
- seven ICPs with generation recorded by the distributor and I flow metering where TODD did not record a generation profile and did not have their profiles corrected to RPS PV1 until during the audit.

Submission data accuracy

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.

[1] ICPs 0000165673CK414, 1000028279BP1F9

	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. Peer reviews of the calculation and correction in Orion are conducted on newer members of the team to ensure these are applied accurately. The revised readings are applied by the reconciliation process when calculating historic estimate. TODD provided ten examples of potentially defective meters. Three were confirmed not to be defective meters but related to relay or hot water faults. Four ICPs still have outstanding service requests due to the initial service requests being closed due to customers missing appointments for the technicians to attend these sites. • ICP 0001450521PC4E7 was confirmed to be a faulty meter and the meter was replaced on 10 March 2023 and no correction was applied for the affected period. • ICP 0000923413TU251 There was returned paperwork from a fault service request indicating the meter was bridged and no consumption was recorded on the UN register between October 2022 and February 2023. No investigation has been completed to confirm the status of the meter for this period and no correction has been applied. • ICP 0110006013EL580 was advised by the distributor as being bridged as part of a supply fault. The meter was replaced on 21 March 2023 and the removal read confirmed that replaced meter was not advancing from since the original fault was reported on 16 January 2023. No correction has been applied. I rechecked ICP 0000177620HB50F which did not have a correction for bridged consumption at the time of the previous audit, and confirmed the correction has now been processed.
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. One example of a multiplier discrepancy was provided, and submissions were corrected accurately.
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 un-bridged. 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 un-bridged 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 are always copied into an Orion activity for future reference. TODD provided a list of 72 ICPs where the meter had possibly been bridged during the audit period. I checked a sample of 28 and found 27 had not been bridged, and one had been bridged but a correction had not been completed. The affected ICP is: • 0000542837TU334 bridged 21 November 2022 to 11 January 2023. TODD also analysed returned field service paperwork to confirm that all bridged/bypassed meters reported in the returned paperwork were being identified and reported to the AMI MEP to un-bridge, and for TODD to apply a volume correction. 18 bridged metered ICPs were identified from 1,722 service requests analysed. Only three were notified to the AMI MEP to arrange for the meter to be un-bridged and corrections had been applied. TODD have now implemented a daily monitored report looking for the words "bridged" or "bypassed" in returned field service paperwork to then create a field service request to the AMI MEP to un-bridge and recertify. All 15 remaining sites now have jobs logged to un-bridge these meters. TODD is also planning to extend the report to also search for abbreviations and misspellings of the words bridged and bypassed.
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 46 ICPs where 5,153.41 kWh of consumption while inactive had been identified was provided by TODD. 33 of the ICPs had 1 kWh of consumption. I checked all 13 ICPs with more than 1 kWh of inactive and found: • the inactive consumption was not genuine for two ICPs, • one ICP had its period of supply by TODD removed by a withdrawal, and • the other ten ICPs had their inactive consumption reported. Disconnection and reconnection reads are not treated as validated actual readings in the historic estimate calculations. The historic estimate process uses seasonal adjusted shape values to apportion the read-to-read consumption between reconciliation periods, and some consumption may be allocated to periods that are genuinely inactive if disconnection and reconnection boundary readings are not applied. I recommend in **section 12.11** that TODD considers validating disconnection and reconnection reads for use in the historic estimate process. The previous audit non-compliances relating to an incorrect status dates have been cleared.
Unmetered load corrections	TODD records unmetered load against a dummy UML meter register, by entering reads which are calculated as the previous read + (number of days in the read to read period x daily unmetered kWh). Where a change to unmetered load is required, the customer's invoices will

	be reversed and the readings for the unmetered load register will be adjusted to reflect the new daily unmetered kWh. I checked two unmetered load corrections and found that the readings had been correctly adjusted, but the historic estimate process had not apportioned the consumption into the correct periods. This was because month end readings were not entered, and the consumption was be profiled between reconciliation periods using seasonal adjusted shape values. The affected ICPs are 0000540558TU552 (unmetered load removed 19 July 2022) and 0000540559TU917 (unmetered load removed 19 July 2022).
Outcome of RR process not reflected in Orion	The reads recorded in TODD's system reflected the outcome of the RR process except for ICP 0000213279UND34 (transfer date 15 December 2022 – read 82860 actual read) where the RR was rejected by the losing trader on 1 February 2023 (proposed read amendment 82744 – estimate read) however the amended readings were entered and activated into Orion due to human error resulting in an under submission of 116 kWh.

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

Meter change and profile change submission inaccuracies	The following submission accuracy issues were identified for ICPs which had undergone meter or profile changes: • ICP 0005083575RN47D had overstated consumption of 761 kWh for September 2022 HHRAGGS submissions at ISL0661. A closed meter had its closing read removed by a system bug, and the HHRAGGS process treated the meter as if it was open and created estimated consumption. The issue is explained in more detail in **section 11.4**. TODD has corrected the data and revised submission information will be provided for revision 7. • the ICP days and volumes were duplicated for ICP 0003875008AL995 for December 2022 because it was active in Orion and Stark as HHR, which resulted in over submission of 28,574.3 kWh and 31 ICP days; the issue has been resolved, and revised data will be provided through the wash up process, • 1000510763PC9CF was upgraded from NHH to TOU on 21 December 2022 and the profile change coincided with a network pricing change; the HHR meter was not properly set up in Stark to receive data until a meter change on 7 February 2023, so zeros had been estimated from 21 December 2022 until 6 February 2023, and • 0000036953DE5C4 was downgraded from HHR to RPS on 27 August 2022; HHR data after the downgrade was not removed from Stark and the ICP was reported as both NHH-RPS and HHR-HHR until 31 October 2022 - the ICP had appeared as an exception in the pre submission checks between reconciliation reports and the registry list but had not been actioned.
Missing submission information for backdated switch	ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022. Correctly calculated volumes have been included in NHH submissions for the October 2021 submission period onwards, and consumption for submission periods from November 2019 to September 2021 has not been reported. A correction to capture the unreported consumption could have been created, had the reconciliation team been made aware of this issue. A recommendation is raised in **section 12.2**.
Unmetered load submission inaccuracies	Unmetered load is managed by recording meter readings against a UML registers. Historic estimate is calculated for these UML registers according to the same process as metered registers. If there are not end of month readings, the consumption will be profiled between reconciliation periods using seasonal adjusted shape values if reads are available, or forward estimate will be calculated. The values calculated using this process will differ from the expected values unless there are end of month readings entered on the last day of every

	month. I found that TODD is not entering readings for unmetered load registers at the end of each month, and in some cases reads are not entered monthly (for example 0000015347CP9D8 had no reads entered between 10 August 2022 and 8 March 2023). I checked a sample of 12 ICPs with unmetered load and found that there were submission differences of up to ±7 kWh per ICP per month. The impact is low because the total consumption reported between reads is expected to be correct, but the process may incorrectly apportion that consumption between reconciliation periods. I also checked two unmetered load corrections and found that the readings had been correctly adjusted, but the historic estimate process had not apportioned the consumption into the correct periods. This was because month end readings were not entered, and the consumption was be profiled between reconciliation periods using seasonal adjusted shape values. The affected ICPs are 0000540558TU552 (unmetered load removed 19 July 2022) and 0000540559TU917 (unmetered load removed 19 July 2022). Three standard unmetered load ICPs were found to have a daily kWh value that was different to a calculation derived from the distributors UNM details information: • ICP 0000464841HB763 recorded a daily kWh value of 0.001 kWh per day for an ICP with a 378 Watt under veranda light; the correct value is 4.46 kWh per day, and • ICPs 0000541042TU9CB and 0000512100WP556 had different hours of operation between the trader details and the distributors details; TODD have now adopted the distributors operational hours in their calculation of daily kWh values. These three ICPs do not appear on TODDs mismatch report as the distributors UNM details field is not formatted to enable an automated calculation to be applied. The impact of these three incorrect daily kWh values was assessed to be 2,394 kWh per annum.
Replacement of HHR estimates	It is expected that HHR estimates will be replaced by actual data when it is received. C&I meters and AMI meters managed in Orion automatically have their estimates replaced. AMI meters (managed in Stark because the network's price category code requires kVar) must be manually triggered to update if actual data is received. The process to identify and manually trigger updates was being managed by checking the initial data collection status to the current data collection status prior to submission. When the process was handed over to a new staff member, the focus changed to checking data for the current month only, so older estimated data was not consistently checked to determine whether actual data had been received. TODD intends to reinstate this check. I checked a sample of six estimates where later actual data was received and found two where the estimated data was not replaced, because monitoring of the collection status was temporarily not completed for months earlier than the current submission month. The affected ICPs have now had the estimated data replaced with actual data, and checks to identify replacement data and replace estimates have been reinstated. TODD intends to review its historic data to identify any other ICPs which require replacement of estimate data since responsibility for monitoring the collection status changed.
Arc Innovations meters settled as HHR.	As noted in the previous audits, 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. 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 62 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.

Comparison between meter categories and meter multipliers found 416 ICPs with metering category two or higher with the meter multiplier flag set to no. MTRX who applies multipliers within the meter were the MEP for the majority of these. I recommend that TODD develops a process to check ICPs where a multiplier is expected but it not present, to ensure that meter data is being correctly managed.

Description	Recommendation	Audited party comment	Remedial action
Periodically check meter category 2 or higher meters with no multiplier	**TODD** At least 6-9 monthly, check ICPs with meter category 2 or higher meters with no multiplier, so that any multiplier issues can be resolved prior to revision 14.	**TODD** **Recommendation accepted.** Nova will include blank, 1 or NULL multipliers for category 2 meters in existing daily integrity reporting to identify Orion mismatches against the registry.	Identified

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.

Any discrepancies are investigated and resolved.

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

Item No.	Issue	2023	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 or backdated switches where a status update was also required.
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.

Item No.	Issue	2023	2022	2021	2020	2019	2018	Comments
7	Incorrect ANZSIC code	1	-	-	-	-	1	Has been updated on the registry.
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 six examples of possible defective meters. Four had meters replaced and two had communications issues resolved and 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 un-bridged, 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 15 examples of bridged meters and in all 15 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 un-bridged.
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). 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 13 ICPs with "inactive" status and consumption after the final reading on the customer's account. Nine had consumption of 1 kWh or less and I checked the three which had consumption over 1 kWh, two 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 (0075243817WED83) was advised by the MEP as being remotely disconnected on 30 November 2022, but consumption was detected as occurring from 6 December 2022 so a second attempt to remotely disconnect the ICP was made on 12 December 2022 which resulted in volumes no longer being detected. The registry status was amended to reflect the correct status for the period consumption was detected therefore the volume recorded between 6 to 12 December 2022 has 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 at least once a week, 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	2023	2022	2021	Jan 2020	May 2019	Jan 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.

Item No.	Issue	2023	2022	2021	Jan 2020	May 2019	Jan 2019	Comments
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.

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	A sample of six possible defective meters were provided. The MEP was notified in all cases. Five were confirmed as comms faults and there was no impact to the data and one correction in relation to ICP 0001259732UN72C where an actual read was not able to be obtained were correctly processed using estimated data from historic consumption.
Inactive and vacant ICPs with consumption	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. HNET provided a list of 19 ICPs with "inactive" status and consumption after the final reading on the customer's account. All had consumption of 1 kWh or more and I checked all ICPs and found: • 13 had registry status updates to "active" applied from the reconnection date resolving the inactive consumption exception, and. • six ICPs appeared to have been reconnected by third parties prior to switching away indicating the switch event date is incorrect; in these cases, HNET provides the disconnection reads in the CS file to ensure no inactive consumption resides with HNET,

	however, if the gaining trader was to submit a proposed read change (RR) and this is accepted by HNET then this inactive consumption is now the responsibility of HNET so a recommendation is recorded in **section 3.9.** Five ICPs with vacant consumption were checked and confirmed that the volume has been submitted correctly. As described in **section 3.3**, the status is managed through the "Disco Reco Manager".
Bridged meter corrections	HNET provided a list of one ICP which had bridged meters at some time during the audit period. ICP 1001288398LCA09 was identified from analysis undertaken where a customer has multiple retail products with HNET however no consumption is recorded on the electricity ICP. The MEP was notified via a service request to investigate the potential stopped meter where the bridged meter was identified. The meter was un-bridged and resealed, and a volume correction applied.
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-22 To: 31-May-23	**TODD** Some inaccurate data was not corrected as soon as practicable. Profile discrepancy on the day of meter change for upgrades and downgrades. Volume corrections for three ICPs with defective meters have not been applied. Volume corrections not applied for bridged ICP 0000542837TU334 between 22 July 2022 to 11 January 2023. Two unmetered load corrections applied without virtual boundary reads resulting in the apportionment of consumption volumes applied into incorrect periods. ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022. and consumption for submission periods from November 2019 to September 2021 has not been reported. ICP 0329488094LC1C3 did not have its HHR estimates for December 2022 replaced. **WISE** One ICP had an incorrect ANZSIC code which has now been updated. 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: Some inaccurate data was not corrected as soon as practicable. • See sections 3.3, 3.5, 3.8, & 6.1 Profile discrepancy on the day of meter change for upgrades and downgrades. • Process will be updated to change registry profile between HHR and RPS the day after a meter change instead of the day of the meter change. Volume corrections for three ICPs with defective meters have not been applied. • See section 6.4 Volume corrections for two bridged metered ICPs have not been applied. • See section 6.4 Two unmetered load corrections applied without virtual boundary reads resulting in the apportionment of consumption volumes applied into incorrect periods. • The process has been updated to include month end readings to prevent reoccurrence, but as these closed over 14 months ago the ICPs in question are unable to be corrected. ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022. and consumption for submission periods from November 2019 to September 2021 has not been reported. • ICP mix up with MERI. Backdated correction of ICPs 0000033012TCD70 & 0000033014TCCFF back to 2019 during Oct22. • 2,168.45 kWh not submitted by TODD in Nov19-Sep21 R14 washups for 0000033012TCD70. • A correction to capture the unreported consumption in the May22-Oct22 R14 washups has been made by inserting a May22 permanent estimate read into the billing system on 23/06/2023. ICP 0329488094LC1C3 did not have its HHR estimates for December 2022 replaced. • ICPs reconciled in STARK will be checked over to ensure there are no more outstanding ICPs that contain estimates that have not been replaced with actuals where actual data has been provided. Once these ICPs have been cleared out, any gaps in the process will be investigated to help prevent reoccurrence. **WISE Response:** One ICP had an incorrect ANZSIC code which has now been updated. See section 3.6	Ongoing	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.	Ongoing	

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, and the data transmission process was confirmed to be compliant during their agent audits.

The data received from AMS and EDMI is imported into EnergyMarket's EIEP3 table. An output file in standard time format is generated, which is imported into Stark. As part of the import process Stark clears the existing data it holds and replaces it with the new import file. Any estimates or corrections are entered into Stark, and the import process ensures that estimates will be replaced with actual data if it is received at a later date. Stark holds the trading period data with the NZST and NZDT.

Before reconciliation reports are run, Stark data is extracted and imported back into EnergyMarket, which generates the HHR volumes and aggregates submissions.

I traced a sample of raw HHR data to the aggregates submissions, and compliance is confirmed.

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 four 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.

I traced a sample of raw HHR AMI data to the aggregates submissions, and compliance is confirmed.

Generation data obtained by TODD

The Stark system retrieves meter information from the generation meters every half hour. 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.

Manual readings

Manual NHH data is provided by Wells and MRS via SFTP. I traced a diverse sample of reads for 12 NHH ICPs read by MRS and Wells from the source files to Orion. 24 of these were routine reads and one was a special read. I confirmed that the correct readings and read dates were recorded against each meter register for eight ICPS and for four ICPs the reads were labelled as misreads:

- one of the examples checked (ICP 0000076630TRAB9) the read was labelled as a misread as it was out of line with the previous read history; a meter change had occurred on this ICP which was the cause of the potential misread,
- two ICPs reported access issues in the no read code returned however a read of zero was also returned which as labelled as a misread in Orion, and
- ICP 0000002722UNF74 initially provided a read that was out of line with expected consumption patterns so was labelled as a misread and a check read was requested; the check read and accompanying photo confirmed that the initial read was correct (new connection – minimal previous consumption history) and the check read was used for reconciliation purposes.

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 seven NHH ICPs from the source files to the WISE system covering all MEPs. All the reads matched the source files.

HNET

NHH

All MEPs transfer meter reading information to HNET 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 the AMS 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 flow through to EnergyMarket overnight, and can be triggered manually where immediate update is required.

WISE

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

HNET

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

The WISE 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

The WISE 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 supports other parties to obtain access to installations by providing customer contact information and liaising with customers as necessary. HNET identified one instance where access could not be arranged during the audit period under clause 10.7 relating to ICP 0436764334LC885. The MEP was attempting a Cat 1 inspection and was unable to contact the customer to arrange an appointment. The Work order was eventually turned down by the MEPs field service provider. HNET did not follow up with the customer to arrange access for the MEP. HNET is checking with the MEP to determine if a site visit is still required to complete this compliance work.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.6 With: 10.7(2),(4),(5) and (6) From: 01-Mar-22 To: 31-May-23	**HNET** Access was not arranged for one ICP 0436764334LC885 to enable the MEP to complete meter compliance work. Potential impact: Low Actual impact: Low Audit history: None 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 because only one ICP was affected.

Actions taken to resolve the issue	Completion date	Remedial action status
HNET Response: Non-Compliance accepted. HNET is in the process of coordinating a site visit with the customer and the MEP contractors to allow access for work to be completed.	31 August 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
HNET: HNET will continue to work with MEPs to meet the code timeframes.	Ongoing	

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 via either a website enquiry using a basic new connections form, customer calling the call centre or via one of the commercial account managers. TODD 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 and a customer agreement is confirmed to be in place, 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:

- 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,

- 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,
- 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 (this report is now a sharepoint list to improve visibility),
- 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,
- the daily InitialEnergisationDate_Vs_MeterInstallCertDate and InitialEnergisationDate_Vs_TraderStatusDate date reports identify potential active date discrepancies which require investigation,
- 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 and 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, and
- 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 same 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 five "active" ICPs with metering category 9, null, or zero which did not have unmetered load indicated. Four ICPs now have metering event records present in the registry and align with the "active" status date. ICP 0234172045LCFD4 was also identified in the previous audit. The current MEP believes their meter has been replaced by another MEPs so have end dated the meter recorded on the registry as at the site visit date in Sept 2020. TODD are still receiving reads from this meter via Wells manual meter reading and have obtained a photo from April 2021 to confirm that the meter is still at this ICP and is recording volume. TODD have attempted more recent site visits to capture an up-to-date photo of the installed meter and enable location information to be verified, however these have been unsuccessful due to access issues. TODD are continuing to work with the MEP to reinstate the metering event information so that the correct meter is recorded on this ICP.

A sample of 41 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 number of new connections, the 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 change the status to "active". There is no automated interface between HNET's system and the registry, and all changes are loaded directly to the registry by the operator, as discussed in **section 3.5**.

There were 11 new connections completed during the audit period. Eight were claimed within five business days and the status updated to 1,12 until the meter was installed. Three were late due to late paperwork received from the MEP confirming the correct initial electrically connected date (IECD). This is recorded as non-compliance in **section 3.5**.

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 five "active" ICPs with metering category 9, null, or zero which did not have unmetered load indicated. Four ICPs now have metering event records present in the registry and align with the "active" status date. ICP 0234172045LCFD4 was also identified in the previous audit. The current MEP believes their meter has been replaced by another MEPs so have end dated the meter recorded on the registry as at the site visit date in Sept 2020. TODD are still receiving reads from this meter via Wells manual meter reading and have obtained a photo from April 2021 to confirm that the meter is still at this ICP and is recording volume. TODD have attempted more recent site visits to capture an up-to-date photo of the installed meter and enable location information to be verified, however these have been unsuccessful due to access issues. TODD are continuing to work with the MEP to reinstate the metering event information so that the correct meter is recorded on this ICP.

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 eight ICPs which did not have full certification within five business days of initial electrical connection:

- three were permanent unmetered load or unmetered builder's temporary supplies and were not expected to have metering on initial electrical connection,
- four ICPs were certified on the "active" status date, but the MEP updated the registry late, and
- for ICP 0000573669NR27F TODD became the trader effective 27 June 2022 however the meter was installed on 9 December 2021 when the ICP was with another trader and the ICP livened, however there was insufficient load to complete the certification work until 21 December 2022 at which point the livened date was confirmed with both TODD as the current trader and the distributor.

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 smart 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 42 ICPs which did not have full certification within five business days of reconnection. A sample of ten were reviewed and found:

- four ICPs (0348969848LCC6E, 0076080358WE6B5, 0365315591LCC77, 0331891042LCCDC) were identified via the consumption on inactive ICPs report and the status update to "active" was applied to ensure the consumption volume was included in submission; TODD did not initiate a reconnection of these ICPs,
- one ICP (0006115128RN28C) has subsequently switched out,
- three have a work order in progress with the MEP to have the meters replaced,
- one work order was not completed (ICP 0000234023UN007) due to customer not being available to provide access, and
- no work order has been raised for one ICP (0000044675UNDE7) due to it being a vacant site, so no contact details are available to arrange access.

Active monitoring of the meter installation certification status at the time of connection/reconnection has now been resumed by the smart metering team. The report currently has 34 registers (relating to a smaller number of ICPs) and efforts are being made to reduce this list.

Meter recertification for un-bridged meters

TODD provided a list of 72 ICPs from the bridged meter report where the meter had possibly been faulty or bridged during the audit period. I checked a sample of 28 and found 27 were confirmed as being a non-consuming meter register and were not faulty or bridged, and one had been bridged:

- ICP 0000542837TU334 was bridged between 22 July 2022 to 11 January 2023 and the meter was recertified as part of the un-bridge task.

TODD also analysed returned field service paperwork to confirm that all bridged/bypassed meters reported in the returned paperwork were being identified and reported to the AMI MEP to un-bridge and for TODD to apply a volume correction. 18 bridged metered ICPs were identified from 1,722 service requests analysed. Only three were notified to the AMI MEP to arrange for the meter to be un-bridged and corrections had been applied. TODD have now implemented a daily monitored report looking for the words "bridged" or "bypassed" in returned field service paperwork to then create a field service request to the AMI MEP to un-bridge and recertify. All 15 remaining sites now have jobs logged to un-bridge these meters. This is recorded as non-compliant in **section 2.17.**

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

The AC020 report recorded two ICPs which were not fully certified within five business days of reconnection. The two late certifications were due to human error as the exception report was not being monitored and no work request was sent to the MEP in order for the meters to be certified. WISE are reviewing their monitoring process to ensure ICPs in this scenario are escalated to the MEP so that certification work can be prioritised due to the reconnection activity.

ICP 0343355027LCB55 had been remotely reconnected by the AMI MEP on four separate occasions prior to the field work being completed to certify the meter. The certification expiry date for this ICP was amended by the MEP from 2025 to 4 August 2021 with an update date of 19 April 2022 meaning the AMI MEP was undertaking the reconnection activity on a meter with expired certification on behalf of the trader therefore The AMI MEP was aware of the requirement to arrange the required certification work as part of any subsequent reconnection activity.

ICP 0000423573WECAD had been remotely reconnected (22/07/2022) and however no service request was provided by WISE to arrange for the meter to be recertified as part of the reconnection activity. The meter was replaced and certified on 03/05/2023. The certification expiry date for this ICP had been amended by the MEP from 2036 to 8 February 2022 with an update date of 8 February 2022, meaning the AMI MEP was undertaking the reconnection activity on a meter with expired certification behalf of the trader and therefore was aware of the requirement to arrange the required certification work.

Bridged meters

WISE provided a list of 15 ICPs which had bridged meters at some time during the audit period. 14 were recertified by the MEP when un-bridged. ICP 0030284093PC947'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 un-bridged. However, the service request was turned down by the MEP advising that they would re-certify at a later date. No follow up activity or recertification has occurred therefore non compliance is recorded.

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 four ICPs which were not fully certified within five business days of reconnection. These were reviewed and found:

- ICP 0003133356AA83A had an AMI meter installed in 2019 and the certification expiry date was initially recorded as May 2034 which was then amended to August 2021 with an event date of 24 November 2022 (the day prior to the reconnection); both the MEP and status update dates are recorded as 24 November 2022 and this exception was not identified by HNETs reporting as at the time of the reconnection, the ICP was fully certified - HNET is following this ICP up with the MEP,
- two ICPs are awaiting meter replacements:
    - the recertification request by HNET for ICP 0000111277UN15B was turned down by the MEP as it relates to a non-AMI meter and the MEP has requested a meter change work order to resolve this issue; the metering installation is now fully certified,
    - ICP 0000193901UNAE2 – the customer has requested a meter change and a meter change work order has been issued, and
- ICP 0229566049LC81B was initially delayed as landlord permission was required to allow this work to be undertaken; the metering installation is now fully certified.

Bridged meters.

HNET provided one ICP which had bridged meters during the audit period. ICP 1001288398LCA09 was identified from analysis undertaken where a customer has multiple retail products with HNET however no consumption is recorded on the electricity ICP. The MEP was notified via service request to investigate the potential stopped meter where the bridged meter was identified. The meter was un-bridged and resealed and certified, and a volume correction applied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: 10.33A From: 03-Mar-22 To: 01-Feb-23	**TODD** 38 ICPs did not have full certification within five business days of reconnection. **WISE** Two ICPs did not have full certification within five business days of reconnection. ICP 0030284093PC947 was not recertified on resolution of the tamper. **HNET** Three ICPs did not have full certification within five business days of reconnection. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong. 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. 38 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. **WISE Response:** Non-Compliance accepted. Two ICPs did not have full certification withing five business days of reconnection. • Both ICPs now had had their meters replaced and certification updated accordingly. ICP 0030284093PC947 was not recertified on resolution of the tamper. • The request to re-certify the meter has been re-issued to the MEP and is in progress. **HNET Response:** Non-Compliance accepted. Three late certifications for reconnections • One is now fully certified. • Two ICPs still have work in progress. HNET will continue to monitor the progression of this work to ensure it is completed as quickly as possible	Ongoing July 2023 August 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Non-compliance will continue to occur as certifications continue to expire. • Nova will continue to work with MEPs to improve processes in order to meet the code timeframes. **WISE & HNET:** WISE & HNET will continue to work with MEPs to meet the code timeframes	Ongoing	

2.12. Arrangements for line function services (Clause 11.16)

Code reference

Clause 11.16

Code related audit information

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

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

Audit observation

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 Marlborough Lines network during the audit period. WISE falls under the umbrella of Nova UoSA with this distributor therefore an agreement is confirmed as being in place.

HNET

New networks are added to HNET's system once an arrangement is in place via updated pricing tables from NOVA as pricing will be only made available where network agreements are in place. There is also 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 previously demonstrated that arrangements in place with all MEPs for their ICPs, with the exception of WASN. TODD is currently investigating this, and in the interim read attainment services are being provided by WASN by way of an informal agreement to provide data services. The registry list recorded 36 active ICPs with WASN meters.

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 (COUP), AMS (NGCM), ARC(ARCS), IntelliHUB (MTRX, IHUB), or WEL Networks (WASN) are the MEP, and that AMI metering is installed, prior to accepting a customer application.

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 ensures any ICPs that are subsequently withdrawn are able to be returned to the disconnected state.

HNET

HNET has a process to re-disconnect any switched ICPs that were reconnected as part of the switch in process but subsequently withdrawn.

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. TODD's field service provider has a mix of technicians who are qualified to complete the required function test and reseal activity on behalf of the MEP, while on site where the technician had to break a seal to undertake the field work (such as un-bridge a non-communicating AMI meter). This reduces the frequency of TODD being required to generate service requests for this task to be only where the technician is unqualified to perform the function test and reseal task on the MEP. A review of a sample of five broken or missing seals notifications from the returned paperwork confirmed that the seals were replaced.

WISE

Two examples of notification of broken seals were identified for WISE during the audit period:

- ICP 0327047968LC5E3 was a retrospective notification by the MEP who identified a broken seal and then had the seal replaced as part of the scheduled Cat 1 inspection for the ICP, and
- ICP 0030284093PC947's was identified as a meter tamper and WISE raised a service request for the MEP to recertify the ICP once it had been un-bridged; however, the service request was turned down by the MEP advising that they recertify at a later date.

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.

TODD provided a list of 72 ICPs from the bridged meter report where the meter had possibly been faulty or bridged during the audit period. I checked a sample of 28 and found 27 had not been faulty or bridged, and one had been bridged:

- ICP 0000542837TU334 was bridged between 22 July 2022 to 11 January 2023 and no correction was applied.

TODD also analysed returned field service paperwork to confirm that all bridged/bypassed meters reported in the returned paperwork were being identified and reported to the AMI MEP to un-bridge and for TODD to apply a volume correction. 18 bridged metered ICPs were identified from 1,722 service requests analysed. Only three were notified to the AMI MEP to arrange for the meter to be un-bridged and corrections had been applied. TODD have now implemented a daily monitored report looking for the words "bridged" or "bypassed" in returned field service paperwork to then create a field service request to the AMI MEP to un-bridge and recertify. All 15 remaining sites now have jobs logged to un-bridge these meters. TODD is also planning to extend the report to also search for abbreviations and misspellings of the words bridged and bypassed.

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 un-bridged. 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**.

The previous audit issue for ICP 1099569767CN556 has been cleared.

WISE

15 bridged meters were identified for WISE. 13 ICPs were bridged by either the MEP or field service provider because the remote reconnection failed, one was found to have been bridged prior to switching to WISE, and one was confirmed as a tamper. The metering installation was recertified at the time the bridge was removed for the 14 bridged meter ICPs however the meter tamper ICP was not confirmed as recertified at the time of unbridging. While WISE did raise a field service request, this was turned down by the MEP advising that they would recertify at a later date. 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 provided a list of one ICP which had bridged meters at some time during the audit period. ICP 1001288398LCA09 was identified from analysis undertaken where a customer has multiple retail products with HNET however no consumption is recorded on the electricity ICP. The MEP was notified via a service request to investigate the potential stopped meter where the bridged meter was identified. The meter was un-bridged and resealed, and a volume correction applied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.17 With: Clause 10.33C and 2A of Schedule 15.2 From: 01-Jun-22 To: 31-May-23	**TODD** 15 ICPs where the MEP was notified of a bridged meter later than one business day from when TODD was notified. Volume corrections not applied for bridged ICP 0000542837TU334 between 22 July 2022 to 11 January 2023. Potential impact: Medium Actual impact: Unknown Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	For TODD the controls are rated as moderate. While there was some reporting in place it was not effective during the audit period. Additional reporting was implemented during the field audit to identify through a key word query that scans across all returned service request paperwork looking for words and phrases that indicates a meter has been bridged or bypassed. The controls around processing corrections are not sufficient to ensure that these are consistently processed. The audit risk rating is low based on the number of ICPs with bridged meters identified.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance Is accepted. • The MEP has been notified with jobs raised to resolve for the 15 identified meters in June 2023. See Section 6.4 • Volume correction for the impacted ICP is being processed and will be completed by 30 July 2023	30 July 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Enhanced reporting for the identification of bridged meters has been established. See section 6.4. • Further training and resource allocation for the management of stopped meters, including bridged and by-passed will be a focus for Nova moving forward.	Ongoing	

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

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 the WISE website, and
- on the WISE 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

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 the WISE website, and
- on the WISE 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 for remote disconnection status updates. 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 resourcing issues which have now been largely resolved. TODD provided an updated AC020 report for March 2022 to January 2023, which showed that the timeliness of status and trader updates improved later in the audit period.

<u>Status updates to “active”</u>

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
	2023	**217**	**84.25%**	**15.4**

On the original AC020 report, there were 107 reconnected ICPs where the notification date was more than 30 business days after the event date, and 81 ICPs where notification was more than 100 business days after the event date. The latest update was 370 business days after the event date. The 15 latest updates were reviewed:

- six were found to be corrections where consumption during inactive periods had been discovered as part of data cleansing,
- eight were related to ICPS identified with inactive consumption identified late due to the report not being actively monitored; the ICPs required an update of the status to ensure volumes are included in submission, and
- one was due to user error where the reconnection paperwork was received late by TODD but was immediately filed and not actioned.

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
	2020	39	98.34%	3.95
	2021	29	98.64%	1.91
	2022	146	94.54%	5.41

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
	2023	**62**	**96.81%**	**3.15**

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

The other 57 late updates recorded on the original AC020 report were reviewed. There were 25 disconnected ICPs where the notification date was more than 30 business days after the event date, and 18 ICPs where notification was more than 100 business days after the event date (five were "electrically disconnected ready for decommissioning"). The latest update was 322 business days after the event date. I checked the five latest (or all late) status updates to each disconnection status reason code and found:

- four late updates were status reason code corrections due to human error,
- for one ICP there was an internal delay between team notifying that a disconnection had occurred due to a fire at the ICP,
- ten related to late paperwork from either MEPs or distributors,
- one ICP (0008762650CN572) the late status update was due to inactive consumption being detected requiring an update of the status to "active",
- eight related to incorrect status date corrections due to human error selecting the incorrect status date initially,
- one ICP (0000052652CP4CA) required a correction to the inactive period end date as the ICP was reconnected by the gaining trader for a date that did not align with the requested transfer date; TODD did not identify this at the time of the switch to enable an amendment of the transfer date to align with the reconnection date as the inactive consumption report was not being actively monitored at the time so TODD amended the status within its tenure to ensure the connection status was correctly reflected and all consumption volume was included in submission,
- one ICP (0000691743TUA69) switched to TODD on 3 August 2021 and the customer moved out shortly after; site visits in early 2022 confirmed ICP was undergoing renovations and the meter board including the meter had been previously removed and attempts to install a new meter have been unsuccessful as no COC/ROI is present, the site remains vacant and the status reason code remains incorrect as "electrically disconnected due to meter disconnected', and
- one ICP (1002158202LC555) has an incorrect status reason code as "electrically disconnected at meter box switch" when this is a new connection, and the status reason code should be "inactive - new connection in progress".

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

2023	**464**	**97.73%**	**3.65**

47 of the late updates related to submission type changes, which were mostly applied as part of an annual review of submission types and profiles. 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.

221 trader updates on the original AC020 report were more than 30 business days after the event date, and 114 updates were more than 100 business days after the event date. The latest update was 2,319 business days after the event date. I checked a sample of late updates as described in the table below.

ANZSIC updates - changes	The ten latest updates were checked and found to be ANZSIC code corrections where TODD identified exceptions and backdated to when TODD believe the ANZSIC code update was valid for. The trader event details were correct.
Unmetered load	The six latest updates were checked and found to be corrections to the unmetered load information due to previous user error. The trader event details were correct.
MEP nominations	I checked the ten latest MEP nominations and found: • four were late nominations as part of AMI meter deployment programs, • four were revised nominations to select the correct proposed MEP as part of AMI meter deployment programs, • one was a missed MEP nomination at the time the service order was raised, and • one was due to a meter change occurring due to a previous trader's meter change request being actioned post switch.
Profile updates	Five 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 where late paperwork from the MEP was the cause of the delay.
Submission type updates	The 11 latest updates were checked and found eight were changes to submission type following review of AMI data to determine whether NHH AMI ICPs are eligible to move to HHR profile. Three were due to meter changes where TODD is not able to obtain AMI data from the MEP. The trader event details were correct.
UNM Flag updates	One late update was checked and found to be a correction where the initial population of unmetered load flag was initially incorrect due to user error.

The AC020 report recorded 632 ANZSIC code updates more than 20 business days after initial electrical connection or switch in. I checked the ten latest updates and found nine were delayed by backdated new connections or switch completion and one was related to TODD resolving exceptions identified and backdated to when TODD believe the ANZSIC code update was valid for.

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
	Jan 2023	**10**	**99.02%**	**0.87**

On the AC020 report, there was one reconnected ICP where the notification date was more than 30 business days after the event date. This ICP (0000615136WE372) was reviewed, and it was found that a user had applied an incorrect event date to this status change and WISE had corrected this error on the same day it occurred therefore there was no impact of this incorrect event being recorded on the registry.

There were no notifications for more than 100 business days after the event date.

The other nine late updates were reviewed and eight were found to be due to backdated switching where a status update was also required once the switch was completed to reflect a reconnection had occurred on the switch event date.

The remaining late status event update was related to ICP 0383840260LC042 where a fire had occurred. The disconnection was applied from the date of the event. This ICP subsequently appeared on the inactive consumption report and a site investigation was undertaken that identified that the ICP had been reconnected by others. Wise was able to validate the "active" status date using the AMI reading received for this ICP and the status was updated within two business days of the outcome of the site investigation being reported to WISE.

<u>Status updates to "inactive"</u>

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
	Jan 2023	**5**	**99.66%**	**0.68**

Findings for the five late status updates were:

- one was a correction of an incorrect event date identified in the previous audit,
- one (ICP 1002056702LCCFC) was when there was notification that a fire had occurred at an ICP and a manual disconnection request initiated; when the field service technician attended the site it was found to be already disconnected by the distributor and the disconnection tag recorded the disconnection date as being some weeks earlier,
- one (ICP 0000156396HBB5A) 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 a new user being trained in this process to ensure WISE has sufficient coverage of this function if the subject matter expert is unavailable, and
- two (ICPs 0008112982HB234 and 1002059298LCDEF) were due to incorrect status reason codes being initially applied – in these cases only the reason code was updated; again, these errors can be attributed to the manual nature of the status management process and a new user being trained in this process to ensure WISE has sufficient coverage of this function if the subject matter expert is unavailable.

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. With the exception of one trader update described below, all other 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	-	-	-
Jan 2023	1	0	7

The AC020 report recorded one MEP nomination backdated by seven business days to align with the meter change date. WISE were not aware that a meter change request had been made by the previous trader to the MEP at the time the ICP switched to WISE, and no MEP nomination was present on the registry at the time of the switch. Once the MEP informed WISE that a meter change had occurred and requesting a MEP nomination, WISE completed the MEP nomination within two business days of this request.

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
	Jan 2023	**2**	**99.30%**	**0.78**

I reviewed the reasons for the two late updates to "active" status and found that both these 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
	Jan 2022	3	99.29%	0.20
	Jan 2023	0	100%	0.10

There were no late updates to "inactive" status during the audit period.

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

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	98.76%	0.76
Jan 2023	16	92.16%	2.66

15 of the 16 late updates were MEP nominations which were made within 16 business days of the event date.

- ten of these were due to the sale of an MEPs assets to another MEP and the request to nominate the new MEP was provided late to HNET, and
- the remaining five late MEP nominations were due to AMI deployment activities arranged by the losing trader prior to HNET gaining the ICP; HNET were unaware of the meter change request and only once the meter change paperwork was provided by the MEP was a nomination submitted.

The other late update was to replace a trader event and remove the space after the RPS profile code – as this was resulting in a false positive exception being reported by HNETs registry validation checks.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: 10 Schedule 11.1 From: 01-Mar-22 To: 31-May-23	**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: 2
Audit risk rating	**Rationale for audit risk rating**
Low	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 low this as the impact on submission accuracy is minor.

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. **WISE & HNET Response:** Non-Compliance accepted. Some registry information was not updated within 5 business days of the event. • HNET & WISE display ongoing 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.	Ongoing	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. **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.	Ongoing	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

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 20,708 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" 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 five active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. Four ICPs now have metering event records present in the registry and align with the "active" status date. ICP 0234172045LCFD4 was also identified in the previous audit. The current MEP believes their meter has been replaced by another MEPs so have end dated the meter recorded on the registry as at the site visit date in Sept 2020. TODD are still receiving reads from this meter via Wells manual meter reading and have obtained a photo from April 2021 to confirm that the meter is still at this ICP and is recording volume. TODD have attempted more recent site visits to capture an up-to-date photo of the installed meter and enable location information to be verified, however these have been unsuccessful due to access issues. TODD are continuing to work with the MEP to reinstate the metering event information so that the correct meter is recorded on this ICP.

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 15 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.

One MEP nomination was applied during the audit period, and this was accepted.

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 210 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" 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
2023	**249**	**61.69%**	**9.87**

TODD provided an updated AC020 report for March 2022 to January 2023. There has been a further decline in the percentage of updates on time and average business days since the previous audit. This has largely been again caused by resourcing challenges within the switching team who were responsible for new connections up to November 2022. Since November 2022 the smart metering team is now responsible for new connections.

There were 29 updates where the notification date was more than 30 business days after the event date, and 13 updates where the notification date was more than 100 business days after the event date. The latest update was 230 business days after the event date. I checked the ten latest NHH new connections and all late HHR new connections and found:

- that the correct status and event date were applied for 12 ICPS but ICP 0000168722CK37D was initially recorded with a connection date two days earlier than the correct date due to incorrect information initially provided by the MEP; the error was identified from TODD monitoring of "active" status events dates versus the distributors initial energisation completion date (IECD),
- nine were due to late paperwork from the MEP,
- two were due to internal delays processing returned MEP paperwork, and
- one was due to a delay due to an escalated query regarding the livening date for ICP 1000606675PCA7C as there were two ICPs with this address and investigations confirmed the livening dates were mixed up between these two ICPs.

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

The AC020 report recorded that 20,704 out of 20,708 ICPs had an MEP nomination accepted by the MEP within 14 business days.

New connection information accuracy

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, and
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 51 ICPs with date discrepancies. A sample of 18 exceptions were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	2	The status date was entered incorrectly for one ICP and was corrected during the audit.

Exception type	Quantity	Commentary
IECD ≠ active date and MCD = active date	4	The status date was entered incorrectly for one ICP (1002168874LCAA1) and this was confirmed by TODD as the IECD is prior to TODDs initial trader event date.
IECD ≠ active date and MCD ≠ active date	1	The status date for ICP 0000573669NR27F aligns with TODDs period of supply as this ICP was livened prior to TODDs tenure.
IECD = active date and no MCD	38	A sample of five were checked, and the correct status dates were recorded.
IECD ≠ active date and no MCD	1	The correct status dates were recorded.
IECD ≠ active date and unmetered		No exceptions identified
No IECD and MCD = active date		No exceptions identified.
No IECD and MCD ≠ active date		No exceptions identified.
No IECD and no MCD	4	Two of the status dates were correct, and two were entered incorrectly. ICPs 1099582903CNF3A and 0007201593RN687 have been updated to the correct "active" status date.
No IECD and unmetered	1	The correct status dates were recorded.
Total	51	

The incorrect status dates do not have an impact on submission accuracy, because any inactive consumption is reported.

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

Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Jan 22	2	78.85%	7
Jan 2023	**3**	**81.25%**	**4.25**

All three late updates were made within 13 business days of the event date and all three were due to late paperwork received from the MEP confirming the correct initial electrically connected date (IECD).

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

New connection information accuracy

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. No date discrepancies were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: 9 of schedule 11.1 From: 03-Mar-22 To: 01-Feb-23	**TODD** 249 late updates to "active" status for new connections. Four newly connected ICPs (of a sample of 18) had incorrect "active" status event dates. All were corrected during the audit. **HNET** Three 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. 249 late updates to active status on New Connections. • Nova completing compliant registry updates is impacted by MEPs providing accurate paperwork outside of retailer timeframes. • This is compounded by EA rules requiring retailers to update ICP within 5 days, while allowing MEPs 10 days. As retailers are reliant on MEPs for completion paperwork this discrepancy on timeframes causes contention. • Resource constraints within Nova have continued to cause delays in processing of paperwork once received. This is an area of ongoing focus. Four ICPS newly connected had incorrect "Active" status event dates recorded. • All four ICPs were corrected during the audit. See Section 3.8 **HNET Response:** Non-Compliance accepted. Three late updates to active status for New Connections All late updates were made due to late paperwork from the MEP confirming the correct initial electrically connected date.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • Nova is developing an improved method to track paperwork delays and reasons, to support closer management of MEP and contractor delivery. • Dedicated resource to the processing of new connection paperwork was implemented in February 2023. • Nova will continue to identify, develop, and implement processes to improve timely and accurate registry updates, and to work with our industry stakeholders to reduce the instances of late paperwork. **HNET:** • On-going work with our industry stakeholders to improve timely delivery of completed paperwork upon job completion, to reduce instances of late updates	Ongoing	

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

The process to capture and manage 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 the 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. The report includes 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 2 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 and where the distributor price category code indicates a non-residential supply. 89 were confirmed as being correct. One ICP has since switched away and two of the 100 ICPs have been confirmed as having incorrect codes and were updated during the audit. Eight ICPs are still under investigation by TODD.

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 ANZSIC codes and non-residential distributor price category codes. ICP 0000130320UN5F0 was confirmed as non-residential and the ANZSIC code has now been updated. WISE are still investigating ICP 0000563170UNFD4 which is rural and has Shed in the property name.

HNET

ANZSIC codes are checked as part of the credit check process. The company register is reviewed for business customers. An automated check is applied each week monitoring company names against key words and assigning ANZSIC codes based on these key words. This process does not have an independent review by a user prior to the ANZSIC code being updated and this can lead to incorrect ANZSIC codes being applied. I recommend that a check be added to this automated process to allow a user to review any proposed ANZSIC code changes prior to the updates being applied on the registry.

Description	Recommendation	Audited party comment	Auditor comments
Independently confirm ANZSIC code updates identified by automated word check program	**HNET** I recommend that a manual check is added to the ANZSIC code update program to enable a user to independently review any proposed ANZSIC code update identified by the automated work check program prior to any updates being made to the registry.	**HNET:** **Recommendation accepted** An additional manual check will be implemented when updating the ANZSIC codes by validating the business address or verifying the ANZSIC code from the New Zealand companies register	Identified

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-22 To: 31-May-23	**TODD** Two ICPs had incorrect ANZSIC codes applied. These have been corrected. **WISE** Incorrect ANZSIC code for ICP 0000130320UN5F0. **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 were assessed as strong, as there are validation reports to include all ICPs. The exceptions occurred before the validation process was updated. Controls for WISE are moderate because most ANZSIC codes are checked on switch in, and a small number of exceptions were identified overall. 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. Eleven ICPs had incorrect ANZSIC codes applied. • One corrected within audit • Two have switched away and are unable to be corrected. • Eight are currently under investigation. **WISE Response:** Non-Compliance accepted. One ICP had incorrect ANZSIC codes applied. • This was corrected during audit. **HNET Response:** Non-Compliance accepted. Two ICPs had incorrect ANZSIC codes applied. • All have been corrected during audit	31 August 2023 31 May 2023 31 May 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: The eight under investigation were identified within existing reporting, the complexity to resolve has prevented this being updated on the registry. **WISE:** • WISE has implemented a monitoring tool to identify discrepancies in ANZSIC codes. • Refresher training will be provided to staff members to ensure immediate action is taken to correct identified discrepancies. **HNET:** HNET will implement an additional check when updating ANZSIC codes by validating the business address or verifying the code using the company register	Ongoing	

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

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

Audit observation

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 293 ICPs with unmetered load connected. 79 have shared unmetered load and 214 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 monitored by the billing team, which identifies any new connections or switch ins with unmetered load so that the unmetered load can be validated and updated as necessary; the smart metering team reviews data for new connections and raises activities for the billing team where corrections are required.

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 five active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. Four ICPs now have metering event records present in the registry and align with the "active" status date. ICP 0234172045LCFD4 was also identified in the previous audit. The current MEP believes their meter has been replaced by another MEPs so have end dated the meter recorded on the registry as at the site visit date in Sept 2020. TODD are still receiving reads from this meter via Wells manual meter reading and have obtained a photo from April 2021 to confirm that the meter is still at this ICP and is recording volume. TODD have attempted more recent site visits to capture an up-to-date photo of the installed meter and enable location information to be verified, however these have been unsuccessful due to access issues. TODD are continuing to work with the MEP to reinstate the metering event information so that the correct meter is recorded on this ICP.

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.

Five ICPs (0007175862RNF50, 0000540879TU14A, 0000020066CPDC7, 0000020058CP9A4, 0000020051CP7F5) have unmetered load details recorded by TODD but no unmetered load details recorded by the distributor. TODD confirmed that the unmetered load is no longer present, and the registry has now been updated to reflect this.

The AC020 report recorded two 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.

Additionally, three standard unmetered load ICPs were found to have a daily kWh value that was different to a calculation derived from the distributors UNM details information:

- ICP 0000464841HB763 recorded a daily kWh value of 0.001 kWh per day for an ICP with a 378 Watt under veranda light; the correct value is 4.46 kWh per day, and
- ICPs 0000541042TU9CB and 0000512100WP556 had different hours of operation between the trader details and the distributors details; TODD have now adopted the distributors operational hours in their calculation of daily kWh values.

These three ICPs do not appear on TODDs mismatch report as the distributors UNM details field is not formatted to enable an automated calculation to be applied. I recommend that a manual check is undertaken periodically on ICPs where the distributor UNM details is not formatted consistently to ensure the daily kWh value is correctly calculated.

Description	Recommendation	Audited party comment	Auditor comments
Review of non-consistently formatted distributor UNM details in Daily kWh consistency checks	**TODD** I recommend that a manual check is undertaken periodically on ICPs where the distributor UNM details is not formatted consistently to ensure the daily kWh value is correctly calculated	**TODD** **Recommendation accepted.** A new report will be established to validate registry and Orion distributor UML data to be further manually validated	Identified

The impact of the three standard UML incorrect daily kWh values was assessed to be 2,394 kWh per annum. The incorrect submission information is recorded as non-compliance in **sections 2.1** and **3.7**.

I rechecked previous audit submission and registry inaccuracy issues for ICPs 0000020042CP198, 0000020056CPA3F, 0000394464MP147 and 0007198101RN234 and found they had been cleared.

Unmetered BTS

There are four "active" unmetered BTS supplies, all of which were initially electrically connected on or after 11 February 2020. I checked all four and found:

- one switched out once the metering had been installed, and
- three had become permanent metered connections and had their unmetered load decommissioned.

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: 21-Sep-18 To: 13-Mar-23	**TODD** Five ICPs where unmetered load no longer present but unmetered load details recorded by TODD was not end dated. Three standard unmetered load ICPs were found to have a daily kWh value that was different to a calculation derived from the distributors UNM details information with an assessed impact of 2,394 kWh per annum. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Monitoring controls are well designed and identify new unmetered loads and unmetered load discrepancies daily. The reporting does not handle poorly formatted registry data to enable a comparison to be made and there is not current manual check performed for these ICPs. The audit risk rating is low this has the impact on submission accuracy is small.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. • Five ICPs are now reflecting correctly in both the registry and Orion. • Three UML are currently being validated with the network and will be corrected once confirmation has been received.	July 2023	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: • Nova accepts the recommendation from the auditor and will establish manual validation steps when a discrepancy is identified. • Ongoing training will continue to support timely updates to UML in both Orion and the Registry.	Ongoing	

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

<u>Requirements for "active" ICPs</u>

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.

<u>Reconnections</u>

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 smart metering team's shared email inbox. The smart 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. TODD were successful in obtaining a meter read for 2,503 out of 2,966 (84%) ICPs on occasions where the status (disconnection/reconnection) changed at an ICP during the audit period.

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 smart 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 using a Sharepoint register, 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". Nine were updated to the correct "active" status date during the audit. ICP 0000054586HR878 was initially populated with an initial electrical connection date however this distributor has subsequently reversed this network event.

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 51 ICPs with date discrepancies. The 51 exceptions were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	2	The status date was entered incorrectly for one ICP and was corrected during the audit.
IECD ≠ active date and MCD = active date	4	The status date was entered incorrectly for one ICP and this is being investigated by TODD as the IECD is prior to TODDs initial trader event date.
IECD ≠ active date and MCD ≠ active date	1	The status date for ICP 0000573669NR27F aligns with TODDs period of supply as this ICP was livened prior to TODDs tenure.
IECD = active date and no MCD	38	A sample of five were checked, and the correct status dates were recorded.
IECD ≠ active date and no MCD	1	The correct status dates were recorded.

Exception type	Quantity	Commentary
No IECD and no MCD	4	Two of the status dates were correct, and two were entered incorrectly. ICPs 1099582903CNF3A and 0007201593RN687 have been updated to the correct "active" status date.
No IECD and unmetered	1	No exceptions identified.
Total	51	

The incorrect status dates do not have an impact on submission accuracy, because any inactive consumption is reported. The four genuine exceptions found in the sample of 18 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.

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 five 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 did not identify ICPs with date discrepancies.

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: 01-Mar-22 To: 31-May-23	**TODD** Four newly connected ICPs (of a sample of 18) had incorrect "active" status event dates. All were corrected during the audit. 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.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Four ICPs with incorrect first active dates. See Section 3.5 • All incorrect dates were entered because of human error. • 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.	30 May 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD Response: See response to Section 3.5	Ongoing	

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 five late updates to "inactive - new connection in progress" identified on the original AC020 report. Three of the updates were made prior to the initial electrical connection date and are considered to be on time. Two 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. The frequency of the report review was reduced during the early part of the audit period due to resourcing challenges within the Switching team. From November 2022 the new connection function was moved to the smart metering team who have reinstated the report review frequency to weekly.

Review of the registry list identified ten ICPs that were at "inactive - new connection in progress" status however the initial electrical connection date was populated by the distributor. All were checked and found:

- nine have metering installed and now have an "active" status on the registry, and
- one is in progress, and the customer will advise when they are ready to connect. The distributor has updated the registry and removed the initial electrical connection date.

"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 smart metering team's shared email inbox. The smart 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. TODD were successful in obtaining a meter read for 2,503 out of 2,966 (84%) ICPs on occasions where the status (disconnection/reconnection) changed at an ICP during the audit period.

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 smart 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 72 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no:
    - 71 were correct and the ICP was subsequently updated to non-communicating after the disconnection,
    - for ICP 0073564001CN98D the AMI non-communicating flag was set prior to the disconnection date however TODD has confirmation from the AMI MEP that a remote disconnection was successfully completed,
- a diverse sample of 26 updates to disconnected status were checked, the updates had the correct status reason and event date applied except for five ICPs:
    - three ICPs were incorrectly updated to 1,11 "electrically disconnected at meter box switch" which should all have had the status 1,12 "new connection in progress"; ICPs 0000165673CK414 and 1000028279BP1F9 were reversed and replaced with the correct status reason code of "inactive - new connection in progress" and ICP 1002158202LC555 was updated to an "active" status prior to the audit, and
    - two ICPs (0000160146TR824 and 0000160012TR822) were incorrectly updated to 1,9 "electrically disconnected due to meter disconnected" however should have had the status reason code of 1,8 "electrically disconnected at pole fuse"; both incorrect reason codes were reversed and replaced during the audit period.

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** and HHR submission information in **section 11.4**.

TODD produces a discrepancy report which identifies consumption for ICPs during a period of time the registry is recording an "inactive" status during any part of TODDs tenure at the ICP. The report uses all available reads including AMI daily reads improving the opportunity to identify inactive consumption in a timely manner. 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 46 ICPs where 5,153.41 kWh of consumption while "inactive" had been identified was provided by TODD. 33 of the ICPs had 1 kWh of consumption. I checked all 13 ICPs with more than 1 kWh of inactive and found:

- the inactive consumption was not genuine for two ICPs,
- one ICP had its period of supply by TODD removed by a withdrawal, and
- the other ten ICPs had their inactive consumption reported.

Disconnection and reconnection reads are not treated as validated actual readings in the historic estimate calculations. The historic estimate process uses seasonal adjusted shape values to apportion the read-to-read consumption between reconciliation periods, and some consumption may be allocated

to periods that are genuinely "inactive" if disconnection and reconnection boundary readings are not applied. I recommend in **section 12.11** that TODD considers validating disconnection and reconnection reads for use in the historic estimate process.

Some ICPs with inactive consumption reported did not have their status updated to "active" on the registry:

ICP	Dates inactive on the registry	Dates consumption occurred between	Settlement type
0000726088WECFF	18 August 2022 onwards	18 August 2022 to 13 January 2023	NHH
0060850018WRDB7	18 January 2023 onwards	18 January 2023 to 25 January 2023	NHH
0310953022LC31F	13 April 2021 onwards	23 January 2023 to 2 February 2023	NHH
1000020103BP836	17 October 2022 to 1 February 2023	17 January 2023 to 2 February 2023	NHH
3704002000CH19E	28 November 22 onwards	28 November 2022 to 31 January 2023	NHH
0000138520TR42E	24 January 2023 to 25 January 2023	24 January 2023 to 26 January 2023	NHH
1000514911PCC9C	15 September 2021 onwards	15 April 2022 to 31 July 2023	HHR

The previous audit non-compliances relating to incorrect status dates for ICPs with inactive consumption have 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", the WISE 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 "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 35 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.

WISE has no process to monitor the connection status or possible consumption occurring for an ICP once it stops communicating. A review of 12 inactive ICPs that have not communicated for more than 12 months found was undertaken using recent satellite and Streetview imagery and found:

- one ICP was a fire damaged property therefore the disconnection status reason code of disconnected remotely by AMI meter is likely incorrect,
- two ICPs appear to have undergone recent construction activities indicating these ICPs may be decommissioned and replaced by new connections, and
- four have vehicles at the respective properties or other activity indicating the ICPs are occupied.

A recommendation is recorded below for WISE and HNET to implement a process to ensure non communicating "inactive" ICPS are also monitored to ensure the correct connection status is known for all ICPS where they are responsible.

I reviewed the reason codes and disconnection dates for a diverse sample of 18 disconnections and found:

- 16 ICPs had correct reason codes and disconnection dates applied, and
- two ICPs (0008112982HB234 and 1002059298LCDEF) had incorrect status reason codes (inactive - ready for decommissioning) initially applied – in both cases only the reason code was updated to "inactive electrically disconnected due to meter disconnected"; these errors can be attributed to the manual nature of the status management process and a new user being trained in this process to ensure WISE has sufficient coverage of this function if the subject matter expert is unavailable.

WISE provided a list of 13 ICPs with "inactive" status and consumption after the final reading on the customer's account. Nine had consumption of 1 kWh or less and I checked the three which had consumption over 1 kWh. Two 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 (0075243817WED83) was advised by the MEP as being remotely disconnected on 30 November 2022, but consumption was detected as occurring from 6 December 2022 so a second attempt to remotely disconnect the ICP was made on 12 December 2022 which resulted in volumes no longer being detected. The Registry status was amended to reflect the correct status for the period consumption was detected therefore the volume recorded between 6 to 12 February 2022 has been included in submission.

HNET

<u>"Inactive - new connection in progress"</u>

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

<u>"Inactive" Status (excluding new connection in progress)</u>

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 23 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 13 disconnections and found all had the correct status date and code applied.

HNET provided a list of 19 ICPs with "inactive" status and consumption after the final reading on the customer's account. All had consumption of 1 kWh or more and I checked all ICPs and found:

- 13 had registry status updates to "active" applied from the reconnection date resolving the "inactive" consumption exception, and
- six ICPs appeared to have been reconnected by third parties prior to switching away indicating the switch event date is incorrect; in these cases, HNET provides the disconnection reads in the CS file to ensure no "inactive" consumption resides with HNET; however, if the gaining trader was to submit a proposed read change (RR) and this is accepted by HNET then this "inactive" consumption is now the responsibility of HNET so I recommend that where inactive consumption is detected just prior to a switch event date that HNET engages with the gaining trader to have the proposed transfer date reviewed and amended where it is confirmed to be incorrect.

Description	Recommendation	Audited party comment	Auditor comments
Escalate proposed transfer date potential errors with gaining traders	**HNET** I recommend that where inactive consumption is detected just prior to a switch event date that HNET engages with the gaining trader to have the proposed transfer date reviewed and amended where it is confirmed to be incorrect.	**HNET** **Recommendation acknowledged.** Solutions to identify inactive consumption and pro-actively engage with gaining retailers to negotiate event start dates will be investigated	Identified

HNET has no process to monitor the connection status or possible consumption occurring for an ICP once it stops communicating. A review of 16 inactive ICPs that have not communicated for more than 12 months found was undertaken using recent satellite and Streetview images and found the following exceptions:

- two ICPs appear to be abandoned and boarded up indicating potential decommissioning activity is required,
- one ICP appears to have undergone recent construction activities indicating this ICP may be decommissioned and replaced by new connections, and
- five have vehicles located at the property or other activity indicating the ICPs are occupied.

I recommend that both WISE and HNET implement a process to ensure non-communicating "inactive" ICPs are also monitored to ensure the correct connection status is known for all ICPS where WISE or HNET are responsible.

Description	Recommendation	Audited party comment	Auditor comments
Process to monitor connection status of non communicating inactive ICPs.	**WISE and HNET** Implement a process to ensure non-communicating "inactive" ICPS are also monitored to ensure the correct connection status is known for all ICPs where	**WISE and HNET** **Recommendation accepted.** HNETs existing process to monitor inactive non-communicating sites for occupation will be extended	Identified

Description	Recommendation	Audited party comment	Auditor comments
	WISE or HNET are responsible.	to also include a check for change in site status. WISE will implement a process for yearly site investigations to monitor status of inactive non-communicating sites.	

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: 19 Schedule 11.1 From: 15-Sep-21 To: 31-May-23	**TODD** Seven ICPs with inactive consumption did not have their status updated to "active" for the periods with consumption. Five ICPs were recorded with incorrect status codes. Four were reversed and replaced and ICP 1002158202LC555 still has incorrect status reasons recorded for historic status records. **WISE** Two ICPs (0008112982HB234, 1002059298LCDEF) had incorrect status reason codes initially applied. Potential impact: Low Actual impact: None Audit history: Multiple times 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 training issues, and • consumption on "inactive" ICPs is included in submission however the registry is now being updated consistently where "inactive" consumption is confirmed at an ICP. 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, and • for WISE two ICP initially had incorrect "inactive" status reason codes.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Seven ICPs with inactive consumption did not have their status updated to "active" for the periods with consumption. • Four ICPs were under Nova's threshold for consumption of 10kwh. Nova will review whether that is still the appropriate threshold. • 0060850018WRDB7 only showed consumption after the site had switched to another retailer. The reading was showing as static prior to the final smart read being entered. Nova believes the gaining retailer reconnected the site ahead of the ICP gain date. • 0310953022LC31F was correctly updated to Inactive upon disconnection. The site was subsequently reconnected by the gaining retailer while a backdated switch was completed. The gaining retailer reversed the Inactive status upon the completion of switch. • 1000514911PCC9C was reconnected in December 2021. While the job completion paperwork was inaccurate, the robust exception reporting identified the issue, and this should have been corrected. Site has now been updated. Five ICPs were recorded with incorrect status codes. • Corrections were made where possible to reflect accurate information. • The incorrect statuses were due to training of new staff. **WISE Response:** Non-Compliance accepted. 0008112982HB234 and 1002059298LCDEF had incorrect status reason codes initially applied. • Both ICPs had been impacted by fire incidents at the property they were installed on. The incorrect status was due to human error while processing the disconnection. • The statuses of both ICPs have since been corrected during audit.	August 2023 June 2023	Identified

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 ongoing basis and where required update the Registry status. • Nova continues to look for opportunities for improvements. • Nova will review our threshold for consumption on inactive sites. **WISE:** • WISE will continue to focus on accuracy of event dates and complete and accurate information. A focus will be placed on the on-going of training of staff to increase accuracy of statuses.	Ongoing	

3.10. ICPs at new or ready status for 24 months (Clause 15 Schedule 11.1)

Code reference

Clause 15 Schedule 11.1

Code related audit information

If an ICP has had the status of "new" or "ready" for 24 calendar months or more, the distributor must ask the trader whether it should continue to have that status and must decommission the ICP if the trader advises the ICP should not continue to have that status.

Audit observation

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

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.

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.

578 ICPs are currently at "inactive - new connection in progress" status. A sample of 10 ICPs where the initial electrical connection date was populated by the distributor were reviewed and the correct status is now recorded as described in **section 3.9**.

Review of the registry list identified no ICPs that have been at "inactive - new connection in progress" status for more than 24 months.

"New" status

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

"Ready" status

Two ICPs has been at "ready" status for more than 24 months.

ICP 1099577103CND8B has been at "ready" status for more than five years. It is part of Counties Power's ICP deconsolidation 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.

ICP 1002110254LCA47 has been at "ready" status for more than two years. TODD have not received an application from a customer for this ICP and does not have any contact details to follow up. TODD intends to notify the distributor to move this ICP to 3,1 "set-up in error".

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

20 ICPs are currently at "inactive - new connection in progress" status. All 20 ICPs had the correct status recorded as described in **section 3.9**.

Two ICPs are at "ready" status and no ICPs are at "new" status. None of the ICPs have an initial electrical date populated. ICP 1099580388CNDEE been at "ready" status for more than two years. HNET notified the distributor on 16 November 2021 via email that the new connection has been cancelled and this ICP is no longer required.

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 1,544 transfer switch NTs were issued, and all had metering category 1, 2 or 9.

The 11 NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected.

WISE

The WISE 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. WISE has not used a door-to-door channel since July 2022

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

Review of the event detail and registry list reports found 635 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 1,169 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 is amended to contain the revised proposed event dates is then reimported into Orion. Orion generates the AN response code according to a system hierarchy and applies the proposed event date in the file copy.

Proposed transfer dates are reviewed by Orion once the file is imported and amended by Orion where necessary to there are no breaches of the event date requirements. A very small number of ICPs usually require adjustment.

The original event detail report was reviewed for all 10,785 transfer ANs to assess compliance with the setting of event dates requirements.

- 6,025 ANs (55.9%) had proposed event dates within five business days of the NT receipt date,
- 10,767 (99.8%) had proposed event dates within ten business days of the NT receipt date, and
- 16 ANs had proposed event dates outside ten business days (11 days) after the receipt of the NT. This was due to a system issue in September 2022 where a small number of ICPs had an incorrect proposed event date applied.

TODD have now implemented an additional check into this process. Once the AN response file is produced each day, but before it is uploaded into the registry, the switching team review a switching TR energy site report to ensure all dates are within the 10 business days event date requirement. Any discrepancies are resolved before the AN file is subsequently submitted to the registry.

Up to 22 March 2022 Orion's AN response code selection hierarchy applied the AA (acknowledge and Accept) if the ICP was vacant and the or the advanced metering flag was set to yes. Active ICPs with the advanced metering flag set to yes should have the AD code applied for a standard witch, and Orion's logic was corrected for files generated after 22 March 2022.

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

Response code	Quantity of ANs	Findings
AA (acknowledge and accept)	30	A sample of three ANs were reviewed and found that while all three were vacant at the time of the NT request, two (ICPs 0000002460NT0DF, 0000454361WEE5A) also had communicating AMI meters present. These were confirmed as being created by Orion before the criteria for application of the AD response code were revised in March 2022.

Response code	Quantity of ANs	Findings
AD (advanced metering)	624	9,306 ICPs had the advanced metering flag set to Y and AD was correctly applied. 164 ICPs had the advanced metering flag set to N. I checked a sample of five metered ICPs and found for three ICPs the AD code was correctly applied. ICPs 0000023489TR809 and 0386256098LC29C did not have communicating AMI meters present at the time the AN was sent by TODD.
CO (contracted customer)	54	I checked a sample of five and found the CO code was validly applied.
MU (unmetered supply)	2	All had the MU code validly applied.
OC (occupied premises)	1,157	I checked a sample of five and found the OC code was validly applied.
PD (premises electrically disconnected)	72	I checked a sample of five and found the PD code was validly 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 556 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.

552 transfer ANs had the AD (advanced metering) response code correctly applied, because the ICPs had the advanced metering code set to Y. For the remaining four ICPs:

- two had the AA (acknowledge and accept) response code applied:
    - for ICP 0007901135TU823 this response code was correct as WISE had not received AMI reads for this ICP since 23 June 2022 and a comms investigation was underway by the AMI MEP,
    - for ICP 0000066851TR7E6 this response code was incorrectly manually entered by the user as the AMI meter was consistently returning meter readings to WISE; this was due to human error as a new user was being trained in the switching process to ensure critical tasks have back up resources to the switching subject matter expert,
- one had PD (premises electrically disconnected) response code correctly applied as the ICP was disconnected prior to the proposed transfer date, and
- ICP 0000043630UN66D had OC (occupied premises) response code incorrectly applied manually by the user; this was due to human error as a new user was being trained in the switching process to ensure critical tasks have back up resources to the switching subject matter expert.

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 805 transfer ANs to assess compliance with the setting of event dates requirements:

- 796 ANs (98.9%) 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)	14	A sample of five ANs were reviewed and confirm that the correct response code was applied.
AD (advanced metering)	546	A sample of five ANs were reviewed and the sampled ICPs had the advanced metering flag set to Y and AD was correctly applied.
CO (contracted customer)	228	A sample of five ANs were reviewed and confirm that the correct response code was applied.
OC (occupied premises)	3	All ICPs were reviewed and confirm that the correct response code was applied
PD (premises electrically disconnected)	14	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: 27-Sep-22 To: 07-Dec-22	**TODD** Two ANs had the AD (advanced metering) response code applied when the AMI flag was set to N. 16 ICPs had a proposed event date more than ten business days after the NT update date. The AN for two ICPs AN had the AA (acknowledge and accept) response code applied when the AMI flag was set to Y and the meter was constantly returning meter reads to TODD. **WISE** One AN had the AA (acknowledge and accept) response code applied when the AMI flag was set to Y and the meter was constantly returning meter reads to WISE. One AN had the OC (occupied premises) response code applied for a transfer switch when the AMI flag was set to Y and the meter was constantly returning meter reads to WISE where the correct code should have been AD. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	For TODD the controls the controls are assessed as strong as there have been improvements to the hierarchy logic for assigning response codes and the automated process used to determine the AN proposed event date now has an additional check in place to capture any incorrect proposed transfer dates prior to the AN file being uploaded to the registry. For WISE the controls are assessed as moderate due to the manual nature of the selection of the AN response code. Overall the controls are rated as strong. 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. Two ICPs had response code AD (advanced metering) invalidly applied. • The sites switched out prior to the implementation of the improved logic in March 2022. • During audit it was identified that further improvement to the AN logic was required for time of day customers. This will be implemented by Q4 2023 16 ICPs had a proposed event date more than ten business days after the NT update date due to a short window of time where our system did not correctly apply the built in process for request dates. • The system issue impacted NT requests from 13 to 21 September 2022 only. This has not been an issue for Nova historically since implementing the system controls in 2020. Three AN responses had incorrect codes of AA instead of AD applied. • As above improvement to the AN logic was implemented in March 2022 • Further improvement for TODD customers to be implemented by Q4 2023 **WISE Response:** Non-Compliance accepted. Two ICPs had incorrect response codes provided in the AN file. Both incorrect responses were sent by a staff member in training and were a result of human error.	March 2022 Q4 2023 September 2022 March 2022 Q4 2023 June 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: • The AN logic implemented in March 2022 reduced instances of AN response code inaccuracy for AMI communicating meters. Further improvements for Time of Day customers only will be developed and implemented in Q4 2023. • TODD has stood up an additional check before creating the AN files to ensure the logic to calculate event dates is working correctly to earlier identify and correct date calculations to minimise non-compliance should a system issue reoccur. **WISE:** Staff training will be on-going across all team members as well as new starters.	Q4 2023 July 2023 Ongoing	

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

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

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

Audit observation

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

<u>CS timeliness</u>

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.

<u>CS content</u>

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 the average daily kWh to be based on the average daily consumption for the last read-to-read period. 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. 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	128	A sample of five ICPs were reviewed. For four ICPs the calculation was found to be correct. For ICP 0000035124CP922 a manual calculation identified the correct value should be 1 kWh per day.
More than 200 kWh	137	A sample of five meter installation category 1 ICPs were reviewed. For two ICPs the calculation was correct. For three ICPs (1000754121UNA42, 0000208001UN77B, 0900089790PC552) the calculation does not align with TODD's revised specification as to how daily average consumption is to be calculated. TODD is investigating the cause of these differences to see if the enhancement within Orion was reversed out for a period of time. No calculation errors were detected for CS files created in 2023.

I checked all 9,988 transfer switch CS files for inconsistencies between last actual read dates and switch event read types:

- one CS file (ICP 0000520264EN644) had estimated switch event reads where the last actual read date was after the last day of responsibility.

The accuracy of the content of CS files was confirmed by checking a further five transfer CS files. The file content was correct.

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. The WISE 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, and 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.

Analysis of the estimated daily kWh in the event detail report identified 24 CS files with zero average daily kWh, one where the average daily kWh was over 100 kWh and none with average daily kWh which was negative. A sample of two ICPs with a zero average daily kWh value and also the ICP where the average daily kWh value was over 100 kWh were reviewed:

- both ICPs where the daily average consumption was calculated as being zero kWh were confirmed as correct, and
- the ICP (0466631367LC4D2) where the daily average consumption was calculated as being 105 kWh was confirmed as correct.

I checked all 603 transfer switch CS files for inconsistencies between last actual read dates and switch event read types and one inconsistency was found. The CS file for ICP 0000069500TRFC3 recorded an incorrect last actual read date of 30 November 2022 (the day prior to transfer date) when the last actual read date was 22 September 2022. The cause of this was due to human error as a new user was being trained in the switching process to ensure critical tasks have back up resources to the switching subject matter expert. 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 three CS file with average daily kWh over 100, eight with CS files zero average daily kWh and none with negative average daily kWh. A sample of two ICPs with a zero average daily kWh value and also all three ICPs where the average daily kWh value was over 100 kWh were reviewed:

- both ICPs where the daily average consumption was calculated as being zero kWh were confirmed as correct,
- two ICPs where the daily average consumption was calculated as being over 100 kWh were confirmed as correct, and
- for ICP (0005440530RN478) where the daily average consumption was calculated as being 129 kWh the ICP had undergone a meter change during the month the switch loss occurred and as HNET calculates daily average consumption between the last read to read (billing) period and this calculation did not filter out removed meters, as a consequence the consumption from both the removed and current meters that occurred during the month the switch occurred was used to calculate the daily average consumption (HNET have now applied a fix to their system to ensure the daily average consumption is calculated from current installed meters).

I checked all 705 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: 13-Jun-22 To: 01-Dec-22	**TODD** Four CS files were confirmed to have incorrect average daily consumption recorded. The CS file for ICP 0000520264EN644 recorded an incorrect last actual read date. **WISE** Incorrect methodology used to calculate average daily consumption. The CS file for ICP 0000069500TRFC3 recorded an incorrect last actual read date. **HNET** Average daily consumption was incorrect for 0005440530RN478. 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	For TODD, the controls are assessed as strong as the logic since March 2022 ensures that average daily kWh reflects the daily consumption between the last two actual readings. 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. For HNET, the controls over CS file generation rated as strong because most file content is correct and the system issue with removed meters being included in the daily average consumption calculation has been resolved. Overall, I have assessed the controls to be strong. 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 and the incorrect last read dates do not impact the accuracy of the switch end reads.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. • The four CS files sent with incorrect data consumption were sent prior to March 2022 when new logic was implemented into our billing platform for the calculation of average daily consumption • 0000520264EN644 incorrect read type was a result of a human error. No correction has been made on the Registry as to correct this by reversing the switch would have greater impact to the customer and gaining retailer. **WISE Response:** Non-Compliance accepted. Incorrect methodology used to calculate average daily consumption. • As stated by the auditor, the current methodology implemented by WISE provides a higher degree of accuracy in consumption than the methodology described in the Code. • WISE believes that while technically non-compliant the accuracy provided best serves the industry and consumer. 0000069500TRFC3 recorded an incorrect last actual read date. • This was a result of human error while new staff were being trained. **HNET Response:** Non-Compliance accepted. Incorrect daily consumption was provided for 0005440530RN478. • The consumption calculation incorrectly included a meter that was recently removed. HNET is working to modify the system logic that caused this error to prevent reoccurrence. This is expected to be implemented by 31 July 2023	March 2022 July 2023	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. No further non-compliances have been recorded since implementation. • For the incorrect read type being recorded, process documentation has been updated with refresher training for the relevant team who made the error. **WISE:** As above **HNET:** As above, the system logic will be modified to prevent removed meter consumption being included in the calculation of daily kwh.	March 2022 Ongoing July 2023	

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 are 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 36 RR files for transfer switches. 29 were accepted and seven 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) except for ICP 0000521021TP881 where the read type in the RR file incorrectly reflected the proposed amendment read types as actual, when these were estimate reads. This is recorded as non-compliance in **section 9.1.**

The reads recorded in TODD's system reflected the outcome of the RR process except for ICP 0000213279UND34 (transfer date 15 December 2022 – read 82860 - actual read) where the RR was rejected by the losing trader on 1 February 2023 (proposed read amendment 82744 – estimate read) however the amended readings were entered and activated into Orion due to human error resulting in an under submission of 116 kWh.

The switch breach history report recorded two RR breaches 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 issued 269 AC files for transfer switches and accepted the other trader's RR file for 242 requests. 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 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 issued four RR files for transfer switches which were accepted. In all cases there was a genuine reason for the WISE 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 the WISE system reflected the outcome of the RR process.

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 the WISE 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 continues to experience 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 repeated 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 using a spreadsheet template which enables a user to enter the captured actual reads and transfer date which in turn provides derives a suitable read to use for the proposed read request. This information is also copied into an email provided to the losing trader to support the proposed read request.

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 21 RR files for transfer switches which were accepted. 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 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.

56 CS files were received where estimated reads were provided by the losing trader and no RR was submitted by HNET. A 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: 01-Mar-22 To: 15-Dec-22	**TODD** The read type for one RR file was incorrectly recorded as actual instead of estimate. The read for one rejected RR file was not updated in Orion to reflect the provided CS read resulting in an under submission of 116 kWh. Two RR breaches. 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 incorrect RR files and failure to amend Orion with the outcome of the RR process were due to human error. The audit risk rating is low. The volume of late RR files was small and the volume impact from the incorrect read loaded into Orion from the rejected RR is also 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 actual instead of estimate • No corrective action was taken as there was no material impact to the customer or gaining retailer due to the volume being under 200kwh	Not applicable no correction made	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: Nova will continue with on-going refresher training, review of processes and where possible identify improvement opportunities	Ongoing	

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 7,380 switch move NTs were issued, and all had metering category 1, 2 or 9.

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

WISE

The WISE 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 926 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 1,111 switch move NTs were issued, and all had a metering category of 1 or 2. Five NT files were checked, and all 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.

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 ten 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 of 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 22 March 2022 Orion's AN response code selection hierarchy applied the AA (acknowledge and Accept) if the ICP was vacant and the or the advanced metering flag was set to yes. Active ICPs with the advanced metering flag set to yes should have the AD code applied for a standard witch, and Orion's logic was corrected for files generated after 22 March 2022.

The original event detail was reviewed for all 9,878 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)	441	A sample of five ANs (ICPs 0000002460NT0DF, 0000771233TU320, 0005856086RNDAF, 0000241963UN632, 1001126016UN753) were reviewed and found that while all five were vacant at the time of the NT request, they also had communicating AMI meters present. TODDS AN response code hierarchy has AD (advanced metering) higher than AA (acknowledge and accept) meaning that AD should have been applied for these three ICPs.
AD (advanced metering)	7,681	7,518 ICPs had the advanced metering flag set to Y and AD was correctly applied.

Response code	Quantity of ANs	Findings
		163 ICPs had the advanced metering flag set to N. I checked a sample of five metered ICPs and found all has the AMI flag set to Y at the time of the switch.
CO (contracted customer)	115	I checked a sample of five and found the CO code was validly applied.
MU (unmetered supply)	8	I checked a sample of two and found the MU code was validly applied.
OC (occupied premises)	380	I checked a sample of five and found the OC code was validly applied.
PD (premises electrically disconnected)	850	I checked a sample of five and found the PD code was validly applied.

WISE

AN codes are applied manually by the operator.

The event detail was reviewed for all 471 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)	1	One example was identified during the audit period. The AA code was correct as the AMI meter was confirmed as non communicating at the time of the switch request.
AD (advanced metering)	25	A sample of five ICPs were reviewed, and all were confirmed as correct.
OC (occupied premises)	288	A sample of five ICPs were reviewed and found the OC code was correctly applied
PD (premises electrically disconnected)	159	A sample of five ICPs were reviewed and the ICPs were disconnected at the time the AN was issued and PD was correctly applied

The switch breach history report recorded one E2 breach. This breach was genuine, and the switch completion date was prior to the gaining trader's requested date. This was 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 1,287 switch move ANs to assess compliance with the setting of event dates requirements:

- 1,256 (97.6%) 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)	14	A sample of five ICPs were reviewed found that the response code was incorrectly applied.
AD (advanced metering)	546	A sample of five ICPs were reviewed; the ICPs had the advanced metering flag set to Y and AD was correctly applied.
OC (occupied premises)	3	A sample of three ICPs were reviewed and found the OC code was correctly applied.
CO (Contracted customer)	228	A sample of five ICPs were reviewed found that the response code was correctly applied
PD (premises electrically disconnected)	14	A sample of five ICPs were reviewed and the 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: 03-Mar-22 To: 07-Dec-22	**TODD** The AN for five ICPs AN had the AA (acknowledge and accept) response code applied when the AMI flag was set to Y and the meter was constantly returning meter reads to TODD. **WISE** One E2 breach. Potential impact: Low Actual impact: Low Audit history: One Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating
Low	For TODD the controls are assessed as strong as there have been improvements to the hierarchy logic for assigning response codes. For WISE the controls are assessed as moderate due to the manual processes employed and while a second operator is being trained in this task there is still little opportunity for any independent QA checks and process monitoring prior to submitting the AN file. Overall, the controls were assessed as strong, most switches are completed correctly, and the training period has been completed. The audit risk rating is assessed as low.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD: Non-compliance accepted. Refer to section 4.2. • Improved logic was implemented in March 2022 and further improvement will be deployed in Q4 2023 **WISE Response:** Non-Compliance accepted. Refer to section 4.2. A new staff member was being trained and as a result human errors were made.	Q4 2023 Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above **WISE:** WISE will undertake process review to strengthen controls in conjunction with staff refresher training	Ongoing	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

If the losing trader determines a different event date under subclause (1)(b), the losing trader must, no later than ten 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**, The registry functional specification requires the average daily kWh to be based on the average daily consumption for the last read-to-read period. 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.

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	1,120	A sample of five ICPs were reviewed and all were confirmed to be correct.
More than 200 kWh	131	A sample of four category 1 ICPs were reviewed. For one ICP the calculation was correct. For three ICPs (0000233921UNDEB, 0196362504LC604, 0005901906WE0CE) the calculation does not align with TODD's revised specification as to how daily average consumption is to be calculated. TODD is investigating the cause of these differences to see if the enhancement within Orion was reversed out for a period of time. No calculation errors were detected for CS files created in 2023.

I checked the 9,721 switch move CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions.

- One CS file (ICP 0001721890PC8B5) had estimated switch event reads where the last actual read date was after 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.
- One CS file (ICP 0082060862WEEA2) had actual switch event reads however the last actual read date was before the last day of responsibility. The transfer reads were confirmed as being correct.
- 72 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 (ICPs 0000057236CP111, 1099574638CN945, 0090436400WRDBF, 0001261440TGF84 and 0000637890WE966) with last actual reads for the greatest number of days after the event date. All five CS files all had read dates after the switch out date which should have been made misreads. 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, resulting in the

last actual read dates being incorrect. The CS reads were confirmed as being correct. I repeat the previous audits recommendation regarding the consistency checking for any in progress switches before transferring ICPs to occupier accounts.

- 14 CS files had a CS premises rows only. Ten were unmetered and no metering lines were required. Three had HHR settled meter category 1 or 2 HHR metering with the AMI flag set to no. For ICP 0040762001WR04B, the CS did not have meter installation or meter component rows due to the ICP being temporarily unmetered at the time of the switch request. The switch was withdrawn by the gaining trader using the MI - Withdrawn on metering issue withdrawal code.

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** **Recommendation accepted.** Reporting will be developed to identify sites due to be moved to a vacant account where a switch is already in progress, to remove from the Billing team's workflow.	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.

ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022. Correctly calculated volumes have been included in NHH submissions for the October 2021 submission period onwards, and consumption for submission periods from November 2019 to September 2021 has not been reported. A correction to capture the unreported consumption could have been created had the reconciliation team been made aware of this issue. A non-compliance for under submission and recommendation are raised in **section 12.2**.

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. The WISE 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, and 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 576 CS files with zero average daily kWh, one where the average daily kWh was over 100 kWh and none with average daily kWh which was negative. A sample of three ICPs with a zero average daily kWh value and also the ICP where the average daily kWh value was over 100 kWh were reviewed and found:

- all three ICPs where the daily average consumption was calculated as being zero kWh were confirmed as correct, and
- ICP 0000003166UNB7D reported a daily average consumption of 2,367 kWh in the CS file; this was incorrect and was due to the transfer read for register one being duplicated on register two which also affected the daily average consumption calculation - this was due to human error as a new user was being trained in the switching process to ensure critical tasks have back up

resources to the switching subject matter expert and WISE corrected this error by requesting a switch withdrawal to enable a correct CS file to be resubmitted.

I checked all 991 switch move CS files for inconsistencies between last actual read dates and switch event read types:

- one CS file (ICP 0458221287LCBE0) had estimated switch event reads where the last actual read date was on the last day of responsibility; this was due to human error as a new user was being trained in the switching process to ensure critical tasks have back up resources to the switching subject matter expert,
- two CS files (ICPs 0452070031LC072 and 0387970525LC701) had actual switch event reads where the last actual read date was before the last day of responsibility; this was due to human error as a new user was being trained in the switching process to ensure critical tasks have back up resources to the switching subject matter expert, 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 79 CS files with zero average daily kWh, one average daily kWh over 200 kWh and another four over 100 kWh. None were found with average daily kWh which was negative. A sample of three ICPs with a zero average daily kWh value and also two ICPs where the average daily kWh value was over 100 kWh were reviewed:

- all three ICPs where the daily average consumption was calculated as being zero kWh were confirmed as correct, and
- both ICPs where the daily average consumption was calculated as being over 100 kWh were confirmed as correct.

I checked the 1,207 switch move CS files for inconsistencies between last actual read dates and switch event read types:

- four CS files had estimated switch event reads where the last actual read date was on the last day of responsibility; these were investigated and while an AMI read had been received by HNET this read was not uploaded into MySQL and was also not validated however HNET's switching process is selecting the last AMI read date but then applying the last validated read available in MySQL which in all four cases reviewed was a disconnection read and in each of these cases the unvalidated AMI read for the transfer date aligned with the transfer estimate read provided by HNET,
- 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	**TODD** Three CS files were confirmed to have incorrect average daily consumption recorded. One CS file (ICP 0001721890PC8B5) had estimated switch event reads where the last actual read date was after the last day of responsibility. The CS files for 0000057236CP111, 1099574638CN945, 0090436400WRDBF, 0001261440TGF84 and 0000637890WE966 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. One CS file (ICP 0082060862WEEA2) had actual switch event reads however the last actual read date was before the last day of responsibility. **WISE** Calculation methodology for average daily consumption not compliant. ICP 0458221287LCBE0 had estimated switch event reads where the last actual read date was on the last day of responsibility. ICPs 0452070031LC072 and 0387970525LC701 had actual switch event reads where the last actual read date was before the last day of responsibility. Average daily consumption was incorrect for 0000003166UNB7D due to an incorrect switch read applied for register two. **HNET**
From: 06-Mar-22 To: 03-Feb-23	Incorrect last actual read dates applied to four CS files. 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 are moderate overall: • the controls around the calculation of daily average consumption are assessed as strong as the logic since March 2022 ensures that average daily kWh reflects the daily consumption between the last two actual readings, 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 are 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. For HNET the controls over CS file generation are rated as moderate because most file content is correct. HNETs use of disconnection reads and read dates where subsequent AMI actual reads are available does lead to potential errors when populating CS files. 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, and • the incorrect last actual read dates did not impact the gaining trader.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-compliance accepted. For the incorrect average kwh calculation refer to section 4.3. All incorrect read types no action has been taken to correct on the registry as reversing the switch in order to correct has greater impact on the customer and gaining retailers than to leave the read type incorrect. • These errors were caused by the sites being moved to vacant accounts mid-switch. Billing has accepted the recommendation from the auditor and an additional report will be established prevent the moving of a site to a vacant account while a switch is in progress. **WISE Response:** Non-Compliance accepted. Calculation methodology see section 4.3. Three ICPs where the switch read type did not align with the last actual read date. • All a result of human error due to the manual nature of the switching process. 0000003166UNB7D had an incorrect read manually entered against register 2. • This has now been corrected via NW due to incorrect information being provided in the CS file. **HNET Response:** Non-Compliance accepted. Four ICPs had estimated reads entered when the last actual read date was the event date. • This was the result of a timing issue between the read completing validation and the creation of the CS file. The process will be updated to ensure the CS creation only occurs after the read validation has completed thus including the final actual read.	March 2022 Q3 2023 January 2023 July 2023	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: Incorrect average daily consumption see response for section 4.3.	March 2022	
As per the recommendation additional reporting will be implemented to prevent changes to ICPs during the switching process.	Q3 2023	
WISE: Ongoing staff training will continue to be provided.	Ongoing	
HNET: As above.	Ongoing	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

(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 330 RR files for switch moves. 250 were accepted and 81 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.

The switch breach history report recorded 22 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 303 AC files for switch moves and accepted the other trader's RR file for 261 requests. 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 22 read change requests for move switches. One was rejected and 21 were accepted. In this case there was a genuine reason for the WISE RR, the file content was accurate and supported by two actual reads obtained by WISE, and the reads recorded in the WISE system reflected the outcome of the RR process. The one rejected RR was not reissued as a switch withdrawal was completed resulting in the ICP remaining with WISE.

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 the PEBs 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 84 RR files for switch moves. One was rejected and 83 were accepted. Five accepted files and the one rejected file were checked:

- in all cases where the RR was accepted 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, and
- for the rejected RR (ICP 0000162692UN2F6 – switch event date 13 October 2022) HNET provided accurate and correct supporting information to the losing trader but the losing trader used reads from 2021 and an invalid justification to reject the proposed read change request; HNET did not follow up on this rejected proposed read change request and the CS read was applied within HNETs MySQL system.

The switch breach history report recorded three RR breaches for switch moves relating to a single ICP (0000049609WEDC5). These files were checked and the files were delayed while HNET obtained two actual readings to confirm that an RR was required and it took three attempts to get the losing trader to eventually agree to amend the transfer reads.

AC

Seven AC files were issued for switch moves and four were accepted and three rejected. 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.

226 CS files were received where estimated reads were provided by the losing trader and no RR was submitted by HNET. A 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: 24-Aug-22 To: 03-Feb-23	**TODD** 22 RR breaches. 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. 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. 22 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.	Not applicable	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: Nova will continue with ongoing refresher training, review processes and where possible identify improvement opportunities	Ongoing	

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.

12 HH NT files were issued during the period and a sample of five were reviewed, all were issued within two business days of pre-conditions being cleared. The HH NT for ICP 1002074974LC4A8 had to be resent once the transfer date was agreed between both retailers and the customer. All had a meter category of three or higher at the time the switch was requested.

Meter certification details were checked for the 7,780 switch move NTs and 1,544 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

Review of the event detail and registry list reports confirmed HNET did not complete any half hour switches.

Metering categories were checked for all TR and MI NT files, and I found that there were no switches requested with metering category 3 or above.

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

Audit outcome

Compliant

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 a sample of ten HH AN files on the event detail report:

- three ICPs had OC (occupied premises) correctly applied,
- two ICPs had CO (contracted customer) correctly applied,
- two ICPs had AA (acknowledge and accept) correctly applied, and
- the other three ANs had the AD (advanced metering) AN response code applied correctly as the ICPs had the AMI flag selected at the time of the switch.

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

Audit outcome

Compliant

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

<u>CS content</u>

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.

<u>CS timeliness</u>

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

Review of the event detail and registry list reports confirmed HNET did not complete any half hour switches during this audit period and only supplies two ICPs with meter category 3 or higher. The switch breach history report did not record any breaches for 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 ten 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.

97 (6.57%) of the 1,475 NWs issued by TODD were rejected. I checked a diverse sample of 15 NWs including at least two for each advisory code and found:

- 14 had the correct code applied and were validly issued based on information available at the time of issue, and
- ICP 0000048335CP554 was a standard (TR) switch where the gaining trader proposed a backdated transfer date; TODD incorrectly believed that they needed to honour the proposed transfer date in the NTTR so did not propose an alternative transfer date, instead the user issued a NE using the date failed (DF) advisory code.

The switch breach report recorded:

- six SR breaches where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; for five ICPs these were delayed due to investigations that needed to be completed before the NW could be resolved and for ICP 0000156708CK555 TODD submitted multiple NWs for an issue relating to tenant/landlord billing,
- 42 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/meter changes 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.

130 (7.9%) of the 1,465 AWs issued by TODD were rejections. I reviewed a diverse sample of 19 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.

18 (5%) of the 353 NWs issued by WISE were rejected. I checked a diverse sample of 11 NWs including at least two for each advisory code and nine rejected NWs; and found ten had the correct code applied and were validly issued based on information available at the time of issue. ICP 0000006507UN3E9 had the advisory code of CE (customer error) incorrectly applied due to human error as a new user was being trained in the switching process to ensure critical tasks have back up resources to the switching subject matter expert.

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; this related to ICP 0000169129CKA0F and was due to a crossed meter/ICP scenario that required correction involving WISE and five other traders involved in this development to enable the correct meters to be assigned to the correct ICP/address,
- five NA breaches where the NW arrival date was more than two calendar months after the CS actual transfer date; I checked the five files and found:
    - three related to wrong property withdrawals as the customer had provided incorrect address information, and
    - two were related to double withdrawal requests from other traders to enable transfer reads to be corrected across multiple switch events.

AW

26 (17%) of the 149 AWs issued by WISE were rejections. I reviewed a diverse sample of 17 rejections by HNET including at least three rejected AWs per advisory code where these were present, 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.

HNET

NW

Switch withdrawals are managed manually.

24 (8.2%) of the 292 NWs issued by HNET were rejected. I checked a diverse sample of 15 NWs including at least two for each advisory code and eight rejected NWs and found:

- two NWs (ICPs 0125742304LC071 and 0080042437WE016) were issued in error as the result of human error as a new user was being trained in the switching process to ensure critical tasks have back up resources to the switching subject matter expert, and
- 13 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
- three NA breaches where the NW arrival date was more than two calendar months after the CS actual transfer date:
    - two were customer requests to cancel the switch as they had had a change of heart, and

- one was wrong property switch as a tenant of the account holder had inadvertently initiated a switch for the incorrect ICP; this was only identified once the gaining trader had begun to invoice HNETs customer.

AW

38 (18.2%) of the 209 AWs issued by HNET were rejections. I reviewed a diverse sample of 14 rejections by HNET including at least three rejected AWs per NW 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: 12-Jun-22 To: 01-Dec-22	**TODD** NW (ICP 0000048335CP554) was issued in error. Six SR breaches. 42 NA breaches. **WISE** Incorrect NW advisory code for one ICP. Five NA breaches. One SR breach. **HNET** Two NW's (ICPs 0125742304LC071 and 0080042437WE016) were issued in error. One SR breach. Three NA breaches. 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	Overall, the controls are assessed as strong. For TODD the controls over the withdrawal process are robust. For WISE the controls over the withdrawal process are moderate due to the manual nature of this process. For HNET the controls over the withdrawal process are moderate due to the manual nature of this process. 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. NW (ICP 0000048335CP554) was issued in error. • Human error due to misunderstanding the process when a gaining trader requests a backdated transfer date. The ICP was switched out on a compliant date. Six SR breaches • 0000156708CK555 was incorrectly sent NWs due to complex issues regarding landlord/tenant invoicing and responsibility. • 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". 42 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". **WISE Response:** Non-Compliance accepted. Incorrect NW advisory code for one ICP. • The ICP had an incorrect code issued due to human error while a new staff member was in training. The site successfully completed the switch out process. Five NA breaches, one SR breach • As with Nova, WISE 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". **HNET Response:** Non-Compliance accepted. Two NW's (ICPs 0125742304LC071 and 0080042437WE016) were issued in error. • Both ICPs had incorrect codes issued due to human error while a new staff member was in training. Both successfully completed the switch out process. One SR breach. three NA breaches. As with Nova, HNET 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".	Ongoing	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: Process documentation and refresher training has been provided where human errors were made. **TODD, WISE & HNET:** Nova will continue with on-going refresher training, review processes and where possible identify improvement opportunities	Ongoing	

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

> *21(a)- the trader who carries out the interrogation, switch event meter reading must ensure that the interrogation is as accurate as possible, or that the switch event meter reading is fair and reasonable.*
>
> *21(b) and (c) - the cost of every interrogation or switch event meter reading carried out in accordance with clauses 5(b) or 11(b) or (c) must be met by the losing trader. The costs in every other case must be met by the gaining trader.*

Audit observation

The meter reading process in relation to meter reads for switching purposes was examined.

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 414 NWs issued with a CX withdrawal reason code issued within 180 days of switch completion where TODD was the losing trader. I checked a sample of five rejected withdrawals and five 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 171 NWs issued with a CX withdrawal reason code issued within 180 days of switch completion where WISE was the losing trader. Two were rejected and were not reissued. I checked a sample of ten withdrawals including the rejected files 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 101 NWs issued with a CX withdrawal reason code issued within 180 days of switch completion where HNET was the losing trader. 100 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 79 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 smart metering team reviews data for new connections and raises activities for the billing team where corrections are required.

The AC020 report recorded three 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.

I rechecked previous audit submission inaccuracy issues for ICPs 0000020042CP198 and 0000020056CPA3F, and found they had been cleared.

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

Compliant

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

The AC020 reports were examined to determine compliance.

Audit commentary

TODD

TODD supplies 363 ICPs with unmetered load connected. One ICPs has 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 ten 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 five "active" ICPs with metering category 9, null, or zero which did not have unmetered load indicated. Four ICPs now have metering event records present in the registry and align with the "active" status date. ICP 0234172045LCFD4 was also identified in the previous audit. The current MEP believes their meter has been replaced by another MEPs so have end dated the meter recorded on the registry as at the site visit date in Sept 2020. TODD are still reading this meter manually and photos from April 2021 confirm that the meter is still at this ICP and is recording volume. TODD have attempted more recent site visits to capture an up to date photo of the installed meter and enable location information to be verified, however these have been unsuccessful due to access issues. TODD are continuing to work with the MEP to reinstate the metering event information so that the correct meter is recorded on this ICP.

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	69	A sample of 20 ICPs were reviewed. 11 ICPs have I flow metering installed and the settlement indicator for the EG register set to yes, however the reporting around distributed generation was consolidated from three separate reports into a single report. These 11 ICPs do not appear in the new report which is why the registry has not been updated to reflect the correct profile codes. Submission has been undertaken since the meter installation. Seven ICPs have I flow metering installed and the settlement indicator for the EG register set to yes and these ICPs were in the distributed generation reporting. However, these were not updated on the registry due to human error. Submission has been undertaken since the meter installation. One ICP had its profile corrected to GXP PV1 prior to the audit once confirmation that the solar installation was completed – timing issue. One ICP switched away shortly after the registry extract was generated and no investigation was undertaken.
Non-zero generation capacity and no I flow meter or generation profile	43	A sample of 30 ICPs were reviewed. Two ICPs are currently under investigation to determine whether they are generating and/or arrange for I flow metering to be installed. 13 ICPs now have I flow metering installed and seven have their profiles updated after the report was run. Five ICPs (0000162658UN788, 0000048153UN5BF, 0011005441PCD73, 1000005855BP655, 0001422931UN9D9) still require their profiles to be updated to reflect the EG volumes being submitted. One ICP (0000904490TU676) still requires the MEP to update the settlement indicator on the EG register to reflect its inclusion in submission so that the profiles can be updated on the registry. Seven ICPs appear in TODD's exception reporting and TODD has not received a DG application. These have not been followed up with the customer to confirm if DG metering is required due to a training issue. For four ICPs attempts to install I flow metering have been made where either access issues or installation/meter board issues are preventing a meter change from being successfully completed. TODD is considering following up with the customer regarding providing notification of gifting to the reconciliation manager ICP 0000181120HBA51 with HHR metering is receiving HHR I flow data. The MEP has incorrect information recorded on the registry.

Exception type	Quantity	Commentary
		ICP 0080013229PC3D5 is a back up connection for a large-scale embedded generation station to support black start capabilities. The electrical configuration means that no I flow is possible at this ICP. ICP 0001397028UN80E has had generation installed since October 2022. The customer has failed to provide access to enable the meter change. TODD is considering following up with the customer regarding providing notification of gifting to the reconciliation manager. ICP 0000670538TU73A – investigations have confirmed that no distributed generation is present at this ICP and no I flow metering or generation profiles were required.
Generation profiles, but no I flow register with settlement indicator set to Y	3	The ICPs were confirmed to have solar generation and I flow metering installed, and TODD's profiles were correct. The MEP was since updated the registry to reflect the I flow register with the settlement indicator set to Y.
Generation profile and a generation capacity of zero recorded by the distributor	3	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	7	All seven ICPs had other fuel type with PV1 profile and were confirmed to have solar generation.

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.

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.

TODD provided a list of 72 ICPs from the bridged meter report where the meter had possibly been faulty or bridged during the audit period. I checked a sample of 28 and found 27 had not been faulty or bridged, and one had been bridged:

- ICP 0000542837TU334 was bridged between 22 July 2022 to 11 January 2023 and no correction was applied.

TODD also analysed returned field service paperwork to confirm that all bridged/bypassed meters reported in the returned paperwork were being identified and reported to the AMI MEP to un-bridge and for TODD to apply a volume correction. 18 bridged metered ICPs were identified from 1,722 service requests analysed. Only three were notified to the AMI MEP to arrange for the meter to be un-bridged and corrections had been applied. TODD have now implemented a daily monitored report looking for the words "bridged" or "bypassed" in returned field service paperwork to then create a field service request to the AMI MEP to un-bridge and recertify. All 15 remaining sites now have jobs logged to un-bridge these meters. TODD is also planning to extend the report to also search for abbreviations and misspellings of the words bridged and bypassed.

The previous audit issue for ICP 1099569767CN556 has been cleared.

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.

The WISE 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 15 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 15 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 showed 54 active ICPs with a non-zero generation capacity listed by the distributor. Two of these (ICPs 0000246365UN9D7 and 0244638179LCF59) did not have I flow metering installed at the time of the registry data was reviewed:

- the high-risk database indicates solar is connected to ICP 0000246365UN9D7; metering was upgraded to include an export register on 15 February 2023, and
- a work order is in place for ICP 0244638179LCF59 to upgrade the metering to include an export register.

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 two exceptions (0007145523RN594 and 0007184270RNB4E). 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, both ICPs were confirmed as having a solar plus battery distributed generation configuration which can be submitted using the PV1 profile code therefore compliance was confirmed.

HNETs registry list identified ten ICPs where a profile code of PV1 was applied however no generation was recorded by the distributor and no I flow metering was recorded by the MEP. These were all identified as being user error where the user did not take note that the settlement indicator on the I flow register recorded on the registry was set to No for these registers.

Bridged meters.

HNET provided one ICP which had bridged meters. ICP 1001288398LCA09 was identified from analysis undertaken where a customer has multiple retail products with HNET however no consumption is recorded on the electricity ICP. The MEP was notified via a service request to investigate the potential

stopped meter where the bridged meter was identified. The meter was un-bridged and resealed, and a volume correction applied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: 10.13 From: 01-Mar-22 To: 28-Feb-23	**TODD** While meters were bridged, energy was not metered and quantified according to the code for 19 ICPs. 18 from a sample of 20 ICPs had generation recorded by the distributor and I flow metering where TODD did not record a generation profile. Five ICPs with distributed generation do not have settled I flow registers installed and there is no record added to the gifting register. **WISE** While meters were bridged, energy was not metered and quantified according to the code for 15 ICPs. **HNET** While meters were bridged, energy was not metered and quantified according to the code for one ICP. For ten ICPs an incorrect profile code of PV1 was applied when no generation was present. ICP 0244638179LCF59 with distributed generation does not have settled I flow registers installed and there is no record added to the gifting register. 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 moderate overall because they are not sufficient to ensure that bridged meters and distributed generation profile issues are promptly resolved. The audit risk rating is low based on the number of ICPs affected.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. 20 ICPs had energy not metered and quantified according to the code while bridged. • Work is still in progress to un-bridge and recertify on some sites. • Volume consumption will be recorded and submitted according to the code for all impacted ICPs once reads are being attained to calculate correct consumption. 18 ICPs did not have a generation profile correctly recorded. • Due to resource constraints, the corrective actions required following Nova's robust exception identification processes were not always completed during the audit period. Five ICPs with distributed generation recorded by the distributor do not have settled I flow registers installed and there is no record added to the gifting register. • The metering team have been in regular contact with the five customers responsible for the ICPs. EG installation has been refused on multiple occasions by the customer for these sites. Nova will add these ICPs to the gifting register. **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 energy not metered and quantified according to the code due to being bridged. • The meter has been un-bridged and the consumption has now been estimated and submitted Ten ICPs had an incorrect profile of PV1 when no generation was present • All ICPs have EG channels installed, however are not currently in use. These have all been corrected to RPS. One ICP with distributed generation does not have settled I flow registers installed and there is no recorded added to the gifting register. HNET is continuing to investigate, and attempt contact with the customer to confirm the circumstances, this work is on-going due to unresponsiveness of the customer.	July 2023 June 2023	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: • Additional training will be carried out for the members of the team who manage the data integrity reports with more resource allocated to action these areas. • A process will be established for the team to follow for adding sites to the gifting register where required.	July 2023	
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.	Ongoing	
HNET: HNET will continue to make best endeavours to resolve issues in a timely and accurate manner working with our industry stakeholders	Ongoing	

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

Code reference

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

Code related audit information

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

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

The participant responsible for the metering installation must:

- *advise the reconciliation manager of the certification expiry date not later than ten 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	Last audit certification expiry date	Current certification expiry date
TGTL	JUNCTION RD	JRD1101TGTLG	ACCM	9 January 2023	10 December 2025
TGTL	MCKEE	MKE1101TGTLGG	ACCM	26 July 2022	22 March 2024

Both NSPs had current certification at the time the audit was completed and had certification changes made on time during the audit period.

WISE and HNET

WISE and HNET are not responsible for any GIPs.

Audit outcome

Compliant

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 TODD 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

TODD

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. Additionally TODD review a stopped meter report (known as the bridged meter report) that identifies ICPs with zero advancing meters for extended period of time using the validated billed meter readings in Orion. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect.

<u>NHH meters</u>

TODD provided ten examples of potentially defective meters. Three were confirmed not to be defective meters but related to relay or hot water faults. Four ICPs still have outstanding service requests due to the initial service requests being closed due to customers missing appointments for the technicians to attend these sites.

- ICP 0001450521PC4E7 was confirmed to be a faulty meter and the meter was replaced on 10 March 2023 and no correction was applied for the affected period.
- ICP 0000923413TU251 has returned paperwork from a fault service request indicating the meter was bridged and no consumption was recorded on the UN register between October 2022 and February 2023. No investigation has been completed to confirm the status of the meter for this period and no correction has been applied.
- ICP 0110006013EL580 was advised by the distributor as being bridged as part of a supply fault. The meter was replaced on 21 March 2023 and the removal read confirmed this replaced meter has not advanced since the original fault was reported on 16 January 2023.

Non compliance is recorded in **sections 2.1 and 12.7** relating to the lack of volume corrections applied for these three ICPs.

TODD provided a list of 72 ICPs from the bridged meter report where the meter had possibly been faulty or bridged during the audit period. I checked a sample of 28 and found 27 had not been faulty or bridged, and two had been bridged:

- ICP 0000542837TU334 was bridged between 22 July 2022 to 11 January 2023 and no correction was applied.

TODD also analysed returned field service paperwork to confirm that all bridged/bypassed meters reported in the returned paperwork were being identified and reported to the AMI MEP to un-bridge and for TODD to apply a volume correction. 18 bridged metered ICPs were identified from 1,722 service requests analysed. Only three were notified to the AMI MEP to arrange for the meter to be un-bridged

and corrections had been applied. TODD have now implemented a daily monitored report looking for the words "bridged" or "bypassed" in returned field service paperwork to then create a field service request to the AMI MEP to un-bridge and recertify. All 15 remaining sites now have jobs logged to un-bridge these meters. TODD is also planning to extend the report to also search for abbreviations and misspellings of the words bridged and bypassed.

Corrections for the defective and bridged meters and are discussed in **section 2.1**.

HHR meters

AMS and EMS confirmed that no HHR 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 six possible defective meter examples provided, the MEP was notified, and appropriate action was taken. Four had meters replaced and two had comms issues resolved and 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 six possible defective meters were provided. The MEP was notified in all cases. Five were confirmed as comms faults and there was no impact to the data and one correction in relation to ICP 0001259732UN72C in relation to the meter replacement was appropriately performed and is discussed in **section 2.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.4 With: Clause 10.43(2) and (3) From: 01-Mar-22 To: 31-May-23	**TODD** The MEP was not advised of 15 bridged meters. 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 recorded as moderate, the MEP are advised of defects in most circumstances, however for bridged meters there was no effective monitoring in place prior to the field audit. Additional reporting was implemented during the field audit to identify through a key word query that scans across all returned service request paperwork looking for words and phrases that indicates a meter has been bridged or bypassed. The audit risk rating is low based on the number of ICPs affected.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance Is accepted. • The MEP has been notified with jobs raised to resolve for the 15 identified meters in June 2023.	June 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: Reporting has been established to identify where the meter has been bridged or bypassed from contractor's job completion note details. The report is reviewed daily, and jobs are immediately raised to the MEP. This is in addition to the existing reporting to identify stopped meters in case the meters are bridged outside of contractor work.	June 2023	

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 was reviewed as part of their agent and MEP audits, and a sample of clock synchronisation events received by Nova were reviewed.

Nova collects some 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.

Data collected by agents

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 smart metering team review the events for AMI meters, and TODD's reconciliation team review the events for C&I 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 reviewed examples of HHR clock synchronisation events and found none required action or corrections.

The AMS agent audit recorded three ICPs where data was not collected within the maximum interrogation cycle:

- ICPs 0007152722RNF57 and 0006752853RNE9E switched out on 17 August 2022 and were unable to be read because the mains were switched off and the ICPs were vacant, and
- ICP 0000012877CP94E had been unable to be read because the meter has been disconnected since 29 April 2021.

Data collected by AMI MEPs.

AMI MEPs monitor clock synchronisation, and this is covered as part of their audits. Each of the MEPs advise TODD of clock synchronisation events via published meter event logs or specific time difference reports, but these are not currently being checked or actioned. Emailed clock synchronisation individual ICP events are reviewed and actioned as required, but there are other events that are sent and not actioned. These two issues are not relevant to this clause because this clause relates to data collection by Nova, not by MEPs. Non-compliance is recorded in **section 9.6**.

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.

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.

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.

AMI 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 the WISE 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.

AMI MEPs provide information on clock synchronisation events via email, which are reviewed by HNET to determine whether any action is required. I viewed five examples of notified meter clock synchronisation events from the AMI MEP and found all had been resolved in later periods and no estimations were required.

All active ICPs have the AMI or HHR flag set to Y. Manual meter reads are obtained for non-AMI meters and AMI meters where there is no data services agreement in place with the AMI MEP 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. No clock synchronisation errors outside allowable thresholds occurred during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.5 With: 2 Schedule 15.2 From: 14-Jan-19 To: 31-May-23	**TODD** Three ICPs were not interrogated within their maximum interrogation cycle. Two have since switched out, and the other ICP is disconnected. 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 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, and two of the ICPs have now switched out.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Monitoring and investigation occurred on all sites impacted. • Two are no longer with Nova. • One will be resolved when the mains are turned back on.	Ongoing	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.	Ongoing	

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 the 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 13 manually read ICPs from the source files to Orion. All were recorded and labelled correctly.

Data validation

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 smart 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**.

TODD are in the process of automating the loading of customer reads so that the import into Orion is no longer manually performed by a user. This automated process is expected to include a validation step to ensure the read is compared to two actual reads at least 30 days apart.

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 (NGCM, SMCO), Arc (ARCS), IntelliHUB (IHUB, MTRX, COUP) and Influx (FCLM), and these are 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 two downgrades and three upgrades.

- 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 expected to be 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.

When I reviewed the examples of upgrades and downgrades I found the processes described above had not been consistently applied:

- 1000510763PC9CF was upgraded from NHH to TOU on 21 December 2022 and the profile change coincided with a network pricing change but the HHR meter was not properly set up in Stark to receive data until a meter change on 7 February 2023, so zeros had been estimated from 21 December 2022 until 6 February 2023; the missing submission information is recorded as non-compliance in **sections 2.1**, **12.2** and **12.7**,
- 0000036953DE5C4 was downgraded from HHR to RPS on 27 August 2022 but HHR data after the downgrade was not removed from Stark and the ICP was reported as both NHH-RPS and HHR-HHR until 31 October 2022; the ICP had appeared as an exception in the pre submission checks between reconciliation reports and the registry list, but had not been actioned - the over-stated submission information is recorded as non-compliance in **sections 2.1** and **12.7**,

- 0000179220TR119 was upgraded from NHH to HHR on 5 April 2022, and the ICP was updated to HHR profile the day after the meter change instead of the day of the meter change; all consumption was correctly captured and reported but the inaccurate registry information is recorded as non-compliance in **section 2.1**, and
- 0000173047TR764 was downgraded from HHR to RPS on 13 October 2022 but the change should have been processed from 14 October 2022; all consumption was correctly captured and reported but the inaccurate registry information is recorded as non-compliance in **section 2.1**.

Description	Recommendation	Audited party comment	Remedial action
Provide training on the upgrade and downgrade process	**TODD** Provide further training on the upgrade and downgrade process to ensure: • meters are correctly set up in systems to start/cease collecting data from the correct date and prevent overlaps where ICPs are reported as NHH and HHR, and • upgrades and downgrades are processed effective from the correct date.	**TODD** **Recommendation accepted.** Further and ongoing training will be provided to all members of the metering department to ensure upgrades and downgrades are effective from the correct date.	Identified

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 for active metered and occupied ICPs which were not commercial or industrial is:

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.

Where the customer does not have a valid mobile number several steps of the process cannot be completed.

For vacant ICPs attempts are made to try and identify property owners/landlords using LINZ (Land online web search) and business registers in order to try and arrange access to read meters.

TODD also proactively try to arrange the installation of AMI meters at ICPs where access issues persist, and in August and September 2022 arranged with meter reading providers to attempt to read some meter outside standard business hours as a means to try and obtain reads missed due to no one being home. ICPs on Health & Safety read cycles have one read attempt per year.

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, service orders are raised to resolve the issues. The smart 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 40 ICPs not read during the period of supply was provided for the period March 2022 to December 2022. Of these, 27 (67.5%) were supplied for less than 50 days. I reviewed the ten ICPs with the longest periods of supply (94-418 days) and found:

- two ICPs were compliant and either had actual reads obtained, or the best endeavours requirement was met before the ICP moved to an occupier account,
- 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 a switch was completed and there was insufficient time to complete the process,
- ICP 0320936023LCDBF was decommissioned in February 2022 however was still appearing in the report as a false positive exception, and
- for ICP 0000521038TUC5F, an actual read was obtained by the meter reader, however it was lower than the switch estimate read provided by the losing trader, but less than 200 kWh different meaning no read request change was initiated by TODD; the actual read was flagged as a misread in the expectation that the meter will catch up to the switch read in time.

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 March 2022 and February 2023.

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.

Two ICPs were not read during HNETs period of supply:

- 0300123671LC292 was a non communicating AMI metered ICP that was with HNET for 34 days; manual read attempts were made but these were unsuccessful and no other attempts to communicate with the customer were made so best endeavours requirements were not met, and
- 0000138358TR561 was a non communicating AMI metered ICP that was with HNET for 139 days; manual read attempts were made but these were unsuccessful, email communications were sent to the customer who then moved out of the ICP after two months resulting in the ICP now being vacant, attempts to disconnect the ICP were also unsuccessful prior to the ICP becoming vacant and best endeavours requirements were not met.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: 7(1) and (2) Schedule 15.2 From: 01-Mar-22 To: 28-Feb-23	**TODD** Exceptional circumstances were not proven for six of the ten ICPs sampled that were not read during the period of supply. **HNET** Exceptional circumstances were not proven for two ICPs that were not read during the period of supply. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate for TODD, the read attainment process for NHH non-AMI meters has been fully operational during the entire audit period meaning that the best endeavours requirements can now be attempted for most ICPs. Controls are rated as moderate for HNET as while there is an escalation path for recent gained ICPs beginning at 60 days, there will be instances where ICPs can transition in and out without within 60 days without best endeavours requirements being attempted. The impact on settlement and participants is expected to be minor therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Six ICPs did not have exceptional circumstances proven. • Nova paused our consecutive estimate process during the height of COVID-19 restrictions. This was resumed with improved measures in June 2022 • All six ICPs were within the paused period, and therefore were not covered by the enhanced process now in place. **HNET Response:** Non-Compliance accepted. Both ICPs that were not interrogated during supply period had short supply periods and NHH meters. Attempts were made to gain reads and communication sent to customers to arrange access.	June 2022	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD: Nova's view is prioritising public safety throughout the COVID 19 response over meter read attainment was the appropriate approach. The enhanced process was re-established in June 2022 and our consecutive estimate volume has significantly decreased as a result. Nova will continue to look for opportunities to further improve our read attainment. **HNET:** HNET will continue to work with our industry stakeholders to ensure meters are interrogated during supply period wherever possible.	Ongoing	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

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
May-22	286	49	91	99.86%
Jun-22	289	53	109	99.85%
Jul-22	288	61	135	99.81%
Aug-22	287	59	136	99.80%
Sep-22	289	60	141	99.79%

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
Oct-22	294	58	139	99.80%

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.

TODD provided a list of ICPs unread for 12 months as of 30 November 2022. I reviewed ten ICPs not read in the previous 12 months to determine whether exceptional circumstances exist, and if TODD had used their best endeavours to obtain readings. The best endeavours requirements were not met in one instance (ICP 0000039211TR55D) due to the previous suspension of the read attainment process due to COVID-19. As meter readers were not able to enter customers properties to obtain reads for inside meters due to COVID restrictions, the read attainment process was suspended meaning the previously scheduled SMS messages were also not being sent to show that multiple communication methods had been employed, as. An actual read has now been obtained for this ICP.

TODD provides monthly reports on meter reading frequency to the Electricity Authority. I reviewed the reports for May 2022 to October 2022 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
Jun-22	46	-	-	100.00%
Jul-22	45	-	-	100.00%
Aug-22	46	-	-	100.00%
Sep-22	47	-	-	100.00%
Oct-22	47	-	-	100.00%
Nov-22	47	-	-	100.00%

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 2022 to December 2022 were provided and I found the reports were in the required format. I checked the timeliness of submissions to the EA for June 2022 to December 2022 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
May-22	125	2	2	99.97%
Jun-22	125	1	1	99.98%
Jul-22	125	2	2	99.98%
Aug-22	125	0	0	100.00%
Sep-22	124	1	1	99.98%
Oct-22	124	0	0	100.00%
Nov-22	124	0	0	100.00%

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 2022 to December 2022 were provided and I found the reports were in the required format. I checked the timeliness of submissions to the EA for June 2022 to November 2022 and found the reports were submitted on time.

I reviewed two ICPs not read in the 12 months up to July 2022 to determine whether exceptional circumstances existed, and if HNET had used their best endeavours to obtain readings. The best endeavours requirements were not met in one instance. The meter for ICP 0000446386UNECA is located in a locked meter room. While manual read attempts were made, the access issue was not escalated and resolved until August 2022.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: 8(1) and (2) Schedule 15.2 From: 01-Aug-21 To: 31-Jul-22	**TODD** The best endeavours requirements were not met for ICP 0000039211TR55D that was not read during the previous 12 months. **HNET** The best endeavours requirements were not met for ICP 0000446386UNECA that was not read during the previous 12 months. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	Controls are rated as moderate for TODD, the read attainment process for NHH non-AMI meters has been restarted meaning that the best endeavours requirements can now be attempted for most ICPs. Controls are rated as strong for HNET as the read attainment has escalation processes are robust where a customer can be identified. The controls are rated moderate overall. The impact on settlement and participants is expected to be minor therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. See section 6.8 **HNET Response:** Non-Compliance accepted. ICP 0000446386UNECA was attempted to be read monthly by Wells but were unsuccessful due to difficulty accessing the meter. Access has now been secured and two actual meter readings have been attained.	June 2022 June 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: See section 6.8 **HNET:** HNET will continue to work with our contractors to identify opportunities for improvement.	Ongoing	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

In relation to each NSP, each reconciliation participant must ensure that for each NHH ICP at which the reconciliation participant trades continuously for each four months, for which consumption information is required to be reported into the reconciliation process. A validated meter reading is obtained at least once every four months for 90% of the non-half hour 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
May-22	304	11	800	98.95%
Jun-22	305	6	699	99.08%
Jul-22	306	5	652	99.49%
Aug-22	308	5	521	99.40%
Sep-22	310	7	488	99.34%
Oct-22	310	5	444	99.40%

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.

I checked the NSPs where 90% read attainment was not achieved for October 2022 and found they each had five or fewer ICPs connected.

TODD provided a list of ICPs unread for four months as of the end of November 2022. I reviewed ten unread ICPs connected to NSPs where the threshold was not met and found the best endeavours requirements were not met within the 4-month period in all ten instances due to:

- lower meter reading performance in some regions due to resource availability,
- valid mobile numbers not being held for the customer,
- the billing activities not being actioned due to workloads, and
- the read attainment process being previously suspended due to COVID 19.

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
Jun-22	55	-	1	99.98%
Jul-22	60	-	-	100%
Aug-22	64	-	-	100%

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
Sep-22	66	-	-	100%
Oct-22	68	-	1	99.98%
Nov-22	67	-	1	99.98%

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
Jul-22	128	0	10	99.86%
Aug-22	128	1	12	99.83%
Sep-22	129	1	11	99.84%
Oct-22	130	3	14	99.79%
Nov-22	129	9	8	99.87%
Dec-22	129	3	10	99.86%

I checked the NSPs where 90% read attainment was not achieved for December 2022 and found they each had four or fewer ICPs connected. The three affected ICPs were reviewed and found:

- ICP 0001188301ML927 had multiple attempts to contact the customer and a photo read was obtained prior to a special read request being raised which was subsequently successful, and
- ICPs 0229839347LC435 and 0000008006KPEDD had multiple attempts to contact the customer prior to special read requests being raised which was subsequently successful.

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: 01-Sep-22 To: 31-Dec-22	**TODD** The best endeavours requirements were not met for all ten ICPs sampled that were not read during the previous four months. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate for TODD, the read attainment process for NHH non-AMI meters has been restarted meaning that the best endeavours requirements can now be attempted for most ICPs. The impact on settlement and participants is expected to be minor therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. See section 6.8 The ten impacted ICPs were within the period that our process was paused due to the COVID-19 restrictions.	June 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: See section 6.8	Ongoing	

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

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 and MEPs. HHR interrogation data requirements were reviewed as part of their agent and MEP audits.

TODD uses Stark to retrieve HHR data from the generation 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 two 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, EMS, and MEPs as part of their agent and MEP 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 and MEPs. HHR interrogation data requirements were reviewed as part of their agent and MEP 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 two 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, EMS and MEPs as part of their agent and MEP 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, and MEPs. HHR interrogation log requirements were reviewed as part of their agent and MEP 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 two 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, EMS and MEPs as part of their agent and MEP 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 and MEPs. Trading period duration was reviewed as part of their agent and MEP audits.

TODD uses Stark to retrieve HHR data from the generation meters every half hour. 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 settled ICPs. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

Compliance with this clause has been demonstrated by EMS, AMS, EDMI and MEPs as part of their agent and MEP 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.

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

Review of audit trails in **section 2.4** confirmed that HHR reads, and volumes 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. Edits to data are performed in Orion and these are then transferred to EnergyMarket.

Generation

Compliance is recorded in the EMS agent audit report.

WISE

I viewed meter readings from 2015 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 the 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.**

HNET HHR data is managed using the same process as TODD, and data cannot be modified without audit trails being created.

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.

Data for C&I meters and AMI meters where the network's price category code requires kVar are managed in Stark. Estimates and corrections are calculated and then imported into Stark, and the Stark data is then transferred to EnergyMarket for submission.

Data for other AMI meters is stored in the AMI table and Orion denotes the ICP as HHR. EnergyMarket receives the meter and profile data from Orion and then retrieves the corresponding interval data from the AMI table. Estimates are created automatically in EnergyMarket based on the same trading period and day for the past six weeks, or the same day for the previous year depending on the profile for the load. If insufficient history is available a zero estimate will be created by EnergyMarket, and it is expected that the ICP will be moved to NHH-RPS for the affected period.

Ten examples of HHR corrections were provided. Nine corrections were to remove HHR data after the switch out event date where backdated switches were completed, and one correction was for a meter downgrade and was processed correctly.

I rechecked ICP 0005238501RN91B which was found to have an incorrectly processed meter change in the last audit, and confirmed the data was corrected.

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

TODD perform all HHR data corrections for HNET using the same processes as for TODD data. No corrections occurred during the audit period.

Audit outcome

Compliant

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, AMS and EDMI's agent audits. TODD retains the raw meter reading data, and audit trails are created when data is changed. TODD also maintains an excel data collection sheet which contains full information on any HHR corrections. 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.**

TODD perform all HHR data corrections for HNET using the same processes as for TODD data. No corrections occurred during the audit period.

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.

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 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 0000521021TP881 opening read was recorded as an opening actual rather than an estimate in Orion.
4.10	The CS files for 0000057236CP111, 1099574638CN945, 0090436400WRDBF, 0001261440TGF84 and 0000637890WE966 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: 06-Mar-22 To: 03-Feb-23	**TODD** One ICP which underwent RRs had incorrect switch read type recorded in Orion. Five 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. Refer to Sections 4.4 and 4.10	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above	Ongoing	

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.

AMS provides HHR data in the EIEP3 file format and EDMI provides data in the GEN format. Prior to June 2022, these file formats rounded the trading period data to two decimal places, and it now compliantly includes three decimal places.

I viewed data collected by Nova in Stark, and confirmed it is not rounded or truncated.

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.

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 HHR data in the EIEP3 file format and EDMI provides data in the GEN format. Prior to June 2022, these file format rounded the trading period data to two decimal places and it now compliantly includes three decimal places.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.3 With: 3(5) Schedule 15.2 From: 1-Jun-20 To: 31-May-23	**TODD and HNET for AMS and EDMI data collection** Prior to June 2022 the EIEP3 and GEN file format 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: Twice 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 EMS 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 & HNET Response: Non-Compliance accepted. EIEP3 and GEN file formatting issue was resolved in June 2022, there has been no compliance issues since this was implemented. **TODD Response:** Non-Compliance disputed. • AMI reads rounding upon import into Orion issue still exists as complying with this interpretation of the clause would result in non-compliance with Schedule 11.3 clause 5 & 11 and clause 6 (Traders must use same reading) and lead to volume inaccuracy in customer invoicing and submission; whereas using 0dp rounded reads does not introduce this overall inaccuracy into the switching process. The registry switching process would need to be changed to accept switch reads containing decimal places to address the inaccuracy issue raised above.	June 2023	Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above	Ongoing	

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.

Data for C&I meters and AMI meters where the network's price category code requires kVar are managed in Stark. ICPs requiring estimates are identified using a query, which cross checks registry information to determine whether the ICP is active and still supplied by TODD. Estimates are calculated using a query and are based on the same trading period and day for the past six weeks, or the same day for the previous year depending on the profile for the load. The estimates are then imported into Stark, and the Stark data is then transferred to EnergyMarket for submission.

Data for other AMI meters is stored in the AMI table and Orion denotes the ICP as HHR. EnergyMarket receives the meter and profile data from Orion and then retrieves the corresponding interval data from the AMI table. Estimates are created automatically in EnergyMarket based on the same trading period and day for the past six weeks, or the same day for the previous year depending on the profile for the load. If insufficient history is available a zero estimate will be created by EnergyMarket, and it is expected that the ICP will be moved to NHH-RPS for the affected period.

I checked ten examples of estimates and found that TODD had used reasonable endeavours to calculate them based on a period with a similar quantity and profile.

It is expected that estimates will be replaced by actual data when it is received. C&I meters and AMI meters managed in Orion automatically have their estimates replaced. AMI meters managed in Stark (because the network's price category code requires kVar) must be manually triggered to update if actual data is received. The process to identify and manually trigger updates was being managed by checking the initial data collection status to the current data collection status prior to submission. When the process was handed over to a new staff member, the focus changed to checking data for the current month only, so older estimated data was not consistently checked to determine whether actual data had been received. TODD intends to reinstate this check.

I checked a sample of six estimates where later actual data was received and found two where the estimated data was not replaced, because monitoring of the collection status was temporarily not completed for months earlier than the current submission month. The affected ICPs have now had the estimated data replaced with actual data, and checks to identify replacement data and replace estimates have been reinstated. TODD intends to review its historic data to identify any other ICPs which require replacement of estimate data since responsibility for monitoring the collection status changed.

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

TODD perform all HHR data corrections for HNET using the same processes as for TODD data. No estimations occurred during the audit period; actual data was available for HNET's HHR ICPs.

Audit outcome

Compliant

Non-compliance	Description
Audit Ref: 9.4 With: 15 Schedule 15.2 From: 01-Jul-22 To: 01-Dec-22	**TODD** HHR estimates were not replaced by actual data for two ICPs as part of TODD's business as usual process. The estimates were replaced during the audit. 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 replacement of estimates for C&I HHR ICPs managed in Stark and HHR settled AMI meters managed in Orion are strong, because estimates are automatically replaced with actuals. The controls over HHR settled AMI ICPs which are managed in Stark because of the network's pricing requirements are weak, but will improve to strong now monitoring of the collection status for earlier months has been reinstated. The impact is low because TODD intends to replace the estimates prior to revision 14.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Both ICPs had the estimates replaced with actual data during the audit.	June 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: ICPs reconciled in STARK will be checked over to ensure there are no more outstanding ICPs that contain estimates that have not been replaced with actuals where actual data has come through. Once these ICPs have been cleared out, any gaps in the process will be investigated to help prevent where actual data has come through and estimates have not been replaced with actual data.	Q3 2023	

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.

The threshold for meter read is exceptionally high and meter read is exceptionally low have not been reviewed since the implementation of the Orion system. I recommend that these thresholds are reviewed to ensure they are still relevant given the proportion of remote read AMI meters now installed.

Description	Recommendation	Audited party comment	Remedial action
Review Orion validation thresholds	**TODD** Review meter read is exceptionally high and meter read is exceptionally low validation thresholds to ensure these remain relevant.	**TODD** **Recommendation accepted.** A job has been lodged with our external developers to update our thresholds. This is due to be completed Q4 2023	Identified

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 smart 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 smart 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 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 and 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 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.

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.

Stark and EnergyMarket both identify missing trading period data which requires estimation.

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 were reviewed prior to initial submissions each month, and events are investigated and resolved as required but this process was lost in handover to new staff. I recommend that this process is reinstated.

Description	Recommendation	Audited party comment	Remedial action
Review Stark meter events	**TODD** Regularly review Stark meter events to identify and resolve any issues which could affect meter accuracy.	**TODD** **Recommendation accepted.** The STARK meter event process will be reviewed again prior to submission and events investigated and resolved prior to submission.	Identified

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), AMS (for AMS and Smartco meters), and FCLM via SFTP. All other AMI meters are read manually by Wells or MRS.

All the AMI MEPs provide regular meter event log files to TODD, which is manually reviewed. Most MEPs also 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 manually reviewed weekly. I reviewed some examples of meter events for a provided October 2022 file and found:

- a tamper event was received for ICP 0000801510TE1D1 without any other events such as power off/power on events also occurring on the same day; no further action was taken,

- EFA – Voltage Tolerance events were received for two ICPs; ICP 0001660620PC255 was investigated and confirmed that the ICP was permanently shut down but ICP 0000401085EN6BD was not investigated,
- EFA - Pulse Output Overflow events were received for two ICPs; ICPs 1001123360LCDB6 and 0000010037HRE9F both received a number of events which were not investigated - both ICPs have since had meters replaced as part of deployment activities, and
- reverse rotation events were recorded for ICP 1001119989UN62F; TODD received a solar application for this ICP in Sept 2021, but a meter replacement service request was not raised as TODD could not arrange access for the meter change at the time - no follow up has occurred since 2021 and the events received in October 2022 have not been investigated.

As described in **section 6.5**, AMI MEPs monitor clock synchronisation, and this is covered as part of their audits. Each of the MEPs advise TODD of clock synchronisation events via published meter event logs or specific time difference reports, but these are not currently being checked or actioned. Emailed clock synchronisation individual ICP events are reviewed and actioned as required, but there are other events that are sent and not actioned. I reviewed a time synchronisation report from NGCM from 13 April 2023 and identified 24 ICPs with a time correction of between 3,596 and 3,602 seconds. Four ICPs were submitted as HHR and no action was taken by TODD to review the data to determine if a data correction was required.

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. The smart 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.

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 on an intermittent basis. 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. No emails 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

<u>NHH</u>

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 one such request and this was actioned, and a service request raised to replace the meter.

HNET does not independently review full event logs from the AMI MEPs but does review meter condition reports and notifications as part of BAU.

<u>HHR</u>

TODD perform all HHR data collection, data validation tasks, estimation, event log reviews and submission tasks for HNET using the same processes as for TODD data. No meter events which could affect accuracy were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.6 With: Clause 17 Schedule 15.2 From: 01-Mar-22 To: 31-May-23	**TODD** Stark meter events for generation meters are not being reviewed. AMI Meter event logs and time synchronisation reports are not consistently reviewed, and no formal process is in place to ensure complete reviews are conducted. Four ICPs with time synchronisation corrections between 3,597 and 3,602 seconds where no investigation or volume correction applied. **WISE** AMI Meter event logs are not consistently reviewed, and no formal process is in place to ensure complete reviews are conducted. **HNET** AMI Meter event logs are not consistently reviewed, and no formal process is in place to ensure complete reviews are conducted. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls for TODD are assessed as strong for TODD generation data because EMS produces generation volume submissions and also validates generation data, and moderate for TODD AMI as most AMI MEPs provide emails to TODD where action is required. Controls are assessed as moderate for WISE as most AMI MEPs provide emails to WISE where action is required. Controls are assessed as moderate for HNET as most AMI MEPs provide emails to HNET where action is required. The controls are rated moderate overall. The impact is assessed to be low, because events affecting accuracy should be identified and alerted by the MEPs via agreed SLAs between parties.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Stark meter events for generation meters are not being reviewed. • Nova has accepted the auditor's recommendation. See response above. AMI Meter event logs and time synchronisation reports • A process will be established to review reporting provided from MEPs and where issues exist immediately raise jobs to replace meters impacted. Four ICPs with time synchronisation corrections • Jobs have been raised to replace impacted meters with time synchronisation issues. • Once completed volume corrections will be applied to all impacted ICPs. **WISE** WISE is developing an event logging process within their system with the support of the MEPs to identify impacted meters and resolve any issues. **HNET** AMI Meter event logs and time synchronisation reports A process will be established to review reporting provided from MEPs and where issues exist immediately raise jobs to replace meters impacted	Q3 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD, WISE & HNET: As above and in recommendation responses	Q3 2023	

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

Using an approved system or by written notice, each generator must give the relevant grid owner half-hour metering information for—

(a)unoffered generation from a generating station with a point of connection to the grid;

(c) electricity supplied from a type B industrial co-generating station with a point of connection to the grid.

If the half-hour metering information is not available, the generator must give the relevant grid owner a reasonable estimate of such data using an approved system or by written notice

Using an approved system or by written notice, each intermittent generator must, in relation to an intermittent generating station with a point of connection to the grid, give the relevant grid owner half-hour metering information for the intermittent generating station.

This clause does not apply to unoffered generation. If the half-hour metering information is not available, the generator must give the relevant grid owner a reasonable estimate of such data using an approved system or by written notice.

Using an approved system or by written notice, each intermittent generator must, in relation to an intermittent generating station with a point of connection to the grid, give the relevant grid owner half-hour metering information for the intermittent generating station. This clause does not apply to

unoffered generation. If the half-hour metering information is not available, the intermittent generator must give the relevant grid owner a reasonable estimate of such data.

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

Each generator must provide the information required by clauses 13.136, 13.137, and 13.137A—

(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; and

(b) in the manner and form that the relevant grid owner stipulates; and

(c) by 1000 hours on a trading day for each trading period of the previous trading day.

To avoid doubt, each generator must provide the half-hour metering information required under this clause—

(a) in accordance with the requirements of Part 15 for the collection of that generator's volume information; or

(b) from a source and in a manner agreed between the generator and the grid owner.

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 2022 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, except for TIM0111 HHR. The ICP days and volumes were duplicated for ICP 0003875008AL995 because it was "active" in both Orion and Stark as HHR, which resulted in over submission of 28,574.3 kWh and 31 ICP days. Normally ICPs are recorded in one system or the other. The issue has been resolved, and revised data will be provided through the wash up process.

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.

Month	Ri	R1	R3	R7	R14
Jan 2021	-0.85%	-0.80%	-0.85%	-0.78%	-0.78%
Feb 2021	-0.86%	-0.88%	-0.77%	-0.78%	-0.77%
Mar 2021	-0.86%	-0.87%	-0.79%	-0.79%	-0.78%
Apr 2021	-0.74%	-0.77%	-0.77%	-0.78%	-0.76%
May 2021	-0.79%	-0.81%	-0.83%	-0.82%	-0.80%
Jun 2021	-0.82%	-0.84%	-0.84%	-0.84%	-0.81%
Jul 2021	-0.90%	-0.96%	-0.90%	-0.90%	-0.85%
Aug 2021	-0.92%	-0.93%	-0.93%	-0.92%	-0.85%
Sep 2021	-0.94%	-0.95%	-0.95%	-0.88%	-0.87%
Oct 2021	-0.98%	-0.98%	-0.98%	-0.90%	-

Month	Ri	R1	R3	R7	R14
Nov 2021	-0.98%	-0.97%	-0.97%	-0.88%	-
Dec 2021	-1.01%	-1.03%	-1.01%	-0.92%	-
Jan 2022	-	-	-	-0.94%	-
Feb 2022	-	-	-	-0.93%	-
Mar 2022	-	-	-	-0.97%	-
Apr 2022	-	-	-	-1.00%	-

I reviewed 20 NHH and 20 HHR NSP level ICP days differences for the April 2022 revision 7 and found they all were all caused by inactive ICPs being included in the AV110 but not included in the GR100 calculation. Compliance is recorded because TODD's ICP days matched the days that submission information provided for.

To confirm the upgrade and downgrade process a sample of two downgrades and three upgrades were checked. I found that the expected upgrade and downgrade process was not consistently applied, which is recorded as non-compliance in **section 6.7**. Submission types are checked against a registry list with history as part of the pre-submission checks and discrepancies are usually investigated and resolved promptly. Some exceptions are not actioned, for instance 0000036953DE5C4 was downgraded from HHR to RPS on 27 August 2022 and HHR data after the downgrade was not removed from Stark. The ICP was reported as both NHH-RPS and HHR-HHR until 31 October 2022. It appeared as an exception in the pre submission checks between reconciliation reports and the registry list, but had not been actioned.

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 all 79 NSPs on the December 2022 revision R1 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 the WISE database and the RM return file (GR100) for all available revisions for 23 months. Negative percentage figures indicate that the WISE ICP days are higher than those contained on the registry, and positive percentage figures indicate that the WISE ICP days are lower than those contained on the Registry.

Month	Ri	R1	R3	R7	R14
Jan-21	-	-	-	-	-0.04%
Feb-21	-	-	-	-	0.00%
Mar-21	-	-	-	-	0.00%

Month	Ri	R1	R3	R7	R14
Apr-21	-	-	-	-	-0.01%
May-21	-	-	-	-	-0.02%
Jun-21	-	-	-	-0.02%	-0.02%
Jul-21	-	-	-	-0.89%	-0.02%
Aug-21	-	-	-	-0.06%	-0.02%
Sep-21	-	-	-	-0.03%	-0.02%
Oct-21	-	-	-0.06%	-0.04%	-
Nov-21	-	-	-1.14%	-0.02%	-
Dec-21	-0.09%	-0.08%	-0.08%	-0.03%	-
Jan-22	-0.03%	-1.47%	-0.03%	-0.03%	-
Feb-22	-0.10%	-0.07%	-0.04%	-0.04%	-
Mar-22	-0.05%	-0.03%	-0.02%	-0.02%	-
Apr-22	-0.03%	-0.05%	-0.05%	-0.05%	-
May-22	-0.05%	-0.05%	-0.06%	-0.06%	-
Jun-22	-0.04%	-0.05%	-0.05%	-	-
Jul-22	-0.07%	-0.06%	-0.06%	-	-
Aug-22	-0.11%	-0.10%	-0.09%	-	-
Sep-22	-0.09%	-0.09%	-0.08%	-	-
Oct-22	-0.06%	-0.04%	-	-	-
Nov-22	-0.04%	-0.02%	-	-	-
Dec-22	-0.04%	-	-	-	-

I checked all 18 consumption month / NSP discrepancies remaining at revision seven or later involving 21 ICPs, for submission periods in between January 2021 and April 2022 and found:

- two revision 14 discrepancies relate to two ICPs (1002056702LCCFC for seven consumption periods from June 2019 and 0351490850LCAAD for July 2019) where the registry status had been reversed manually on the registry and these registry updates had not been reflected in PEBS; these were also identified in the previous audit and have now been resolved,
- ICP 0467242143LC5D5 was missing from the January 2021 Revision 14 submission as it was reconnected on 22 April 2022, but this had not been reflected in PEBS, and
- ten NSP discrepancies were identified in the revision seven for the periods April to July 2021; these discrepancies all related to reversal of the registry status that was not initially reflected in PEBS and have now been resolved and did not appear as a discrepancy in the revision 14 GR100 ICPCOMP file.

HNET

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

The process for the calculation of NHH ICP days was examined by checking the ICP days calculation in the HE scenarios, and by checking all NSPs on the December 2022 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 are reported by TODD for the 11 HHR settled ICPs supplied, using the same processes as are applied for TODD. The calculation of HHR ICP days was confirmed to be correct. I reviewed all HHR ICP days differences recorded on the GR100 ICP days comparison reports from June 2021 to November 2022 and found they are related to backdated switching activity.

The following table shows the ICP days difference between HNET's database and the RM return file (GR100) for all available revisions for 22 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-21	-	-	-	-	0.00%
Feb-21	-	-	-	-	0.00%
Mar-21	-	-	-	-	0.00%
Apr-21	-	-	-	-	0.01%
May-21	-	-	-	-	0.00%
Jun-21	-	-	-	0.01%	0.01%
Jul-21	-	-	-	0.00%	0.00%
Aug-21	-	-	-	0.00%	0.00%
Sep-21	-	-	-	0.00%	0.00%

Month	Ri	R1	R3	R7	R14
Oct-21	-	-	0.00%	0.00%	-
Nov-21	-	-	0.00%	-0.01%	-
Dec-21	0.03%	0.00%	-0.03%	0.00%	-
Jan-22	0.01%	0.00%	-0.01%	0.00%	-
Feb-22	0.03%	-0.02%	-0.01%	0.00%	-
Mar-22	-0.01%	0.01%	0.00%	0.00%	-
Apr-22	-0.01%	-0.02%	0.00%	0.00%	-
May-22	0.00%	0.02%	0.00%	-	-
Jun-22	0.03%	0.00%	0.00%	-	-
Jul-22	0.00%	0.00%	0.00%	-	-
Aug-22	-0.01%	0.00%	0.00%	-	-
Sep-22	0.01%	0.00%	-	-	-
Oct-22	0.01%	0.00%	-	-	-

I checked all HHR discrepancies during the audit period and found they were caused by backdated switches.

I checked four NHH discrepancies remaining at revision 7 and found:

- ICP 0007134781RNC10 had a meter change completed on the last day of June 2022; the MySQL system was not correctly calculating ICP days where a meter is installed on the last day of the month and a system fix has been applied to resolve this issue going forward,
- ICP 0007112322RN8C3 had a POC change in November 2021 between BRY0331 and ISL0331 which was not correctly reflected in the MySQL system for the correct date,
- ICP 0000242273UND71 had an incorrect connection status applied in MySQL for November 2021 due to human error; this was resolved in time for the revision 14 submission, and
- ICP 1099581976CN5C8 was a new connection in November 2021 where the MySQL system connection date did not align with the registry active date; this was resolved in time for the revision 14 submission.

Zeroing does not occur for AV110 submissions by HNET.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.2 With: 15.6 From: 1-Dec-22 To: 31-Dec-22	**TODD** ICP days were duplicated for December 2022 for ICP 0003875008AL995 because it was recorded as an active TOU ICP in Orion and Stark. 0000036953DE5C4 was downgraded from HHR to RPS on 27 August 2022. HHR data after the downgrade was not removed from Stark and the ICP was reported as both NHH-RPS and HHR-HHR until 31 October 2022. ICP days and volumes were duplicated for ICP 0003875008AL995 for December 2022 because it was active in the Orion and Stark as HHR, which resulted in over submission of 31 days. **WISE** Incorrect ICP days for 18 combinations on NSP/consumption month due to PEBS not correctly reflecting the registry status for 21 ICPs. **HNET** Zeroing does not occur for AV110 submissions. Four NHH ICP days differences between AV110 submissions and the registry were caused by either human error or mismatched event dates in MySQL system. 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 overall, because ICP days errors are identified in the pre submission checks, but not always promptly resolved. The impact is assessed to be low based on the differences identified, and revised submission data will be washed up.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Two ICPs were impacted by backdated profile changes. This resulted in data being held in both Orion and Stark for the same period. The incorrect data has been removed from Stark resolving the reconciliation non-compliance. **WISE Response:** Non-Compliance accepted. Of the issues identified, all had been resolved or correctly submitted in R14 reversion. • 0467242143LC5D5 was still incorrect due to a overwrite of the status in the database. This has now been corrected and additional scripts implemented to safeguard against recurrence. **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. Four NHH ICP day differences were a result of human error. This was correctly submitted in R14 reversion.	June 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: A review will be conducted to account for any additional gaps where we have additional data where a site has changed from TOU to HHR/RPS where there is additional data still on STARK that is causing duplicates in the system. We will review any training gaps from handover where there has been staff changes to determine any gaps in the discrepancy reporting to ensure that these are identified, and actions taken to correct these are done in a timely manner. **WISE:** Preventative scripts have been implemented to mitigate status's being incorrectly updated in the database. **HNET:** As above. HNET will continue to monitor the situation to ensure compliance is achieved and maintained.	Q3 2023	

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.

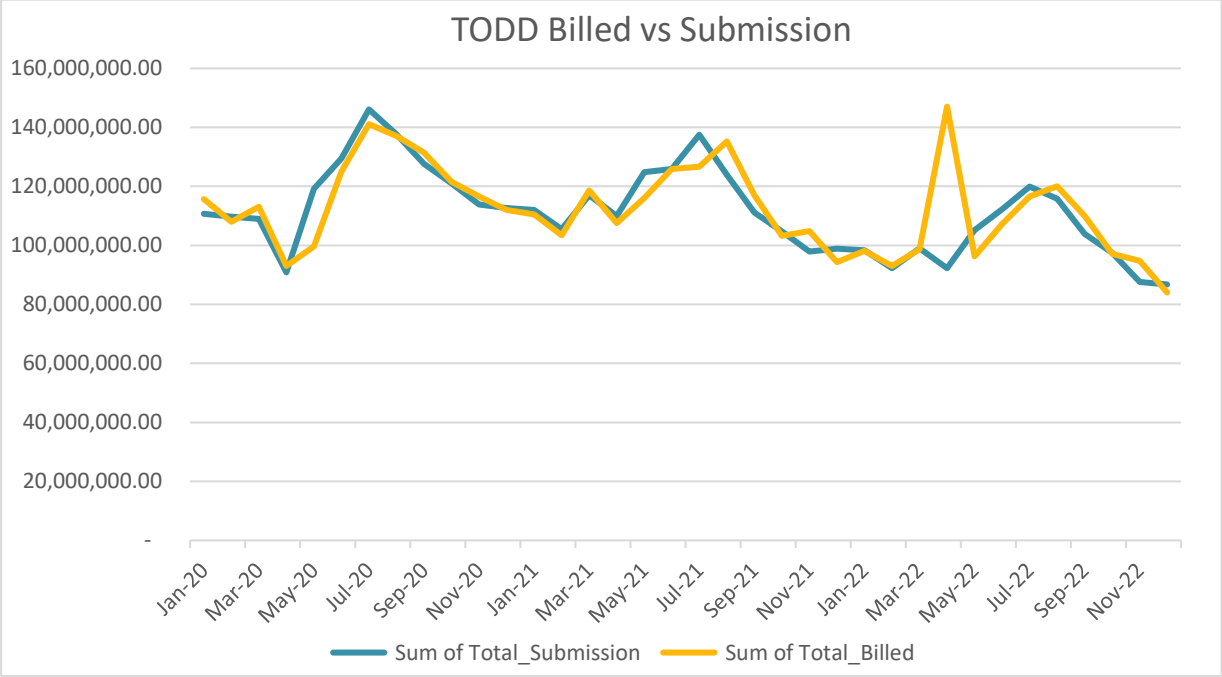
Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late.

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 checked the difference between submission and electricity supplied information for the period January 2020 to December 2022, and the results are shown chart below.



The difference between the billed and submitted data is largely caused by a spike in the billed data for April 2022. The issue was caused by a billing error for an ICP connected to TUI1101 in April 2023. The

following month the incorrect invoice was reversed. The reversal made the overall volume billed at TUI1101 negative for May 2022, so it was replaced with a zero so that the reconciliation manager portal would accept the file.

The table below shows the differences between the billed and submitted data for the year ending December 2022 and two years ending December 2022. When the April 2022 submission containing the billing error is excluded, there is a close relationship between the billed and submitted data.

Difference	Year ending Dec 2022	Two years ending Dec 22
All months in period	4.1% billed higher than submitted	1.8% billed higher than submitted
All months except April 2022	-0.2% billed lower than submitted	-0.3% billed lower than submitted

Compliance is recorded because the data submitted reflects what was actually billed, except where TODD was prevented from submitting the negative value because the reconciliation manager portal will not accept negative values.

No alleged breaches occurred relating to late submission data.

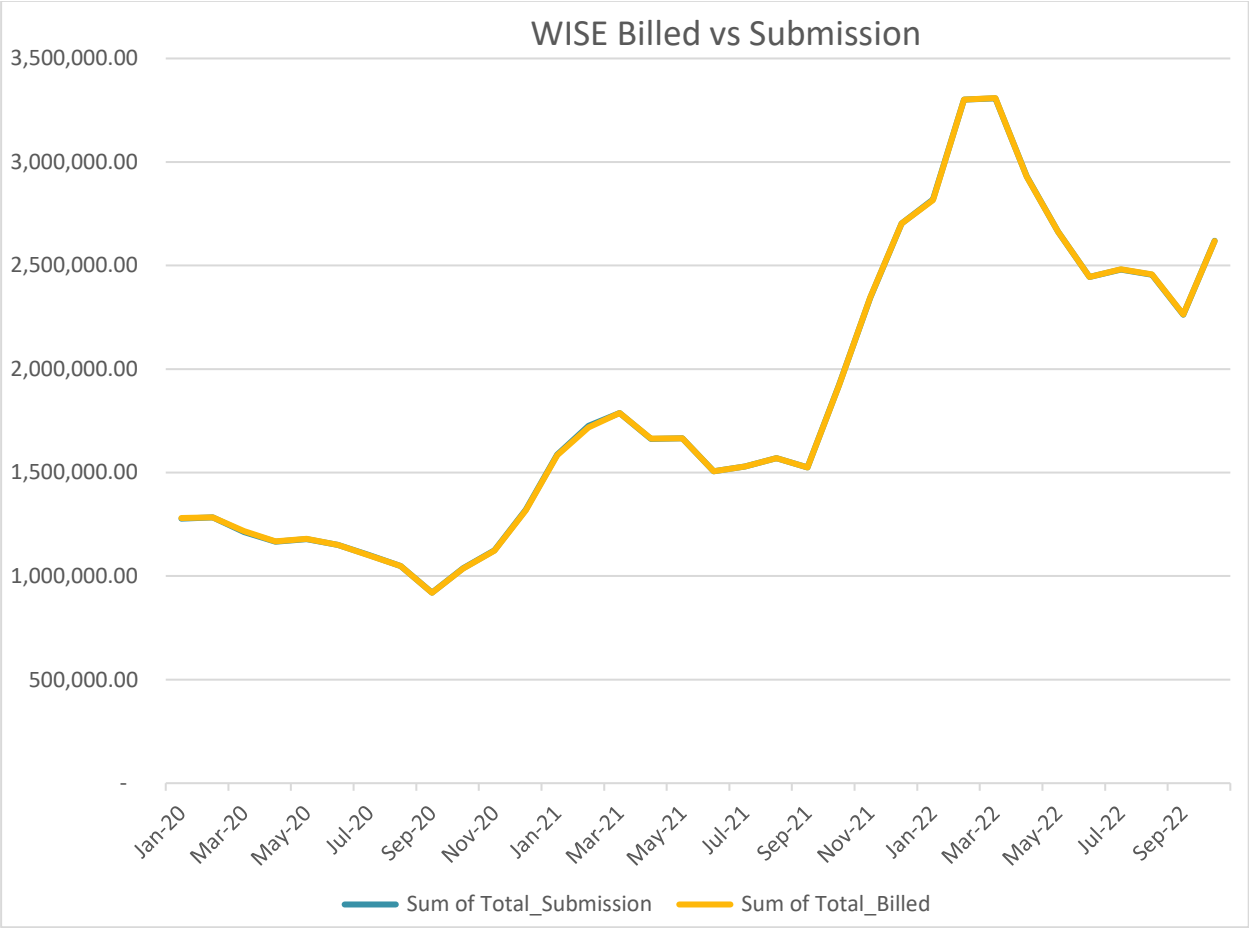
WISE

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 2020 to October 2022, and the results are shown chart below. The total difference is -0.5% for the year ending October 2022 (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.



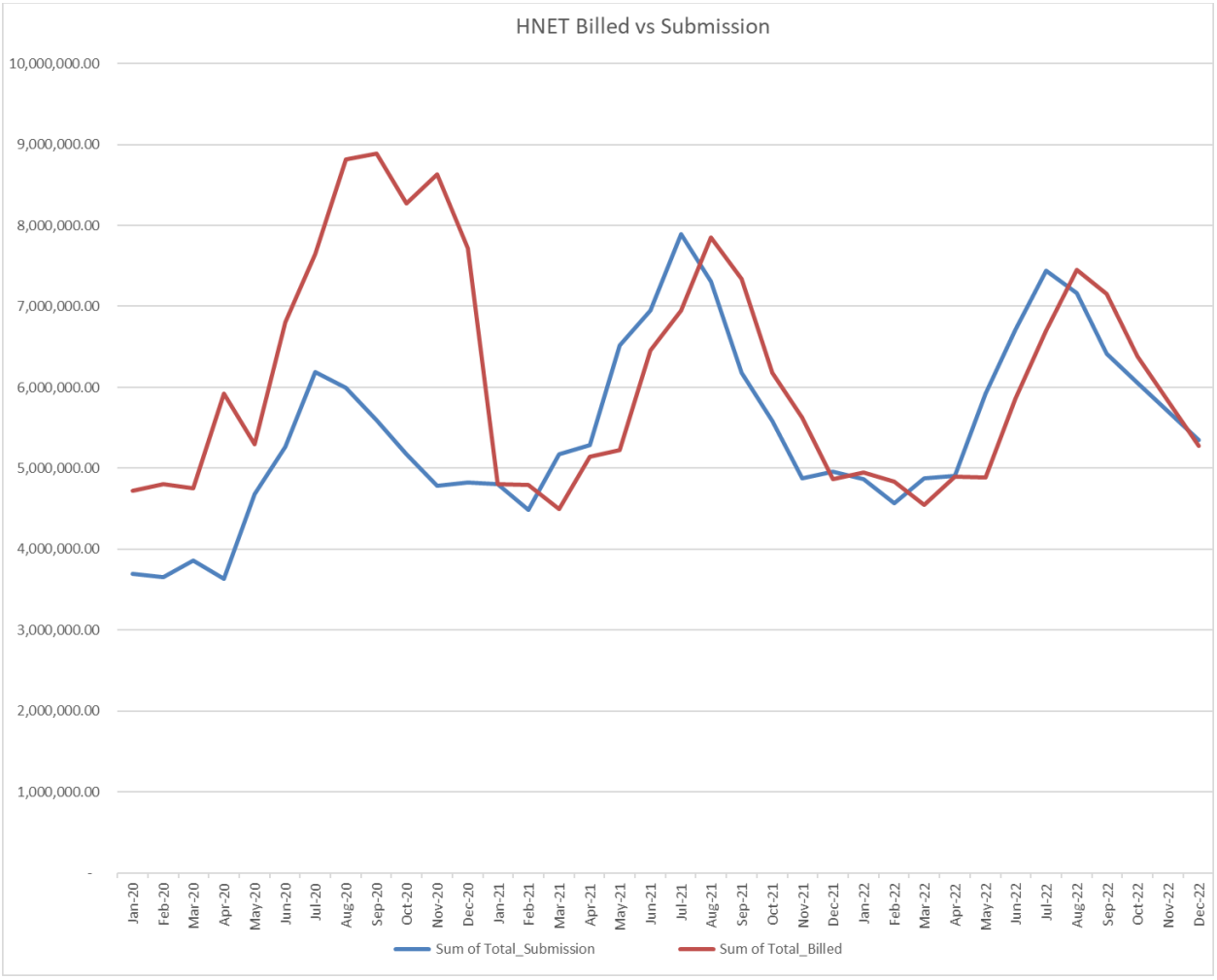
HNET

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 2020 to December 2022, and the results are shown in the chart below. The total difference is 0.5% for the year ending October 2022 (billed lower than submission)



As discussed in **section 2.1,** active vacant consumption is being submitted.

Audit outcome

Compliant

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

Code reference

Clause 15.8

Code related audit information

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

AMI and 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 before they are merged together.

I checked that the process for aggregation of HHR data is correct, by matching HHR aggregates information to the volumes for ten submissions and tracing a sample of raw meter data through to the aggregates submissions. Two submissions were reconciled at NSP and flow direction level and I confirmed that the differences related to rounding except for a difference of 761 kWh for September 2022 submissions at ISL0661. The difference was caused by ICP 0005083575RN47D, which was reported with the correct volume in the HHRVOLS and over reported in the HHRAGGS. The HHRVOLS is based on the HHR interval data only, the HHRAGGS identifies the meters to be included in submission in Orion and then retrieves the HHR interval data. ICP 0005083575RN47D had a meter modification in Orion, where the meter was replaced and reinstalled in the system to correct an issue, but no physical meter change occurred. In these cases the old version of the meter has a closing read and an X added to its meter number, but due to a bug the closing reading was removed from the X meter. The HHRAGGS report normally only considers open meters, but because the closing read was removed the X meter register appeared open and estimated consumption was included in the HHRAGGS. TODD has corrected the data and revised submission information will be provided for revision 7.

To detect other ICPs which may have the same issue, I recommend that TODD compares the aggregates and volumes prior to submission. Based on my analysis, rounding differences between the totals reported are normally less than ±10 kWh for I flows and ±90 kWh for X flows.

<table>
<tr><th>Description</th><th>Recommendation</th><th>Audited party comment</th><th>Remedial action</th></tr>
<tr>
<td>Compare the HHR volumes and aggregates submission totals prior to submission</td>
<td>TODD

Compare the HHR volumes and aggregates submission totals prior to submission.

Investigate any differences over ±10 kWh for I flows and ±90 kWh for X flows, to determine whether they are caused by ICP issues that require correction.</td>
<td>Recommendation Accepted

Comparison report has been built and prior differences checked from 2010 onwards. The table below contains the other months found where the HHR aggregates submission is higher than the HHR volumes submission by more than a ±90 kWh rounding difference.

<table>
<tr><th>Month</th><th>kWh difference</th></tr>
<tr><td>04/2012</td><td>195.46</td></tr>
<tr><td>12/2011</td><td>129.92</td></tr>
</table>

The underlying cause of the discrepancy in the HHR aggregates submission was fixed in the report shortly after the audit to prevent this issue from occurring again at another ICP.</td>
<td>Identified</td>
</tr>
</table>

TODD does not review the GR090 ICP missing files, instead relying on their checks of submission data against a registry list with history.

The GR090 ICP Missing files were examined for all revisions for June 2021 to December 2022. I found an issue with the August 2022 revision 1 GR090 report, which invalidly reported ICPs as missing from the registry. 10,112 ICPs were reported as missing from the registry compared to 50 to 60 ICPs on average for other submissions. I checked a sample of 30 ICPs missing from the August 2021 revision 1 and found they were all present on the registry and should not have been reported.

I checked a sample of the 30 ICPs missing from the most revisions excluding August 2022 revision 1. One was invalidly reported as missing from the registry on the GR090 when it was present. 29 were reported as missing because they had "inactive" status on the registry, but TODD includes ICPs with "inactive" status in its submission data. I checked the "inactive" ICPs against submission data and found 27 had zero consumption reported and two did not. One of the ICPs was corrected to "active" status prior to the audit, and ICP 1000514911PCC9C remains inactive from 15 September 2021 but the AMI read history indicates that the meter was connected sometime between 15 April 2022 and 30 April 2022, and it has continued to intermittently register consumption until at least 31 July 2022. The incorrect status is recorded as non-compliance in **sections 2.1** and **3.9.**

ICP days and volumes were duplicated for ICP 0003875008AL995 for December 2022 because it was active in the Orion and Stark as HHR, which resulted in over submission of 28,574.3 kWh and 31 ICP days. The issue has been resolved, and revised data will be provided through the wash up process.

WISE

WISE does supply any HHR ICPs.

HNET

HHR aggregates files are prepared and sent by TODD on HNETs behalf using the same process as applied for TODD HHRAGGS file. HNET does not actively monitor the GR-090 ICPMISS report. I checked the GR090 ICP missing files for June 2021 to November 2022, and found that two ICPs were missing due to backdated switching activity.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.4 With: 15.8 From: 01-Sep-22 To: 31-May-23	**TODD** ICP 0005083575RN47D had an incorrect volume recorded in the September 2022 aggregates file. ICP days and volumes were duplicated for ICP 0003875008AL995 for December 2022 because it was active in the Orion and Stark as HHR, which resulted in over submission of 28,574.3 kWh. 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 are strong. The process is operating correctly, and the issues resulting in inaccurate consumption appear isolated. The audit risk rating is low because revised submission information will be washed up.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. ICP 0005083575RN47D had an incorrect volume recorded in the September 2022 aggregates file from 09/08/2022 due to a meter being set up in the billing system on two serial numbers simultaneously, • The billing system was corrected 08/06/2023 and the impacted months will be washed up. ICP 0003875008AL995 ICP days and volume were duplicated for December 2022. See Section 11.2	June 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: See response to 11.4 recommendation and to Section 11.2	Ongoing	

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 the AMS MEP audit.

WISE

WISE does not 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

Alleged breach 2205NOVE1 was recorded because TODD submitted reconciliation reports late. The files were late because some files failed the file checker validations and required format corrections prior to being resubmitted. All of the files were delivered before the reconciliation manager began the reconciliation process, and within 36 minutes of the due date and time. Following the incident Nova has scheduled the submission process to start earlier, to allow time for any unforeseen issues to be corrected and resolved. The alleged breach was closed early with no action taken because there was no market impact, and Nova has taken corrective action to prevent recurrence.

HHR

HHR submissions were checked in **section 11.4**. 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**.

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 generation consumption was correctly submitted,
- five ICPs with vacant consumption were checked, and 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**,
- 12 ICPs with unmetered volumes were reviewed, including standard and shared unmetered load and I found that the ICPs did not have month end readings entered against their UML registers, and the kWh reported differed from the expected values (daily unmetered kWh x days) because the read-to-read consumption was profiled using seasonal adjusted shape values to apportion it between reconciliation periods, so there were submission differences of up to ±7 kWh per ICP per reconciliation period; the impact is low because the total consumption reported between reads is expected to be correct, but the process may incorrectly apportion that consumption between reconciliation periods - a recommendation is raised in **section 12.11**.

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**.

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**.

Missing submission information

The following information was missing from submissions:

- 1000510763PC9CF was upgraded from NHH to TOU on 21 December 2022 and the profile change coincided with a network pricing change but the HHR meter was not properly set up in Stark to receive data until a meter change on 7 February 2023, so zeros had been estimated from 21 December 2022 until 6 February 2023,
- ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022; correctly calculated volumes have been included in NHH submissions for the October 2021 submission period onwards, and consumption for submission periods from November 2019 to September 2021 has not been reported - a correction to capture the unreported consumption could have been created, had the reconciliation team been made aware of this issue.

I followed up corrections which had not been processed at the time of the previous audit and confirmed that they have been completed.

Description	Recommendation	Audited party comment	Remedial action
Advise the reconciliation team of backdated switches	Advise the reconciliation team where an ICP switches in with an event date more than 12-months ago. The reconciliation team should ensure that all consumption is reported within a 14-month window.	**Recommendation accepted.** Effective 22 June 2023 a process has been established where the Switching team notifies the Energy Reconciliation team of switch ins with an event date of greater than 12 months prior. The notification is as soon as the customer meets criteria, prior to switch in completing.	Identified
Report missing volumes for ICP 0000033012TCD70	Create a correction to report the omitted volumes for the submission periods between November 2019 to September 2021 for ICP 0000033012TCD70.	**Recommendation accepted.** Recommendation accepted and correction to report omitted volumes (2,168.45 kWh) has been completed on 23/06/2023. See response to Audit Ref: 2.1	Identified

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 were no alleged breaches recorded for late provision of submission information during the audit period.

Report section	Non-compliance
11.2 12.2	I checked all 18 consumption month / NSP discrepancies remaining at revision seven or later involving 21 ICPs, for submission periods in between January 2021 and April 2022 and found: • two revision 14 discrepancies relate to two ICPs (1002056702LCCFC for seven consumption periods from June 2019 and 0351490850LCAAD for July 2019) where the registry status had been reversed manually on the registry and these registry updates had not been reflected in PEBS; these were also identified in the previous audit and have now been resolved, • ICP 0467242143LC5D5 was missing from the January 2021 Revision 14 submission as it was reconnected on 22 April 2022, but this had not been reflected in PEBS, and • ten NSP discrepancies were identified in the revision seven for the periods April to July 2021; these discrepancies all related to reversal of the registry status that was not initially reflected in PEBS and have now been resolved and did not appear as a discrepancy in the revision 14 GR100 ICPCOMP file.

HNET

NHH

NHH prepares NHH submissions using their database. A sample of NHH ICPs were checked to confirm whether they were handled correctly:

- nine 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

Alleged breach 2208NOVE2 was recorded because HNET submitted incorrect half hourly volume submissions for 202106 r14. The alleged breach was closed early.

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: 16-Nov-19 To: 31-May-23	**TODD** Alleged breach 2205NOVE1 for late provision of submission information. 1000510763PC9CF was upgraded from NHH to TOU on 21 December 2022. The profile change coincided with a network pricing change. The HHR meter was not properly set up in Stark to receive data until a meter change on 7 February 2023. Zeros had been estimated from 21 December 2022 until 6 February 2023. ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022. Correctly calculated volumes have been included in NHH submissions for the October 2021 submission period onwards, but consumption for submission periods from November 2019 to September 2021 has not been reported. **WISE** GR-100 ICP Days comparison report identified 21 ICPs were missing from either R7 or R14 revision submission due to PEBS not correctly reflecting registry "active" status. Incorrect ICP days for 18 combinations on NSP/consumption month due to PEBS not correctly reflecting the registry status for 21 ICPs. **HNET** Alleged breach 2208NOVE2 for incorrect provision of HHR data and ICP days. 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 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. • Alleged Market Breach already responded to. • Backdated actual data has been imported for 1000510763PC9CF in STARK to cover the missing data from 21/12/2022 – 06/02/2023. • Backdated switch over 14 months 0000033012TCD70 see section 2.1 **WISE Response:** Non-Compliance accepted. See section 11.2 **HNET Response:** Non-Compliance accepted. Alleged Market Breach already responded to.	June 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: TODD will update their process to include more detailed records to ensure that backdated meter changes and backdated profile changes so not result in duplicated data or missing data. See responses to recommendations for section 12.2 **WISE:** See section 11.2	June 2023	

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

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 nine 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.

TODD no longer checks for ICPs with forward estimate remaining prior to revision 14 and does not enter permanent readings for these ICPs. This is recorded as non-compliance in **section 12.8.**

Generation

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. Previous audits recommended 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. TODD has decided not to adopt this recommendation.

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 September 2022 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 repeat the previous audits recommendation 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** **Recommendation accepted**. HNET will review GR170 vs 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.	Identified

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 generation 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

Alleged breach 2205NOVE1 was recorded because TODD submitted reconciliation reports late. The files were late because some files failed the file checker validations and required format corrections prior to being resubmitted. All of the files were delivered before the reconciliation manager began the reconciliation process, and within 36 minutes of the due date and time. Following the incident Nova has scheduled the submission process to start earlier, to allow time for any unforeseen issues to be corrected and resolved. The alleged breach was closed early with no action taken because there was no market impact, and Nova has taken corrective action to prevent recurrence.

The following submission accuracy issues were identified:

Meter change and profile change submission inaccuracies	The following submission accuracy issues were identified for ICPs which had undergone meter or profile changes:

	• ICP 0005083575RN47D had overstated consumption of 761 kWh for September 2022 HHRAGGS submissions at ISL0661. A closed meter had its closing read removed by a system bug, and the HHRAGGS process treated the meter as if it was open and created estimated consumption. The issue is explained in more detail in **section 11.4**. TODD has corrected the data and revised submission information will be provided for revision 7. • The ICP days and volumes were duplicated for ICP 0003875008AL995 for December 2022 because it was active in the Orion and Stark as HHR, which resulted in over submission of 28,574.3 kWh and 31 ICP days. The issue has been resolved, and revised data will be provided through the wash up process. • 1000510763PC9CF was upgraded from NHH to TOU on 21 December 2022. The profile change coincided with a network pricing change. The HHR meter was not properly set up in Stark to receive data until a meter change on 7 February 2023. Zeros had been estimated from 21 December 2022 until 6 February 2023. 0000036953DE5C4 was downgraded from HHR to RPS on 27 August 2022. HHR data after the downgrade was not removed from Stark and the ICP was reported as both NHH-RPS and HHR-HHR until 31 October 2022. The ICP had appeared as an exception in the pre submission checks between reconciliation reports and the registry list but had not been actioned.
Missing submission information for backdated switch	ICP 0000033012TCD70 switched in effective from 16 November 2019 on 19 October 2022. Correctly calculated volumes have been included in NHH submissions for the October 2021 submission period onwards, and consumption for submission periods from November 2019 to September 2021 has not been reported. A correction to capture the unreported consumption could have been created, had the reconciliation team been made aware of this issue. A recommendation is raised in **section 12.2**.
Unmetered load submission inaccuracies	Unmetered load is managed by recording meter readings against a UML registers. Historic estimate is calculated for these UML registers according to the same process as metered registers. If there are not end of month readings, the consumption will be profiled between reconciliation periods using seasonal adjusted shape values if reads are available, or forward estimate will be calculated. The values calculated using this process will differ from the expected values unless there are end of month readings entered on the last day of every month. I found that TODD is not entering readings for unmetered load registers at the end of each month, and in some cases reads are not entered monthly (e.g., 0000015347CP9D8 had no reads entered between 10 August 2022 and 8 March 2023). I checked a sample of 12 ICPs with unmetered load and found that there were submission differences of up to ±7 kWh per ICP per month. The impact is low because the total consumption reported between reads is expected to be correct, but the process may incorrectly apportion that consumption between reconciliation periods. I also checked two unmetered load corrections and found that the readings had been correctly adjusted, but the historic estimate process had not apportioned the consumption into the correct periods. This was because month end readings were not entered, and the consumption was be profiled between reconciliation periods using seasonal adjusted shape values. The affected ICPs are 0000540558TU552 (unmetered load removed 19 July 2022) and 0000540559TU917 (unmetered load removed 19 July 2022). Three standard unmetered load ICPs were found to have a daily kWh value that was different to a calculation derived from the distributors UNM details information:

	• ICP 0000464841HB763 recorded a daily kWh value of 0.001 kWh per day for an ICP with a 378 Watt under veranda light; the correct value is 4.46 kWh per day, and • ICPs 0000541042TU9CB and 0000512100WP556 had different hours of operation between the trader details and the distributors details; TODD have now adopted the distributors operational hours in their calculation of daily kWh values. These three ICPs do not appear on TODDs mismatch report as the distributors UNM details field is not formatted to enable an automated calculation to be applied. The impact of these three incorrect daily kWh values was assessed to be 2,394 kWh per annum.
Replacement of HHR estimates	It is expected that HHR estimates will be replaced by actual data when it is received. C&I meters and AMI meters managed in Orion automatically have their estimates replaced. AMI meters managed in Stark (because the network's price category code requires kVar) must be manually triggered to update if actual data is received. The process to identify and manually trigger updates was being managed by checking the initial data collection status to the current data collection status prior to submission. When the process was handed over to a new staff member, the focus changed to checking data for the current month only, so older estimated data was not consistently checked to determine whether actual data had been received. TODD intends to reinstate this check. I checked a sample of six estimates where later actual data was received and found two where the estimated data was not replaced, because monitoring of the collection status was temporarily not completed for months earlier than the current submission month. The affected ICPs have now had the estimated data replaced with actual data, and checks to identify replacement data and replace estimates have been reinstated. TODD intends to review its historic data to identify any other ICPs which require replacement of estimate data since responsibility for monitoring the collection status changed.
Arc Innovations meters settled as HHR	As noted in the previous audits, 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. 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 62 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.
Outcome of RR process not reflected in Orion	The reads recorded in TODD's system reflected the outcome of the RR process except for ICP 0000213279UND34 (transfer date 15 December 2022 – read 82860 actual read) where the RR was rejected by the losing trader on 1 February 2023 (proposed read amendment 82744 – estimate read) however the amended readings were entered and activated into Orion due to human error resulting in an under submission of 116 kWh
Defective meters	TODD provided ten examples of potentially defective meters. Three were confirmed not to be defective meters but related to relay or hot water faults. Four ICPs still have outstanding service requests due to the initial service requests being

	closed due to customers missing appointments for the technicians to attend these sites. • ICP 0001450521PC4E7 was confirmed to be a faulty meter and the meter was replaced on 10 March 2023 and no correction was applied for the affected period. • ICP 0000923413TU251 There was returned paperwork from a fault service request indicating the meter was bridged and no consumption was recorded on the UN register between October 2022 and February 2023. No investigation has been completed to confirm the status of the meter for this period and no correction has been applied. • ICP 0110006013EL580 was advised by the distributor as being bridged as part of a supply fault. The meter was replaced on 21 March 2023 and the removal read confirmed that replaced meter was not advancing from since the original fault was reported on 16 January 2023. No correction has been applied. I rechecked ICP 0000177620HB50F which did not have a correction for bridged consumption at the time of the previous audit, and confirmed the correction has now been processed.

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.

WISE

There were no alleged breaches for late provision of submission information during this audit period.

These inputs into submission calculations were incorrect, and resulted in missing submission data:

Report section	Non-compliance
11.2 12.2	I checked all GR-100 ICP Days comparison discrepancies remaining at revision seven or later, for submission periods in 2021 and found: • two revision 14 discrepancies 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 were also identified in the previous audit and have now been resolved, • ICP 0467242143LC5D5 was missing from the January 2021 Revision 14 submission as it was reconnected on 22 April 2022, but this had not been reflected in PEBS, and • ten NSP discrepancies were identified in the revision seven for the periods April to July 2021; these discrepancies all related to reversal of the registry status that was not initially reflected in PEBS and have now been resolved and did not appear as a discrepancy in the revision 14 GR100 ICPCOMP file. This is recorded as non-compliance for inaccurate ICP days reporting in **section 11.2** and missing submission information in **section 12.2**, and inaccurate submission information in **section 12.7**.

HNET

Alleged breach 2208NOVE2 was recorded because HNET submitted incorrect half hourly volume submissions for 202106 r14. The alleged breach was closed early. Review of HHR submission in section 11.4 did not identify any other HHR submission accuracy issues.

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. No exceptions were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: 15.12 From: 16-Nov-19 To: 31-May-23	**TODD** Alleged breach 2205NOVE1 for late provision of submission information. Some inaccurate submission information was not corrected as soon as practicable. **WISE** Some inaccurate submission information was not corrected as soon as practicable. **HNET** Alleged breach 2208NOVE2 for incorrect provision of HHR data and ICP days. Some inaccurate submission information was not corrected as soon as practicable. Potential impact: Low Actual impact: Low Audit history: Three times 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 except for HNET where a meter installed on the last day of a month was resulting in incorrect ICPs days being reported. 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, 4.4, 9.4, 11.2, 11.4, 12.2. Meter change and profile change submission inaccuracies • 0005083575RN47D see Section 11.4 • 0003875008AL995 see Section 11.2 • 1000510763PC9CF see Section 12.2 Missing submission information for backdated switch • 0000033012TCD70 see Section 2.1 Unmetered load submission inaccuracies • See section 3.7 Replacement of HHR estimates • See section 9.4 Outcome of the RR process not reflected in Orion • 0000213279UND34see Section 4.4 Defective Meters • See section 2.1 Alleged Market Breach already responded to. **WISE Response:** Non-Compliance accepted. Refer to sections 11.2 and 12.2 **HNET Response:** Non-Compliance accepted. PV1 non-compliance refer to section 6.1 Alleged Market Breach already responded to.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD, WISE & HNET: As above.	Ongoing	

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

Code reference

Clause 4 Schedule 15.2

Code related audit information

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

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

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

Audit observation

NHH volumes 14-month revisions were reviewed to identify any forward estimate still existing.

Audit commentary

TODD

Some forward estimate remained at revision 14. TODD no longer checks for ICPs with forward estimate remaining prior to revision 14, and does not enter permanent readings for these ICPs due to an increase in workload associated with this activity. I checked a sample of ICPs with forward estimate remaining and confirmed that it was because readings had not been received.

Month	Forward estimate
Aug-21	96,549.38
Sep-21	99,151.28
Oct-21	96,536.56
Total	292,237.22

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

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: 4 Schedule 15.2 From: Aug-21 to Oct-21 r14	**TODD** TODD does not enter permanent estimate readings before revision 14 is created, and some forward estimate remains at revision 14. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are weak because permanent estimates are not entered. The impact is low, because TODD's validation process should ensure that estimates created for ICPs not read in the last 14 months are reasonable.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. • Previous staff applied the permanent estimate process along with an investigation of each ICP to evaluate its eligibility for a permanent estimate i.e. to establish whether reasonable endeavours had been used for at least 12 months prior to being able to apply a permanent estimate for an ICP. • The training around evaluating the eligibility of an ICP, calculating, checking, and inserting a permanent estimate reading into the billing system has not yet been passed over to new staff members. Nova will seek to clarify the interpretation of the Code around eligibility when applying a permanent estimate, to see if this eligibility check is required or can be simplified to apply an automated solution.	December 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: Subject to confirmation, permanent estimate readings will be inserted without the manual reasonable endeavors eligibility investigation to simplify and/or automate the process.	December 2023	

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 without a HHR 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 the WISE 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 seasonal adjusted shape values (SASV) was examined. SASV are downloaded automatically via FTP. Following download, the RPS SASV file is imported automatically into EnergyMarket. The reconciliation team checks the folders after import to confirm that the SASV files have been moved to the "processed" folder indicating that they have been imported successfully.

The table below shows that all scenarios are calculating as expected, apart from for unmetered load.

Unmetered load is expected to be reported as the daily unmetered kWh x the number of active days in the reconciliation period. TODD records unmetered load against a dummy UML meter register, by entering reads which are calculated as the previous read + (number of days in the read to read period x daily unmetered kWh). Historic estimate is calculated for these UML registers according to the same process as metered registers. If there are not end of month readings, the consumption will be profiled between reconciliation periods using seasonal adjusted shape values if reads are available, or forward

estimate will be calculated. The values calculated using this process will differ from the expected values unless there are end of month readings entered on the last day of every month. I found that TODD is not entering readings for unmetered load registers at the end of each month, and in some cases reads are not entered monthly (for example 0000015347CP9D8 had no reads entered between 10 August 2022 and 8 March 2023).

I checked a sample of 12 ICPs with unmetered load and found that there were submission differences of up to ±7 kWh per ICP per month. The impact is low because the total consumption reported between reads is expected to be correct, but the process may incorrectly apportion that consumption between reconciliation periods.

Review of examples with consumption during an inactive period confirmed that all consumption during inactive periods is captured and reported. Disconnection and reconnection reads are not treated as validated actual readings in the historic estimate calculations. The historic estimate process uses seasonal adjusted shape values to apportion the read to read consumption between reconciliation periods, and some consumption may be allocated to periods that are genuinely inactive if disconnection and reconnection boundary readings are not applied. I recommend that TODD considers validating disconnection and reconnection reads for use in the historic estimate process.

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.

Description	Recommendation	Audited party comment	Remedial action
Review historic estimate processes for unmetered load ICPs to improve accuracy	**TODD** Review historic estimate processes for unmetered load ICPs to improve accuracy, including considering whether end of month readings could be entered.	**TODD** See response to Audit Ref: 12.11 The recommendation is accepted and seasonal profiling of UML usage using the RPS shape has been turned off effective 23/06/2023.	Identified
Use of disconnection and reconnection reads when calculating historic estimate	**TODD** Consider validating disconnection and reconnection readings for use in the historic estimate process to ensure that consumption is allocated to the correct submission period.	**TODD** **Acknowledged.** An analysis will be done, before enabling the use of these types of reads in the HE process, to determine if there will be any impact to periods that have already had their final submission and to determine the validation/quality of these reads as reliable.	Investigating

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

Test	Scenario	Test expectation	Result
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.	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 – end of month readings were not entered, and consumption was profiled using seasonal adjusted shape values
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Non-Compliant – end of month readings were not entered, and consumption was profiled using seasonal adjusted shape values
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	Compliant, the photo read was validated and used by

Test	Scenario	Test expectation	Result
		set of validated readings from another source.	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 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.	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

Test	Scenario	Test expectation	Result
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.	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.	Compliant

Test	Scenario	Test expectation	Result
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day.	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day.	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Not applicable – no unmetered load
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Not applicable – no unmetered load
l	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source.	Not applicable – no customer reads
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source.	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	**TODD** HE Scenarios J & K relating to UML load are not producing expected results as the volumes are being profiled using RPS SASV information. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong

To: 31-May-23	Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	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. 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. UML submissions are made by inserting calculated meter reads in the billing system against a UML virtual meter assigned to an ICP. These calculated reads were previously being profiled by the RPS profile in the same way as actual meter reads. • The application of the RPS seasonal profile against UML virtual meter reads has been turned off effective 23/06/2023. Scenarios where a UML month end virtual meter read was missing from the billing system (such that consumption between the reads spanned multiple months) will now be apportioned as a daily kWh quantity based only on the number of days in a month rather than being apportioned between months by the RPS published seasonal profile.	June 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: As above	June 2023	

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 calculated using the following methods in order of preference:

- HHR interval data,
- the profiled 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, and
- zero where there is no HHR interval data or less than two actual reads.

7% of active NHH settled ICPs 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%. The table below shows the number of balancing areas where this target was not met.

Count of balancing areas differences over 15%.

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Jun-21	1	3	3	4	-	-	-	-	210
Jul-21	5	8	8	9	-	-	-	-	212
Aug-21	16	24	25	25	-	-	-	-	210
Sep-21	14	15	16	18	-	-	-	-	211
Oct-21	16	20	19	21	1	1	1	1	213
Nov-21	15	14	13		-	-	-		218
Dec-21	11	15	16	18	-	-	-	-	213
Jan-22	11	12	12		-	-	-		215
Feb-22	8	14	17		-	-	-		214
Mar-22	5	3	5		-	-	-		215
Apr-22	6	5	7		-	-	-		216
May-22	7	15	8		-	-	-		217

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Jun-22	7	9			-	-			219
Jul-22	7	9	14		-	-	-		219
Aug-22	4	8			-	-			222
Sep-22	4	10			-	-			224
Oct-22	3	9			-	-			223
Nov-22	5				-				223
Dec-22	7				-				224

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

Month	Variation				Volume impact			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jun-21	-1.22%	-0.80%	-0.79%	-0.79%	1,140,917	741,234	729,515	735,296
Jul-21	-1.25%	-0.97%	-0.88%	-0.87%	1,286,506	1,003,055	902,111	894,438
Aug-21	0.60%	1.31%	1.33%	1.25%	-565,293	-1,218,505	-1,236,746	-1,163,300

Month	Variation				Volume impact			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Sep-21	1.22%	1.04%	0.94%	0.88%	-1,006,446	-859,330	-783,338	-731,400
Oct-21	2.55%	2.33%	2.40%	2.22%	-1,946,677	-1,779,659	-1,833,787	-1,699,604
Nov-21	1.16%	0.94%	0.95%		-817,371	-665,045	-671,723	
Dec-21	0.87%	1.05%	0.97%	1.02%	-620,908	-745,967	-693,858	-724,330
Jan-22	0.13%	-0.09%	-0.09%		-88,407	66,202	66,474	
Feb-22	0.36%	0.35%	0.29%		-235,991	-229,498	-193,893	
Mar-22	0.28%	0.20%	0.19%		-200,661	-144,696	-132,677	
Apr-22	-0.06%	-0.10%	-0.13%		37,986	66,456	91,236	
May-22	-1.45%	-1.52%	-1.50%		1,140,546	1,193,526	1,176,429	
Jun-22	-2.11%	-2.17%			1,801,014	1,855,123		
Jul-22	-0.91%	-1.01%	-1.03%		827,897	926,324	943,412	
Aug-22	0.01%	-0.12%			-11,900	105,752		
Sep-22	0.49%	0.38%			-390,955	-297,021		

Month	Variation				Volume impact			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Oct-22	1.07%	0.70%			-789,546	-519,631		
Nov-22	1.03%				-684,032			
Dec-22	0.85%				-552,210			

I reviewed all the balancing area differences where the variation between revisions was more than ± 15% and ± 100,000 kWh and four differences where the variation was more than ± 15% and less than ± 100,000 kWh. The differences were caused by multiplier corrections, variances in seasonal adjusted shape values, and forward estimates which were higher or lower than the actual data.

WISE

The WISE 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%. The table below shows the number of balancing areas where this target was not met.

Count of balancing areas differences over 15%.

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Jan-21	-	-	-	-	-	-	-	-	9
Feb-21	-	-	-	-	-	-	-	-	9
Mar-21	-	-	-	-	-	-	-	-	9
Apr-21	-	-	-	-	-	-	-	-	10
May-21	-	-	-	-	-	-	-	-	10
Jun-21	-	-	-	-	-	-	-	-	10
Jul-21	-	-	-	-	-	-	-	-	10
Aug-21	-	-	-	-	-	-	-	-	10
Sep-21	-	-	-	-	-	-	-	-	10

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Oct-21	-	-	-	-	-	-	-		10
Nov-21	-	-	-		-	-	-		10
Dec-21	-	-	-		-	-	-		11
Jan-22	-	-	-		-	-	-		15
Feb-22	2	2	2		-	-	-		18
Mar-22	3	2	2		2	2	2		19
Apr-22	1	1	1		-	-	-		20
May-22	-	1	1		-	-	-		22
Jun-22	-	-			-	-			22
Jul-22	-	-			-	-			22
Aug-22	-	-			-	-			22
Sep-22	-				-				23
Oct-22	-				-				24

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

Month	Variation				Volume impact			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-21	-0.09%	0.00%	0.00%	0.00%	-	-	-	-
Feb-21	-0.08%	-0.05%	-0.05%	-0.08%	-	-	-	-
Mar-21	-0.15%	-0.07%	-0.07%	-0.10%	-	-	-	-
Apr-21	-0.15%	-0.04%	-0.04%	-0.06%	-	-		-
May-21	-0.42%	-0.12%	-0.12%	-0.12%	-	-	-	-
Jun-21	-0.18%	-0.03%	-0.06%	-0.05%	-	-	-	-
Jul-21	-0.26%	-0.22%	0.49%	-0.22%	-	-	-	-
Aug-21	-0.11%	-0.11%	-0.12%	-0.19%	-	-	-	-
Sep-21	-0.15%	0.01%	-0.07%	-0.07%	-	-	-	-
Oct-21	-0.15%	-0.12%	-0.22%	-0.23%	-	-	-	
Nov-21	-0.06%	0.78%	-0.20%		-	-	-	
Dec-21	-0.30%	-0.22%	-0.32%		-	-	-	

Month	Variation				Volume impact			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-22	0.94%	-0.13%	-0.13%		-	-	-	
Feb-22	-0.32%	-0.25%	-0.25%		-	-	-	
Mar-22	72.24%	72.44%	72.44%		-1,965,977	-1,969,020	-1,969,022	
Apr-22	-0.12%	-0.04%	-0.04%		-	-	-	
May-22	-0.12%	-0.03%	-0.04%		-	-	-	
Jun-22	-0.28%	-0.19%			-	-		
Jul-22	-0.23%	-0.20%			-	-		
Aug-22	-0.16%	-0.12%			-	-		
Sep-22	-0.08%				-	-		
Oct-22	-0.09%							

I reviewed the balancing area differences where the variation between revisions was more than ± 15% and ± 100,000 kWh and seven differences where the variation was more than ± 15% and less than ± 100,000 kWh. The variation over 100,000 kWh was caused by data corruption within the initial March 2022 AV-080 file. A number of ICPs were duplicated for two balancing areas. WISE did not identify the issue in the ICP level checks as the ICPs were present twice so passed this validation. WISE have now implemented aggregation level volume checks to identify potential volume discrepancy's requiring investigation.

The other variation differences less than 100,000 kWh were caused by backdated switches, variances in seasonal adjusted shape values, and forward estimates which were higher or lower than the actual data.

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%. The target was met for all balancing areas.

Count of balancing areas differences over 15%.

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Jan-21	3	3	4	4	-	-	-	-	75
Feb-21	2	2	2	2	-	-	-	-	75
Mar-21	-	1	2	2	-	-	-	-	78
Apr-21	1	3	3	4	-	-	-	-	79
May-21	1	2	2	4	-	-	-	-	78
Jun-21	-	1	3	3	-	-	-	-	78
Jul-21	-	-	2	2	-	-	-	-	78
Aug-21	5	7	16	16	-	-	-	-	79
Sep-21	2	5	13	13	-	-	-	-	79

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Oct-21	1	7	10	10	-	-	-		79
Nov-21	4	11	11		-	-	-		78
Dec-21	2	4	4		-	-	-		77
Jan-22	3	5	6		-	-	-		77
Feb-22	2	2	3		-	-	-		77
Mar-22	1	2	2		-	-	-		77
Apr-22	-	4	4		-	-	-		78
May-22	2	3	3		-	-	-		78
Jun-22	2	4			-	-			78
Jul-22	4	4			-	-			78
Aug-22	3	5			-	-			78
Sep-22	3				-				82
Oct-22	2				-				81

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

Month	Variation				Volume impact			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-21	0.05%	0.59%	0.84%	0.85%	-	-	-	-
Feb-21	0.17%	0.46%	0.54%	0.53%	-	-	-	-
Mar-21	0.10%	-0.05%	0.01%	0.00%	-	-	-	-
Apr-21	-0.49%	-0.80%	-0.77%	-0.75%	-	-		-
May-21	-0.26%	-0.34%	-0.38%	-0.30%	-	-	-	-
Jun-21	-0.22%	-0.20%	-0.13%	-0.06%	-	-	-	-
Jul-21	-0.21%	-0.32%	-0.22%	-0.17%	-	-	-	-
Aug-21	0.29%	0.48%	0.69%	0.68%	-	-	-	-
Sep-21	0.11%	0.45%	1.00%	1.03%	-	-	-	-
Oct-21	0.11%	0.59%	1.09%	1.14%	-	-	-	
Nov-21	0.09%	0.75%	1.00%		-	-	-	
Dec-21	0.09%	0.47%	0.54%		-	-	-	

Month	Variation				Volume impact			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-22	-0.12%	-0.11%	-0.01%		-	-	-	
Feb-22	-0.02%	0.01%	0.10%		-	-	-	
Mar-22	0.09%	0.25%	0.34%		-	-	-	
Apr-22	-0.12%	-0.10%	0.10%		-	-	-	
May-22	-0.22%	-0.38%	-0.37%		-	-	-	
Jun-22	-0.15%	-0.05%			-	-		
Jul-22	0.36%	0.44%			-	-		
Aug-22	-0.14%	-0.03%			-	-		
Sep-22	-0.02%				-	-		
Oct-22	-0.09%							

The variation differences were caused by backdated switches, variances in seasonal adjusted shape values, and forward estimates which were higher or lower than the actual data.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.12 With: 6 Schedule 15.3 From: 01-Jun-21 To: 31-Dec-22	**TODD** Some balancing area differences where the variation between revisions was more than ± 15% were caused by forward estimates which were higher or lower than the actual data. **WISE** Some balancing area differences where the variation between revisions was more than ± 15% were caused by either data corruption or forward estimates which were higher or lower than the actual data. Potential impact: Medium Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	For TODD controls are strong. 93% of NHH settled meters have communicating AMI metering installed, and the forward estimate methodology will ensure that a reasonable forward estimate is calculated except where the meter has less than two actual readings. For WISE the controls are moderate due no aggregation level check being in place prior to April 2022 to catch any data corruption. For HNET controls are strong as the forward estimate methodology will ensure that a reasonable forward estimate is calculated except where the meter has less than two actual readings. Controls are strong overall. The impact is low because revised submission data will be provided once actual readings are received.

Actions taken to resolve the issue	Completion date	Remedial action status
TODD Response: Non-Compliance accepted. • TODD has historically achieved a strong level of compliance regarding its accuracy of Forward estimates. As shown in the auditor's commentary above 93% of NHH settled meters have communicating AMI metering installed and there is only 1 balancing area outside of the threshold prescribed. • Additionally, at an aggregate level the average percentage change between the initial revision against subsequent revisions was well within the 15% threshold - indicating robustness in Nova's Forward estimate process. Actions: • Since the 2022 EIPC Audit, TODD has used end of month reads for ICPs where AMI data is available. This has resulted in Nova's initial submissions becoming more accurate as the proportion of Historic estimates increase and Forward estimates decrease. • Increased consumption based on starting and ending end of month reads reduces the effect of profiling, further reducing the variance between the initial submission and subsequent revisions. Nova incorporated this change for submission months starting February 2019 onwards. **WISE Response:** Non-Compliance accepted. WISE have reviewed their forward estimation calculation method, resulting in the identification and rectification of an issue to increase accuracy of forward estimates.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: TODD will continue focusing on optimising its standard by identifying and monitoring its performance and opportunities for improvement. **WISE:** The monitoring of the revised calculation method will be ongoing to ensure that no issues arise. A comparison will be made with the submissions from the previous month to maintain accuracy.	Ongoing	

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 ten 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 appeared reasonable.

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

When reporting submission information, the number of decimal places must be rounded to not more than 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. 93% of NHH settled ICPs have communicating AMI meters and readings are regularly received, and read attainment processes are in place.

Historic estimate targets were not met for all NSPs for any of the revisions checked. Review of a sample of NSPs where the thresholds were not met found that actual readings had not been obtained for some ICPs and permanent estimate readings had not been entered.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Aug-21			286	295
Sep-21			286	296
Oct-21			290	297
Mar-22		294		298
Apr-22		298		299
May-22		300		301
Jul-22	296			302
Aug-22	300			305
Sep-22	303			306

The table below shows that the percentage HE at a summary level for all NSPs is well above the required targets for revisions 3 and 7, and below the required target for revision 14.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Aug-21	-	-	99.88%
Sep-21	-	-	99.90%
Oct-21	-	-	99.88%
Mar-22	-	99.58%	-
Apr-22	-	99.62%	-

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
May-22	-	99.70%	-
Jul-22	99.09%	-	-
Aug-22	99.08%	-	-
Sep-22	99.12%	-	-

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**.

Month	**Revision 3 80% Met**	**Revision 7 90% Met**	**Revision 14 100% Met**	**Total**
Aug-21			49	49
Sep-21			49	49
Oct-21			49	49
Mar-22		68		68
Apr-22		72		72
May-22		73		73
Jul-22	72			72
Aug-22	73			73
Sep-22	75			75

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**
Mar-22	-	-	100.00%

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Apr-22	-	-	100.00%
May-22	-	-	100.00%
Aug-21	-	100.00%	-
Sep-21	-	100.00%	-
Oct-21	-	100.00%	-
Jul-22	100.00%	-	-
Aug-22	100.00%	-	-
Sep-22	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**.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Mar-22			131	131
Apr-22			131	131
May-22			130	130
Aug-21		129		129
Sep-21		130		130
Oct-21		130		130
Jul-22	129	-	-	130
Aug-22	129	-	-	131

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Sep-22	132	-	-	135

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
Mar-22	-	-	100.00%
Apr-22	-	-	100.00%
May-22	-	-	100.00%
Aug-21	-	99.95%	-
Sep-21	-	99.99%	-
Oct-21	-	99.92%	-
Jul-22	99.73%	-	-
Aug-22	99.76%	-	-
Sep-22	99.63%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: 10 of Schedule 15.3 From: Aug-Oct 21 r14, Mar-May 22 r7, Jul-Sep 22 r3	**TODD** Historic estimate thresholds were not met for Aug-Oct 21 r14, Mar-May 22 r7, and Jul-Sep 22 r3. **HNET** Historic estimate thresholds were not met for R3 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 Response: Non-Compliance accepted. • The threshold not met for some NSPs for revisions 3, 7 and 14 had a small number of ICPs connected at the NSPs. • Results look good overall. The prevalence of small embedded networks are/will become increasingly overrepresented by the structure of this Code obligation. Actions: • We have been actively working on gaining an actual read at the earliest timeframe as possible. • Any Forward Estimates at R14 will continue to be checked. We will review the process of creating permanent estimate readings to ensure that we have historical estimates for all ICPs that have not obtained an 'Actual read' by R14 and are eligible for a permanent estimate. **HNET Response:** Non-Compliance accepted. See section 6.9. While HNET endeavours to obtain actual reads for NHH meters, there were significant challenges faced by our external partner in maintaining sufficient workforce to conduct readings over 2022.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TODD: TODD will continue focusing on optimising its standard by identifying and monitoring its performance and opportunities for improvement. **HNET:** HNET will continue to work with our external partners and contractors to make best effort to gain actual readings. Additionally, there will a focus on migration of legacy meters to smart meters for the remainder of 2023 to minimise the issue.	Ongoing	

CONCLUSION

The audit found 35 non-compliances, 15 recommendations and one issue were raised. The future risk rating has improved from 56 to 51. The next audit frequency indicator recommends that the next audit be conducted in six months.

Controls were strong for 19 non-compliances and moderate for 15 non-compliances. One non-compliance had weak controls. I have considered this in conjunction with Nova Energy's responses, which indicate that process improvements have or will be made to resolve a number of the issues identified. I recommend the next audit be conducted in 18 months.

PARTICIPANT RESPONSE

TODD, WISE & HNET extend thanks to Veritek and our teams for the work undertaken in completing this audit.

This audit period included months impacted by COVID restrictions as well as industry wide resource constraints. While impacted by these challenges, Nova remained committed to continuous improvement, compliance, and strong exception reporting.

This was demonstrated in the following areas.

- TODD Switching implemented a system fix to address the average daily kWh consumption issue in March 2022.
- EIEP3 and GENDF two decimal rounding resolved mid-2022 to now use three decimal rounding.
- Post COVID alert level 2 lifting, TODD resumed their consecutive estimate process. This significantly increased read attainment and interrogation compliance since June 2022.
- Continued work to prioritise the removal of ARC meters to minimise the impact of data discrepancy issues.
- Clearing of several audit non-compliances that had been raised across multiple audit periods.
    - 4.12, 4.13, 5.1 and 11.3

TODD, WISE & HNET's overall risk rating has decreased since 2022; all non-compliances continue to be low risk with minor impact.

Nova believes that our commitment to excellence, ongoing implementation of system and process improvements supports a minimum next audit period of 24 months.