

ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT



For

NOVA ENERGY LIMITED

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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 TTGTL 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 continued to make progress in resolving non-compliance issues during the audit period, and there continues to be a strong focus on compliance. The positive highlights from this audit are as follows:

- a high level of compliance for the timeliness and accuracy of registry updates and switching,
- overall data accuracy is high with robust discrepancy reporting in place to identify and correct errors, and all corrections reviewed were processed accurately,
- NHH and HHR volume validation processes continue to be of a high standard, with very few reconciliation data accuracy issues were identified, and where issues were identified they had a low impact and additional controls were promptly put in place to prevent recurrence, and
- issues relating to double counting of invoices for customers with ToD (time of day) billing in the AV120 have been resolved.

The key areas requiring improvement are:

- validation of customer and photo readings requires improvement to ensure that only readings which have been validated against a set of validated actual readings not provided by the customer are used in the reconciliation process, and
- the management of events from manual meter readers, as there were a number of the sample checked that hadn't been identified; Nova are reviewing the reporting to address this.

As found in previous audits, inactive ICP days are included in the ICP days submissions, but this process ensures that any consumption that occurs during the inactive period will be reported.

WISE

Registry updates were mostly found to be timely and accurate, and corrections were processed promptly and as required. Disconnected ICPs are not changed to inactive status unless they are disconnected for more than three days, which has a minor impact on the correct use of the inactive status.

Early in the audit period, WISE was contacting customers to ask the reason they were switching away. Three examples were found where the conversation ended up being about pricing, where WISE clarified existing pricing and the customer decided to remain with WISE. The reason for the initial contact with the customer did not meet the requirements of the Code. Wise advised this practice stopped in mid-2020.

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

HNET

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

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

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

An incorrect R14 submission occurred for one ICP, which was 1,176.73 kWh too low.

Conclusion

The audit found 31 non-compliances, six recommendations and one issue were raised. The audit risk rating is 46, which results in an indicative audit frequency of six months. Controls were strong for 19 non-compliances and moderate for ten non-compliances. Two non-compliances have weak controls.

My recommendation for the next audit date is in at least 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	<p>TODD</p> <p>Some inaccurate data was not corrected as soon as practicable.</p> <p>Profile discrepancy on the day of meter change for upgrades and downgrades.</p> <p>Inaccurate submission for ARC Innovations HHR metering.</p> <p>HNET</p> <p>Under submission of 1,176.73 kWh for July 19 due to inadequate validation.</p>	Strong	Low	1	Identified
Electrical Connection of Point of Connection	2.11	10.33A	<p>TODD</p> <p>Four late certifications for new connections.</p> <p>58 ICPs with late or no current certification for reconnections.</p> <p>Meter unbridged but not recertified for ICP 0000105283UNE27.</p> <p>HNET</p> <p>Two reconnections with expired certification.</p>	Strong	Low	1	Identified
Changes to registry information	3.3	10 Schedule 11.1	<p>TODD, HNET and WISE</p> <p>Some registry information was not updated within 5 business days of the event.</p>	Strong	Low	1	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	<p>TODD</p> <p>55 late updates to active status for new connections.</p> <p>Four incorrect first active dates.</p> <p>HNET</p> <p>Late registry update for one new connection.</p>	Strong	Low	1	Identified
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	<p>TODD</p> <p>17 ICPs had incorrect ANZSIC codes applied. All have been corrected.</p> <p>HNET</p>	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Two incorrect ANZSIC codes.				
Management of “active” status	3.8	17 Schedule 11.1	TODD Four ICPs with the incorrect first active date.	Strong	Low	1	Identified
Management of “inactive” status	3.9	19 Schedule 11.1	WISE Disconnected ICPs not changed to inactive status unless they are disconnected for more than three days.	Moderate	Low	2	Identified
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	TODD One incorrect AN code sent.	Moderate	Low	2	Identified
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	TODD CS average daily consumption is based on the average daily consumption over the previous year, not the last actual read-to-read period. At least five CS files were confirmed to have incorrect average daily consumption recorded. ICP 0002703012HB458 was sent with zero incorrectly and should have been sent as 2 kW. WISE 6 late CS files. Incorrect calculation of average daily consumption.	Moderate	Low	2	Identified
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	TODD Six late RR files for transfer switches. HNET One late RR file.	Strong	Low	1	Cleared
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	TODD Three incorrect AN codes sent. HNET Two ICPs with proposed or actual switch dates earlier than those specified by the gaining trader.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	<p>TODD</p> <p>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.</p> <p>One read was sent as an actual for the event date 26/03/20 but the read should have been sent as an estimate with the last read date of 23/03/20 for ICP 0042251124PC489.</p> <p>An incorrect last actual read date and read were recorded for ICP 1001276348LCA17 (12/09/20) from the sample of five ICPs checked.</p> <p>WISE</p> <p>Calculation methodology for average daily consumption not compliant.</p>	Moderate	Low	2	Identified
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	<p>TODD</p> <p>31 late RR files for switch moves.</p> <p>HNET</p> <p>RR for ICP 1001110357UNE5C was rejected and should have been accepted.</p>	Strong	Low	1	Identified
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	<p>TODD</p> <p>One HH switch requested more than 90 days from NT sent date.</p>	Strong	Low	1	Cleared
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	<p>TODD</p> <p>30 ICPs had response code AD (advanced metering) invalidly applied. None of the ICPs had the AMI flag selected at the time of the switch.</p>	Weak	Low	3	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	<p>TODD</p> <p>Two SR breaches where the NW arrival date was more than ten business days after the initial NW.</p>	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			<p>51 NA breaches where the NW is sent more than two calendar months after the CS actual transfer date.</p> <p>One ICP incorrectly rejected.</p> <p>WISE</p> <p>1 late NW.</p> <p>HNET</p> <p>1 late NW.</p>				
Metering information	4.16	21 Schedule 11.3	<p>TODD</p> <p>For one CS file the switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date.</p>	Strong	Low	1	Identified
Switch saving protection	4.17	11.15AA to 11.15AC	<p>WISE</p> <p>Customers contacted for non-administrative reasons, resulting in discussion of pricing and eventual switch withdrawal.</p>	Strong	Medium	2	Identified
Maintaining shared unmetered load	5.1	11.14	<p>TODD</p> <p>The trader daily unmetered kWh was incorrect on the registry for two ICPs.</p>	Strong	Low	1	Identified
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	<p>TODD</p> <p>While meters were bridged, energy was not metered and quantified according to the code for nine ICPs.</p> <p>WISE</p> <p>While meters were bridged, energy was not metered and quantified according to the code for five ICPs.</p>	Strong	Low	1	Identified
Responsibility for metering at GIP	6.2	5 of Schedule 15.2	<p>TODD (TGTL)</p> <p>The MEP and certification for JRD1101TGTLG were not updated until more than ten business days after metering certification.</p>	Weak	Low	3	Identified
Derivation of meter readings	6.6	3(1), 3(2) and 5 Schedule 15.2	<p>TODD</p> <p>Ten of the 16 examples with meter conditions reported were not actioned as expected.</p>	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			<p>Customer and photo readings are not specifically validated against at least two readings not provided by the customer.</p> <p>Four examples checked found none were validated against a set of readings from another source.</p> <p>One customer reading was entered as an actual read for ICP 0008009802TU5F3.</p>				
NHH meter reading application	6.7	6 Schedule 15.2	<p>TODD</p> <p>An incorrect last actual read date and read were recorded for ICP 1001276348LCA17 (12/09/20) from the sample of five ICPs checked.</p>	Moderate	Low	2	Identified
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	<p>TODD</p> <p>Exceptional circumstances were not proven for the ten ICPs sampled that were not read during the period of supply.</p>	Strong	Low	1	Identified
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	<p>TODD</p> <p>Two Meter Reading Frequency reports were submitted late.</p>	Strong	Low	1	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	<p>TODD</p> <p>Exceptional circumstances not proven for three ICPs.</p>	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Calculation of ICP days	11.2	15.6	<p>TODD</p> <p>Zeroing does not occur for AV110 submissions. At least four ICP days differences between AV110 submissions and the registry were caused by backdated withdrawals or downgrades where data recorded against the old aggregation factor combination for the period was not zeroed.</p> <p>ICP 0000329419TPD0B incorrectly had ICP days reported against INV0331 instead of NMA0331 for May 2019 r14.</p> <p>An end of month read was added before the switch in date for ICP 0000031488WE974. Consumption and ICP days between the end of month read and the switch in date was reported in error.</p> <p>WISE</p> <p>Incorrect ICP days for five ICPs</p> <p>HNET</p> <p>ICP days one too few for two ICPs.</p>	Moderate	Low	2	Identified
Electricity supplied information provision to the reconciliation manager	11.3	15.7	<p>HNET</p> <p>Electricity supplied file incorrect for the period April to November 2020.</p>	Moderate	Low	2	Identified
HHR aggregates information provision to the reconciliation manager	11.4	15.8	<p>TODD and HNET</p> <p>HHR aggregates file does not contain electricity supplied information.</p>	Strong	Low	1	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Accuracy of submission information	12.7	15.12	TODD An unmetered load correction for ICP 0000026059WE8F3 was not processed accurately. Inaccurate submission for ARC Innovations HHR metering. HNET Incorrect R14 submission for one ICP, which was 1,176.73 kWh too low.	Strong	Low	1	Identified
Historical estimate reporting to RM	13.3	10 Schedule 15.3	TODD Historic estimate thresholds were not met for R7 for a small number of months and revisions. HNET Historic estimate thresholds were not met for R3 and R7 for a small number of months and revisions.	Strong	Low	1	Identified
Future Risk Rating						46	

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

ISSUES

Subject	Section	Clause	Description
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	Registry rejected category 2 site MI switch request with error message requiring Nova request this as a HH switch

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

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

Audit commentary

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

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

The exemption expires on 30 April 2023.

Structure of Organisation
The organisational charts were provided for the audit.

1.2. Persons involved in this audit

Auditors:

Name	Company	Role
Steve Woods	Veritek Limited	Lead Auditor
Rebecca Elliot	Veritek Limited	Supporting Auditor
Tara Gannon	Veritek Limited	Supporting Auditor

Personnel assisting with this audit:

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

Title	Organisation
Retail Operations Business Analyst	Nova Energy
Retail Operations Manager	Nova Energy
Team Leader Reconciliation	Nova Energy
Energy Analyst x 3	Nova Energy
Operations Manager	Hunet
Programming & Operations Manager	WISE

Agent personnel assisting with this audit:

Name	Role	Company
Craig Simpson	Operations Manager Service Hub	Wells
Sunny Feng	Data Analyst	EMS
Nick Appleby	Solution Support Specialist	EDMI NZ Limited
Laura Ferrier	Senior Data Analyst	Vector Metering

1.3. 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, EDM, AMS, 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.

TODD

EMS, EDM I and AMS provide HHR data, and EMS also provides information to the pricing manager and submission services for grid connected generators. Wells and MRS provide NHH meter reading services.

WISE

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

HNET

HNET uses Wells to provide NHH meter readings and MEPs to provide AMI data. AMS provides HHR data for HHR C&I ICPs.

1.4. Hardware and Software

TODD

The key infrastructure for audited processes comprises of:

- Orion is used for NHH billing, and to generate NHH reading information, which is exported to EnergyMarket,
- Stark is used to retrieve HHR generation and customer volumes obtained by TODD and HHR billing occurs within Stark's Kinetiq module; HHR volumes are 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.

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.

HNET

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

1.5. Breaches or Breach Allegations

TODD

There were no breach allegations during the audit period in relation to the scope of this audit.

WISE

There was one alleged breach for WISE during the audit period. ICP 04543508631LC82C was reconnected prior to the switch completion. This is currently under investigation.

HNET

There were no breach allegations during the audit period.

1.6. ICP Data

TODD

The quantity of ICPs by status is shown below:

Status	Number of ICPs 2021	Number of ICPs 2020	Number of ICPs 2018	Number of ICPs 2017	Number of ICPs 2016	Number of ICPs 2015
Active (2,0)	103,318	91,298	78,861	76,477	82,245	81,657
Inactive – new connection in progress (1,12)	101	154	20	42	25	38
Inactive – electrically disconnected vacant property (1,4)	248	220	256	377	488	518
Inactive – electrically disconnected remotely by AMI meter (1,7)	249	168	94	35	16	0
Inactive – electrically disconnected at pole fuse (1,8)	159	155	110	104	14	9
Inactive – electrically disconnected due to meter disconnected (1,9)	27	28	32	27	23	18
Inactive – electrically disconnected at meter box fuse (1,10)	133	136	117	27	1	5
Inactive – electrically disconnected at meter box switch (1,11)	52	65	25	25	0	2
Inactive – electrically disconnected ready for decommissioning (1,6)	102	73	71	80	88	98
Inactive – reconciled elsewhere (1,5)	0	0	1	1	1	1
Decommissioned (3)	1,844	1,590	1,328	1,022	736	2,515

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

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

The active ICPs with a metering category of 9 or blank were checked. 131 ICPs were unmetered, and 12 active ICPs with metering category 9, null, or zero did not have unmetered load indicated. Two ICPs had

MEP nominations made and accepted, and ten were timing differences and had meter details populated on the registry prior to the audit.

WISE

WISE provided a list file as of 5th January 2021. The active ICPs from the list file are summarised by meter category in the table below:

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

ICPs in the list file are summarised by status in the table below.

Status	2021	2020	2019	2018	Feb 2018
Active (2,0)	4,870	3,062	2,321	1,688	1,840
Inactive – new connection in progress (1,12)	-	-	-	-	-
Inactive – electrically disconnected vacant property (1,4)	3	6	10	8	11
Inactive – electrically disconnected remotely by AMI meter (1,7)	107	68	53	38	62
Inactive – electrically disconnected at pole fuse (1,8)	-	1	1	-	1
Inactive – electrically disconnected due to meter disconnected (1,9)	3	1	1	-	-
Inactive – electrically disconnected at meter box fuse (1,10)	-	-	-	-	-
Inactive – electrically disconnected at meter box switch (1,11)	-	-	-	-	-
Inactive – electrically disconnected ready for decommissioning (1,6)	2	-	1	1	2
Inactive – reconciled elsewhere (1,5)	-	-	-	-	-
Decommissioned (3)	72	47	40	30	16

HNET

HNET provided a list file as of 11th January 2021. The active ICPs from the list file are summarised by meter category in the table below:

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

ICPs in the list file are summarised by status in the table below.

Status	2021	2020	2019	2018	2017
Active (2,0)	7,746	5,489	5,365	5,194	4,897
Inactive – new connection in progress (1,12)	1	2	1	-	-
Inactive – electrically disconnected vacant property (1,4)	21	19	19	18	12
Inactive – electrically disconnected remotely by AMI meter (1,7)	55	63	37	37	32
Inactive – electrically disconnected at pole fuse (1,8)	1	1	1	-	-
Inactive – electrically disconnected due to meter disconnected (1,9)	2	2	3	12	12
Inactive – electrically disconnected at meter box fuse (1,10)	2		1	-	-
Inactive – electrically disconnected at meter box switch (1,11)	2	1	-	2	2
Inactive – electrically disconnected ready for decommissioning (1,6)	6	3	4	-	1
Inactive – reconciled elsewhere (1,5)	-	-	-	-	-
Decommissioned (3)	98	77	54	32	16

1.7. Authorisation Received

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

1.8. 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.

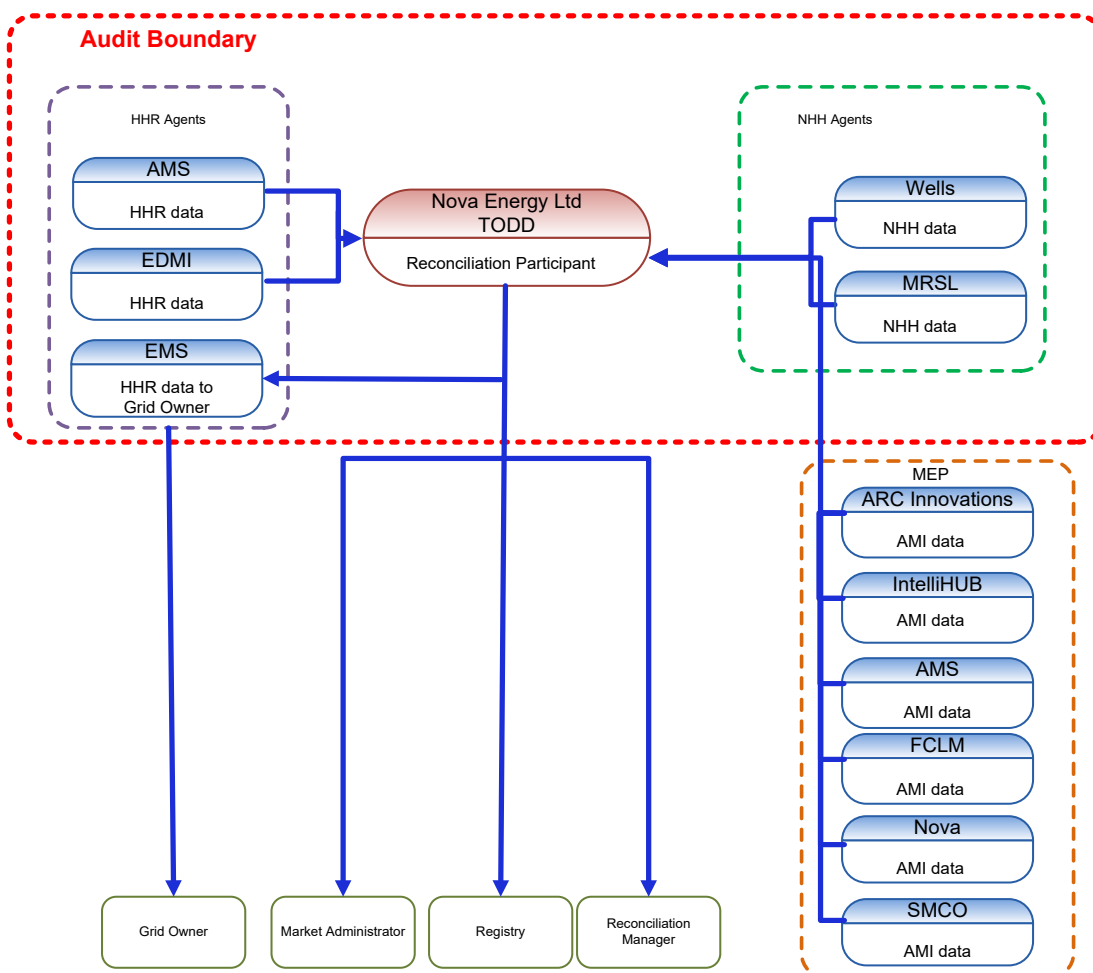
The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.2.

TODD

The audit of the registry management and reading areas was carried out on site in Auckland on 16 – 17 March 2021. The switching area audit was carried out in Whakatane on 18 March 2021. The reconciliation area audit was carried out via zoom on 23 - 24 March 2021.

For TODD a registry list, event detail report and audit compliance report for 1 February 2020 to 11 January 2021 and a registry list snapshot for 11 January 2021 were reviewed.

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



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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks		MEPs providing data
	HHR	NHH	
(a) Maintaining registry information and performing switching			
(b) Gathering and storing raw meter data	AMS EMS EDMI	Wells MRS	Arc IntelliHUB AMS FCLM Nova SMCO
(c)(iii) Creation and management of HHR & NHH volume information			
(d)(i) Calculation of ICP days			
(d)(ii) - delivery of electricity supplied information under clause 15.7			
(d)(iii) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8			
(e) – Provision of submission information for reconciliation			
(f) – Provision of metering information to the Grid Owner	EMS		

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

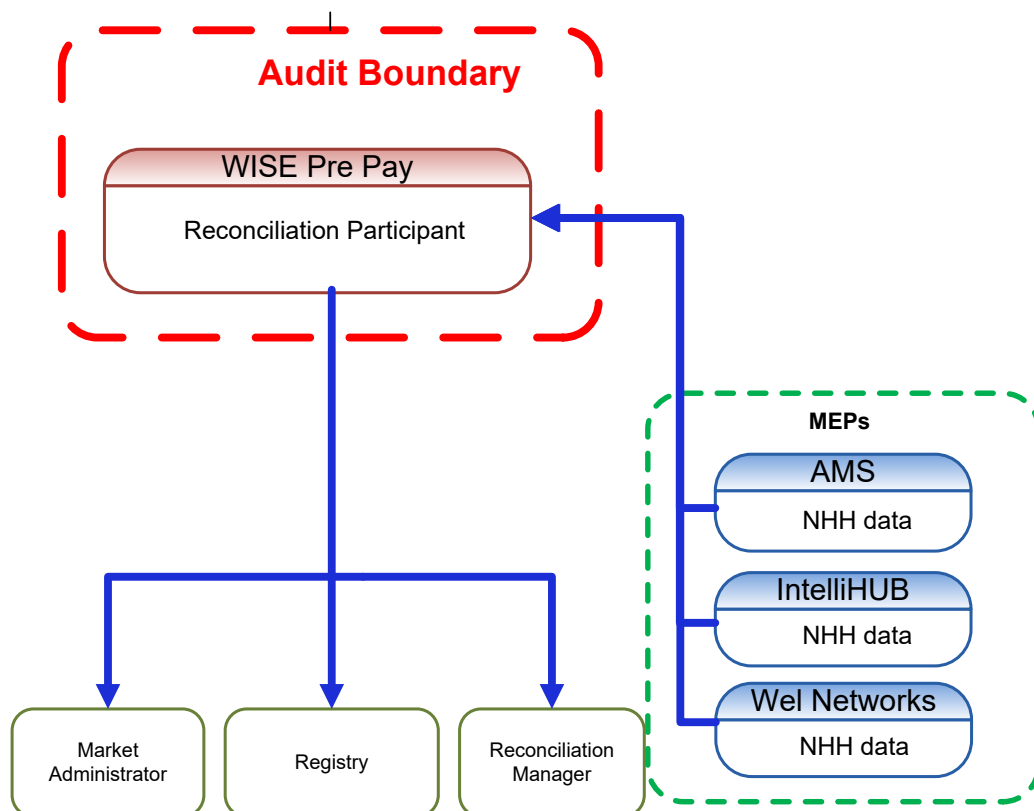
All agents have been audited in accordance with the Guidelines for Reconciliation Participant Audits. The EMS, EDMI, AMS, and Wells audits were completed more than seven months before this audit report's due date. The agent audit reports are expected to be submitted along with this report, and the agents 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 on site in Auckland on 09 March 2021.

A registry list, event detail report and audit compliance report for 1 February 2020 to 21 January 2021 and a registry list snapshot for 21 January 2021 were reviewed.

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



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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs
(a) - Maintaining registry information and performing customer and embedded generator switching	None	
(b) – Gathering and storing raw meter data	None	NGCM – NHH IntelliHub (COUP) – NHH IntelliHub (MTRX) – NHH IntelliHub (IHUB) - NHH WASN – NHH
(c)(ii) - Creation and management of NHH volume information	None	
(d) – Calculation of ICP days	None	

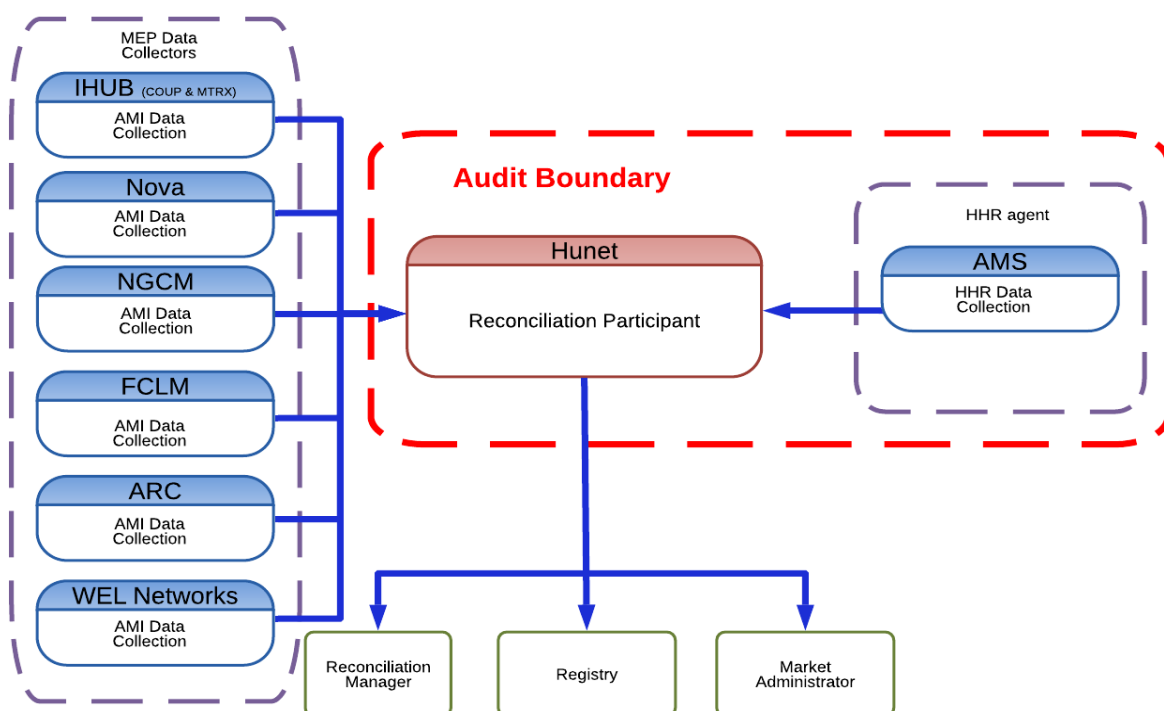
Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs
(da) - delivery of electricity supplied information under clause 15.7	None	
(e) – Provision of submission information for reconciliation	None	

HNET

The audit was carried out on site in Auckland on 9 March 2021.

A registry list, event detail report and audit compliance report for 1 February 2020 to 21 January 2021 and a registry list snapshot for 21 January 2021 were reviewed.

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



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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data	Wells – NHH AMS - HHR	NGCM – NHH ARC - NHH IHUB (COUP) – NHH IHUB (MTRX) - NHH FCLM- NHH WASN – NHH Nova - NHH
(c)(ii) - Creation and management of NHH volume information		
(d) – Calculation of ICP days		
(da) - delivery of electricity supplied information under clause 15.7		
(e) – Provision of submission information for reconciliation		

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

1.9. Summary of previous audit

Nova provided a copy of the report from the previous audit completed in May 2020 by Steve Woods (lead auditor). The current status of the non-compliances and recommendations is recorded in the table below. The status “still existing” is noted if non-compliance with the clause has been found in this audit and does not refer to the specific ICPs where these are detailed. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	15.2	TODD Some inaccurate data was not corrected as soon as practicable. Profile discrepancy on the day of meter change for upgrades and downgrades. Inaccurate submission for ARC Innovations HHR metering. HNET Over submission of 465,000 kWh in April 19 and 50,000 kWh in October 19 due to inadequate validation.	Still existing
Electrical Connection of Point of Connection	2.11	10.33A	TODD 13 late certifications for new connections. 101 late certifications for reconnections.	Still existing
Changes to registry information	3.3	10 Schedule 11.1	TODD, HNET and WISE Some registry information was not updated within 5 business days of the event.	Still existing
Provision of information to the registry manager	3.5	9 Schedule 11.1	TODD 34 late updates to active status for new connections. ICP 0006053840ALA07 has active status recorded from 08/08/19 but should have active status recorded from 06/08/19. ICP 1002063909LC22F has active status recorded from 17/07/19 but should have active status recorded from 15/07/19. HNET Late registry update for one new connection.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	TODD Nine ICPs had incorrect ANZSIC codes applied, and eight were corrected during the audit. ICP 0000012956WE988's customer is a meat processor and wholesaler, but the H440000 (accommodation) ANZSIC code is still applied on the registry. ICPs 0000551085NR750 and 1000012524BP6C4 have incorrect trader event dates applied on the registry.	Still existing

Subject	Section	Clause	Non-compliance	Status
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	<p>TODD</p> <p>The trader daily unmetered kWh was incorrect on the registry for ICP 0000540556TU6C9. A correction was processed during the audit.</p> <p>The readings recorded against the unmetered register for 0000540556TU6C9 do not start from the switch in date, and do not include all expected unmetered load.</p> <p>An incorrect trader event date was recorded for the addition of unmetered load on the registry for 0014603340ELCF7. 01/07/16 was recorded instead of 17/09/19.</p>	Cleared
Management of "active" status	3.8	17 Schedule 11.1	<p>TODD</p> <p>ICP 0000050781CPFOC was active against two customer accounts for 05/12/19 to 06/12/19. The ICP later switched out effective from 06/12/19.</p> <p>ICP 0006053840ALA07 has active status recorded from 08/08/19 but should have active status recorded from 06/08/19.</p> <p>ICP 1002063909LC22F has active status recorded from 17/07/19 but should have active status recorded from 15/07/19.</p>	Still existing
Management of "inactive" status	3.9	19 Schedule 11.1	<p>TODD</p> <p>ICP 1000021444BP3FC incorrectly had inactive status recorded between 12/02/19 and 27/02/19. Consumption occurred between the 12/02/19 and 28/02/19 reads. Because the date that consumption began cannot be pinpointed, the status should be corrected from the earliest date that consumption could have occurred from, which is 12/02/19.</p> <p>WISE</p> <p>Disconnected ICPs not changed to inactive status unless they are disconnected for more than three days.</p>	Still existing
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	<p>TODD</p> <p>One late CS file.</p> <p>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.</p> <p>Two transfer CS files were issued with CS premises lines only.</p> <p>WISE</p> <p>5 late CS files.</p> <p>2 incorrect switch event meter readings.</p> <p>Incorrect calculation of average daily consumption.</p>	Still existing

Subject	Section	Clause	Non-compliance	Status
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	TODD Two late RR files for transfer switches.	Still existing
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	HNET 9 late NT files.	Cleared
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	WISE One AN file with a date greater than 10 business days from NT data. Two AN files with event dates earlier than the proposed date.	Still existing
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	TODD CS average daily consumption is based on the average daily consumption over the previous year, not the last actual read-to-read period. At least ten CS files were confirmed to have incorrect average daily consumption recorded. An incorrect last actual read date was recorded for 0000559123NRAC4 (07/01/19). An incorrect last actual read date and read were recorded for ICP 0000050781CPF0C (06/12/19). 20 switch move CS files were issued with CS premises lines only. WISE Calculation methodology for average daily consumption not compliant. WISE's CS process does not always ensure that the switch read reflects the actual reading on their last day of responsibility. HNET Incorrect date of last read for one ICP.	Still existing
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	TODD Eight late RR files for switch moves.	Still existing
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	HNET Five backdated NT files.	Still existing

Subject	Section	Clause	Non-compliance	Status
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	TODD Nine ICPs had response code AD (advanced metering) invalidly applied. None of the ICPs had the AMI flag selected at the time of the switch.	Still existing
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	TODD 95 late NW files. NWs for ICPs 0000003082EN188 (17/05/17), 0000011522CPBE1 (19/04/17) and 0000015046EAA2A (02/12/17) were issued in error. When the new customer cancelled their application the ICPs should have been moved back to the previous TODD customer account instead of the switches being withdrawn. WISE 1 incorrect NW reason. HNET 1 incorrect NW reason and 1 late NW.	Still existing
Metering information	4.16	21 Schedule 11.3	TODD For one CS file the switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date. WISE 3 inaccurate switch event meter readings.	Still existing
Maintaining shared unmetered load	5.1	11.14	TODD The trader daily unmetered kWh was incorrect on the registry for ICP 0000540556TU6C9. A correction was processed during the audit. The readings recorded against the unmetered register for 0000540556TU6C9 do not start from the switch in date, and do not include all expected unmetered load.	Still existing
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	TODD While meters were bridged, energy was not metered and quantified according to the code for 12 ICPs. ICP 0000710336WP2BE temporarily had an incorrect event date for its generation profile recorded on the registry and was corrected during the audit. WISE While meters were bridged, energy was not metered and quantified according to the code for 4 ICPs.	Still existing Cleared Still existing

Subject	Section	Clause	Non-compliance	Status
Derivation of meter readings	6.6	3(1), 3(2) and 5 Schedule 15.2	<p>TODD</p> <p>Customer and photo readings are not specifically validated against at least two readings not provided by the customer.</p> <p>One customer reading for ICP 0000017604CP1F8 was recorded as a customer reading but had not been validated against a set of readings from another source.</p>	Still existing
NHH meter reading application	6.7	6 Schedule 15.2	<p>TODD</p> <p>In a CS file for ICP 0000050781CPF0C, the switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date.</p> <p>WISE</p> <p>Incorrect readings provided for three ICPs.</p>	Still existing
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	<p>TODD</p> <p>Exceptional circumstances were not proven for at least four ICPs not read during the period of supply.</p> <p>WISE</p> <p>Exceptional circumstances were not proven for one ICP not read during the period of supply.</p> <p>HNET</p> <p>Exceptional circumstances were not proven for one ICP not read during the period of supply.</p>	Still existing
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	<p>TODD</p> <p>Exceptional circumstances were not proven for at least two ICPs unread in the 12 months ending 31/10/19.</p>	Still existing
Meter data used to derive volume information	9.2	3(5) Schedule 15.2	<p>TODD</p> <p>Raw meter data is rounded upon receipt and not when volume information is created.</p> <p>WISE</p> <p>Raw meter data is rounded upon receipt and not when volume information is created.</p>	Cleared
Electricity supplied information provision to the reconciliation manager	11.3	15.7	<p>TODD</p> <p>Some ICPs billed in AXOS were double counted in the AV120 submissions.</p>	Cleared

Subject	Section	Clause	Non-compliance	Status
HHR aggregates information provision to the reconciliation manager	11.4	15.8	TODD and HNET HHR aggregates file does not contain electricity supplied information.	Still existing
Accuracy of submission information	12.7	15.12	TODD The readings recorded against the unmetered register for 0000540556TU6C9 do not start from the switch in date, and do not include all expected unmetered load.	Cleared
Forward estimate process	12.12	6 Schedule 15.3	TODD The accuracy threshold was not met due to FE being estimated too high in relation to balancing area DUNEDINDUNEG (December 18 r1).	Cleared
Historical estimate reporting to RM	13.3	10 Schedule 15.3	HNET Historic estimate thresholds were not met for R3 for a small number of months and revisions.	Still existing

Subject	Section	Description	Recommendation	Status
Changes to unmetered load	3.7	TODD Event dates for unmetered load corrections on the registry	TODD Adjust the process for unmetered load corrections to ensure that they are applied from the correct event date on the registry.	Still existing
Losing trader must provide final information - standard switch	4.3	TODD TR and MI CS files with missing lines	TODD Investigate to determine why CSMETERCHANNEL, CSMETERCOMP and CSMETERINSTALL lines were missing for some TR and MI CS files.	Still existing
Losing trader must provide final information - switch move	4.10	TODD Check ICP 0000015111CPA58 (CS event 18/11/19) average daily kWh	TODD Investigate ICP 0000015111CPA58 (CS event 18/11/19) to determine why the average daily kWh generated by Orion was much higher than expected.	Still existing
Derivation of meter readings	6.6	TODD Customer and photo read validation	TODD If customer and photo readings cannot be validated against at least two readings which were not provided by the customer, they should be recorded as misreads so that they are not treated as actual readings by the reconciliation process.	Still existing

Subject	Section	Description	Recommendation	Status
NHH metering information data validation	9.4	HNET Regarding Clause 16 Schedule 15.2	HNET Re-introduce a threshold for checking NHH ICP high consumption.	Still existing

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 file and AC020 report 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. Rejected MEP nominations are expected to be identified through emails received from the MEP.

TODD's registry validation and management processes continue to be robust. A suite of daily data discrepancy reports is used to ensure information is accurate and consistent, including:

- the load check report, which compares Orion and registry unmetered load details and identifies any discrepancies or changes,
- the new UML report, which identifies any new connections or switch ins with unmetered load so that the unmetered load can be validated and updated as necessary,
- the metering details check and meter and channel count mismatches reports, which identify meter information discrepancies or changes,
- distributed generation indicated by the distributor where TODD does not have a generation profile recorded,
- uncertified meters, and
- status discrepancies.

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**.

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	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
1	Status mismatch between registry and Orion	3	3	10	-	-	1	Three ICPs had inactive status on the registry and were reported with a non-zero volume in the aggregates submission. I confirmed that ICPs 0000042252UN4B9, 0000250349EN2FC and 0000004812UN243 had consumption during inactive periods and their status was incorrect on the registry. See sections 3.9 and 11.4 .
2	ICP at status "inactive - new connection in progress" (1,12) with an initial electrical connection date populated by the Distributor	-	1	3	-	-	12	Compliant
3	Active date variance with Initial Electrical connection Date	469	472	12	16	10	56	Four ICPs were found to have incorrect status event dates applied which were not corrected through TODD's validation processes prior to the audit. The other 465 ICPs were timing differences, or TODD's active date was confirmed to be correct. See section 3.8 .
4	Incorrect submission flag	-	-	-	-	-	-	Compliant-The ICP missing and AC020 report checks did not identify any ICPs with incorrect submission flags.
5	Incorrect profiles	28	-	-	-	-	-	28 ICPs had HHR profile without the HHR submission flag set to yes and were corrected to RPS profile during the audit. The registry was updated incorrectly, but submission information was correct.

Item No.	Issue	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
								To prevent recurrence of this issue, only the reconciliation team updates the profiles and submission type on the registry and the ICP discrepancy reporting has been expanded to identify ICPs with HHR profile, without HHR submission type. See section 12.9 .
6	Distributor indicates embedded generation present with RPS profile	11	5	-	12	16	19	See section 6.1 .
7	Active ICP with cat 9 and UML="N"	3	21	1	1	2	-	Compliant - All were checked and found that the MEP has since uploaded the metering details to the registry.
8	Active ICP with no MEP recorded and UML="N"	2	14	1	2	-	-	Compliant- In both cases an MEP nomination had been made and accepted.
9	Active with blank ANZSIC codes	2	-	-	-	-	1	See section 3.6 .
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	16	6	-	2	-	-	See section 3.6 .
14	ICPs with Distributor unmetered load populated but	-	-	-	5	6	4	Compliant.

Item No.	Issue	2021 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	2015 Qty	Comments
	retail unmetered load is blank							
15	ICPs with standard unmetered load flag Y but load is recorded as zero	-	-	-	-	-	1	Compliant.
16	ICPs with incorrect shared unmetered load	2	1	-	-	6	7	See sections 3.7 and 5.1 .
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	-	-	-		TODD currently supplies 417 active ICPs with ARC Innovations metes which are HHR settled. The affected meters do not have multipliers and have the highest metering category of 1. Arc only provides data with one decimal place, which can cause non-compliance with Clause 4 of schedule 10.7 once the multiplier is applied.

One special read for ICP 0000120785ENC01 for meter no. 10086767 was applied for the incorrect date of 18 May 2020 instead of the 22 May 2020. This was manually applied to the account in Orion. This was due to human error and is recorded as non-compliance.

Processes for correction of NHH meter readings are reviewed in **section 8.1**. 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	<p>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.</p> <p>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.</p> <p>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.</p> <p>I reviewed ten examples of corrections for stopped or faulty meters and confirmed that corrections were processed according to the process described above and flowed through to reconciliation submissions.</p>
Multiplier corrections	<p>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.</p> <p>If the multiplier is incorrect, the invoices for the customer are reversed and then the multiplier is corrected, and the invoices are reissued.</p> <p>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.</p> <p>Two examples of multiplier discrepancies were provided, and corrected data was provided for reconciliation.</p>
Bridged meter corrections	<p>Bridged meters are identified on receipt of reconnection paperwork, through the review of ICPs with zero consumption, or when meter faults are reported by customers, MEPS, or distributors.</p> <p>An excel template is used to calculate consumption for the bridged period based on either the consumption prior to bridging, or consumption after the meter is unbridged. If necessary, consumption history may also be requested from the previous retailer. The calculations are peer reviewed to ensure that they are for the correct period, and that the consumption estimate is reasonable.</p> <p>If the bridged consumption is to be billed to the customer, a closing estimate read is recorded on the affected meter which captures the consumption during the bridged period. A new meter is created and opens on the day the meter is unbridged with the recorded meter reading.</p> <p>If the bridged consumption is not to be billed to the customer, a new meter register is created with opening and closing readings which capture the estimated consumption during the bridged period. There are no charges to the customer associated with this meter register.</p> <p>Regardless of the method applied, correction calculation and fault information is always copied into an Orion activity for future reference.</p> <p>I reviewed nine examples of corrections for bridged meters and confirmed that corrections were processed according to the process described above. Nine corrections had already flowed through to reconciliation submissions. I confirmed that a corrected dataset had been created for ICP 0000105283UNE27. April to October 2020 had revised data submitted, and data for February and March 2020 was ready to be provided with the next revision.</p>

Inactive ICPs with consumption	<p>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.</p> <p>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 and updates the registry status to “active” from that date and raises a new disconnection service order for the ICP.</p> <p>A list of 15 ICPs where consumption while inactive had been identified by TODD was checked to confirm whether the correct statuses were applied. 12 ICPs had less than one unit of consumption per register during the inactive period, suggesting that the meters may have been between digits. The three ICPs with consumption of 2 or more units per register were checked.</p> <ul style="list-style-type: none"> • No genuine consumption was found on two ICPs. These were due to incorrect read values being recorded in the first instance. Both were corrected. • ICP 0000000538CPA9C appeared to have inactive consumption because the disconnection read on 15 July 2020 for meter AN31015/1 was incorrectly entered as 7037, matching the 26 June 2020 reading. The actual disconnection read provided by the contractor was 7371, which matched the reconnection read on 29 July 2021. There was no impact on reconciliation because all consumption was reported against the correct period, due to the surrounding readings and their values. This will affect the accuracy of ICP days, and this is discussed in section 11.2.
Unmetered load corrections	<p>An UML register records “readings” for ICPs with unmetered load. The readings are calculated as the previous reading + (daily unmetered kWh x the number of days between readings).</p> <p>When an unmetered load correction is required, the customer’s invoices are reversed, and the readings for the unmetered load register are adjusted to reflect the correct values and the customer is rebilled. The correction then flows through to reconciliation.</p> <p>I checked two unmetered load corrections and found one was processed correctly. ICP 0000026059WE8F3 had a backdated unmetered load removal which was effective 30 September 2019. The removal was processed in Orion by entering a closing read on 01 May 2020 which matched the read of 30 September 2019, resulting in a total of zero units being consumed after the removal. Because the readings on 21 October 2019 (66), 20 December 2019 (80) and 23 January 2020 (87) were not made misreads, they were used to calculate historic estimate. This resulted in positive volumes being reported in October 2019 to January 2020, and negative volumes being reported from February 2020 to May 2020. Zero unmetered volume should have been reported from October 2019 onwards because the unmetered load was removed.</p>

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

Report section	Non-compliance
2.1	ICP 0000026059WE8F3 had unmetered load removed effective 30 September 2019. Readings on 21 October 2019 (66), 20 December 2019 (80) and 23 January 2020 (87) were not made misreads and were used to calculate historic estimate. This resulted in positive volumes being reported in October 2019 to January 2020, and negative volumes being reported from February 2020 to May 2020. Zero unmetered volume should have been reported from October 2019 onwards because the unmetered load was removed.

Report section	Non-compliance
2.1	ICP 0000000538CPA9C appeared to have inactive consumption because the disconnection read on 15 July 2020 for meter AN31015/1 was incorrectly entered as 7037, matching the 26 June 2020 reading. The actual disconnection read provided by the contractor was 7371, which matched the reconnection read on 29 July 2021. There was no impact on reconciliation because all consumption was reported against the correct period, due to the surrounding readings and their values. The incorrectly recorded reading is non-compliant.
2.1/3.9/11.4	Three ICPs had inactive status on the registry and were reported with a non-zero volume in the aggregates submission. I confirmed that ICPs 0000042252UN4B9, 0000250349EN2FC and 0000004812UN243 had consumption during inactive periods and their status was incorrect on the registry.
3.5/3.8	Seven ICPs were found to have incorrect status event dates applied which were not corrected through TODD's validation processes prior to the audit.
3.6	16 with the incorrect ANZSIC code. These were all ICPs that had switched in and have all been corrected.
3.7/5.1	Two ICPs with shared unmetered load where the shared unmetered load was more than ± 0.01 kWh different to the recalculation based on the distributor's unmetered load.
12.9	28 ICPs had HHR profile without the HHR submission flag set to yes and were corrected to RPS profile during the audit. The registry was updated incorrectly, but submission information was correct. To prevent recurrence of this issue, only the reconciliation team updates the profiles and submission type on the registry and the ICP discrepancy reporting has been expanded to identify ICPs with HHR profile, without HHR submission type.

I rechecked the data discrepancies reported in the last audit that required following up:

Report section	2020 Non-compliance	2021 Findings
3.6	ICP 0000012956WE988's customer is a meat processor and wholesaler, but the H440000 (accommodation) ANZSIC code is still applied on the registry. ICPs 0000551085NR750 and 1000012524BP6C4 have incorrect trader event dates applied on the registry.	Corrected ICP 0000551085NR750 has switched away. ICP 1000012524BP6C4 event date not corrected.

Report section	2020 Non-compliance	2021 Findings
3.7/5.1	<p>An incorrect trader event date was recorded for the addition of unmetered load on the registry for 0014603340ELCF7. 01 July 2016 was recorded instead of 17 September 2019.</p> <p>ICP 0000540556TU6C9 has some incorrect unmetered load information recorded in Orion, which led to incorrect submission information. The unmetered load register started on 27 November 2019 with an opening read of 0 and the latest reading on 3 March 2020 was 235. The unmetered load register was expected to start on 18 October 2019¹ with a read of 0 and the reading on 3 March 2020 was expected to be 328 (137 days x 2.392 kWh), a difference of +93 kWh. Nova intends to process a correction and provide revised submission data to the reconciliation manager.</p>	<p>Corrected</p> <p>Corrected</p>
3.9	ICP 1000021444BP3FC has an incorrect active status date recorded. A correction for inactive consumption returned the ICP to active status from 28/02/19. Because the date that consumption began cannot be pinpointed, the status should be corrected from the earliest date that consumption could have occurred from, which is 12/02/19.	Corrected

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

As noted in the previous audit, there is an issue with ARC Innovations meters when used for HHR settlement. The on-site setup is that a meter pulses into a data storage device, which counts the pulses and “stores” them every 200 pulses which equals 0.1 kWh. There is only one decimal place, so the smallest increment of consumption is 0.1. TODD currently supplies 417 active ICPs with ARC Innovations meters which are HHR settled. The total kWh per month will be accurate, but if volumes are not recorded and reported against the correct trading period, TODD may not be charged at the wholesale rate that applied during the trading period when the electricity was consumed. The affected meters do not have multipliers and have the highest metering category of 1, so the impact is expected to be minimal.

Four customer readings and one photo reading which were not fully validated were recorded as customer or actual readings. The readings were included in historic estimate calculations, potentially apportioning volumes to an incorrect period, or causing under or over submission. Any submission differences are expected to wash out through the revision process once actual readings are received.

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,

¹ At 11.59.59pm on the last day of responsibility for the previous retailer, to ensure that all unmetered consumption was captured.

- 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	2021	2020	2019	2018	Comments
1	Status mismatch between registry and WISE	-	-	-	1	Compliant
2	Active with no MEP	-	-	-	-	Compliant
3	Incorrect submission flag	-	-	-	-	Compliant, all ICPs have submission type NHH.
4	Blank ANZSIC codes	-	-	-	-	Compliant
5	ANZSIC "T999" not stated	-	-	-	-	Compliant
6	ANZSIC "T994" don't know	-	-	-	-	Compliant
7	Incorrect ANZSIC code	-	-	-	1	Compliant
7	Category 9 but Active with MEP and UML "N"	-	-	-	-	Compliant
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- both ICPs were confirmed to have had the distributed generation removed.

Processes for correction of NHH meter readings are reviewed in **section 8.1**. 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 corrections.

<u>Defective meters</u>	<p>Where a defective meter is identified a field services job is raised, and the meter is usually replaced.</p> <p>I reviewed six examples of possible defective meters. Four had meters replaced and two had comms issues resolved. In four of the six examples a final read from the register was obtained from the field visit. In the other cases, the data was eventually provided. The correction was correctly processed using estimated data from historic consumption.</p>
<u>Bridged meters</u>	<p>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.</p> <p>WISE manually estimate consumption based on the average daily consumption (if known) or a daily value agreed with the customer. This is expected to be multiplied across the bridged period. WISE provided five examples of bridged meters and in all five cases, the meter was “removed” with an estimated reading to cater for the consumption during the bridged period. It was then “re-installed” at the reading it actually recorded to ensure the consumption was continuous.</p>
<u>Multipliers</u>	<p>No WISE ICPs have meter multipliers, and no ICPs requiring multiplier corrections were identified.</p>
<u>Inactive ICPs with consumption</u>	<p>For consumption to be included in historic estimate calculations, the following must occur:</p> <ol style="list-style-type: none"> 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. <p>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.</p> <p>Previously the disconnection read was not entered onto the customer account if the disconnection read occurred after the date the account was terminated. Therefore, because only reads recorded on a customer account were used by the reconciliation process, this resulted in under reporting of consumption where disconnection occurred after the account termination date. In June 2019, WISE changed their process and now apply the disconnected read for the switch event meter reading date when the ICP switches away.</p> <p>To identify ICPs with incorrect statuses, WISE completes the following check twice weekly:</p> <ul style="list-style-type: none"> • 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. <p>WISE provided a list of eight ICPs with inactive status and consumption after the final reading on the customer’s account and in all cases the consumption was submitted.</p>

HNET

HNET monitors the registry notification files to update their database when registry information changes. The ICP management report is run weekly, and this identifies any consumption on active vacant or disconnected vacant, status mismatches, any 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	2021	Jan 2020	May 2019	January 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	-	-	-	-	All ICPs have submission type NHH and RPS profile
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	-	-	-	-	Compliance confirmed - HNET do not accept ICPs with unmetered load
9	ICPs with unmetered load flag Y but load is recorded as zero	-	-	-	-	Compliance confirmed - HNET do not accept ICPs with unmetered load
10	ICPs with incorrect shared unmetered load	-	-	-	-	Compliance confirmed - HNET do not accept ICPs with unmetered load
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 now checked for ICPs over 3,000 units.

Processes for correction of NHH meter readings are reviewed in **section 8.1**. 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 corrections.

<u>Defective meters</u>	I reviewed six examples of stopped or defective meters. All were confirmed to have been calculated and submitted correctly.
<u>Inactive and vacant ICPs with consumption</u>	<p>As recorded in section 2.1, the ICP management report is run monthly, and this identifies any consumption on active vacant or disconnected vacant and any ICPs identified are investigated and corrections are processed as described above.</p> <p>As described in section 3.3, the status is managed through the “Disco Reco Manager”.</p> <p>HNET provided a list of six ICPs with consumption while disconnected, which were reviewed. In all cases, the consumption was not genuine.</p> <p>HNET provided a list of five ICPs with vacant consumption, which were reviewed and confirmed that the volume has been submitted correctly.</p>
<u>Bridged meter corrections</u>	HNET did not have any bridged meters during the audit period.
<u>Multiplier corrections</u>	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.

One issue was identified when checking variations between revisions. NSP SYL0113 had a drop in consumption from R7 to R14. Most of this was due to incorrect R14 submission for ICP 0000014236KP043. The R7 consumption was 2,165.13 (all HE), therefore the R14 submission should also have been 2,165.13 but it was 988.40, which was too low by 1,176.73. HNET reported this ICP failed validation at R14, and a manual calculation occurred using incorrect meter readings.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 2.1</p> <p>With: Clause 10.6, 11.2, 15.2</p> <p>From: 01-Jul-19</p> <p>To: 15-Jan-21</p>	<p>TODD</p> <p>Some inaccurate data was not corrected as soon as practicable.</p> <p>Profile discrepancy on the day of meter change for upgrades and downgrades.</p> <p>Inaccurate submission for ARC Innovations HHR metering.</p> <p>HNET</p> <p>Under submission of 1,176.73 kWh for July 19 due to inadequate validation.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are rated as strong as they are sufficient to mitigate risk most of the time. The HNET validation controls require strengthening.</p> <p>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.</p> <p>The HNET validation issue resulted in under submission outside the 14-month revision period.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Some inaccurate data was not corrected as soon as practicable.</p> <p>Item 1.</p> <p>ICPs 0000042252UN4B9, 0000250349EN2FC and 0000004812UN243</p> <ul style="list-style-type: none"> Several backdated events were updated/corrected Improvements to the data integrity processes have been made and we will continue to focus on timely and accurate updates/corrections <p>Item 3.</p> <p>Four ICPs incorrect status event dates – not corrected via validation processes</p> <ul style="list-style-type: none"> Refer 3.8 <p>Item 5.</p> <p>Incorrect Profiles</p>		On-going	Identified

<ul style="list-style-type: none"> • TODD has set up an automated process to align the profile in Orion with the registry – March 2021 • Additionally, discrepancy reporting has been updated to highlight where profiles don't align with submission types – March 2021 <p>Profile discrepancy on the day of meter change for upgrades and downgrades.</p> <ul style="list-style-type: none"> • Nova will continue current submission processes around upgrades/downgrades. This is a technical non-compliance that arises due to the registry being unable to reflect an ICP being NHH & HHR on the same day. • As noted by the auditor there is no material impact on reconciliation. <p>Item 6.</p> <p>Embedded generation present with RPS profile</p> <ul style="list-style-type: none"> • Refer 6.1 <p>Item 9 & 13.</p> <p>ANZSIC</p> <ul style="list-style-type: none"> • Refer 3.6 <p>Item 16.</p> <p>ICPs incorrect shared unmetered load</p> <ul style="list-style-type: none"> • Refer 5.1 <p>Item 18.</p> <p>417 active ICPs with ARC Innovations meters HHR settled</p> <ul style="list-style-type: none"> • As noted by the auditor the affected meters do not have multipliers and have the highest metering category of 1, so the impact is expected to be minimal. • Vector is in the process of replacing all Arc meters • Nova supports an industry wide approach that considers the costs and benefits of the most appropriate response to this situation • Nova seek EA clarification and guidance on this issue <p>ICP 0000120785ENC01</p>		
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<ul style="list-style-type: none"> The read was entered incorrectly by a team member, the read has been “misread” and a correction to the read date completed <p>ICP 0000105283UNE27</p> <ul style="list-style-type: none"> Refer 2.11 <p>ICP: 0000000538CPA9C</p> <ul style="list-style-type: none"> The ICP had a disconnection read entered incorrectly to our Orion system in error. <ul style="list-style-type: none"> Corrected May 2021 <p>ICP: 0000026059WE8F3</p> <ul style="list-style-type: none"> Correction has not occurred due to the affected period already exceeding the R14 Final Washup cycle <p>28 ICPs had HHR profile without HHR submission flag</p> <ul style="list-style-type: none"> Refer 12.9 <p>ICP: 1000012524BP6C4</p> <ul style="list-style-type: none"> Correction completed May 2021 <p>HNET</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Under submission of 1,176.73 kWh for July 19 due to inadequate validation ICP 0000014236KP043 Revision Variances</p> <ul style="list-style-type: none"> HNET ran the July 2019 R14 report in Sep 20, this ICP was detected in some way in the validation process and HE volume was manually calculated with 2 actual reads. HNET used 2 actual reads but didn't pick up all actual reads in the middle of the July 2019 (5th, 19th & 24th July) which caused a revision variance for the month. HNET have confirmed that there is no revision variance in Aug and Sep 2019 for the ICP. HNET no longer query and review ICP days in any revision as we have already fixed the ICP days error in Jan 2021. <ul style="list-style-type: none"> As discussed during the audit, an identified issue with ICP days when there is a trader event on the date the meter was changed, and it was fixed 		
Preventative actions taken to ensure no further issues will occur	Completion date	

TODD <ul style="list-style-type: none"> Detailed outcomes are covered in the applicable sections of the audit document HNET <ul style="list-style-type: none"> HNET will continue to eliminate human involved validation process. 	On-going	
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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 EDM I. Data transmission was reviewed as part of AMS and EDM I's agent audits and this audit and found to be secure and compliant. HHR data is loaded into EnergyMarket for reconciliation and Stark's Kinetiq module is used for billing.

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

HHR and generation data obtained by TODD

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

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

HHR generation data obtained by EMS

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

AMI readings for NHH billed sites

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

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. I traced a diverse sample of reads for ten NHH ICPs read by MEPs from the source files to Orion.

I confirmed that the correct readings and read dates were recorded against each meter register for the sample checked.

Manual readings

Manual NHH data is provided by Wells and MRS via SFTP. I traced a diverse sample of reads for 32 NHH ICPs read by MRS and Wells from the source files to Orion. 25 of these were routine reads and seven were special reads.

I confirmed that the correct readings and read dates were recorded against each meter register for all but one of the examples checked. ICP 0000120785ENC01 was special read for 22 May 2020. This was manually applied to the account in Orion. The read date was entered incorrectly as 18/ May 2020 for meter no. 10086767. This was due to human error and is recorded as non-compliance in **section 2.1**.

WISE

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

I traced a diverse sample of reads for five NHH ICPs from the source files to HNET's system covering all MEPs. All the reads matched the source files.

HNET

I reviewed the method to receive meter reading information and confirmed no changes have been made to the processes since the previous audit. Manual NHH data is provided by Wells via SFTP.

NHH AMI data is provided by MEPs via SFTP.

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.

AMI readings for NHH billed sites

All the reads matched the source files.

Manual readings

All the reads matched the source files.

HHR data received from agents

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

Audit outcome

Compliant

2.4. Audit trails (Clause 21 Schedule 15.2)

Code reference

Clause 21 Schedule 15.2

Code related audit information

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

The audit trail must include details of information:

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

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

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

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

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

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

Audit observation

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

Audit commentary

TODD

Stark

Data within Stark may be edited through 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 do not edit meter reading and volume data in EnergyMarket. Data may only be cleared and reimported. This process occurs prior to completing each revision and can also be run manually where updated data is required.

Agents

The agent audit reports record compliance with this clause.

HNET and WISE

The logs for the following activities were reviewed:

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

Audit outcome

Compliant

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

Code reference

Clause 10.4

Code related audit information

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

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

Audit observation

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.

HNET and WISE

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

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

The trader must use its best endeavours to provide access:

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

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

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

Audit observation

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.

HNET and WISE

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

Audit outcome

Compliant

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

Code reference

Clause 10.35(1)&(2)

Code related audit information

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

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

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

Audit observation

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 for TODD and HNET. WISE does not deal with new connections.

Audit commentary

TODD

TODD's new connection application was reviewed and has not changed during the audit period. The process varies by distributor. In most cases, the customer or the customer's agent requests a new connection from TODD, who then request a new ICP from the distributor. For some distributors, the customer or their agent requests the new connection directly from the distributor or their approved contractor, and the distributor advises TODD that a new ICP is to be created and seeks their approval.

Once the distributor has provided an ICP, it is entered into Orion and the registry is updated to 1,12 ("inactive - new connection in progress") status. At the same time, a meter installation service request is issued through the Salesforce JIT (Job Issue Tracking) system, a MEP nomination is processed on the registry, and an activity is recorded on the customer account in Orion.

New connections are monitored using:

1. The daily JIT open jobs report. The report includes date opened and date required fields and is used to identify open service requests which require follow up to determine whether they have been completed and/or obtain paperwork.
2. Orion activities, which allow follow up dates to be scheduled. When initially raised, the follow up date is set for two business days after the service order is raised.
3. The initial energisation data report shows ICPs which are at "new", "ready" or "inactive - new connection in progress" status and the current values recorded against each field. The report is checked daily to determine whether initial electrical connection dates have been populated for any of the ICPs, which are then investigated to confirm whether electrical connection has occurred so that the registry and Orion can be updated.
4. The Orion vs Registry awaiting meter install report shows ICPs where metering is recorded on the registry but not in Orion, and vice versa. The ICPs are investigated, and Orion is updated as necessary.

5. The IECD vs certification date vs active date report identifies potential active date discrepancies which require investigation.
6. The electricity new connections report shows all ICPs at “new”, “ready” or “inactive - new connection in progress status”. It is a snapshot of all registry and Orion information for the ICPs and is checked on an ad hoc basis to identify ICPs which remain at these statuses for extended periods.
7. Job progress reports provided by MEPs are reviewed. AMS provides daily process report on jobs raised, and IntelliHUB provides weekly progress reports.

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

HNET

HNET has very few new connections and do not actively pursue these. Due to the small volume, the new connection process is manual. Once the ICP has been created they claim the ICP and move it to the “inactive - new connection in progress” status and the MEP is nominated at the same time. They then await notification by way of the metering paperwork being returned from the MEP to then change the status to “active”. There is no automated interface between HNET’s system and the registry. All changes are loaded directly to the registry by the operator. This process is discussed in more detail in **section 3.5**. Whilst the process is manual, due to the small volume handled, the process works.

There were three new connections during the audit period. In all cases there was an arrangement with the MEP. The “inactive - new connection in progress” status was applied, and the MEP was nominated at the same time for all ICPs.

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 for TODD and HNET. WISE does not deal with new connections.

Audit commentary

TODD

TODD new connection processes ensure that all ICPs are claimed and taken to the “inactive - new connection in progress” status. The MEP is decided at this point and nominated in the registry.

Four ICPs were identified where the metering was certified prior to the first active date recorded indicating possible temporary electrical connection. These were examined and found:

- two had the incorrect first active date and have been corrected; this is recorded as non-compliance in **sections 2.1** and **3.8**, and
- the remaining two were TOU sites and the first active date was confirmed by checking the data flow from AMCI.

HNET

HNET’s new connection processes ensure that all ICPs are claimed and taken to the “inactive - new connection in progress” status. The MEP is decided at this point and nominated in the registry.

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

The registry list file as of 11 January 2021 and AC020 report for 1 February 2020 to 31 December 2020 were examined to confirm process compliance.

Metering information for active ICPs

The AC020 report recorded eight active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. These were checked and found all were due to timing differences, and the meter details were populated on the registry prior to the audit.

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, and meter certification is checked for all ICPs being reconnected. If an uncertified reconnected meter is already programmed to be replaced or recertified by the MEP, no job is issued. Otherwise, a service request is issued to arrange for the meters to be certified.

The report contained 241 ICPs where a certified meter had not been recorded within five business days of the ICP becoming active for the first time (new connections). These were examined and found:

- 233 of these new connections were on the Orion network and all were unmetered BTS supplies,
- three have since had meters recorded on the registry and were confirmed to be compliant,
- ICP 1002107103LC007 has since been returned to the “inactive - new connection in progress status”, and
- the four ICPs with apparent late meter certifications were examined and found:
 - ICP 0000230141EN8B7 was electrically connected on 14 October 2019 but was not certified until 11 February 2020 and this is recorded as non-compliance below,
 - ICP 1002110157LC584 was certified as a lower category but this meter certification was not loaded to the registry,
 - ICP 000047935HB8A2 was certified late due to CTs being required, and
 - ICP 0000130782EN92A was certified late due to no load being present.

Reconnections

There were 58 ICPs with either late or no current meter certification for ICPs which moved from “inactive” to “active” status on the AC020 report. A sample of 15 of these were checked using the typical sample methodology were checked:

- 11 were certified late due to the time required to complete the field work required,
- four have not been recertified; three of these were due to the expired metering not being noted when the reconnection paperwork being returned so the recertification was not actioned as expected (these are being progressed) and ICP 0001260894UNC3F was issued as the ICP was reconnected, but the existing meter is too close to the gas meter.

Meter recertification for unbridged meters

TODD provided a list of eight ICPs which had bridged meters at some time during the audit period, and seven were recertified on the date that they were unbridged. ICP 0000105283UNE27 was gained with a bridged meter from the previous trader. The meter was unbridged, but the contractor did not recertify it. This is recorded as non-compliance.

WISE

Reconnected ICPs

Meter certification details were checked for all 605 ICPs reconnected during the audit period. All reconnected ICPs had full meter certification on their reconnection date.

Bridged meters

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

HNET

New Connections

The new connection process ensures that an MEP is nominated.

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

Reconnected ICPs

Meter certification details were checked for all ICPs reconnected during the audit period. Two reconnected ICPs were not certified within five business days. The ICPs are 0000130394UN648 and 0000111339UN961. HNET has reporting to identify these ICPs, and they request the MEP to conduct certification. Both ICPs are yet to be recertified.

Bridged meters

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

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.11 With: 10.33A From: 01-Feb-20 To: 15-Jan-21	TODD Three late certifications for new connections. 58 ICPs with late or no current certification for reconnections. Meter unbridged but not recertified for ICP 0000105283UNE27. HNET Two reconnections with expired certification. Potential impact: Low Actual impact: Low Audit history: Twice previously 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 Item 1. Four late certifications for new connections		TODD on-going	Identified

<ul style="list-style-type: none"> Nova have processes in place to identify and instigate actions to support certification and recertification on TODD traded ICPs. <p>Item 2. 58 ICPs late or no current certification</p> <ul style="list-style-type: none"> Nova continue to work with MEPs on deployment program(s), BAU field jobs, turn downs due to additional electrical work required and consumer contact challenges etc These challenges are on-going across the industry <p>Item 3. ICP 0000105283UNE27 unbridged but not certified</p> <ul style="list-style-type: none"> When the bridging was identified, unbridge occurred but no recertification at point of reconnection was able to be completed. Nova employee did not follow required actions for meter re-certification as per the documented process which caused delays <ul style="list-style-type: none"> Certified November 2020 <p>HNET</p> <p>Response:</p> <p>Non-Compliance accepted</p> <p>Two reconnections with expired certification</p> <ul style="list-style-type: none"> Process improvement implemented to send a reconnection and meter re-certification request to MEPs Our robotic process includes review of meter certification expiry date and send the right order to submit. 0000130394UN648 <ul style="list-style-type: none"> Meter board in shared hallway. On-going work to liaise with all businesses to have metering recertified 0000111339UN961 <ul style="list-style-type: none"> Switched 	<p>HNET on-going & April 2021</p>	
<p>Preventative actions taken to ensure no further issues will occur</p>	<p>Completion date</p>	

TODD & HNET <ul style="list-style-type: none"> • Non-compliance will continue to occur as certifications continue to expire • TODD & HNET will continue to work with MEPs to improve and/or meet the code timeframes 	On-going	
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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. GXP is a mandatory ICP field in Orion and cannot be entered unless there is a matching value in the Orion maintenance table.

WISE

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

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

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

HNET

The process has not changed since the May 2020 audit. That audit findings are detailed below:

HNET trade on 25 networks. A UoSA was signed before trading commenced on all additional networks. New networks are added to HNET's system once an arrangement is in place, and there is a network validation check for all new connection applications and ICP switches to ensure arrangements are in place before trading.

Audit outcome

Compliant

2.13. Arrangements for metering equipment provision (Clause 10.36)

Code reference

Clause 10.36

Code related audit information

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

Audit observation

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

Audit commentary

TODD

TODD has appropriate arrangements with all relevant MEPs. An MEP cannot be entered against an ICP in Orion unless there is a matching value in the Orion maintenance table.

WISE

WISE ensures there is an arrangement in place for all MEPs whose meters they use. Staff check the ICP on the registry to confirm Counties, AMS, IntelliHUB, or WEL Networks is 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.

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.

The event detail reports were drawn from a period prior to this clause of the code coming into effect but these were reviewed to identify reconnections for switch ins where the switch was withdrawn, and the ICP was no longer supplied by the trader to check the process.

Audit commentary

TODD

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.

Nova's process is to disconnect any switches withdrawn. The NT is sent to the registry and the ICP is reconnected. If the switch is subsequently withdrawn Nova disconnects the site.

Review of the event detail report identified 35 ICPs reconnected as part of the switching process where the switch was subsequently withdrawn. These were examined and found that either the switch was subsequently completed, or the active update was withdrawn as the ICP had been disconnected.

WISE and Hunet

No examples were identified after 01/02/21; however, I did check the policy and intended processes.

Hunet and WISE both intend to disconnect ICPs where switches are 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. The event detail reports were drawn from a period prior to this clause of the code coming into effect but these were reviewed to identify all ICPs which were disconnected during the audit period where an NT was received from another trader during the audit period. A sample of these ICPs were checked where the disconnection event date was after the NT receipt date and/or NT event date to determine compliance.

Audit commentary

TODD

Nova has a good understanding of this requirement and have changed their process so that disconnections do not occur where an NT has been received.

I identified three ICPs where the disconnection date was for the same date as an NT receipt date. The disconnection events were reversed by the gaining trader in all instances. As noted above Nova has changed their process to ensure that disconnections do not proceed where an NT request has been received.

WISE and HNET

Wise and HNET do not have processes that would enable them to disconnect and ICP where they are not the trader.

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 to me 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.

The event detail reports were drawn from a period prior to this clause of the code coming into effect but a sample of disconnections, reconnections, additions of export metering, and bridged meters were checked for compliance.

Audit commentary

TODD, WISE and HNET

Nova engages MEP's who in turn engage a test house to carry out such activities and do not intend to undertake this work with any other contractors. The sample checked confirmed that an MEP was carried out the work on behalf of the trader in all instances.

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 will only bridge a meter as a last resort. They have robust processes in place to ensure that the meter is unbridged and recertified at the earliest instance. I note some of the examples provided were where TODD gained a previously bridged meter from another trader.

The sample of bridged meters examined confirmed that the meter was recertified in all but one instance. The MEP was notified in all instances. This is recorded as non-compliance in **section 2.11**. Non-compliance is not recorded in this section as this occurred prior to this clause coming into effect.

The corrections for the sample of eight bridged meters confirmed that the correction process met the requirements of this clause and were submitted to the market as expected.

WISE

Five bridged meters were identified for WISE. Two ICPs were bridged by the MEP because the remote reconnection failed and three switched in bridged. In all cases, the metering installation was recertified at the time the bridge was removed. The correction process was checked and confirmed as accurate and compliant.

HNET

HNET did not have any bridged meters during the audit period.

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.

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 file and AC020 report were examined, and a sample of late updates were checked as described in the audit commentary.

Audit commentary

TODD

Status and trader updates are processed manually using the registry web interface, and Orion is updated at the same time. TODD continue to have a culture where compliance is an integral part of how they do business, and there is a strong focus on ensuring that information updates are timely and accurate. A high level of compliance was demonstrated.

Status updates to “active”

TODD’s reconnection process is robust and is described in **section 3.8**. The timeliness of status updates to active (for reconnections) from the AC020 report for 1 February 2020 to 31 December 2020 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

Timeliness of reconnections has improved during the audit period. There were 14 reconnected ICPs where the notification date was more than 30 business days after the event date. The ten latest updates were reviewed to determine the reason for the late update:

- four were backdated switches,
- four were due to revenue assurance activity, and
- two late updates were corrections to start dates; the reporting in place was not picking up all discrepancies and this was corrected in October 2020.

The late updates were accurately processed from the correct event date. The level of compliance overall is high.

Status updates to “inactive”

TODD’s disconnection process is described in **section 3.9**. The timeliness of status updates to inactive from the AC020 report for 1 February 2020 to 31 December 2020 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

There were 14 disconnected ICPs where the notification date was more than 30 business days after the event date. A sample of the ten latest updates were checked and found the majority were corrections due to late advice from either the field or the network.

Trader updates

The timeliness of trader updates from the AC020 report for 1 February 2020 to 31 December 2020 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

At least 4,858 of the 4,907 late profile changes related to bulk updates by the reconciliation team, including 693 on 16 and 17 March 2020 and 4,165 on 17 May 2020.

Annually, the reconciliation team identifies ICPs with NHH submission type which are receiving consistent AMI data and are eligible to move to HHR profile and submission type. The changes are backdated and typically start from the switch in date, or the beginning of the month that the next revision 14 will be produced for, whichever is later. These bulk updates typically occur around March-April each year and also result in NHH balancing area differences on the GR170 as revision submissions remove the NHH volumes and report them as HHR. This is discussed further in **section 12.12**.

A sample of 25 late trader updates were checked:

ANZSIC updates - changes	The five latest updates were checked and confirmed to be ANZSIC code corrections. Non-compliance is recorded in section 3.6 because one of the updates was to an incorrect ANZSIC code which was later corrected.
ANZSIC updates – new connections and switch ins	The five latest updates were checked and found to be caused by backdated switch ins. Non-compliance is recorded in section 3.6 because one of the updates was to an incorrect ANZSIC code, this has been corrected.
UNM updates	A sample of five late updates made more than 17 business days after the event date were checked. Two were not related to a change of unmetered load details but were due to a change of profile that is discussed below. The remaining three were checked and found these were corrections to existing unmetered load. The last audit noted that the trader event date was not normally adjusted for such changes. Nova changed their process and I confirmed that these changes were applied from the correct date.
Profile updates	A sample of five late updates were checked. All related to distributed generation profile changes. Three were corrections from the last audit where distributed generation was confirmed to be present. ICP 1000022999BP60D was updated due to the removal of distributed generation. ICP 1001266949LC4B9 was a correction from PV1 to EG1 as this is a Tesla battery. The updates were processed correctly.
Submission type updates	A sample of five late updates were checked and found to all relate to the submission changes discussed above. The updates were processed correctly.

The MEP nomination process is well managed. The MEP is nominated at the time the service order is raised, and files are prepared to perform bulk registry updates for AMI rollouts rather than updating each ICP individually on the registry. Orion does not store the proposed MEP, so no changes are made to Orion data when an MEP nomination is processed.

I checked the five latest MEP nominations and found they were not genuine breaches. Four related to the submission type updates discussed above. One related to the correction of UML load details to the match the date of the UML details being loaded by the network.

WISE

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

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Status updates						
Changes to active - reconnections	May 2019	176	150	26	3.6	85%
	Jan 2020	238	213	25	3.0	89.5%
	Jan 2021	605	584	21	1.59	96.53%
Change to electrically disconnected	May 2019	338	368	19	3.6	95%
	Jan 2020	385	379	6	2.94	98.44%
	Jan 2021	909	905	4	1.36	99.45%
Trader updates						
Trader updates	May 2019	84	73	13	2.9	87%
	Jan 2020	68	67	1	1.35	98.53%
	Jan 2021	3,077	3,077	0	1.75	100%

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 and updates automatically.

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

The timeliness of reconnection updates has improved from 89.5% to 96.5%, and it took an average of 1.59 business day to update the registry compared with 3.0 business days during the previous audit period. 21 of the 605 reconnection updates were late. I checked eight of these and they all related to reconnections at the time of switching, where the status could not be updated until the switch was complete or where the status at the time of switch was incorrect.

Status updates to “inactive”

Disconnections are usually remote and are not processed if a switch is in progress. These tasks are processed in the same way as the reconnected ICPs. Status management is part of the “business as usual” processes including status misalignments. 99.45% of inactive updates occurred within five business days.

Four of the 909 updates were late. All late updates were examined, and I found:

- two were processed late by Wise,
- one was reported by IHUB as not remotely disconnected, when it was actually disconnected, and
- one was a date correction for a house that was burnt down.

Trader updates

All trader updates were on time.

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.

HNET

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

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Status updates						
Changes to active - reconnections	Jan 2019	160	150	8	3	94%
	May 2019	81	78	3	4.9	96%
	Jan 2020	119	115	4	3.5	96.64%
	Jan 2021	270	267	3	0.81	98.89%
Change to electrically disconnected	May 2019	212	201	11	6.34	95%
	Jan 2020	207	204	3	1.83	98.55%
	Jan 2021	294	293	1	0.19	99.66%
Trader updates						
Trader updates	May 2019	35	33	2	3	94.29%
	Jan 2020	26	16	10	221.35	61.54%
	Jan 2021	46	44	2	0.54	95.65%

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

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 reconnection updates has remained at a high level of almost 99%, and it took an average of less than one business day for the updates. Only three of the 270 reconnection updates were late, and they were all due to backdated switches where HNET updated the registry as soon as they were recorded as the trader.

Status updates to “inactive”

One of the 294 updates was late. This ICP was notified to HNET by the distributor, and they updated the registry the next day.

Trader updates

There were two late trader updates, both were MEP changes following notification of a meter change by the MEP. Both were six days and should have been five days.

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 none received during the audit period. Meter mismatches are also identified through the registry discrepancy process.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.3</p> <p>With: Clause 10 Schedule 11.1</p> <p>From: 01-Feb-20</p> <p>To: 15-Jan-21</p>	<p>TODD, HNET and WISE</p> <p>Some registry information was not updated within 5 business days of the event.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls over the timeliness and accuracy of status and trader updates are strong. The late updates were mainly caused by delays in receiving paperwork, or corrections where Nova had confirmed the initial update was incorrect.</p> <p>HNET and WISE controls are robust, and errors are identified and corrected by both HNET and WISE as soon as possible.</p> <p>The audit risk rating is low as the vast majority of updates to the registry occur within the required timeframe.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TODD – HNET -WISE</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Some registry information was not updated within 5 business days of the event.</p> <ul style="list-style-type: none"> TODD, HNET & Wise continue to display on-going commitment to timely status updates which is reflected in the compliance results. In instances where backdated corrections are made, we elect to provide complete and accurate information and acknowledge this creates contention with Clause 10 Schedule 11.1. 		On-going	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	Identified
<p>TODD, HNET & WISE</p> <ul style="list-style-type: none"> On-going work with our industry stakeholders to improve compliance time frames and where required we elect to provide complete and accurate information over timeliness. The focus will continue to be on accuracy of event dates and complete and accurate information. 		On-going	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

Retailers Responsibility to Nominate and Record MEP in the Registry

The AC020 trader compliance report was examined to confirm whether all active ICPs have an MEP recorded, and MEP nominations were accepted.

ICP decommissioning

The process for the decommissioning of ICPs was examined. The event detail report was reviewed to identify all ICPs decommissioned during the period. A diverse sample of ten decommissioned ICPs were checked to prove the process and confirm controls are in place.

Audit commentary

TODD

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process is discussed in detail in **sections 2.9**. MEP nomination occurs when the ICP is at “inactive - new connection in progress” (1,12) status as part of the service request process. All new connections have an MEP nominated.

The AC020 report recorded eight active ICPs with metering category 9, null, or zero which did not have unmetered load indicated:

- seven ICPs had timing differences, and the meter details were populated on the registry prior to the audit, and
- ICP 1002107103LC007 has since been returned to a new connection in progress as this is yet to be electrically connected.

ICP Decommissioning

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

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

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

WISE

ICP Decommissioning

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

Retailers Responsibility to Nominate and Record MEP in the Registry

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

HNET

ICP Decommissioning

The process is detailed in **section 3.8**. 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. The sample confirmed compliance.

Retailers Responsibility to Nominate and Record MEP in the Registry

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

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

- a) the participant identifier of the trader, as approved by the Authority (clause 9(1)(a))*
- b) the profile code for each profile at that ICP, as approved by the Authority (clause 9(1)(b))*
- c) the metering equipment provider for each category 1 metering or higher (clause 9(1)(c))*

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

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

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

Audit observation

The new connection process was examined in detail. The AC020 trader compliance report was reviewed, and a sample of late updates were examined.

The accuracy of all status event dates for new connections was checked by comparing the earliest active date, meter certification date (if available) and initial electrical connection date (if available) using the AC020 report. A sample of discrepancies were checked against supporting information to confirm the correct status date.

Audit commentary

TODD

New connection information timeliness

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

The timeliness of status updates to “inactive - new connection in progress” status 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	49	72%	6.71
2016	8	94%	
2017	0	100%	2
2018	3	99%	0
2019	3	100%	-
2020	0	100%	0

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

There was one ICP where the notification date was more than 30 business days after the event date. The ten latest updates were reviewed to determine the reason for the late update:

- three late updates were due to corrections; these were identified through the validation processes in place,
- three late updates were due to human error missing the email notification of the job being completed,
- two were late due to incorrect or missing information from the MEP, and
- two were delayed by the late receipt of connection information.

New connection information accuracy

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 469 ICPs with date discrepancies:

- 314 were unmetered builders' temporary supplies (BTS) and the initial electrical connection date matched the first active date,
- 142 ICPs had a meter certification date which matched the active status date, but the initial electrical connection date was not populated by the distributor,
- three where the meter certification matched the first active date, but the initial electrical connection date recorded was later indicating that the Distributor's date is incorrect, and
- ten ICPs with date discrepancies which were investigated and found:
 - four of these are discussed in **section 2.10** where two were confirmed to have the incorrect active date and have been corrected, and the remaining two are TOU sites and the first active dates were confirmed as correct,
 - four were confirmed to be correct and the Distributor's initial electrical connection date is incorrect, and
 - the remaining two ICPs (1000028013BP69F and 1099579976CND54) were confirmed to have the incorrect date recorded due to human error and these have been corrected.

WISE

WISE did not have any new connections during the audit period, and they do not intend to deal with any in the future.

HNET

As detailed in **sections 2.9, 2.11 and 3.2**, 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.

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

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Changes to active - new connections	Mar 18	2	1	1	24	50%
	Jan 19	2	2	0	4	100%
	Jan 20	3	2	1	8.33	66.67%
	Jan 21	10	9	1	8.8	90%

The one late update was due to late notification of electrical connection by the MEP.

The registry was accurately populated for all new connections.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.5</p> <p>With: Clause 9 of schedule 11.1</p> <p>From: 01-Feb-20</p> <p>To: 21-Jan-21</p>	<p>TODD</p> <p>55 late updates to active status for new connections.</p> <p>Four incorrect first active dates.</p> <p>HNET</p> <p>Late registry update for one new connection.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once previously</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>
Audit risk rating	Rationale for audit risk rating
Low	<p>The controls over the timeliness and accuracy of new connection status updates are strong. TODD has robust controls in place to mitigate this risk.</p> <p>The impact on settlement and participants is minor based on the number of genuine exceptions identified; therefore, the audit risk rating is low.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>55 late updated to active status for new connections</p> <ul style="list-style-type: none"> Timely updates to the registry continue to remain a focus. Nova focus on achieving a high level of compliance with timely updates and on-going strong relationships with stakeholders to influence improved outcomes. <p>4 incorrect first active dates</p> <ul style="list-style-type: none"> Refer 3.8 <p>HNET</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Late registry update for one new connection.</p> <ul style="list-style-type: none"> ICP: 1002065428UN9E3 The new connection was completed late Nov 2019 and we contacted the MEP multiple times to gain the completed paperwork to confirm the meter install date and other metering information. The detail was provided Feb 2020. HNET actively monitor and engage with our stakeholders to gain complete and accurate information in a timely manner. 	On-going	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>TODD & HNET</p> <ul style="list-style-type: none"> Continue to actively work on updating status' in a timely manner. 	On-going	

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

The process to capture and manage ANZISC codes was examined.

TODD

The registry list file as of 6 January 2020 and AC020 trader compliance report for 1 February 2020 to 31 December 2020 were examined to check ANZSIC codes, including active ICPs with codes in the T99 series, and ICPs with meter category 2 or 3 and domestic ANZSIC codes.

To confirm the validity of the ANZSIC codes selected I checked a diverse sample of 100 active ICPs across the 20 most popular ANZSIC codes. Each code checked was applied to at least 0.2% of the total ICPs.

WISE

I checked the list file and the audit compliance report as of 17 January 2021 to identify ANZSIC codes that were missing, unknown and residential on Category 2 or above installations. I also checked a random sample of 22 ICPs against google streetview.

HNET

I checked the list file and the audit compliance report as of 21 January 2021 to identify ANZSIC codes that were missing, unknown and residential on Category 2 or above installations. I also checked a random sample of 50 ICPs against google streetview.

Audit commentary

TODD

TODD ensure that all new customers are assigned an ANZSIC code. Customers switching in are assumed to have the correct code applied from the previous trader. A daily exception report for ANZSIC codes is used to identify missing codes, T99 series codes, short codes (where three digits follow the letter prefix instead of six), and instances where the customer type or ICP price category code is inconsistent with the ANZSIC code. Codes are checked and updated as required.

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

- no ICPs with T99 series ANZSIC codes,
- two ICPs with blank ANZSIC codes where the trader event populating the ANZSIC code has been reversed from the registry; these have both been corrected,
- one of the category 2 sites with a residential code applied was corrected to K624000 - Financial Asset Investing, and
- 16 with the incorrect ANZSIC code which were all ICPs that had switched in and have all been corrected, so I recommend that ANZSIC codes are confirmed as ICPs switch in.

Description	Recommendation	Audited party comment	Remedial action
ANZSIC codes	Confirm all ANZSIC codes when switching in.	<ul style="list-style-type: none">• Nova implemented supplementary reporting in May 2021.• Additionally, a 6monthly internal sample review process will be instigated with the first scheduled review due September 2021	Identified

WISE

No errors were identified and no ICPs had missing or unknown ANZSIC codes.

HNET

ANZSIC codes are checked as part of the credit check process. The company register is reviewed for business customers. Sometimes there may not be a credit check conducted and for these examples, the ANZSIC code could end up being incorrect. ICP 0000100897UN8AA is recorded as food retailing but appears to be tomato growing. ICP 0000130459UN1FE is recorded as Other Store Based Retailing but appears to be a restaurant.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.6 With: 9 (1(k) Schedule 11.1 From: 01-Feb-20 To: 21-Jan-21	TODD 17 ICPs had incorrect ANZSIC codes applied. All have been corrected. HNET Two incorrect ANZSIC codes. Potential impact: None Actual impact: None Audit history: Once previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate as they mitigate risk most of the time. I make a recommendation above that would move the controls to strong if adopted. 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. 17 ICPs had incorrect ANZSIC codes applied. All have been corrected <ul style="list-style-type: none"> 17 ICPs with incorrect ANZIC codes <ul style="list-style-type: none"> See recommendation HNET Response: Non-Compliance accepted. Two incorrect ANZSIC codes. <ul style="list-style-type: none"> 2 incorrect ANSIC codes applied due to human error <ul style="list-style-type: none"> Corrections completed May 2021 		TODD on-going HNET May 2021	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD & HNET <ul style="list-style-type: none"> Nova recognises the importance on ensuring correct and accurate ANZSIC codes are applied and reviewed regularly. See recommendation Refresher training provided 	On-going	

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 report 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

The registry list file as of 11 January 2021 and AC020 trader compliance report for 1 February 2020 to 31 December 2020 were examined. TODD supplies 443 active ICPs with unmetered load indicated. 97 ICPs have shared unmetered load and 346 ICPs have standard unmetered load. No ICPs with distributed unmetered load are supplied.

Unmetered load is validated using:

- the load check report, which compares Orion and registry unmetered load details and identifies any discrepancies or changes; this now includes the date of the unmetered load change, and
- the 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.

Review of the AC020 report found:

- all unmetered ICPs have daily unmetered kWh recorded,
- no ICPs where the distributor had unmetered load recorded, but TODD did not, and
- two ICPs with shared unmetered load where the shared unmetered load was more than ± 0.01 kWh different to the recalculation based on the distributor's unmetered load which is recorded as non-compliance in **section 5.1**.

ICP Identifier	Unmetered Load Details - Trader	Unmetered Load Details - Distributor	Trader daily kWh	Distributor daily kWh
1000555666PC131	0006;12.0;1 -12th share of 77w	0077;12.0;1 -12th share of 77w	0.072	0.077
0000005765CP0E8	0006;12.0;1 -12th share of 77w	0077;12.0;1 -12th share of 77w	0.072	0.077

The timeliness of unmetered load trader updates is discussed in **section 3.3**.

The issue of the incorrect event date being applied to unmetered load changes has been addressed and I found no evidence of this occurring.

There are 116 active unmetered BTS supplies, all of which were initially electrically connected on or after 10 October 2019. I checked the 25 latest, all but two are still in progress or decommissioned according to 2021 satellite images.

WISE

Wise does not have any unmetered load and they do not intend to deal with unmetered load. Validation is in place to prevent ICPs switching in with unmetered load, or having unmetered load added.

HNET

HNET does not have any unmetered load and they do not intend to deal with unmetered load. Validation is in place to prevent ICPs switching in with unmetered load, or having unmetered load added.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The new connection process was examined in detail, and:

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

TODD

The registry list file as of 11 January 2021 and AC020 trader compliance report for 1 February 2020 to 31 December 2020 were reviewed to determine compliance.

WISE and HNET

The registry list file as of 21 January 2021 and AC020 trader compliance report for 1 February 2020 to 21 January 2021 were reviewed to determine compliance.

Audit commentary

TODD

Requirements for active ICPs

Orion requires at least one meter to be created for each ICP. If an ICP is unmetered, a “dummy” meter is created.

TODD’s policy is only to allow one customer account per ICP on a particular date.

Reconnections

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

All jobs raised request paperwork be returned to the metering team’s shared email inbox. The metering team receive the paperwork and process the status update in Orion (including readings where available) and close the job in JIT. For the updating of the registry a daily file is created from the closed jobs in JIT and this is sent to the registry. Daily discrepancy reporting identifies ICPs which have different statuses recorded in Orion and the registry, which are investigated and resolved.

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

The accuracy of updates for reconnections were checked by reviewing a sample of ten 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 new connections are closely monitored.

The AC020 report found no ICPs with an initial electrical connection date populated that had not been made active.

As described in **section 3.5**, 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 469 ICPs with date discrepancies, and 459 were confirmed not to be genuine at the time of the audit. The remaining ten ICPs were checked, and I confirmed that TODD’s active status dates were correct except for four ICPs:

ICP Identifier	Applied active status event date	Correct active status event date
0001622777ALC64	11/09/2020	7/09/2020
0000393913MP8B8	05/02/2020	04/02/2020
1000028013BP69F	12/06/2020	19/06/2020
1099579976CND54	09/09/2020	05/10/2020

All have been corrected except for ICP 0000393913MP8B8 as this switched away on 11 July 2020.

As detailed in **section 2.10**, two of the ICPs identified where the metering was certified prior to the first active date were examined and found that they had the incorrect first active date. Both have been corrected.

WISE

Reconnections

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

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

As recorded in the last audit, if an ICP is reconnected within 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 status changes to active 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.

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

Reconnections

As discussed in **section 3.3**, 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.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.8 With: 17 Schedule 11.1 From: 04-Feb-20 To: 05-Oct-20	TODD Four ICPs with the incorrect first active date. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as strong, as the controls in place will mitigate risk to an acceptable level. One ICP was not corrected because the ICP later switched out to another trader. The audit risk rating is low based on the number and nature of the discrepancies found.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Four ICPs with the incorrect first active date. <ul style="list-style-type: none"> Data integrity reporting identified the discrepancies as expected. The documented process was not followed <ul style="list-style-type: none"> Team member no longer Nova employee 			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> Refresher training on process and obligations to be delivered 		July 2021	

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 process to manage ICPs at inactive statuses was examined, including:

- ICPs at “inactive - new connection in progress status” for over 24 months,
- ICPs with an initial electrical connection date populated which did not have an active status record,
- ICPs where consumption had been identified during a period with inactive status, and
- ICPs in the vacant disconnection process.

The findings in relation to the timeliness of updates to registry are recorded in **section 3.3**.

TODD

The registry list file as of 11 January 2021 and AC020 trader compliance report for 1 February 2020 to 31 December 2020 were reviewed to determine compliance.

WISE

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

HNET

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

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

Audit commentary

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”. No genuinely late updates to the “inactive - new connection in progress” status were identified.

The AC020 report did not identify any ICPs with an initial electrical connection date populated which had not been made active.

Review of the registry list identified five ICPs that have been at “inactive - new connection in progress” status for more than 24 months. These were discussed and confirmed that they are still in progress.

Inactive Status (excluding new connection in progress)

Disconnection service requests are issued through the Salesforce JIT (Job Issue Tracking) system, and a note is recorded on the customer account in Orion. 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.

As discussed in **section 3.8**, all jobs raised request paperwork be returned to the metering team's shared email inbox. The metering team receive the paperwork and process the status update in Orion (including readings where available) and close the job in JIT. For the updating of the registry a daily file is created from the closed jobs in JIT, and this is sent to the registry. Daily discrepancy reporting identifies ICPs which have different statuses recorded in Orion and the registry, which are investigated and resolved.

Where a late update is required a "metering compliance" activity is recorded against the customer account in Orion. These activities are discussed at the metering team's fortnightly meetings, and reviewed to identify common themes and issues, and changes that could be made to prevent further breaches.

A diverse sample of 33 updates to disconnected status were checked, and I confirmed that the updates were applied from the correct date, and that the correct status reason codes were applied.

A list of 15 ICPs where consumption while inactive had been identified by TODD was checked to confirm whether the correct statuses were applied. 12 ICPs had less than one unit of consumption per register during the inactive period, suggesting that the meters may have been between digits. The three ICPs with consumption of two or more units per register were checked:

- no genuine consumption was found on two ICPs as these were due to incorrect read values being recorded in the first instance and both were corrected, and
- ICP 0000000538CPA9C appeared to have inactive consumption because the disconnection read on 15 July 2020 for meter AN31015/1 was incorrectly entered as 7037, matching the 26 June 2020 reading. The actual disconnection read provided by the contractor was 7371, which matched the reconnection read on 29/07/21. There was no impact on reconciliation because all consumption was reported against the correct period, due to the surrounding readings and their values. The incorrectly recorded reading is recorded as non-compliant in **section 2.1**. This will affect the accuracy of ICP days, and this is discussed in **section 11.2**.

WISE

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

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

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

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

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

WISE provided a list of eight ICPs with inactive status and consumption after the final reading on the customer's account and in all cases the consumption was submitted.

I reviewed the reason codes and disconnection dates for a diverse sample of 10 disconnections and found all had the correct status date and code applied.

HNET

Inactive - New Connection in progress

No ICPs were found at the status "inactive - new connection in progress" with an initial electrical connection date populated, and none have been at this status for more than 24 months.

Inactive Status (excluding new connection in progress)

The status of "Inactive" is only used once HNET's approved contractor has confirmed that the ICP has been disconnected. As discussed in **section 3.3**, 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.

The sample of 10 ICPs with "inactive" statuses checked confirmed the statuses aligned between the registry and HNET's database. Examination of the late inactive updates checked in **section 3.3**, found all ICPs had correct statuses, it was just that the updates were late.

HNET provided a list of five ICPs with consumption while disconnected, which were reviewed. In all cases, the consumption occurred after the ICPs had switched out due to reconnection by the gaining trader.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.9</p> <p>With: Clause 19</p> <p>Schedule 11.1</p> <p>From: 01-Feb-20</p> <p>To:21-Jan-21</p>	<p>WISE</p> <p>Disconnected ICPs not changed to inactive status unless they are disconnected for more than three days.</p> <p>Potential impact: Low</p> <p>Actual impact: None</p> <p>Audit history: Twice</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are assessed to be moderate, because most ICPs have the correct status and event dates recorded, but there is room for improvement.</p> <p>The impact was assessed to be low. There is no impact on volume submissions, and a very minor impact on ICP days submissions.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>WISE</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Disconnected ICPs not changed to inactive status unless they are disconnected for more than three days.</p> <ul style="list-style-type: none"> WISE will conduct a review of the registry status update processes with the intent to update the process to change the ICP status to inactive within +1 day of disconnection Updated process to change ICP status to inactive within +1 day of disconnection to be delivered by 30 May 2021 		May 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> Our focus will continue to be on accuracy of event dates and complete and accurate information. We will monitor disconnected ICPs on an on-going basis and where required, look for opportunities for improvements. 		On-going	

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

Code reference

Clause 15 Schedule 11.1

Code related audit information

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

Audit observation

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

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

Audit commentary

TODD

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

The electricity new connections report shows all ICPs at "new", "ready" and "inactive - new connection in progress status". It is a snapshot of all registry and Orion information for the ICPs and is checked on an ad hoc basis to identify ICPs which remain at these statuses for extended periods. In addition to this, Orion activities and the suite of reports described in **section 2.9** are used to monitor new connections.

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

Inactive - new connection in progress status

Review of the registry list for 11 January 2021 confirmed that five ICPs have been at "inactive - new connection in progress" status for more than 24 months. These have all been confirmed as being still being required.

New status

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

Ready status

Two ICPs had been at "ready" status for more than 24 months. One ICP was decommissioned by the time the audit was completed and the other ICP is part of an ICP deconsolidation project where multiple connections had been combined into single ICPs to reduce fixed daily charges for the customer. TODD is continuing to work with Counties Power to resolve the issues around these ICPs.

WISE and HNET

No ICPs were found at the status "inactive - new connection in progress" with an initial electrical connection date populated, and none have been at this status for more than 24 months.

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 unmetred 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

TODD

The switch gain process was examined to determine when TODD 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.

WISE

The switch gain process was examined to determine when WISE deem all conditions to be met. A typical sample of 10 ICPs were checked to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

HNET

The switch gain process was examined to determine when HNET deem all conditions to be met. Two ICPs had backdated switch event dates. Both were checked to confirm they 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 **Preswitch 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 report found 14,308 transfer NTs were issued. Meter certification details were checked for the 12,303 ICPs with transfer NTs which were also included on the PR255 report. All the ICPs checked had a metering category of 1 or 2.

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

WISE

WISE's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met, and the withdrawal process is used if the customer changes their mind for those customers that either call in or apply online. For those that are sold through the door-to-door channel, the switch is held for five business days before it is sent to the registry. All of the 10 NT files checked were sent within two days of the conditions being met.

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.

The two 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 report was 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 report was examined for the audit period.

Audit commentary

TODD

Orion imports NT files and automatically generates an AN.

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

Orion generates the AN response code according to a system hierarchy and applies the proposed event date in the file copy.

AN files generated by Orion 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.

The event detail was reviewed for all 5,693 transfer ANs to assess compliance with the setting of event dates requirements. 5,414 ANs (95.1%) had proposed event dates within five business days of the NT receipt date, and all NTs had proposed event dates within ten business days of the NT receipt date.

A diverse sample of ten AN files were checked, and found to contain correct AN response codes with one exception. ICP 0001040200TGB92 was sent as AD but has no AMI metering and should have been sent as AA. This is due to the AN code hierarchy being drawn from Orion and not the registry. This issue is with Agility to fix.

WISE

AN codes are applied by the operator. I reviewed a sample of two ANs for each AN response code used. No errors were identified.

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

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 check of eight AN codes found all were correct.

The event detail report was reviewed for all 241 transfer ANs to assess compliance with the setting of event dates requirements. 100% were within five business days.

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

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.2 With: Clause 3 and 4 Schedule 11.3 From: 07-Jan-21 To: 08-Jan-21	TODD One incorrect AN code sent. Potential impact: None Actual impact: None Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated moderate as the logic is working correctly in most instances. The audit risk rating is low as this 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. One incorrect AN code sent. <ul style="list-style-type: none"> ICP: 0001040200TGB92 <ul style="list-style-type: none"> Refer 4.13 		Q3	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> Refer 4.13 			

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 report was 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 five 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 report for the audit period was reviewed to identify late CS files.

Audit commentary

TODD

CS timeliness

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

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

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

CS content

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

- inactive ICPs with missing closing reads - identifies ICPs which are no longer supplied by TODD,
- active with other/inactive with TODD - identifies ICPs supplied by another retailer on the registry which are still recorded as active in Orion - these are usually timing differences,
- switched out twice but not switched in - identifies ICPs with two consecutive losing CS files and no gaining CS or withdrawal in between, and
- switched in twice but not out - identifies ICPs with two consecutive gaining CS files and no losing CS or withdrawal in between.

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

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

Average daily kWh	Count of transfer CS files	Comment
Negative	-	Compliant.
Zero	60	A typical sample of five files were checked and all but one was confirmed to have zero consumption between their last two actual readings. ICP 0002703012HB458 was sent with zero incorrectly and should have been sent as 2 kWh. This is recorded as non-compliance below.
More than 200 kWh	256	An extreme case sample of the five highest values were checked and found not to be based on the consumption between the last two actual readings. In all cases the consumption was a reasonable reflection of the daily average consumption over the previous year.

The CS file content for five CS files was checked and found to be correct with the exception of:

- the average daily kWh was not calculated as per the registry functional specification, and
- ICP 0011240444EL667 was sent with a customer read received on the event date (27 August 2020) recorded as an actual when it should have been sent as an estimate with a last actual read date in May 2020.

No transfer CS files were issued with CSPREMISES lines only.

WISE

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. WISE's current process is likely to produce a more accurate indication of the average daily consumption especially where the read-to-read period is for only one day, especially when the ICP is vacant for that day, but as it does not meet the code requirements the current methodology is recorded as non-compliant.

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

Count of transfer CS files	Estimated daily kWh
Negative	0
Zero	55
More than 200 kWh	0
More than 60 kWh	21

I checked six ICPs sent with an average daily consumption of zero and they were all compliant. I checked all 21 ICPs where the average daily consumption was over 60 kWh and found these were all accurate.

The accuracy of the content of a sample of six CS files was checked and I found all of the content matched Wise's database. The issue found during the last audit is no longer present. This was where readings were sent for the incorrect day, normally one day earlier than the switch event date.

CS timeliness

I identified six late CS files by analysing the switch breach history detail report. These were all backdated switches where the event date was agreed as the date the customer had pre-paid to.

HNET

CS content

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

Count of transfer CS files	Estimated daily kWh
Negative	0
Zero	9
More than 200 kWh	2
More than 60 kWh	8

I checked all ICPs with zero consumption and over 60 kWh per day. They were all correct.

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

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.

Audit outcome

Non-compliant

Non-Compliance accepted. 6 late CS files. <ul style="list-style-type: none"> The late CS files is a result of backdated switching, and since WISE no longer contacts customers for switching WISE has not backdated switching since November 2020 Incorrect calculation of average daily consumption <ul style="list-style-type: none"> WISE will change the process to calculate and send the average daily consumption based on the last two actual readings at the time of sending the CS. 		
Preventative actions taken to ensure no further issues will occur	Completion date	
TODD <ul style="list-style-type: none"> As above WISE <ul style="list-style-type: none"> As above 		

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 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. Once an acknowledgement file is received from the other trader, Orion is automatically updated to reflect the outcome of the RR process through a system interface.

TODD issued 176 RR files for transfer switches. 146 were accepted and 30 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 supported by two actual reads obtained by TODD (or was as requested by the other trader), and the reads recorded in TODD's system reflected the outcome of the RR process.

All RR requests received from other traders are evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

TODD issued 414 AC files for transfer switches. 373 were accepted and 41 were rejected. A sample of five AC rejections and five acceptances were checked. All were rejected for valid reasons and a subsequent RR was received and accepted in four instances with corrected data. The system reflected the outcome of the RR process.

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

The switch breach history report recorded six late RR files for transfer switches and no late AC files. These were examined and found they were late due to the COVID-19 pandemic which caused delays in getting actual reads.

WISE

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

WISE issued read change requests for 13 transfer switch ICPs. I checked a sample of five and all were supported by two actual readings and PEBS reflected the outcome of the read change process.

WISE issued two AC files for transfer switches. They were both rejections because WISE had actual meter readings. One RR file for transfer switches was rejected by the other trader, due to the difference between rounding and truncation. Wise truncates and some other traders round.

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

HNET

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. There were 17 RR files sent and I checked five. They had genuine reasons for the RRs, the file content was accurate and supported by two actual reads obtained by HNET (or was as requested by the other trader).

HNET issued one AC file for transfer switches, which accepted the other trader's RR. HNET's initial estimate was based on historic consumption and was reasonable, however the gaining trader received a customer read on the switch date which was accepted.

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.

The switch breach report identified one late RR file, which was due to the time taken to get two actual readings.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.4 With: 6(1) and 6A Schedule 11.3 From: 21-Apr-20 To: 11-Jan-21	TODD Six late RR files for transfer switches. HNET One late RR file. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls over the read renegotiation process are strong. COVID 19 delayed the gaining of reads during 2020. The audit risk rating is low. The volume of late RR files was small.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD Response: Non-Compliance accepted. Six late RR files for Transfer switches <ul style="list-style-type: none"> As discussed during Audit, covid-19 impacts caused the delays. <ul style="list-style-type: none"> Our controls are strong, the impact is low HNET Response: Non-Compliance accepted. One late RR file. <ul style="list-style-type: none"> One late RR file due to consumer being off-shore and access not being able to be gained 			Cleared

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD & HNET <ul style="list-style-type: none"> Nova will continue with on-going refresher training, review processes and where possible identify improvement opportunities 		

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

TODD

These RR requests are processed in the same way as those received for greater than 200 kWh except that 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.

Review of the event detail report for found 162 RR files for transfer switches were issued to TODD within five business days of switch completion, by traders using a half hour profile. Of those, three files were validly rejected because actual readings were provided in the CS file. The other was rejected so that an NW could be issued the same day. The NW was initially rejected by the other trader but accepted on reissue.

TODD did not issue any RR requests under clause 6(2) and (3) of Schedule 11.3.

WISE

These RR requests are processed in the same way as those received for greater than 200 kWh. Each request is evaluated and validated against the ICP information.

Review of the event detail report found two transfer RR files were issued to WISE within five business days of switch completion by traders using a half hour profile. Both were rejected because WISE provided actual AMI readings, which were correct.

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

HNET

These RR requests are processed in the same way as those received for greater than 200 kWh. Each request is evaluated and validated against the ICP information.

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

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

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

I confirmed with 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 **Preswitch 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 report found 13,917 switch move NTs were issued. Meter certification details were checked for the 11,968 ICPs with switch move NTs which were also included on the PR255 report. All the ICPs checked had a metering category of 1 or 2, except one ICP switch move which currently has metering category 3. The MEP had made a backdated update to the metering details after the NT was issued, and the switch type was correctly selected based on the information available at the time.

The eight 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.

WISE

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

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

The ten 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.

I checked 10 backdated NT files and found they were all sent within two business days of pre-conditions being met, such as confirming the correct ICP, or confirming other customer related details.

Audit outcome

Compliant

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report was 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 report was examined for the audit period.

Audit commentary

TODD

Orion imports 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. Proposed event dates for switch moves are not adjusted; the date requested by the gaining trader is consistently applied.

The event detail report was reviewed for all 10,175 switch move ANs to assess compliance with the setting of event dates requirements:

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

A diverse sample of 12 switch move AN files were checked, and found all but three contained the correct AN response codes:

- two ICPs (1001261822UN2ED and 0000153791TRD66) were sent as AD but both ICPs have no AMI metering and should have been sent as AA, and
- ICP 0002222920WF9C2 was sent as AA and does have AMI metering and should have been sent as AD.

AN and 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 for the audit period recorded no late AN or CS files for switch moves.

WISE

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

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

HNET

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

The event detail report was reviewed for all 792 switch move ANs to assess compliance with the setting of event dates requirements.

- ICP 1001140968LC510 had a proposed date of 5 January 2020. HNET's AN file had a date of 31 October 2020, which is earlier than the proposed date.
- ICP 0000202192UN318 had a proposed date of 7 September 2020 but the switch was completed for 6 September 2020.

HNET add three business days to all move switch requests.

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

The switch breach report showed no late AN files.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.8</p> <p>With: 10(1) Schedule 11.3</p> <p>From: 01-Feb-20</p> <p>To: 11-Jan-21</p>	<p>TODD</p> <p>Three incorrect AN codes sent.</p> <p>HNET</p> <p>Two ICPs with proposed or actual switch dates earlier than those specified by the gaining trader.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated moderate as the logic is working correctly in most instances.</p> <p>The audit risk rating is low as this information is also available to the gaining trader directly from the registry.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Three incorrect AN codes sent.</p> <ul style="list-style-type: none"> Refer 4.13 <p>HNET</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Two ICPs with proposed or actual switch dates earlier than those specified by the gaining trader.</p> <ul style="list-style-type: none"> ICP 0201274868LC76C: When the ICP is occupied, HNET sets the AN expected transfer date as NT event date + 3 days. GEOL sent us NTMI for 24.01.2020 which is invalid. <ul style="list-style-type: none"> We sent a NW to withdraw the switching. ICP 0000241533UN236: When the ICP is occupied, HNET sets the AN expected transfer date as NT event date + 3 days. However, this was backdated switching even though it was a occupied premise at the time we received the NT. 			Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD <ul style="list-style-type: none"> Refer 4.13 HNET <ul style="list-style-type: none"> HNET changed our robotic process to set a proposed date within the correct timeframe - AN Expected Transfer Date is earlier than the NT Proposed Transfer Date; OR AN Expected Transfer Date is more than 10 business days after NT arrival date. 	HNET April 2021	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

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

Audit observation

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

Audit commentary

TODD

The event detail report was reviewed for all 10,175 switch move ANs to assess compliance with the setting of event dates requirements:

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

The switch breach history report recorded 13 E2 breaches where the NT proposed event date and CS actual transfer date do not match, and the CS actual transfer date is earlier than the NT proposed event date or more than ten business days of receipt of the NT. None of the breaches were genuine; in all cases the CS event date matched the NT proposed event date.

WISE

There were no late CS files.

HNET

None of the late CS files related to switches with different event dates to the proposed event dates.

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 report was 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 - identifies ICPs which are no longer supplied by TODD,
- active with other/inactive with TODD - identifies ICPs supplied by another retailer on the registry which are still recorded as active in Orion - these are usually timing differences,
- switched out twice but not switched in - identifies ICPs with two consecutive losing CS files and no gaining CS or withdrawal in between, and
- switched in twice but not out - identifies ICPs with two consecutive gaining CS files and no losing CS or withdrawal in between.

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

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	1,761	A typical sample of five files were checked and confirmed to have zero average daily consumption.
More than 200 kWh	1,854	An extreme case sample of the five highest values were checked and found not to be based on the consumption between the last two actual readings. In all cases the consumption was a reasonable reflection of the daily average consumption over the previous year.

There were 20 MI switches where the CS file was sent with a premise line only. This was as expected as either the sites were unmetered supplies or HHR reconciled sites where no NHH register is available to provide a final read. Compliance is confirmed.

The last audit's comments indicated that a validation process was being put in place across the average daily kWh values. This is still in development. Once deployed this will improve accuracy in this area.

No inconsistencies between last actual read dates and switch event read types were identified for switch moves with last actual read dates on Nova's last day of responsibility with the exception of ICP 0042251124PC489. These estimated reads were manually entered with an incorrect last read date of 26 March 2020 instead of 23 March 2020 and one register read was sent as an actual. This is recorded as non-compliance below.

The CS file content for five CS files was checked and found to be correct, apart from the following exceptions:

- the average daily kWh was not calculated as per the registry functional specification, and
- an incorrect last actual read date and read were recorded for ICP 1001276348LCA17 (12 September 2020) as the user closed the customer's account on the event date rather than the day prior (11 September 2020) which caused the read to be sent for the incorrect date.

WISE

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

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

Count of transfer CS files	Estimated daily kWh
Negative	0
Zero	209
More than 200 kWh	0
More than 60 kWh	5

I checked 10 of the 209 examples with zero recorded and I found all were calculated accurately. All five examples with consumption over 60 kWh were also accurate.

The accuracy of the content of a sample of six CS files was checked and I found all files matched PEBS.

HNET

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

Count of transfer CS files	Estimated daily kWh
Negative	0
Zero	37
More than 200 kWh	1
More than 60 kWh	8

I checked 14 examples of zero and three examples of over 60 kWh and found they were all calculated correctly.

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

Audit outcome

Non-compliant

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 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. Once an acknowledgement file is received from the other trader, Orion is automatically updated to reflect the outcome of the RR process through a system interface.

TODD issued 467 RR files for switch moves. 357 were accepted and 110 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 supported by two actual reads obtained by TODD (or was as requested by the other trader), and the reads recorded in TODD's system reflected the outcome of the RR process.

All RR requests received from other traders are evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

TODD issued 557 AC files for switch moves. 458 were accepted and 99 were rejected. A sample of five AC rejections and five acceptances were checked. All were rejected for valid reasons and a subsequent RR was received and accepted in four instances with corrected data. The system reflected the outcome of the RR process.

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

The switch breach history report recorded 31 late RR files and no late AC files. I checked the 15 latest RR files and found these were late due to the COVID-19 pandemic which caused delays in getting actual reads. This also increased the number of late RR files sent from eight found in the last audit.

WISE

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

WISE issued 42 read change requests for move switches. The sample of six checked found all were supported by two actual readings and PEBs reflected the outcome of the read change process.

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

WISE issued seven AC files for move switches. Three were rejections and WISE had actual readings to support the rejection.

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

HNET

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 60 RR files for switch moves. 17 were rejected. Five accepted files and two rejected files were checked. In all cases there was a genuine reason for HNET's RR, the file content was accurate and supported by two actual reads obtained by HNET (or was as requested by the other trader), and the reads recorded in HNET's system reflected the outcome of the RR process. The two rejected RRs resulted in agreement with the other trader and another RR was sent.

HNET issued eight AC files for switch moves. Five were rejected and three were accepted. HNET had genuine reasons for the rejections except for ICP 1001110357UNE5C, where HNET's CS file contained an estimate of 26547 for 15 March 2020 and the gaining trader provided 26549 as an actual. Whilst there was not a midnight read available for 14 March 2020, it's likely the gaining trader's read was based on the midnight read for the next day minus the sum of the intervals. The Code allows for meter readings to be derived from raw meter data, therefore the gaining trader's actual read should have been used. Whilst the difference is only 2kWh this is still non-compliance.

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.

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

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.11</p> <p>With: Clause 12</p> <p>Schedule 11.3</p> <p>From: 01-Feb-20</p> <p>To: 1521-Jan-21</p>	<p>TODD</p> <p>31 late RR files for switch moves.</p> <p>HNET</p> <p>RR for ICP 1001110357UNE5C was rejected and should have been accepted.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Three times previously</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>
Audit risk rating	Rationale for audit risk rating
Low	<p>The controls over the read renegotiation process are strong. COVID 19 delayed the gaining of reads during 2020.</p> <p>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.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>31 late RR files for switch moves.</p> <ul style="list-style-type: none"> • The ability to gain timely actual reads has been hampered as previously noted • Nova maintains following best practices and only sends files outside of timeframe when required to correct invoicing for customers. <p>HNET</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>RR for ICP 1001110357UNE5C was rejected and should have been accepted.</p> <ul style="list-style-type: none"> • HNET rejected the RR for the ICP 1001110357UNE5C as didn't have a midnight actual read for the day from ELKI. • ELKI did not provide us the midnight actual read • We didn't have HHR internal data for the ICP and weren't able to verify their actual read 		Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>TODD</p> <ul style="list-style-type: none"> • As above <p>HNET</p> <ul style="list-style-type: none"> • HHR internal data for AMI meters received 	On-going	

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

Code reference

Clause 13 Schedule 11.3

Code related audit information

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

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

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

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

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

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

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

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

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

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

Audit observation

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

HH NTs on the event detail report were matched to the metering information on the meter event details report 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 raised from Orion once credit approval is received.

43 HH NT files were issued during the period. 42 of the 43 had a meter category of three or higher at the time the switch was requested. ICP 0492853843LC380 is a category 2 site that was first sent as a transfer switch but was subsequently withdrawn due to a metering issue. This was then requested as a move switch but the registry returned an error code indicating that the switch must be requested as a HH switch despite this being a category 2 site. I raise this as an issue to be investigated. I have included the error code provided for reference below:

678

Switch Type HH mandatory

Switch type of HH is mandatory where Submission Type HHR = 'Y' and the latest Metering event (summary level) has an AMI Flag of 'N'.

RS010

Description	Issue	Participant comment
Gaining trader informs registry of switch request - gaining trader switch	Registry rejected category 2 site MI switch request with error message requiring Nova request this as a HH switch	<p>Post the metering issue being resolved the ICP in question had to go through a MI process to accommodate the event date.</p> <p>The error encountered by the registry forced the process to be completed as HH switch type</p>

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

Meter certification details were checked for the 12,303 ICPs with transfer NTs and 11,968 ICPs with switch move NTs which were also included on the PR255 report. All the ICPs checked had a metering category of 1 or 2, except one ICP switch move which currently has metering category 3. The MEP had made a backdated update to the metering details after the NT was issued, and the switch type was correctly selected based on the information available at the time.

The switch breach history report recorded four PT breaches for HH switches, where the NT proposed transfer date is more than 90 days before the NT arrival date, or the proposed transfer date is before the NT arrival date, in a different month to the arrival date and different to the AN transfer date. Three of the alleged breaches were not genuine. ICP 0110008622ELOFB had an NT proposed date which was more than 90 business days before the NT arrival date. This was due to the contract start date agreed with Nova. The losing trader agreed with the date, but this is technically non-compliant.

WISE

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

HNET

HNET did not conduct any half hour switches during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.12 With: Clause 14 Schedule 11.3 From: 05-Feb-20 To: 12-Oct-20	TODD One HH switch requested more than 90 days from NT sent date. Potential impact: Low 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 as processes in place are robust. The audit risk rating is low as only two ICPs were affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD Response: Non-Compliance accepted. One HH switch requested more than 90 days from NT sent date <ul style="list-style-type: none"> • ICP: 0110008622EL0FB <ul style="list-style-type: none"> ○ In alignment with the agreed contract start date the NT was backdated >90 days 		On-going	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	

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

An event detail report was reviewed to identify AN files issued by Nova during the audit period, and a sample of two (or all) ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach history report was 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 31 HH AN files on the event detail report:

- ICP 1002060916UNFA8 had response code CO (contracted customer) correctly applied, the ICP was under contract until after the requested switch event date,
- the other 30 ANs had the AD (advanced metering) AN response code applied invalidly because none of the ICPs had the AMI flag selected at the time of the switch.

As reported in the last audit Orion's hierarchy may apply the AD response code to HHR meters as well as meters with the AMI flag set to yes. TODD has lodged a job with Agility to get this corrected. i

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

WISE

Wise did not complete any HHR switches.

HNET

HNET did not complete any HHR switches.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.13</p> <p>With: Clause 15</p> <p>Schedule 11.3</p> <p>From: 01-Feb-20</p> <p>To: 15-Jan-21</p>	<p>TODD</p> <p>30 ICPs had response code AD (advanced metering) invalidly applied. None of the ICPs had the AMI flag selected at the time of the switch.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once previously</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as weak, because the AN response codes are automatically assigned by Orion and most HH ANs were issued with an incorrect response code.</p> <p>The impact on settlement and participants is minor, metering details can be confirmed from other information recorded on the registry.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>30 ICPs had response code AD (advanced metering) invalidly applied. None of the ICPs had the AMI flag selected at the time of the switch.</p> <ul style="list-style-type: none"> Documented change request was submitted late 2020 to support further enhancements to the process We considered this to be a full solution and failed to reconsider any interim solution. <p>This was an oversight on Nova's part and will be prioritized for delivery Q3</p>		Q3	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> As above 		Q3	

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

TODD

CS content

TODD manually creates HH CS files, as Orion is not configured to complete this task.

The content of all 36 HH CS files not withdrawn before completion were reviewed and found to be compliant.

CS timeliness

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

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

WISE

Wise did not complete any HHR switches.

HNET

HNET did not complete any HHR switches.

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

- identify all switch withdrawal requests issued by Nova, the content of a sample of at least two ICPs from the event detail report for each withdrawal code (or all if less than two were available) were checked for each trader code using the typical sampling methodology,
- identify all switch withdrawal acknowledgements issued by Nova, a sample of at least two (or all) rejections per NW reason code and trader code were checked, and
- confirm timeliness of switch withdrawal requests.

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

Audit commentary

TODD

Withdrawals are managed via Orion.

The switch breach report recorded:

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

195 (9.6%) of the 2,021 NWs issued by TODD were rejected. I checked a sample of 14 rejected NWs and found all had the correct code applied.

127 (4.1%) of the 3,069 AWs issued by TODD were rejections. I reviewed a sample of 14 rejections by TODD, and confirmed they were rejected based the information available at the time the response was issued except for ICP 0000393133MP5E0. This was rejected as there was no email sent. The code does not require an email to be sent and the ICP should have been investigated before the NW as rejected. This is recorded as non-compliance below.

WISE

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

One of the NW files was issued more than 60 business days after the event date.

Wise rejected 11 of 65 withdrawal requests (17%). I checked a sample of two, which confirmed there were genuine reasons for the withdrawal.

I checked four examples where WISE's NW was rejected. In all cases the NW was sent based on appropriate information at the time.

HNET

Switch withdrawals are managed manually. The sample of 19 NW files checked found that the withdrawal codes applied were correct.

34 (11%) of the 303 AWs issued by HNET were rejections. I reviewed all 16 examples, and confirmed they were rejected based the information available at the time the response was issued.

18 of HNET's NWs were rejected, I checked 16 and found that HNET's information at the time the NW was sent supported the withdrawal. Further information became available leading to the rejections.

The switch breach report recorded one late NW file for ICP 0000167722UNE60, where the incorrect ICP was switched, and a withdrawal was required once this was identified.

Audit outcome

Non-compliant

HNET Response: Non-Compliance accepted. One late NW <ul style="list-style-type: none"> 1 late NWWP due to NTMI and the ICP 0000167722UNE60 customer got the incorrect ICP from building manager when joining. Flatting situation and ICP was moved to MERI which resulted in NW being processed late. 		
Preventative actions taken to ensure no further issues will occur	Completion date	
TODD <ul style="list-style-type: none"> Refresher training completed April 2021 along with process review and updates WISE <ul style="list-style-type: none"> as above HNET <ul style="list-style-type: none"> HNET will continue to communicate closely with customers to verify ICP when joining 	TODD April 2021 WISE & HNET on-going	

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

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

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

Audit observation

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

Audit commentary

TODD

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.

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

As discussed in **section 4.10**, an incorrect switch event read for ICP 1001276348LCA17 was sent for the event date of 12 September 2020 when the read from midnight of 11 September 2020 should have been sent.

WISE

Switch event meter readings for WISE were found to be accurate.

The policy regarding the management of meter reading expenses is compliant.

HNET

Switch event meter readings for HNET were found to be accurate.

The policy regarding the management of meter reading expenses is compliant.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.16</p> <p>With: Clause 21 Schedule 11.3</p> <p>From: 11-Sep-20</p> <p>To: 12-Sep-20</p>	<p>TODD</p> <p>For one CS file the switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once previously</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as strong, this was due to a user error closing out the customer's account for the incorrect date.</p> <p>The impact on settlement and participants is minor; the kWh difference in readings was small.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>For one CS file the switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date.</p> <ul style="list-style-type: none"> ICP: 1001276348LCA17 issue due to human error with opening read post closure of vacant account incorrectly listed as an "actual" read System development with internal change team for implementation Q4 2021 <ul style="list-style-type: none"> Refer 4.10 & 6.7 		Q4	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> Remedial training provided Development Q4 		Q4	

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 contact 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

The Electricity Registry switch save protected retailer list was examined for the period up until 30 March 2020.

Win-back processes were discussed. The event detail report for 1 February 2020 to 25 November 2020 was analysed to identify all withdrawn switches with a CX code applied prior to the switch event date for any switch save protected retailer up to 30 March 2020, or within 180 days of switch completion post 30 March 2020. A sample were checked to determine compliance.

Audit commentary

TODD

Up to 30 March 2020, the Orion change control team monitored the list of switch save protected retailers and ensured the correct retailers were identified.

TODD was not a switch save protected retailer. All switch protected retailers were excluded from the retention process until such time as the switch had been completed. Calls were made to customers in contract prior to the switch to advise them of the contract termination fee that will be due.

Since the new clause came into effect from 30 January 2020, Nova does not attempt any contact with customer's switching away.

Review of the event detail report identified one NWs issued with a CX withdrawal reason code prior to completion of the switch prior to 31 March 2020. The other trader was not switch save protected at the time of the withdrawal. Compliance is confirmed.

I checked a sample of 15 rejected CX withdrawals issued within 180 days of switch completion where Nova was the losing trader. I confirmed that no counteroffers were made in relation to these withdrawals. The customer initiated the withdrawal in all instances.

WISE

I requested phone call recordings for ten ICPs where WISE had initiated withdrawals within the 180-day period. For two of the ten ICPs, WISE had contacted the customer to ask the reason they were switching away and for one of the ten ICPs WISE contact the customer to advise them a switch was in progress. In all three cases the conversation ended up being about pricing, where WISE clarified existing pricing and the customer decided to remain with WISE. The reason for the initial contact with the customer does not meet the requirements of the Code for the three ICPs referred to. Wise advised this practice stopped in mid-2020. The three ICPs mentioned above related to the period 5 June 2020 to 31 July 2020.

HNET

I checked the records for 14 ICPs. I did not listen to calls because many of them are conducted in Korean or Chinese, but the details from the database were sufficient to confirm the following:

- ten ICPs were contracted and HNET contacted the customers to advise of termination fees, and
- customers contacted HNET for four ICPs after they received their final invoice, and they requested to remain with HNET, but there was no outbound communication sent.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.17 With: Clause 11.15AA to 11.15AC From: 05-Jun-20 To: 31-Jul-20	WISE Customers contacted for non-administrative reasons, resulting in discussion of pricing and eventual switch withdrawal. Potential impact: High Actual impact: Medium Audit history: None Controls: Strong Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls are recorded as strong at the time of the audit because the outbound calling practice has ceased. The impact on settlement and participants is moderate because some switching has not occurred as it was intended; therefore, the audit risk rating is medium.		
Actions taken to resolve the issue		Completion date	Remedial action status
WISE Response: Non-Compliance accepted. <ul style="list-style-type: none"> • Due To the nature of prepay customers when switching is performed without confirming with the customer, it is often necessary to proceed utilizing the switching NWWP or NWUA processes. • Calls made at the time could be interpreted as not meeting the code requirements. 			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> • As confirmed during audit, process has been retired 		July 2020	

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 file and AC020 report were examined to determine compliance.

Audit commentary

TODD

Shared unmetered load is validated using:

- the load check report, which compares Orion and registry unmetered load details and identifies any discrepancies or changes, and this now includes the date of the unmetered load change, and
- the 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 registry list file as of 11 January 2021 and AC020 trader compliance report for 1 February 2020 to 15 January 2021 were examined. 97 active ICPs have shared unmetered load. As discussed in **section 3.7**, review of the AC020 report found two ICPs had shared unmetered load that was more than 0.01 kWh more than the recalculation based on the distributor's unmetered load.

ICP Identifier	Unmetered Load Details - Trader	Unmetered Load Details - Distributor	Trader daily kWh	Distributor daily kWh
1000555666PC131	0006;12.0;1 -12th share of 77w	0077;12.0;1 -12th share of 77w	0.072	0.077
0000005765CP0E8	0006;12.0;1 -12th share of 77w	0077;12.0;1 -12th share of 77w	0.072	0.077

This is due to the methodology of calculating shared unmetered load applied in this instance where the wattage was divided by the number of ICPs sharing the load and then multiplied by the burn hours rather than the kWh figure being divided by the number of ICPs sharing the load.

As detailed in **section 12.7**, ICP 0000540556TU6C9 was rechecked and the incorrect unmetered load information recorded in Orion, which had led to incorrect submission information in the previous audit period, has been corrected and data submitted through the revision process.

WISE

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

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

HNET

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

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

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 5.1 With: Clause 11.14 From: 01-Feb-20 To: 15-Jan-21	TODD The trader daily unmetered kWh was incorrect on the registry for two ICPs. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong. The reporting in place has been improved during the audit period. The non-compliance found was due to human error. The audit risk rating is low as the effect on submission is very minor.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD Response: Non-Compliance accepted. <ul style="list-style-type: none"> ICP 1000555666PC131 & 0000005765CP0E8 calculated incorrectly due to team members not following prescribed calculation process Calculations for both ICPs have been corrected 		April 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> Billing team process updated, and team provided refresher training Refresher training completed April 2021 		April 2021	

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 registry list file and AC020 report were examined to determine compliance.

Audit commentary

TODD

The registry list file as of 11 January 2021 and AC020 trader compliance report for 1 February 2020 to 31 December 2020 were examined.

TODD supplies 346 active ICPs with unmetered load indicated. Three ICPs have unmetered under verandah lighting with a total unmetered load between 3,000 and 6,000 kWh per annum. Under verandah lighting is an approved load type.

WISE

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

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

HNET

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

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

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

The registry list file and AC020 report were examined to determine compliance.

Audit commentary

TODD

The AC020 trader compliance report for 1 February 2020 to 31 December 2020 was examined. No ICPs have annual unmetered load over 6,000 kWh.

WISE

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

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

HNET

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

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

Audit outcome

Compliant

5.4. 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 file and AC020 report were examined to determine compliance.

Audit commentary

TODD

Review of the list as of 11 January 2021 did not identify any DUML ICPs. TODD does not intend to supply DUML.

WISE

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

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

HNET

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

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

Audit outcome

Compliant

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 list 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 new connection process is discussed in detail in **section 2.9**. Once the distributor has provided an ICP, it is entered into Orion and the registry is updated to 1,12 ("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, and a MEP nomination is processed on the registry. All new connections have an MEP nominated.

The AC020 report recorded eight active ICPs with metering category 9, null, or zero which did not have unmetered load indicated:

- seven ICPs had timing differences, and the meter details were populated on the registry prior to the audit, and
- ICP 1002107103LC007 has since been returned to a "new connection in progress" status as this is yet to be electrically connected.

No ICPs are settled using subtraction.

Distributed generation

Daily discrepancy reporting identifies any ICPs where the distributor indicates there is distributed generation installed but the profile does not indicate this.

TODD's registry list as of 11 January 2021 showed 753 active ICPs with a non-zero generation capacity listed by the distributor. Six of these did not have I flow metering installed. These were examined and found that five were awaiting confirmation from the customer that the solar installation had been completed. ICP 0006804489RN58F is awaiting a meter change before the distributed generation can be electrically connected.

The registry list recorded 11 ICPs with a profile compatible with generation and a generation capacity of zero recorded by the distributor. These were examined and found:

- nine of the ICPs had I flow registers recorded on the registry, and five of those also had generation details recorded in the high-risk database,
- ICP 0000052331CP2FF has since switched away from Nova, and
- ICP 0000156339CK2E9 was incorrectly recorded as having distributed generation present and the profile has been corrected to RPS; this is recorded as non-compliance in **section 2.1**.

Review of the AC020 report found two ICPs with generation recorded by the distributor and I flow metering where TODD did not record a generation profile.

- 0080013229PC3D5's I flow meter has a settlement indicator of N set which is for the back-up generator at the McKee generation site; the Distributor has incorrectly recorded the generation against this ICP, but TODD's profile is correct, and
- ICP 1000019114BP2DD was recorded in the last audit and the situation remains unchanged with the customer's electrician advising that further electrical work is required before generation can commence and a generation meter can be installed, so TODD's profile is correct.

Where a generation profile was recorded, I checked that the profile was consistent with the fuel type listed by the distributor and identified four exceptions. In all cases, TODD I confirmed that TODD's profile was correct.

Bridged meters

TODD does not initiate meter bypass instructions to any MEP or contractor. If they request a remote reconnection, the MEP is expected to either conduct this, or make necessary arrangements for reconnection without bypassing.

TODD provided eight examples of bridged meters during the audit period. The existence of bridged meters is recorded as non-compliance below. Corrections to capture the bridged consumption are discussed further in **section 2.1**.

WISE

Metering installations installed

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

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

Distributed Generation

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

Analysis of the registry list found no ICPs with generation capacity recorded by the distributor.

Bridged meters

WISE provided a list of five ICPs where remote disconnection had occurred then the meter had been bridged to reconnect. The existence of bridged meters is recorded as non-compliance below. Consumption was correctly calculated and applied for the bridged period for all five ICPs.

HNET

Metering installations installed.

HNET's new connection process includes a check that metering is installed before electrical connection occurs.

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

Distributed generation

HNET supplies 22 ICPs with distributed generation. All have generation metering installed and the correct profile. Submission occurs correctly for ICPs with generation.

ICP 0000193088UN8F0 has solar generation recorded by the distributor, but HNET has no records indicating solar is present. The metering is not import/export. The high-risk database indicates solar is connected. I recommended HNET liaise with the MEP, customer and the distributor to confirm whether the solar installation is capable of exporting to the network. The MEP confirmed there were no "reverse power" events recorded for this ICP, indicating that generation to the network is not occurring.

Bridged meters

There were no bridged meters during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13 From: 01-Feb-20 To: 15-Jan-21	TODD While meters were bridged, energy was not metered and quantified according to the code for nine ICPs. WISE While meters were bridged, energy was not metered and quantified according to the code for five ICPs. 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 for both the management of distributed generation and the management of bridged meters. The audit risk rating is low as the volumes for the sample of bridged meters were confirmed to be as accurate as possible.

Actions taken to resolve the issue	Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted</p> <ul style="list-style-type: none"> The existence of bridged meters where energy was not metered or quantified during bridge period is acknowledged ICP 0000105283UNE27 <ul style="list-style-type: none"> Refer 2.11 <p>WISE</p> <p>Response:</p> <p>Non-Compliance accepted</p> <ul style="list-style-type: none"> The existence of bridged meters where energy was not metered or quantified during bridge period is acknowledged 	On-going	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>TODD & WISE</p> <ul style="list-style-type: none"> We continue 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 	On-going	

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

Code reference

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

Code related audit information

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

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

The participant responsible for the metering installation must:

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

Audit observation

The NSP table was reviewed to confirm the GIPs which Nova is responsible for, and the certification expiry date for those GIPs.

Audit commentary

TODD

The TODD participant code is not responsible for any GIPs. TGTL (Todd Generation Taranaki Limited) is responsible for the GIPs shown in the table below.

Responsible party	Description	NSP	MEP	Certification expiry date
TGTL	MCKEE	MKE1101TGTLGG	ACCM	01/04/2021
TGTL	JUNCTION ROAD	JRD1101TGTLG	ACCM	09/01/2023

Both NSPs had current certification at the time the audit was completed.

The MEP and certification for JRD1101TGTLG was not updated until more than ten business days after metering certification. Accucal maintains the metering certification details on TODD's behalf, and updated the certification details late, in March 2021.

WISE and HNET

WISE and HNET are not responsible for any GIPs.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.2 With: Clause 5 of Schedule 15.2 From: 09-Jan-20 To: Mar-21	TODD (TGTL) The MEP and certification for JRD1101TGTLG were not updated until more than ten business days after metering certification. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak. A process is in place, but the required information was not updated. The audit risk rating is low because the metering was certified.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD Response: Non-Compliance accepted. <ul style="list-style-type: none"> Permission restrictions on the Reconciliation Manager's (RM) portal resulted in Accucal not being able to update the certification date for JRD1101. Nova updated the certification date for JRD1101 upon becoming aware of this breach. 		May 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> The RM has granted Accucal permissions to make updates on behalf of the TGTL code 		May 2021	

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

TODD does not apply any profiles which require AMI metering or certification of control devices. Only HHR, RPS, EG1, and PV1 profiles are used.

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 lead it to believe a metering installation could be inaccurate, defective, or not fit for purpose they must:

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

Audit observation

Processes relating to defective metering were examined.

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

EMS identify faulty meters for generation. Their processes were reviewed as part of their agent audit.

Audit commentary

Defective meters are typically identified through the meter reading validation process, or from information provided by the meter reader, the network, the MEP, or the customer. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect.

TODD

NHH meters

A sample of ten defective meters were identified, all had stopped recording usage. The faults were identified by customers, through meter condition information provided by meter readers, or the network notifying TODD that there was no volume on a UN register. The MEP was notified in all instances and the meter was replaced.

A sample of eight bridged meters were checked. The faults were identified on receipt of reconnection paperwork, through the review of ICPs with zero consumption, or when meter faults were reported by the customer or distributor. The MEP was notified in all instances and the meters were unbridged.

Corrections were appropriately processed for the defective and bridged meters and are discussed further in **section 2.1**.

HHR meters

EMS and EDMI confirmed that no defective meters have been identified since their last agent audit. AMS confirmed there was an invalid outage in meter data for 0000004277DE8F9 between 16 September 2020 and 13 October 2020. Surrounding data was confirmed to be accurate and the missing period was estimated by TODD.

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. In four of the six examples a final read from the register was obtained from the field visit. In the other cases, the data was eventually provided. The correction was 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. Corrections in relation to these ICPs are discussed in **section 2.1**.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

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

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

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

2(6) – The interrogation systems must record:

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

Audit observation

The data collection and clock synchronisation processes were examined.

Nova's agents and MEPs are responsible for the collection of HHR and AMI data. Collection of data and clock synchronisation were reviewed as part of their agent and MEP audits. A sample of clock synchronisation events received by Nova were reviewed.

Nova collects some HHR data, and generation data, using Stark. I walked through the clock synchronisation process.

Audit commentary

TODD

All information used to determine volume information is collected from the services interface or the metering installation by TODD, one of their agents, or the MEP.

Data collected by agents and MEPs

Agents and MEPs monitor clock synchronisation, and this is covered as part of their audits.

The agents and MEPs notify TODD when clock synchronisation events occur for HHR and AMI meters. TODD's metering team review the events for AMI meters, and TODD's reconciliation team review the events for commercial and industrial HHR meters. Each event is checked to determine whether it is a significant or persistent issue which requires a fault job to be raised, otherwise the difference is monitored to check that it is resolved. I viewed four examples of commercial and industrial meter clock synchronisation events and found all had been resolved in later periods and no estimations were required. There is a process in place to estimate data where a clock synchronisation event affects multiple trading periods for a HHR settled meter.

AMS and EMS confirmed that no clock synchronisation events outside acceptable thresholds had occurred since their last agent audits.

Data collected by TODD

The Stark system retrieves meter information from the generation meters every half hour. The frequency of interrogation ensures that the meter is interrogated more than once during each interrogation cycle.

TODD synchronises their server every minute against an internet time source. During each interrogation, the data logger internal clock is compared with the data collection system clock, and any errors less than or equal to 300 seconds are adjusted automatically.

Review of the Stark communications logs did not identify any time errors over 300 seconds for meters used for reconciliation. Because data is retrieved every 30 minutes, large time differences are unlikely to occur. If time errors over 300 seconds occur, TODD determines whether a correction is required after assessing materiality and arranges for the MEP to correct the clock.

Stark's audit trails are discussed in **section 2.4**.

WISE

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

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

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

The registry list found four ICPs without AMI metering. All had AMI capable metering by the time of the audit.

The samples checked for MEPs confirmed the data in WISE's database matched the data in the files.

HNET

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

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

All 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.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined.

Processes to provide meter condition information were reviewed as part of Wells' and MRS' agent audits. Nova's processes to manage meter condition information were reviewed.

Processes for customer and photo reads were reviewed.

Audit commentary

TODD

I traced reads for a sample of 32 manually read ICPs from the source files to Orion. All were recorded and labelled correctly except one as detailed in **section 2.1**.

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, and monthly summary report containing missing seal and broken seal events.

The daily meter condition information is automatically loaded onto Orion through the task manager workflow. This is expected to pick up all activities for action based on the condition type, e.g., potential faulty or stopped meters add an activity for the metering team. Emailed information is reviewed by the metering team. Orion is checked to determine whether action has already been taken, and if not, the information is copied into an activity and assigned to a user for action.

I viewed examples of the types of meter condition events and found that ten of 16 were not actioned as they weren't identified in the reporting. This included:

- four ICPs with meter number mismatch,
- three ICPs with missing or broken seals,
- two ICPs with signs of tampering or damage, and
- one electrically unsafe situation.

Nova are reviewing the report to ensure all ICPs are reported and actioned as expected. This is recorded as non-compliance below.

No examples of phase failure were identified.

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.

Customer and photo readings are accepted by TODD and are manually entered into Orion with a read type of "customer". Customer readings are treated as validated actual readings by Orion and are used to calculate historic estimates. Any customer or photo readings which have not been validated against a set of actual readings from another source are expected to be labelled as "misreads" or "estimates" so that they are ignored by the historic estimate process.

I checked a sample of four customer readings and found that they had not been validated against two against a set of readings from another source. This is recorded as non-compliance.

One example of a customer photo reading was provided for ICP 0008009802TU5F3 and I found that the read for meter 10002686 on 9 March 2020 was entered as an actual read. The reads for both meters were not validated against two reads from another source. This is recorded as non-compliance.

The process remains unchanged for the assessment of customer and photo reads. The billing team focuses on whether the readings are consistent with the start reading, and there is no specific check to ensure that customer readings are validated against at least two readings from another source. I repeat the last audits recommendation that this check is added.

Description	Recommendation	Audited party comment	Auditor comments
Customer and photo read validation	If customer and photo readings cannot be validated against at least two readings which were not provided by the customer, they should be recorded as misreads or estimates so that they are not treated as actual readings by the reconciliation process.	The recommended additional validation against two readings not provided by the customer has been implemented in the historic estimate process in May 2021. Post our 2020 audit Nova implemented a process change to further embed validation of customer reads.	Identified

WISE

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

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

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

HNET

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

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

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.6</p> <p>With: Clause 5 of Schedule 15.2</p> <p>From: 01-Feb-20</p> <p>To:21-Jan-21</p>	<p>TODD</p> <p>Ten of the 16 examples with meter conditions reported were not actioned as expected.</p> <p>Customer and photo readings are not specifically validated against at least two readings not provided by the customer.</p> <p>Four examples checked found none were validated against a set of readings from another source.</p> <p>One customer reading was entered as an actual read for ICP 0008009802TU5F3.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Once previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
<p>Low</p>	<p>Controls are rated as moderate overall. The controls over most of the process are robust, but customer photo readings are consistently treated as validated readings where they have not been validated against at least two validated actual readings provided by a source other than the customer.</p> <p>The audit risk rating is low as the volume of customer reads is small.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Item 1.</p> <p>Ten of the 16 examples with meter conditions reported were not actioned as expected.</p> <ul style="list-style-type: none"> Meter conditions process will be implemented with priority Q3 <p>Item 2.</p> <p>Customer and photo readings are not specifically validated against at least two readings not provided by the customer.</p> <ul style="list-style-type: none"> The described solutions presented by Nova in the 2020 Audit were implemented. The recommended additional validation against two readings not provided by the customer has been implemented in the historic estimate process. 		<p>Q3 & May 2021</p>	<p>Identified</p>

Item 3. One customer reading was entered as an actual read <ul style="list-style-type: none"> ICP: 0008009802TU5F3 <ul style="list-style-type: none"> a) Refer above and recommendation 		
Preventative actions taken to ensure no further issues will occur	Completion date	
<ul style="list-style-type: none"> As above 		

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**. As discussed in **section 4.10**, an incorrect last actual read date and read were recorded for ICP 1001276348LCA17 (12 September 2020). The user closed the customer's account on the event date rather than the day prior (11 September 2020). This caused the read to be sent for the incorrect date.

I walked through the process for NHH to HHR and HHR to NHH meter changes, including reviewing five examples, which confirmed that NHH meter reads are applied at the end of the day for both upgrades and downgrades.

Where an upgrade or downgrade does not coincide with meter change for a category 1 or 2 meter, the changes are applied effective from midnight and the movement between NHH and HHR aligns with the actual volume data.

Where a downgrade from HHR to NHH metering occurs, HHR volumes are submitted up to the HHR meter removal date and NHH volumes are submitted from the NHH meter installation date, which is usually the same as the HHR meter removal date. ICP days up to the HHR meter removal date are reported as HHR, and ICP days after that are reported as NHH.

Where an upgrade from NHH to HHR metering occurs, the NHH closing read is recorded on the NHH meter removal date and volumes up to the closing read are submitted as NHH. HHR submission begins from the HHR meter installation date, which is usually the same as the NHH meter removal date. ICP days up to the NHH meter removal date are reported as NHH, and ICP days after that are reported as HHR.

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

WISE

NHH meter readings provided by MEPs and agents are applied as of 2400hrs.

Application of reads was reviewed as part of the historic estimate checks, discussed in **section 12.11**.

HNET

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 timestamping. Manual readings taken by Wells are applied correctly.

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

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

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.7 With: Clause 6 Schedule 15.2 From: 01-Feb-20 To: 15-Jan-21	TODD An incorrect last actual read date and read were recorded for ICP 1001276348LCA17 (12/09/20) from the sample of five ICPs checked. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor, therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD Response: Non-Compliance accepted. <ul style="list-style-type: none"> ICP: 1001276348LCA17 <ul style="list-style-type: none"> Refer 4.10 			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> As above 			

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 has improved their no read processes to improve meter read attainment for non-AMI ICPs. The deployment of this was delayed due to COVID 19 so the process below was not deployed until August 2020. The current process is detailed below:

1. Wells or MRS visit the customer's site to obtain a reading. If a reading cannot be obtained, a “no read” card is left, which asks the customer to call TODD to resolve the issues preventing read attainment and provide a customer reading.
2. If two invoices in a row are based on estimated readings, and all of the following criteria are met, an automated text message is sent to the customer to request access:
 - a. the customer has one site supplied with TODD,
 - b. the meter reader code is Wells or MRS,
 - c. there are no active special (out of cycle) read requests, and
 - d. the customer has a mobile phone number recorded in Orion.
3. If a read is not gained a further two texts are sent 30 days apart.
4. If the ICP is still unread then a consecutive estimate text (if a mobile number is available) or letter is sent to the customer requesting that they contact TODD to arrange a meter read.
5. At the same time any ICPs unread for more than four months are passed to Wells and MRS, so that read attempts can be made on the weekend, and any ICPs unread for more than four months receive an outbound call from the billing team.
6. If after nine months a read has still not been gained, then a high estimate bill is triggered to prompt the customer to call in.
7. If customer reads are consistently provided, the compliance read progress will be triggered to arrange a special reading annually.

The last audit noted that there were three reports to manage unread ICPs and that not all the automated activities generated in Orion for the billing team were used or closed. This has now been consolidated to one report with performance reporting in place to track progress. The previous no read activities were closed out as part of a bulk clean up. This effectively reset all the unread ICPs to day zero so these will take time to be picked up.

As reported in the last audit, TODD excludes vacant ICPs and ICPs where customers consistently provide customer readings from parts of their read attainment processes. This may prevent them from meeting the endeavours requirements.

If readings cannot be obtained for AMI ICPs they are moved to a Wells or MRS meter reading route.

A report of 38 ICPs not read during the period of supply was provided for the period 1 January 2020 to 30 September 2020. Of these, 19 (50.0%) were supplied for less than 50 days. I reviewed the ten ICPs with the longest periods of supply with an average period of supply of 245 days and found the best endeavours were not met in any instance. There was an attempt to read by a meter reader (except when COVID- 19 prevented this) for all ICPs but there were no other attempts made as they there was no mobile for a message to be sent to. The revised process uses more than one form of communication, so this is expected to improve.

WISE

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

One ICP where the period of supply ended during the audit period did not receive an actual read, but the switch in read was an actual so compliance is achieved.

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. HNET had one ICP not read during the period of supply. The period was one day and the start reading was an actual, so compliance is achieved.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 01-Feb-20 To: 15-Jan-21	TODD Exceptional circumstances were not proven for the ten ICPs sampled that were not read during the period of supply. 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 the revised process for TODD has been implemented. The audit sample period doesn't reflect these results as yet, but internal reporting shows an improvement. The audit risk rating is low as the number of ICPs not read during the period of supply is low overall.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD Response: Non-Compliance accepted. <ul style="list-style-type: none"> Nova accept that exceptional circumstances were not proven however post the implementation of our phased improvements that will continue to be delivered, we anticipate on-going improved results 		Q4	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> As above 		Q4	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

The meter reading process was examined. Monthly reports were provided and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2.

A sample of ICPs not read in the previous 12 months were reviewed to determine whether reasonable endeavours were used to attain reads, and if exceptional circumstances existed.

Audit commentary

TODD

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
July 2020	265	43	65	99.90%
August 2020	266	46	67	99.90%
September 2020	267	40	51	99.92%
October 2020	268	38	54	99.92%
November 2020	270	39	60	99.91%

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

TODD provided a list of ICPs unread for 12 months as of 30 November 2020. I reviewed ten ICPs not read in the previous 12 months determine whether exceptional circumstances exist, and if TODD had used their best endeavours to obtain readings. The best endeavours requirements were met in all instances, confirming that the new process is working.

TODD provides monthly reports on meter reading frequency to the Electricity Authority. I reviewed the reports for July to November 2020 and confirmed that the content of the reports met the requirements of clauses 8 and 9 of schedule 15.2. Two of the reports were submitted late, one because of an oversight, and the other was delayed by the Christmas to New Year holiday. Reminders have been scheduled to prevent recurrence.

WISE

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
July 2020	34	-	-	100.0%
August 2020	35	-	-	100.0%
September 2020	35	-	-	100.0%
October 2020	35	-	-	100.0%
November 2020	35	-	-	100.0%

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

Copies of the reports submitted to the EA from July 2020 to October 2020 were provided. The reports were in the required format and submitted on time.

HNET

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
July 2020	73	-	-	100.0%
August 2020	73	-	-	100.0%
September 2020	73	-	-	100.0%
October 2020	73	-	-	100.0%
November 2020	73			100.0%

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

HNET provides monthly reports on meter reading frequency to the Electricity Authority. I reviewed the reports for September and October 2020 and confirmed that they were submitted on time and were in the correct format.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.9</p> <p>With: Clause 8(1) and (2) Schedule 15.2</p> <p>From: Sep-20 and Nov-20</p>	<p>TODD</p> <p>Two Meter Reading Frequency reports were submitted late.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
<p>Low</p>	<p>Controls are rated as strong as reminders are scheduled to prevent this happening in the future.</p> <p>The audit risk rating is low as both of the late meter reading frequency report submissions were made within one week of the due date, and reminders have been scheduled to prevent further late submissions.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <ul style="list-style-type: none"> TODD submitted the files upon becoming aware of the late submission. Meter Reading Frequency reports for TODD are automatically generated each month for review and to forward to the Authority. One file was submitted late due to an oversight. The other file was submitted late due to the automated email being generated while staff were on leave over Christmas. 		January 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> TODD have created calendar reminders to ensure that Meter Reading Frequency reports have been forwarded to the Authority 		February 2021	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The meter reading process was examined. Monthly reports were reviewed.

A sample of ICPs connected to NSPs that did not meet the threshold were checked to determine if exceptional circumstances existed.

Audit commentary

TODD

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
July 2020	285	5	760	99.02%
August 2020	286	6	582	99.26%
September 2020	289	5	457	99.43%
October 2020	286	4	432	99.47%
November 2020	286	7	406	99.51%

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

TODD provided a list of ICPs unread for four months as of 30 November 2020. I reviewed all eight unread ICPs on the NSPs where the threshold was not met and found exceptional circumstances were proven for five of the ICPs. Exceptional circumstances were not proven for three ICPs.

All ICPs were on NSPs where the total number of ICPs was less than 14 ICPs. If one ICP is not read, then the threshold is not met. The new process deployed in August 2020 reset the no read process for all ICPs.

The content and accuracy of meter reading frequency reports to the Electricity Authority was assessed in **section 6.9** and found to be accurate. Two reports were sent late, and non-compliance is recorded in **section 6.9**.

WISE

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
July 2020	42	-	-	100%
August 2020	42	-	-	100%
September 2020	42	-	-	100%
October 2020	42	-	-	100%
November 2020	42	-	-	100%

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

HNET

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
July 2020	83	1	1	99.8%
August 2020	84	1	1	99.8%
September 2020	87	1	1	99.8%
October 2020	88	0	0	99.8%
November 2020	94	1	1	99.8%

Exceptional circumstances were proven for the ICPs not read. There were two ICPs in total.

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: Clause 9(1) and (2) Schedule 15.2 From: 01-Feb-20 To: 15-Jan-21	TODD Exceptional circumstances not proven for three ICPs. 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 the revised process for TODD has been implemented. The audit risk rating is low as the number of ICPs affected is very small.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD Response: Non-Compliance accepted. <ul style="list-style-type: none"> Refer 6.8 			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> As above 			

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 AMS, IntelliHUB, and WEL Networks as MEPs. The data interrogation log requirements were reviewed as part of their agent and MEP audits.

HNET

NHH data is collected by:

- Wells for manually read meters, and
- MEPs for AMI meters.

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 11(1) Schedule 15.2

Code related audit information

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

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

Audit observation

TODD

HHR data is collected by AMS and EDMI as agents. HHR interrogation data requirements were reviewed as part of their agent audits.

TODD uses Stark to retrieve HHR data from the generation meters and some customer meters. The data collection process was reviewed.

EMS reports generation data to the reconciliation manager as TODD's agent. Their processes for HHR data collection were reviewed as part of their agent audit.

WISE

Review of a registry list for the audit period confirmed that WISE has not supplied any ICPs with submission type HHR.

HNET

HNET has 15 HHR ICPs. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

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

TODD interrogates generation station and customer meters using Stark, and data is obtained via the services access interface.

Audit commentary

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

TODD interrogates generation station and customer meters using Stark, and data is obtained via the services access interface.

Audit outcome

Compliant

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

Code reference

Clause 11(2) Schedule 15.2

Code related audit information

The following information is collected during each interrogation:

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

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

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

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

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

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

Audit observation

TODD

HHR data is collected by AMS and EDMI as agents. HHR interrogation data requirements were reviewed as part of their agent audits.

TODD uses Stark to retrieve HHR data from generation meters. The interrogation process was discussed, and the interrogation data was viewed.

EMS reports generation data to the reconciliation manager as TODD's agent. HHR interrogation data was reviewed as part of their agent audit.

WISE

Review of a registry list for the audit period confirmed that WISE has not supplied any ICPs with submission type HHR.

HNET

HNET has 15 HHR ICPs. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

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

The following information is collected by Stark during each interrogation of HHR metering:

- the unique identifier (device ID) of the meter or data logger,
- the connection time, disconnection time and recorder time,
- the half-hour metering information for each trading period,
- event log, and
- interrogation log.

Audit outcome

Compliant

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

Code reference

Clause 11(3) Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

TODD

HHR data is collected by AMS and EDMI as agents. HHR interrogation log requirements were reviewed as part of their agent audits.

TODD uses Stark to retrieve HHR data from the generation meters and some customer meters. The interrogation process was discussed, and the interrogation logs were viewed.

EMS reports generation data to the reconciliation manager as TODD's agent. HHR interrogation logs were reviewed as part of their agent audit.

WISE

Review of a registry list for the audit period confirmed that WISE has not supplied any ICPs with submission type HHR.

HNET

HNET has 15 HHR ICPs. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

Compliance with this clause has been demonstrated by AMS, EDMl, and EMS as part of their agent audits.

An interrogation log is available in Stark and was viewed during the audit. The log contains the following information:

- date,
- time,
- operator ID,
- data logger ID (always the same),
- clock errors, and
- interrogation method (always the same).

Audit outcome

Compliant

7. STORING RAW METER DATA

7.1. Trading period duration (Clause 13 Schedule 15.2)

Code reference

Clause 13 Schedule 15.2

Code related audit information

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

Audit observation

TODD

HHR data is collected by AMS, EDMI and EMS as agents. Trading period duration was reviewed as part of their agent audits.

TODD uses Stark to retrieve HHR data from the generation meters every half hour, and customer meters weekly. Evidence of trading period duration checks was reviewed.

WISE

Review of a registry list for the audit period confirmed that WISE has not supplied any ICPs with submission type HHR.

HNET

HNET has 15 HHR ICPs. AMS provides the data and TODD conducts submission for these ICPs.

Audit commentary

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

Stark's logs record an event if the number of seconds recorded does not match the expected number for the half hour. Clock synchronisation is discussed further in **section 6.5**.

Audit outcome

Compliant

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

Code reference

Clause 18 Schedule 15.2

Code related audit information

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

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

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

Audit observation

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

Nova's agents retain a copy of the raw meter data, and their compliance with the archiving and storage requirements were reviewed as part of their agent audits. Nova's own audit trails were reviewed in **section 2.4**.

HNET and WISE

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

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

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

Audit commentary

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 2013 during the audit. Data is archived for more than 48 months as required by the code.

I traced reads for a sample of 26 ICPs from the source files to Orion for NHH meters. The readings were the same for all ICPs, confirming the security of the process.

Review of audit trails in **section 2.4** confirmed that reads cannot be modified without an audit trail being created. Users are not able to edit actual meter readings, apart from changing the read status to misread.

HHR and Generation

I viewed raw HHR meter data and generation data from 2015 during the audit. Data is archived for more than 48 months as required by the code.

Review of audit trails in **section 2.4** confirmed that HHR reads, and volume reads cannot be modified without an audit trail being created in Stark, and data cannot be edited in EnergyMarket.

WISE

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

WISE intends to retain meter reading data for over 48 months. I viewed meter readings from 2017 to confirm they had been retained.

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.

HNET

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

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

Audit outcome

Compliant

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

Code reference

Clause 21(5) Schedule 15.2

Code related audit information

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

Audit observation

Processes to record and archive non-metering information were reviewed.

Audit commentary

TODD

DUML ICPs are not supplied, and non-standard profiles are not used. No non-metering information is required to be collected.

WISE

HNET and WISE do not deal with any non-metering information.

HNET

HNET and WISE do 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**.

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

HHR

Where errors or missing data are detected during validation of half-hour metering information, and check metering data is not available, data from a period with a quantity and profile expected to be similar to the estimated period is used. The process is the same for HHR and AMI meters.

Ten examples of HHR corrections were provided:

- two corrections were to remove consumption from periods where the customer was using energy from a generator (which was recorded by their meter) while they could not consume energy from the local network,
- one correction was to replace a period of zero consumption recorded by the meter which was confirmed to be invalid upon investigation by TODD and the MEP, and

- the remaining seven corrections were to estimate data which was not recorded by a meter during the meter exchange process.

In all cases, the corrections were based on the best information available. Audit trails were demonstrated 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

WISE does not deal with HHR data.

HNET

No corrections were required for HNET HHR ICPs.

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, EDM I and AMS as agents, and by TODD using Stark.

Compliance with the requirements to retain raw reading data was assessed as part of EMS, EDM I and AMS' agent audits. TODD retains the raw meter reading data within Stark, and audit trails are created when data is changed. These audit trails were viewed during the audit and are discussed further in **section 2.4**.

Generation

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

WISE

Raw meter data is held by MEPs.

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

HNET

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

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

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.

Photo and customer readings are identified by the "customer" read type. They are treated as validated readings when calculating reconciliation submissions unless they have not been validated and are then classified as misreads. Misreads are ignored by the historic estimate calculation process. Non-compliance is recorded in **section 6.6**, because four customer reads, and one customer photo reading were treated as validated reading without being validated against a set of readings from another source.

The sample of reads checked in **section 2.3** were recorded with the correct read types.

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

Compliant

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 EDM I 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 AMS and EMS as part of their agent audits. Because the agent reports were more than seven months old on the audit due date, I confirmed that there had been no changes to agent systems or processes which could affect TODD's compliance.

EDMI provides data to TODD in the GEN file format, which records volumes in kWh rounded to two decimal places. Data is normally received from meters in either whole watt hours (equivalent to kWh to three decimal places) or kWh to three decimal places. In addition, some EM5300 meters have been configured to provide a higher degree of precision, and fractions of watt hours (or kWh to four decimal places) are recorded.

EDMI's 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, or an EM5300 meter is present. The affected ICPs are:

- 0129027170LC96F,
- 0305259318LCA29,
- 0335240038LC7A3,
- 0005018002CNB8F,
- 0280409168LC575, and
- 0267986351LCC71.

AMS, Arc, IntelliHUB, Counties Power, AMS, Smartco, FCLM and Nova NHH AMI readings are not rounded. Compliance is confirmed.

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

WISE

NHH Meter readings are not truncated or rounded.

HNET

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

NHH Meter readings are not truncated or rounded.

Audit outcome

Compliant

9.4. Half hour estimates (Clause 15 Schedule 15.2)

Code reference

Clause 15 Schedule 15.2

Code related audit information

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

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

Audit observation

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. Estimates are based on check meter data or readings where available, or data is used from a period with a quantity and profile expected to be similar to the estimated period. Estimates are calculated using a query, and the user determines whether they should be based on the same day for the previous six weeks, or the same day for the previous year depending on the seasonal profile of the load. The process takes into account the trading period, weekday and public holidays when determining a similar time period to base the estimates on. If an ICP has insufficient history to calculate an estimate based on historic information, estimates of consumption from the customer contract will be used.

Review of a sample of ten temporary estimates showed that they had been based on periods with a quantity and profile similar to what was expected. I saw evidence of investigation to identify a suitable period to use for estimation.

There is a requirement to use “reasonable endeavours” to ensure this data is accurate to within 10%. I compared the temporary estimates with the replacement actual values for ten ICPs and found nine were within $\pm 10\%$ of the actual data. TODD met the reasonable endeavours requirement for all the estimates reviewed.

Generation

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

WISE

Wise does not have any HHR ICPs.

HNET

Estimation has not occurred for any HHR ICPs.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

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

Audit commentary

TODD

NHH data is validated by several processes.

Meter reader validation

For meters read by MRS and Wells, a localised validation occurs at the hand-held device to ensure the reading is within expected high/low parameters. Readings which fail this validation are required to be re-entered, and if the two readings are the same the second reading will be accepted. If the second reading is different, (potentially indicating the first reading was incorrect) then the second reading is required to be re-entered. MRS and Wells also provide meter condition information, as discussed in **section 6.6**. Compliance is confirmed for all agents regarding data validation.

Orion validation

Orion validates readings on import. The read file import is scheduled to run automatically at 7.30am after retrieving the files from the SFTP directory. The billing team receives an email each morning confirming whether the file import has been successful. If the file format or field content is unexpected, the upload will fail, and the file will be checked and re-uploaded.

Orion initially checks that there is an open ICP meter register which matches the ICP meter register which the reading is provided for. If there is no match, an exception will be created.

Orion validates the reading, and generates the following read import exceptions:

1. 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,
2. 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),
3. meter read is exceptionally high,
4. meter read is exceptionally low,
5. the account is on the no bill cycle,
6. the read is earlier than previously billed reads,
7. there is more than one open account or more than one matching meter,
8. the meter reader is unknown, and
9. 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:

1. credit invoices,
2. large invoices,
3. billing periods of less than 20 days or more than 40 days,
4. consumption which is more than 300% of the previous invoice,
5. ICPs with meters which are missing reads or missing usage transactions, and
6. ICPs which have actual readings for master ICPs and estimated reads for child ICPs.

Invoicing is completed overnight for the ICPs where billing exceptions have been cleared. A sample of invoices are spot checked as part of the daily quality assurance checks. Abnormally high and low invoices are identified using SQL queries, and checked to confirm they are correct.

Vacant consumption

When an ICP becomes vacant, a letter is sent to the new occupier requesting that they sign up for electricity supply. The vacant disconnection process is managed by the credit team and is initiated ten days after a customer moves out. Letters to the occupier are sent in the first instance. The first is sent at ten days and a further reminder is seven days later. If there is no response to the last letter after seven days a request to disconnect is issued. Vacant disconnections are generally physical disconnections so that the site can be checked to ensure that there is no occupant and there is no medical dependency. TODD continues to read vacant ICPs, and all vacant consumption is included in reconciliation submissions.

Inactive consumption

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

TODD continues to read disconnected ICPs, and all consumption during disconnected periods is included in reconciliation submissions.

Zero consumption

The daily zero usage reports are used to identify ICPs which have three or more consecutive readings indicating zero consumption on one or more of their meters. The reports are reviewed by the metering team. If there is not a known reason for the zero consumption, they will contact the customer to determine why and raise a service order to replace the meter if there is believed to be a fault. Once a fault is confirmed, the correction process described in **section 2.1** is followed.

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.

Read import validation

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

- readings relate to the correct ICP meter and register - if a match is not found, the information appears on an error log which is reviewed each morning,
- the date and time 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.

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

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, which checks:

- The previous audit recorded that high consumption used to be a checked for ICPs over 3,000 units - ICPs were allocated to groups based on consumption, a comparison was made between actual and expected consumption. Since HNET began dealing with HHR ICPs this setting was not used, instead the 50 ICPs with the highest consumption were checked manually, which allowed errors to inadvertently slip through. There were two large meter reading errors that resulted in over submission of 465,000 kWh and 50,000 kWh in April and October 2019. I recommended the thresholds were reviewed and changed to ensure errors were identified. HNET adopted this recommendation and reverted back to the 3,000 kWh threshold for readings supplied from Wells.
- 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 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

EnergyMarket validations

All HHR electronic data is validated in EnergyMarket, as well as on receipt. The EnergyMarket validation includes comparison with expected, or previous flow patterns, and checks for missing data and are discussed in further detail in **section 12.3**.

HHR data received from agents

HHR data is collected by AMS and EDM I as agents, and data validation was reviewed as part of their agent audits. AMS and EDM I 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.
- EDM I emails information on events with their business day one downloads.

I viewed examples of event information provided by AMS and EDM I and found TODD had taken action to investigate and resolve issues where required.

HHR and generation data obtained by TODD

Stark retrieves meter information from the generation meters every half hour, and customer meters weekly. I viewed the check data in Stark, which includes checks for:

- missing data,
- invalid data,
- unexpected zero volumes,
- meter data storage device events, and
- clock synchronisation events.

The Stark meter data storage device event reports are reviewed prior to initial submissions each month, and events are investigated and resolved as required. I walked through this process and reviewed examples of events.

EMS also directly obtains HHR generation data, which is used to produce generation submissions. As part of this, EMS validates generation volumes and reviews event data. Compliance is recorded in EMS agent audit report.

AMI data

TODD demonstrated their validation processes for AMI installations. These ICPs are billed and reconciled as NHH sites so validation is based on end of day reads and not the half hour interval data. Validation checks are the same as for non-AMI meters and meet the requirements of this clause.

NHH AMI data is provided by ARC, IntelliHUB (for IntelliHUB, Metrix and Counties Power meters), and AMS (for AMS and Smartco meters), FCLM, and Nova via SFTP. All the MEPs provide meter event information to TODD, which is manually reviewed. Action is taken on events at the MEPs request, or where TODD's review has identified that action is required.

I saw examples of events relating to tampering, battery failure, and communications issues and noted that appropriate action had been taken.

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. The customer is contacted to determine whether there is a known reason for the issue, and then the MEP is contacted to determine whether any action can be taken to improve communications.

WISE

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

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

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

HNET

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

MEPs send HNET notifications via email of meters that require a service request to be raised to investigate. I sighted three such requests and all were actioned.

HNET checks for event logs, meter condition reports or notifications as part of BAU.

Audit outcome

Compliant

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

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

Code reference

Clause 13.136

Code related audit information

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

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

Audit observation

This process is managed by EMS and was assessed as part of their agent audit.

Audit Commentary

Review of the EMS report confirmed that HHR metering information is provided in a compliant manner.

Audit outcome

Compliant

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

Code reference

Clause 13.137

Code related audit information

Each generator must provide the relevant grid owner half-hour metering information for:

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

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

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

Audit observation

This process is managed by EMS and was assessed as part of their agent audit.

Audit Commentary

Review of the EMS report confirmed that HHR metering information is provided in a compliant manner.

Audit outcome

Compliant

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

Code reference

Clause 13.138

Code related audit information

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

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

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

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

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

Audit observation

This process is managed by EMS and was assessed as part of their agent audit.

Audit Commentary

Review of the EMS report confirmed that loss adjustment is managed in a compliant manner.

Any loss adjustment relative to the grid injection point is normally made within the metering installation at the time of installation and commissioning.

Audit outcome

Compliant

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

Code reference

Clause 13.140

Code related audit information

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

Audit observation

This process is managed by EMS and was assessed as part of their agent audit.

Audit commentary

EMS is the agent to the grid owner and conducts this notification. Compliance is confirmed in the EMS audit report.

Audit outcome

Compliant

11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

11.1. Buying and selling notifications (Clause 15.3)

Code reference

Clause 15.3

Code related audit information

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

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

Audit observation

The registry lists were reviewed to confirm the profiles used.

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 40 NSPs with a small number of ICPs each, and HHR ICP days for 30 NSPs with a small number of ICPs each. The ICP days calculation was confirmed to be correct for the NSPs checked.

The following table shows the ICP days difference between TODD files and the RM return file (GR100) for all available revisions for 15 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
Apr 2019	-0.81%	-0.84%	-0.85%	-0.85%	-0.83%
May 2019	-0.83%	-0.86%	-0.87%	-0.87%	-0.87%
Jun 2019	-0.82%	-0.86%	-0.87%	-	-0.86%
Jul 2019	-0.83%	-0.85%	-0.86%	-	-0.85%
Aug 2019	-0.84%	-0.85%	-0.85%	-	-0.85%
Sep 2019	-0.84%	-0.85%	-0.85%	-	-
Oct 2019	-0.84%	-0.85%	-	-0.81%	-
Nov 2019	-	-	-	-0.79%	-
Dec 2019	-	-	-	-0.82%	-
Jan 2020	-	-	-	-0.81%	-
Feb 2020	-	-	-0.87%	-0.90%	-
Mar 2020	-	-	-0.80%	-0.82%	-

Month	Ri	R1	R3	R7	R14
Apr 2020	-0.76%	-0.73%	-0.77%	-0.77%	-
May 2020	-0.68%	-0.69%	-0.72%	-0.72%	-
Jun 2020	-0.64%	-0.66%	-0.66%	-	-
Jul 2020	-0.67%	-0.70%	-0.70%	-	-
Aug 2020	-0.78%	-0.78%	-0.78%	-	-
Sep 2020	-0.77%	-0.77%	-0.78%	-	-
Oct 2020	-0.81%	-0.82%	-	-	-
Nov 2020	-	-0.85%	-	-	-

I reviewed five NHH and five HHR NSP level ICP days differences and found:

- Three differences occurred because TODD reports inactive ICP days on the AV110. Compliance is recorded because TODD's ICP days matched the days that submission information provided for.
- Zeroing does not occur for AV110 submissions. Four differences were caused by backdated withdrawals or downgrades where data recorded against the old aggregation factor combination for the period was not zeroed.
- One difference occurred because of a discrepancy in MEP data, the HHR upgrade had an event date of 23 July 2019, but the meter certification date was 22 July 2019. TODD's submission data was correctly aligned with the meter certification details.
- One difference was caused by an incorrect NSP being recorded for ICP 0000329419TPD0B. The HHR ICP was connected to INV0331 when it switched in, and a backdated change to NMA0331 was later made by the distributor. Stark does not allow NSPs to be date ranged, and the ICP remained recorded against INV0331 in Stark. The NSP is usually updated in EnergyMarket through import of a registry list prior to submissions being generated. This process step is scheduled but was missed for the May 2019 R14 due to human error. I did not find any other instances of this issue in the sample of GR100s reviewed for April 2019 to August 2020.
- Mid-month TODD runs a process to add end of month AMI readings to Orion, where they are available for the previous month. For ICP 0000031488WE974, an end of month reading for 30 November 2019 was added prior to the ICP's switch in date of 5 December 2019. Consumption and ICP days between the end of month read and the switch in date was reported in error. The issue occurred because the ICP had originally switched in effective 18 November 2019 and AMI data had been supplied for 30 November 2019. The switch was later withdrawn and then re-requested in early December. This scenario is expected only to occur where switches have been withdrawn after the end of a calendar month, end of month AMI data has been received, and the ICP has switched back in early the following month before the process to insert end of month reads is run. The end of month reads process has been modified to ensure that no end of month reading is loaded prior to the ICP's opening read date.

To confirm the upgrade and downgrade process, a sample of five upgrades to HHR and four downgrades to NHH were checked. All followed the process described in **section 6.7**. Submission types are checked

against a registry list with history as part of the pre-submission checks described in **section 12.3**, and discrepancies are identified and resolved.

I identified a small number of ICPs with incorrect active status dates as discussed in **sections 3.5 ,3.8 and 3.9**, which will have a minor impact on the accuracy of ICP days submissions. The ICP days match the submission information provided.

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 eight examples of ICP days discrepancies. The ICP days calculation was confirmed to be correct for the HE scenarios checked.

I checked some ICP days discrepancies and found five ICPs had incorrect ICP days, due to the incorrect statuses in PEBS.

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

Month	Ri	R1	R3	R7	R14
Apr-19					0.00%
May-19					0.00%
Jun-19					0.02%
Jul-19					0.16%
Aug-19					0.24%
Sep-19				0.14%	
Oct-19				0.10%	
Jan-20				0.10%	
Feb-20			0.09%	0.09%	
Mar-20			0.08%	0.08%	
Apr-20	0.06%	0.08%	0.08%	0.08%	
May-20	0.07%	0.07%	0.07%	0.07%	
Jun-20	0.15%	0.06%	0.07%		

Month	Ri	R1	R3	R7	R14
Jul-20	0.07%	0.07%	0.07%		
Aug-20	0.08%	0.07%	0.07%		
Sep-20	0.07%	0.09%	0.06%		
Oct-20	0.07%	0.07%			
Dec-20	0.05%				

HNET

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

The process for the calculation of ICP days was examined by checking the totals for each of the HE scenarios and by checking two ICP days discrepancies at the three-month revision. Two minor issues were identified in the July and August ICP days files. ICPs 0006570887RN083 and 0000801313TU3B2 both had one ICP day too few due to incorrect start dates being entered for meter changes leading to a one-day gap in the month. This has been resolved for R7.

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

Month	Ri	R1	R3	R7	R14
Apr-19					0.00%
May-19					0.00%
Jun-19					0.00%
Jul-19					0.00%
Aug-19					0.00%
Sep-19				0.00%	-
Oct-19				0.00%	-
Nov-19				0.00%	-
Jan-20				0.00%	-
Feb-20			0.00%	0.00%	-

Month	Ri	R1	R3	R7	R14
Mar-20			0.00%	0.00%	-
Apr-20		0.01%	0.00%	0.00%	-
May-20		0.01%	0.00%		-
Jun-20	0.04%	0.00%	0.00%	-	-
Jul-20	0.04%	0.00%	0.00%		
Aug-20	-0.02%	0.00%	0.00%		
Sep-20	-0.02%	0.00%			
Oct-20	0.03%	0.01%			

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 11.2 With: Clause 15.6</p> <p>From: Apr-19 r14 To: Feb-20 r7</p>	<p>TODD</p> <p>Zeroing does not occur for AV110 submissions. At least four ICP days differences between AV110 submissions and the registry were caused by backdated withdrawals or downgrades where data recorded against the old aggregation factor combination for the period was not zeroed.</p> <p>ICP 0000329419TPD0B incorrectly had ICP days reported against INV0331 instead of NMA0331 for May 2019 r14.</p> <p>An end of month read was added before the switch in date for ICP 0000031488WE974. Consumption and ICP days between the end of month read and the switch in date was reported in error.</p> <p>WISE</p> <p>Incorrect ICP days for five ICPs</p> <p>HNET</p> <p>ICP days one too few for two ICPs</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>
Audit risk rating	Rationale for audit risk rating
<p>Low</p>	<p>The controls are rated as moderate overall.</p> <ul style="list-style-type: none"> The incorrect NSP and end of month reading outside the period of supply appear to be isolated errors, and preventative controls are in place to prevent recurrence of these issues. Zeroing processes are in place for volume information, but not ICP days. <p>The impact is assessed to be low based on the differences identified.</p>

Preventative actions taken to ensure no further issues will occur	Completion date	
TODD <ul style="list-style-type: none"> As above 	TODD Q3	
HNET <ul style="list-style-type: none"> HNET permanently fixed our logic to select the correct actual read date when there were two events on the meter replacement date. There will be no more missing ICP days in any revision. 	HNET January 2021	
WISE <ul style="list-style-type: none"> Automated update of Registry's status according to Reconnection/Disconnection to match the status of Registry and PEBS. 	WISE April 2021	

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.

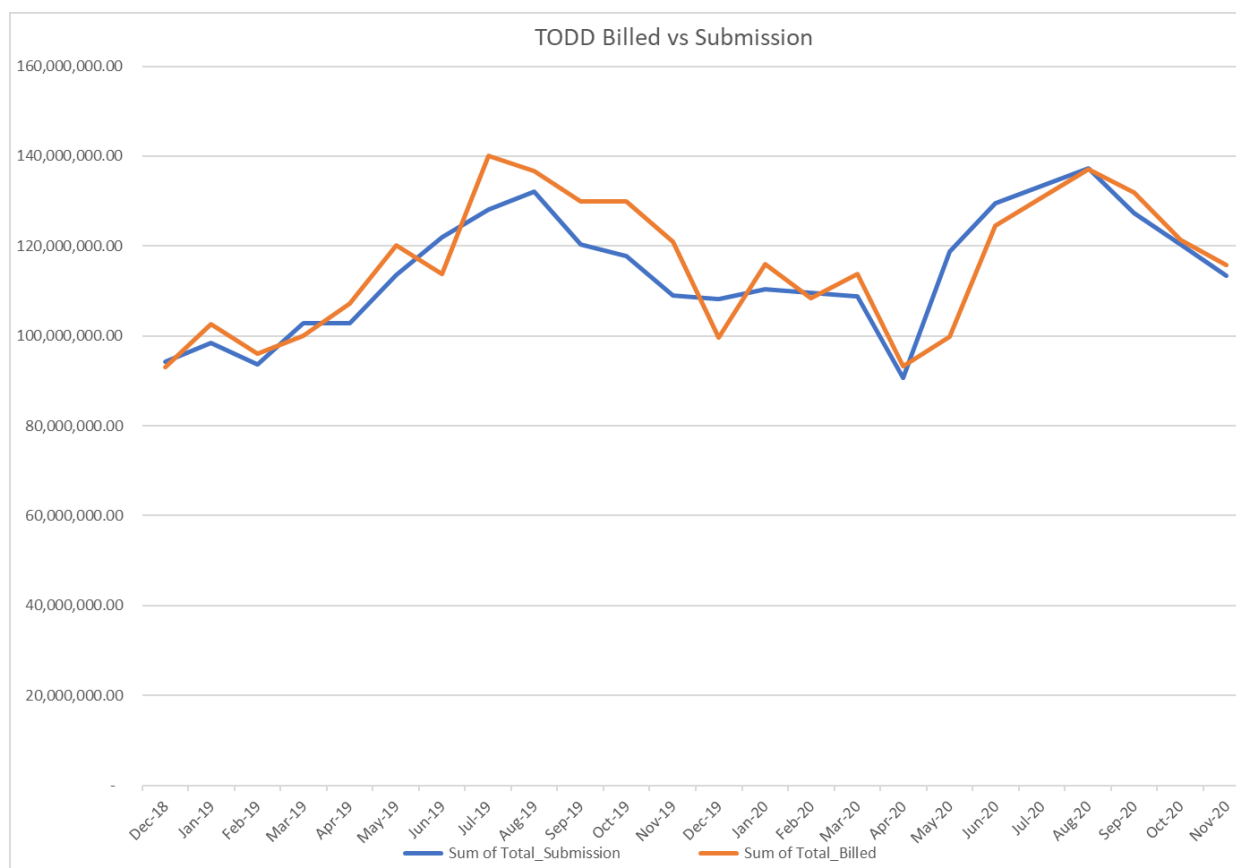
Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late.

Audit commentary

TODD

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

I also checked the difference between submission and electricity supplied information for a two-year period, and the results are shown chart below. The total difference is 1.6% for the two years ended November 2020 (submission higher than billed) and 1.0% for the year ended November 2020 (submission lower than billed).



The previous audit identified an increase in the difference between billed and submitted data, because some billed data for ToD customers was being double counted. EnergyMarket produced the AV120 report using information imported from AXOS, Orion, and Kinetiq (Stark's billing module). Because ToD customers were billed in AXOS and the data was imported into Orion, the data was included in the data received from both AXOS and Orion. The process has been modified so that AXOS billing data is excluded from EnergyMarket; all billed data is received from Orion and Kinetiq. Where revision 14 had not already occurred, revised AV120 data was provided through the revision cycle.

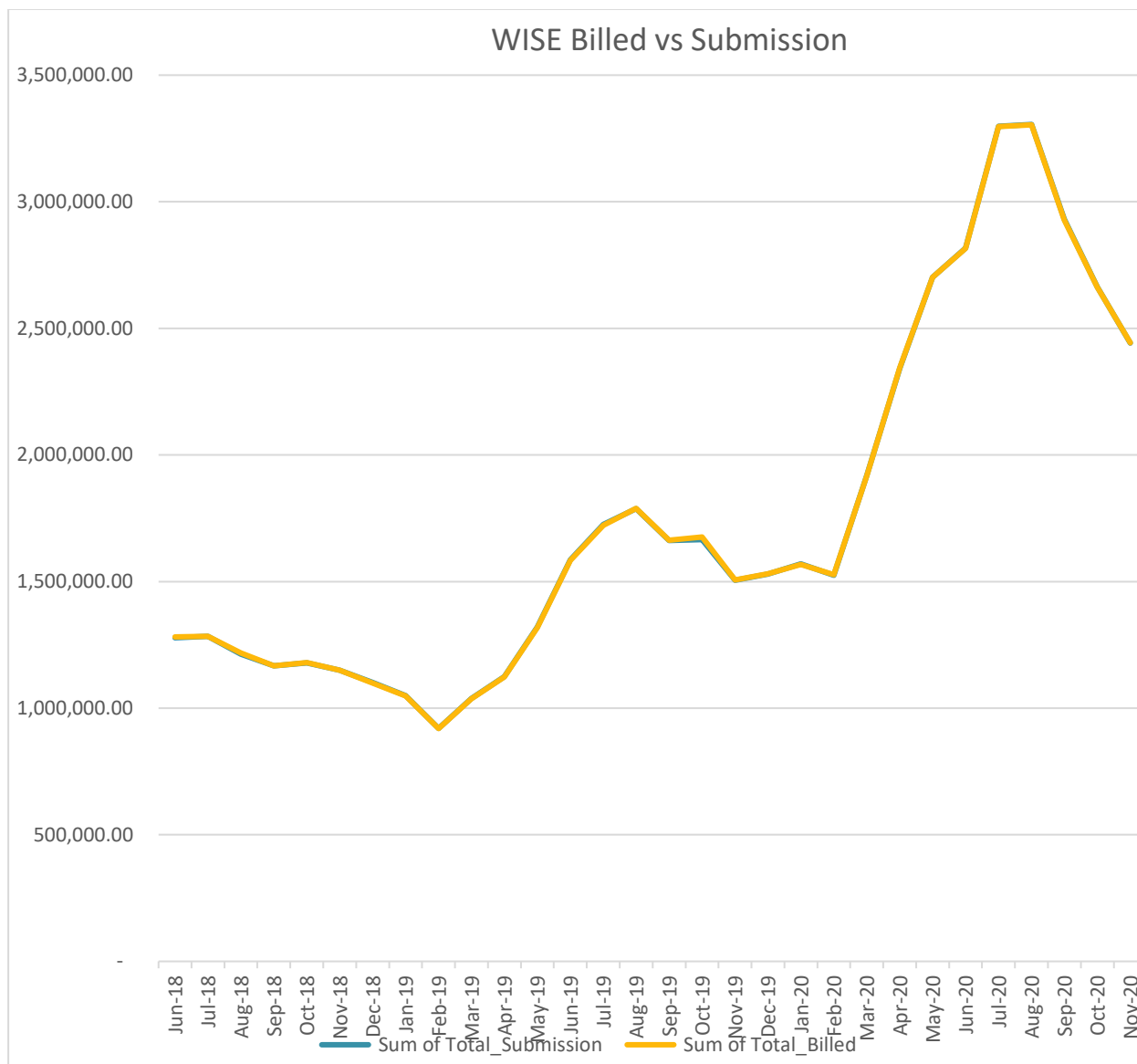
Monthly, TODD compares billed volume, submitted volume, rolling 12-month difference, and percentage difference. The data is checked for reasonableness and identify any anomalies.

No alleged breaches occurred relating to late submission data.

WISE

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

I also checked the difference between submission and electricity supplied information for the period June 2018 to November 2020, and the results are shown chart below. The total difference is 0.001% for the period ending November 2020 (billed higher than submission).



As discussed in **section 2.1**, inactive vacant consumption is being submitted when the ICP switches away.

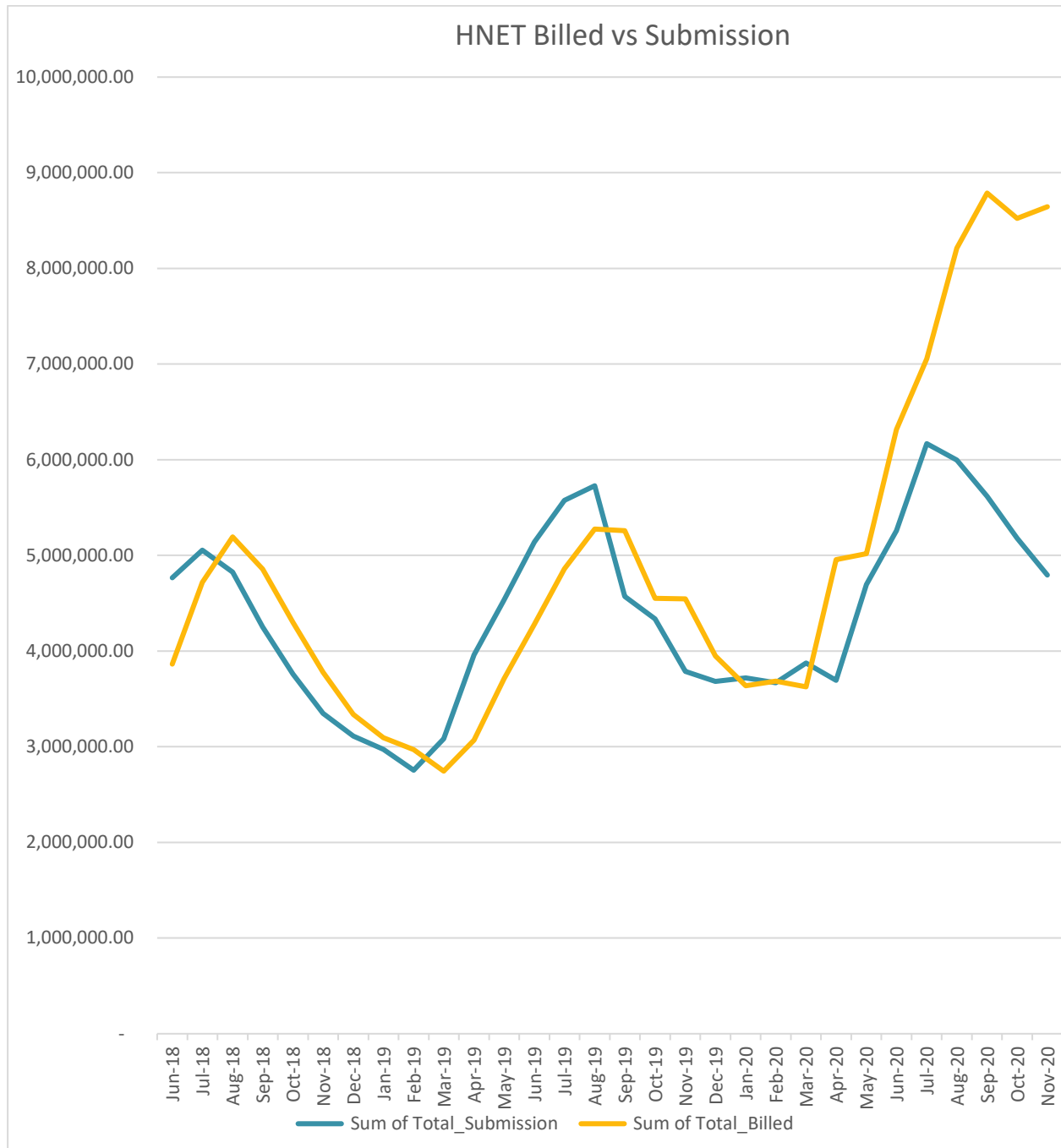
HNET

No breaches were recorded for late provision of 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 June 2018 to November 2020, and the results are shown chart below. As the chart shows, an issue becomes apparent in April 2020. This was checked during the audit and it was identified that one HHR ICP (0003133483AA735) had a compensation factor of 100 applied to the billed total twice. HHR ICPs have an invoice created by TODD, and the invoiced kWh figures are then manually entered into HNET's database, to create an electricity supplied file. HNET's database contained a compensation factor of 100, which had already been applied, so it was applied twice. I considered whether the invoiced kWh were "...sourced directly from the retailer's financial records..." and I concluded they were sourced from financial records and the error occurred as part of preparing the file. I recommend HNET checks the GR130 file each month to ensure errors are detected at the earliest opportunity.

Recommendation	Description	Audited party comment	Remedial action
Regarding clause 15.7	Check the GR130 file each month to ensure billed vs submission totals appear to be reasonable.	HNET has applied the compensation factor to billed report for TOU ICPs. HNET will check the GR 130 files each month to compare billed and submission volumes.	Identified



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

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 11.3 With: Clause 15.7 From: 01-Apr-20 To: 30-Nov-20	HNET Electricity supplied file incorrect for the period April to November 2020. 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, as they are sufficient to mitigate the risk of incorrect as billed data for most ICPs. The impact is rated as low because there is no impact on market submission, and only one ICP was affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
HNET Response: Non-Compliance accepted. <ul style="list-style-type: none"> HNET has applied the compensation factor to billed report for TOU ICPs. HNET will check the GR 130 files each month to compare billed and submission volumes. 		April 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<ul style="list-style-type: none"> As above and recommendation 		On-going	

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

Code reference

Clause 15.8

Code related audit information

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

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

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

Audit observation

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

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

TODD's HHR aggregates report contains submission information, not electricity supplied information as specified under clause 15.8. Although the reports TODD produces are consistent with the Reconciliation Manager Functional Specification, this is recorded as a technical non-compliance below.

I checked the process for aggregation of HHR data is correct, by matching HHR aggregates information to the volumes for nine submissions. One submission was reconciled at NSP and flow direction level and confirmed that the differences related to rounding.

I traced a sample of raw HHR data through to the HHR aggregates submission a diverse sample of five ICPs with different agents and MEPs, and one ICP where TODD retrieved the HHR data using Stark. Compliance is confirmed.

The GR090 ICP Missing files were examined for all revisions for March to November 2020. An extreme case sample of 25 ICPs missing from the largest number of submissions were checked.

- 18 ICPs had inactive status on the registry and were reported with a zero volume in the aggregates submission, resulting in a discrepancy.
- Three ICPs had inactive status on the registry and were reported with a non-zero volume in the aggregates submission. I confirmed that ICPs 0000042252UN4B9, 0000250349EN2FC and 0000004812UN243 had consumption during inactive periods and their status was incorrect on the registry.
- Two ICPs had timing differences relating to backdated switches or status updates.

- Two ICPs had an internal profile group of HHTOD. HHTOD ICPs have HHR AMI metering and are expected to be mapped to NHH submission type and RPS profile. In January 2020, a change to the mapping table was made, which caused the HHTOD ICPs to default to HHR submission type and HHR profile. I confirmed that these ICPs have been corrected to NHH/RPS and revised information is being provided through the wash up process. The registry submission type and profile were consistently NHH/RPS throughout the period. The issue was discovered through TODD's pre submission validations in May 2020. The issue was not immediately apparent because the pre-submission registry validation compares the internal profile (labelled RPS_TODD because it was expected to be mapped to RPS) against the registry list profile (which was RPS).

The GR090 ICP missing report is not reviewed, Nova relies on their other validation checks. I recommend Nova considers reviewing the GR090 report, as it would allow issues like the HHTOD mapping discrepancy to be detected quickly. The affected ICPs would have appeared on the report as missing from the registry.

Description	Recommendation	Audited party comment	Remedial action
Review GR090 (ICP missing) reports	TODD Review GR090 reports to identify discrepancies not identified through the ICP discrepancy reporting.	TODD is investigating adding information from the GR-090 to monthly reporting	Investigating

WISE

WISE does not have any HHR ICPs.

HNET

The GR090 ICP Missing files were examined for all revisions for April 2020 to December 2020. There were no records in any file, indicating that the HHR aggregates files contained the correct ICPs.

HHR aggregates files are prepared and sent by TODD. As mentioned above, the HHR aggregates file contains submission information, not electricity supplied information as specified under clause 15.8. Although the reports TODD produces are consistent with the Reconciliation Manager Functional Specification.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 11.4 With: Clause 15.8 From: 01-Mar-20 To: 11-Mar-21	TODD and HNET HHR aggregates file does not contain electricity supplied information. Potential impact: None Actual impact: None Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The issue relating to content of the aggregates file is an error in the code, submission data is provided as expected.		
Actions taken to resolve the issue		Completion date	Remedial action status
TODD – HNET Response: Non-Compliance accepted. <ul style="list-style-type: none"> HHR aggregates file doesn't contain electricity supplied information Nova will continue to prepare the HHR aggregates file at an ICP level based on submission information as required by the Reconciliation Manager. Nova supports a Code change to allow the aggregate files used in practice within the industry to remain unchanged. 		On-going	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
TODD - HNET <ul style="list-style-type: none"> We continue to support a code change 		On-going	

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

TODD

HHR data is collected by AMS and EDM I as agents, and EMS reports generation data to the reconciliation manager as TODD'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.

WISE

WISE does not have any HHR ICPs.

HNET

HHR data is supplied by AMS as an agent. Daylight savings adjustments were reviewed as part of their agent audit.

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, EDM I, and EMS as part of their agent audits, and AMS' MEP audit.

WISE

WISE does not have any HHR ICPs.

HNET

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

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

No alleged breaches were recorded for late provision of submission information.

Generation

Generation data is reported by EMS as TODD's agent. Compliance with this clause has been demonstrated by EMS as part of their agent audit. TODD validates generation submissions; this process is discussed in **section 12.3**.

HHR

HHR submissions were checked in **section 11.4** and found to be compliant. A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **section 8.2**. HHR volumes are reviewed prior to submission, these checks are discussed in **section 12.3**.

NHH

TODD prepares NHH submissions in EnergyMarket using reconciliation consumption generated in Orion. A sample of NHH ICPs were checked to make sure they are handled correctly, including unmetered load, distributed generation, and vacant ICPs with consumption:

- five ICPs with injection/export registers were checked and found that generation consumption was correctly submitted,
- five ICPs with vacant consumption were checked and found that vacant consumption was correctly submitted,
- any consumption while disconnected will be reported, and this was confirmed by checking the historic estimate scenario in **section 12.11**, and
- ten ICPs with unmetered volumes were reviewed, including five ICPs with standard and five ICPs with shared unmetered and found that the correct consumption was submitted.

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**.

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 2.1** - all ICPs with genuine consumption while disconnected were appropriately corrected,
- no ICPs had generation capacity added by the distributor during the audit period, and
- no ICPs with unmetered load were supplied.

There were no alleged breaches for late provision of information.

HNET

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

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

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

Compliant

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

In preparing and submitting submission information, the reconciliation participant must allocate volume information for each ICP to the NSP indicated by the data held 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

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. I repeated these checks for February 2021 for one generation station and noted that the information reported by EMS was consistent with the information held by TODD.

Generation submissions are validated post submission as part of the Clearing Manager invoice review. TODD compares the invoiced consumption to accruals TODD has calculated based on the generation volumes. I repeated these checks for February 2021 for one generation station and noted that the information reported by EMS was consistent with the information held by TODD.

I recommend that generation submissions are validated against the accruals (if available) prior to submission, to ensure that any errors are identified prior to the submission deadline.

Recommendation	Description	Audited party comment	Remedial action
Generation data validation prior to submission	TODD I recommend that generation data is validated against accrual data prior to submission so that any errors can be detected and corrected before the submission deadline.	TODD will investigate adding a check to validate generation data prior to submissions.	Investigating

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.

Prior to the revision 14 submission, TODD reviews the ICP level submission data and investigates any ICPs with forward estimate remaining. If there are no actual readings a permanent estimate reading is inserted.

Monthly, TODD compares billed volume, submitted volume, and a rolling 12-month total difference and percentage difference after submission. The data is checked for reasonableness and to identify any anomalies.

WISE

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

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

HNET

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

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

Audit outcome

Compliant

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

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

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

Audit observation

Review of the NSP table confirmed that Nova is not a grid owner.

Audit commentary

Nova is not a grid owner.

Audit outcome

Not applicable

12.5. Provision of NSP submission information (Clause 15.10)

Code reference

Clause 15.10

Code related audit information

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

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

Audit observation

The registry list and NSP table were reviewed.

Audit commentary

Nova does not own any local or embedded networks and is not required to provide NSP submission information.

Audit outcome

Not applicable

12.6. Grid connected generation (Clause 15.11)

Code reference

Clause 15.11

Code related audit information

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

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

Audit observation

TODD

Generation data is reported by EMS as TODD's agent. Creation of generation submissions was reviewed as part of their agent audit.

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

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

Audit commentary

TODD

No breaches had been recorded for late provision of submission information. Compliance with this clause has been demonstrated by EMS as part of their agent audit.

HNET and WISE

HNET and WISE are not a grid connected generator; 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

Review of alleged breaches confirmed that no reconciliation submissions were made late. The following submission accuracy issues were identified:

Arc Innovations meters settled as HHR

As noted in the previous audit, there is an issue with ARC Innovations meters when used for HHR settlement. The on-site setup is that a meter pulses into a data storage device, which counts the pulses and “stores” them every 200 pulses which equals 0.1 kWh. There is only one decimal place, so the smallest increment of consumption is 0.1.

TODD currently supplies 417 active ICPs with ARC Innovations metes which are HHR settled. The affected meters do not have multipliers and have a metering category of 1. Because none of the ICPs have multipliers over 1, the impact on submission is expected to be minimal.

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. 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.

Unmetered load

In **section 2.1**, I found one unmetered load correction was not processed accurately. ICP 0000026059WE8F3 had a backdated unmetered load removal which was effective 30 September 2019. The removal was processed in Orion by entering a closing read on 1 May 2020 which matched the read from 30 September 2019, resulting in a total of zero units being consumed after the removal. Because the readings on 21 October 2019 (66), 20 December 2019 (80) and 23 January 2020 (87) were not made misreads, they were used to calculate historic estimate. This resulted in positive volumes being reported from October 2019 to January 2020, and negative volumes being reported from February 2020 to May 2020. Zero unmetered volume should have been reported from October 2020 onwards because the unmetered load was removed. Nova intends to process a correction and provide revised submission data to the reconciliation manager.

I re-checked ICP 0000540556TU6C9 which had some incorrect unmetered load information recorded in Orion, which led to incorrect submission information in the previous audit period and found that corrected data had been provided through the revision process.

Use of customer and photo readings for historic estimate where full validation has not occurred

A meter reading provided by a consumer may be used as a validated meter reading for reconciliation only if they are validated against a set of actual readings for the meter register from another source, such as meter reader or AMI reads.

Photo readings and customer readings are treated as actual validated reads by the historic estimate process, unless they are not validated and the read type is expected to be changed to misread.

In **section 6.6**, I found four customer readings and one photo reading not validated against another set of validated readings were recorded as customer and actual readings respectively. The readings were included in historic estimate calculations, potentially apportioning volumes to an incorrect period, or causing under or over submission.

A recommendation is made in **section 6.6** to consistently follow the process to record customer and photo readings which are not fully validated as misreads.

WISE

No breaches were recorded for late provision of submission information.

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

- consumption for bridged meters is now accurately corrected for the right period,
- readings used to calculate historic estimates are now applied correctly and even if a final invoice has been provided, if there is consumption during the period of supply it is submitted,
- vacant and disconnected consumption is submitted in all cases, and
- historic estimates are now calculated correctly.

HNET

No breaches were recorded for late provision of submission information.

One issue was identified when checking variations between revisions. NSP SYL0113 had a drop in consumption from R7 to R14. Most of this was due to incorrect R14 submission for ICP 0000014236KP043. The R7 consumption was 2,165.13 (all HE), therefore the R14 submission should also have been 2,165.13 but it was 988.40, which was too low by 1,176.73. HNET reported this ICP failed validation at R14, and a manual calculation occurred using incorrect meter readings.

I recommend introducing a peer review step if ever submission information is manually adjusted.

Recommendation	Description	Audited party comment	Remedial action
Regarding clause 15.12	Introduce a peer review step if ever submission information is corrected.	<p>HNET has a peer review step to compare each submission volumes.</p> <p>HNET will review our current process to improve the reviews moving forward.</p>	Identified

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 12.7</p> <p>With: Clause 15.12</p> <p>From: 01-Apr-20</p> <p>To: 31-Mar-21</p>	<p>TODD</p> <p>An unmetered load correction for ICP 0000026059WE8F3 was not processed accurately.</p> <p>Inaccurate submission for ARC Innovations HHR metering.</p> <p>Four customer readings and one photo reading which were not fully validated were recorded as customer or actual readings, and used in the historic estimate process.</p> <p>HNET</p> <p>Incorrect R14 submission for one ICP, which was 1,176.73 kWh too low.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>
Audit risk rating	Rationale for audit risk rating
Low	<p>The controls over accuracy of submission data are strong.</p> <p>The audit risk rating is low:</p> <ul style="list-style-type: none"> total submission for ICP 0000026059WE8F3 was correct, and revised data is expected to be washed up, and all HHR settled ICPs with Arc meters have a metering category of 1 and multiplier of 1 so the impact is expected to be minor. the incorrectly classified readings may result in consumption being apportioned to the incorrect period. Any under or over submission is expected to wash out once actual readings are received. <p>For HNET the controls over accuracy of submission data mostly strong, only one exception was identified.</p> <p>The audit risk rating is low based on the under submission of 1,176.73 kWh.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>An unmetered load correction for ICP 0000026059WE8F3 was not processed accurately.</p> <ul style="list-style-type: none"> ICP: 0000026059WE8F3 refer 2.1 <p>Inaccurate submission for ARC Innovations HHR metering.</p> <ul style="list-style-type: none"> Refer 2.1 – item 18 <p>Four customer readings and one photo reading which were not fully validated were recorded as customer or actual readings and used in the historic estimate process.</p> <ul style="list-style-type: none"> Refer 6.6 & recommendation <p>HNET</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <p>Incorrect R14 submission for one ICP, which was 1,176.73 kWh too low.</p> <ul style="list-style-type: none"> HNET ran the July 2019 R14 report in Sep 20, this ICP was detected in some way in the validation process and HE volume was manually calculated with 2 actual reads. HNET used 2 actual reads but didn't pick up all the actual reads from July 2019(05 July 2019, 19 July 19, 24 July 19) it caused a revision variance for the month. Confirmed that there is no revision variance in Aug and Sep 2019 for the ICP. 	<p>TODD on-going</p> <p>HNET January 2021</p>	<p>Identified</p>
Preventative actions taken to ensure no further issues will occur	Completion date	
<ul style="list-style-type: none"> HNET no longer query and review ICP days in any revision as we have already fixed the ICP days error in Jan 2021. <ul style="list-style-type: none"> As discussed during the audit we had ICP days error when there is a trader event on the date the meter was changed, it was fixed. HNET will continue to eliminate human involved validation process. 	<p>January 2021 & on-going</p>	

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

Review of 14-month revision files for July to September 2020 confirmed that historic estimate was 100% of the total estimate.

Prior to the revision 14 submission, TODD reviews the ICP level submission data and investigates any ICPs with forward estimate remaining. If there are no actual readings a permanent estimate reading is inserted.

WISE

The 14-month revisions for May to September 2019 were all 100% HE.

HNET

The 14-month revisions for May to September 2019 were all 100% HE.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.3

Code related audit information

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

- *half hour volume information for the total metered quantity of electricity for each ICP notified in accordance with clause 11.7(2) for which there is a category 3 or higher metering installation (clause 2(1)(a)) for each ICP about which information is provided under clause 11.7(2) for which there is a category 1 or category 2 metering installation (clause 2(1)(b)):*
 - a) *any half hour volume information for the ICP; or*
 - b) *any non-half hour volumes information calculated under clauses 4 to 6 (as applicable).*
 - c) *unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information. (clause 2(1)(c))*
- *to create non half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):*
 - a) *the certification of the control device is recorded in the registry; or*
 - b) *the metering installation in which the control device is location has interim certification.*
- *to create submission information for a point of connection the reconciliation participant must apply to the raw meter data (clause 2(3)):*
 - a) *for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))*
 - b) *for each NSP the compensation factor that is recorded in the metering installations most recent certification report. (clause 2(3)(b))*

Audit observation

Aggregation and content of reconciliation submissions was reviewed, and the registry list and AC020 reports were reviewed.

Audit commentary

TODD

Compliance with this clause was assessed:

- HHR volume is reported for all ICPs with a meter category 3 or higher,
- unmetered load submissions were checked in **section 12.2**,
- no profiles requiring a certified control device are used,
- no loss or compensation arrangements are required, and
- aggregation of the AV080, AV090 and AV140 reports is compliant.

The registry list and AC020 report were reviewed:

- no ICPs were recorded with meter category 3 or higher and a NHH submission flag,
- 28 ICPs had HHR profile without the HHR submission flag set to yes and were corrected to RPS profile during the audit, the registry was updated incorrectly, but submission information was correct (to prevent recurrence of this issue, only the reconciliation team now update the profiles and submission types on the registry, and the ICP discrepancy reporting has been expanded to identify ICPs with HHR profile, without HHR submission type); the registry discrepancy is recorded as non-compliance in **section 2.1**, and
- two ICPs had profile RPS HHR and submission type NHH and HHR with no unmetered load recorded and were corrected to HHR profile and submission type prior to the audit, while a further 32 ICPs validly had this profile and submission type combination because a HHR metered ICP also had NHH unmetered load connected.

WISE

Compliance with this clause was assessed:

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

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

HNET

I confirmed that the process has not changed since the May 2020 audit. That audit findings are detailed below:

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 vols and HHR aggs 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 following techniques to create historical estimates and forward estimates (clause 3(1)).

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

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

Audit observation

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.

HNET and WISE

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

Audit outcome

Compliant

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

Code reference

Clause 4 and 5 Schedule 15.3

Code related audit information

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

If a seasonal adjustment shape is not available, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities kWhPx 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 SASV was examined. SASV are downloaded from the reconciliation manager portal along with the other reconciliation reports. Following download, they are imported manually into EnergyMarket.

The table below shows that all scenarios are calculating as expected and correct SASV (seasonal adjusted shape values) are applied.

Review of examples with consumption during an inactive period confirmed that all consumption during inactive periods is captured and reported.

Review of unmetered load examples confirmed that an UML register records “readings” for ICPs with unmetered load. The readings are calculated as the previous reading + (daily unmetered kWh x the number of days between readings). These readings are recorded as estimated and treated as permanent estimates by the historic estimate process.

Photo readings and customer readings are treated as actual validated reads by the historic estimate process, unless they are not validated, then the read type is changed to misread.

Test	Scenario	Test expectation	Result
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
c	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant
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 (all switch out examples provided had actual readings, but I confirmed estimated readings are treated as permanent estimates F)
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.	Compliant
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant

Test	Scenario	Test expectation	Result
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 made a misread and ignored by the historic estimate process
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Compliant, the photo read was made a misread and ignored by the historic estimate process
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant

WISE

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

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

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

Test	Scenario	Test expectation	Result
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Not applicable – no unmetered load
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Not applicable – no unmetered load
l	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Not applicable – no customer reads
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Not applicable – no photo reads
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	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 the test results for the historic estimate scenarios.

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

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

Audit outcome

Compliant

12.12. Forward estimate process (Clause 6 Schedule 15.3)

Code reference

Clause 6 Schedule 15.3

Code related audit information

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

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

Audit observation

The process to create forward estimates was reviewed.

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

Audit commentary

TODD

To minimise forward estimates, TODD runs a process to add end of month AMI readings to Orion where they are available. This is completed mid-month to add the previous month's end readings.

Forward estimates are created based the daily average consumption between the previous two actual reads. Initial submissions use a flat line profile to calculate the forward estimate, and revisions are profiled using SASV.

At the time of the last audit, where there were less than two actual readings the forward estimate was based on the daily average consumption for the meter. Where less than two actual reads are available, this average is based on the average daily kWh in the CS file split evenly between the meter registers and rounded to zero decimal places for switch ins and can be manually entered for new connections. Nova found that the daily estimates and split between registers was sometimes inaccurate. Because most NHH settled ICPs (81.95%) had AMI or HHR metering and are likely to frequently receive readings, Nova decided to create a zero forward estimate if there were less than two actual readings on a meter.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh in relation to forward estimations. The table below shows the number of balancing areas where this target was not met.

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

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Jun 2019	0	0	0	2	173
Jul 2019	0	0	0	3	171
Aug 2019	0	0	0	2	173
Sep 2019	0	0	4		175

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Oct 2019	0	0	7		179
Nov 2019	0	0	7		183
Dec 2019	0	0	6		185
Jan 2020	0	4	4		189
Feb 2020	0	4	4		192
Mar 2020	9	16	15		193
Apr 2020	2	1			195
May 2020	0	0			196
Jun 2020	0	0			201
Jul 2020	0	0			200
Aug 2020	0	0			201

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Jun 2019	-4.48%	-4.12%	-4.00%	3.90%
Jul 2019	-0.97%	-0.65%	-0.61%	7.98%
Aug 2019	-1.14%	-1.15%	-2.82%	7.57%
Sep 2019	1.13%	0.85%	10.43%	
Oct 2019	2.29%	1.75%	11.73%	
Nov 2019	1.05%	0.78%	10.99%	
Dec 2019	1.20%	-0.32%	11.99%	
Jan 2020	-1.72%	8.16%	8.02%	

Month	Revision 1	Revision 3	Revision 7	Revision 14
Feb 2020	-1.93%	9.31%	9.91%	
Mar 2020	14.01%	17.21%	17.81%	
Apr 2020	3.32%	6.86%		
May 2020	-2.70%	-2.28%		
Jun 2020	-2.74%	-2.61%		
Jul 2020	-2.04%	-2.43%		
Aug 2020	-2.52%	-2.92%		

I reviewed all the balancing area differences where the variation between revisions was more than $\pm 15\%$ and $\pm 100,000$ kWh for submission periods September 2020 onwards, and found they were all due to backdated profile changes from RPS to HHR, high forward estimates, and SASV fluctuations during the COVID-19 lockdown period. Profiles are usually reviewed annually, and profile changes from NHH to HHR are backdated to revision 14 for eligible ICPs. Compliance is recorded because the differences outside the thresholds were not caused by deficiencies in Nova's forward estimate process.

The late profile updates are recorded as non-compliance in **section 3.3**.

WISE

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

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

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

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Jul 2019	0	0	0	0	7
Aug 2019	0	0	0	0	7
Sept 2019	0	0	0	0	8
Oct 2019	0	0	0	-	8
Nov 2019	0	0	0	-	8

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Dec 2019	0	0	0	-	8
Jan 2020	0	0	0	-	8
Feb 2020	0	0	0	-	8
Mar 2020	0	0	0	-	8
April 2020	0	0	0		8
May 2020	0	0	-	-	8
June 2020	0	0	-	-	8
Jul 2020	0	0	-	-	9
Aug 2020	0	0	-	-	9

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Jul 2019	0.30%	0.35%	0.36%	0.36%
Aug 2019	-0.14%	-0.16%	-0.16%	-0.16%
Sept 2019	0.08%	0.14%	0.12%	-
Oct 2019	0.00%	0.07%	0.05%	-
Nov 2019	-0.17%	-0.06%	-0.06%	-
Dec 2019	-0.22%	-0.06%	-0.06%	-
Jan 2020	-0.27%	-0.08%	-0.11%	-
Feb 2020	-0.23%	-0.04%	-0.04%	-
Mar 2020	-0.24%	-0.11%	-0.17%	-
April 2020	-0.28%	-0.30%	-	-

Month	Revision 1	Revision 3	Revision 7	Revision 14
May 2020	-0.20%	-0.24%	-	-
June 2020	-0.61%	-0.34%	-	-
Jul 2020	-0.17%	-0.07%	-	-
Aug 2020	-0.01%	0.02%	-	-

HNET

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

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. The table below shows the target was met for all months and all revisions except for April 2019, due to a meter reading error which resulted in an additional 465,000 kWh being incorrectly submitted in the day 4 file. The recommendation in **section 9.5**, regarding validation settings, should ensure this issue does not occur again. There was another meter reading error in October 2019, which also did not get identified by validation. The error resulted in an additional 50,000 kWh for R1. This section relates to forward estimates. The errors mentioned above relate to the accuracy of historic estimates, so compliance is recorded in this section for HNET, but non-compliance is recorded in **sections 9.5 and 2.1**.

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

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Jun 2019	0	0	0	0	38
Aug 2019	0	0	0	0	46
Sept 2019	0	0	0	0	47
Oct 2019	0	0	0	-	47
Nov 2019	0	0	0	-	48
Dec 2019	0	0	0	-	51
Jan 2020	0	0	0	-	50
Feb 2020	0	0	0	-	52

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Mar 2020	0	0	0	-	53
April 2020	1	1	1		55
May 2020	0	0	-	-	56
June 2020	0	0	-	-	61
Jul 2020	0	0	-	-	65
Aug 2020	0	0	-	-	68

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Jun 2019	-0.32%	-0.34%	-0.26%	-0.21%
Aug 2019	0.01%	-0.05%	-0.21%	-0.24%
Sept 2019	0.17%	0.12%	0.22%	-
Oct 2019	-1.29%	-0.04%	-0.02%	-
Nov 2019	0.88%	1.15%	1.17%	-
Dec 2019	-0.13%	1.73%	2.23%	-
Jan 2020	0.07%	0.16%	0.73%	-
Feb 2020	-0.02%	0.32%	0.68%	-
Mar 2020	0.06%	0.85%	-	-
April 2020	0.05%	1.45%	-	-
May 2020	0.34%	0.42%	-	-
June 2020	-0.25%	-0.19%	-	-
Jul 2020	-0.25%	-0.36%	-	-

Month	Revision 1	Revision 3	Revision 7	Revision 14
Aug 2020	0.18%	0.21%	-	-

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 15.3

Code related audit information

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

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

Audit observation

The event detail report was examined to identify all ICPs which had a profile change during the report period.

A sample of ICPs with profile changes were reviewed to confirm that there was an actual or permanent estimate reading on the day of the profile change.

Audit commentary

TODD

In the event of a profile change, TODD uses a validated meter reading on the day that the change is effective. All 14 ICPs checked had an actual meter reading 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. I checked five profile changes from RPS to RPS, PV1 and they were all made on meter readings.

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.

HNET and WISE

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level for both HNET and WISE:

- NSP code,
- reconciliation type,
- profile,
- loss category code,
- flow direction,
- dedicated NSP, and
- consumption period.

The submitted data was also compared to billed data for both HNET and WISE in **section 11.3** and appeared reasonable.

There were no records in the ICPMISS file for HNET, indicating correctly aggregated submissions.

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.

HNET and WISE

The review of nine AV080 reports each for HNET and WISE confirmed that submission information is appropriately rounded to two decimal places.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.3

Code related audit information

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

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

- *at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))*
- *at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))*
- *100% for revised data provided at the month 14 revision (clause 10(3)(c)).*

Audit observation

The timeliness of submissions of historic estimate was reviewed in **section 12.2**.

I reviewed a sample of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

TODD

The quantity of historical estimates is contained in the submission file and is not a separate report.

Overall TODD's compliance in this area is high. Prior to the revision 14 submission, TODD reviews the ICP level submission data and investigates any ICPs with forward estimate remaining. If there are no actual readings a permanent estimate reading is inserted.

The table below shows that the HE threshold was not met for a small number of NSPs for the June, July and August 2020 3-month revisions and January, February and March 2020 7-month revisions. I checked all NSPs which had less than 80% historic estimate at revision 3 and 90% historic estimate at revision 7. I found all were NSPs with less than five ICPs, and some were unable to be read within the time frame due to access issues.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jul 19			254	254
Aug 19			259	259
Sep 19			262	262
Jan 20		271		273
Feb 20		274		276
Mar 20		275		277
Jun 20	280			283
Jul 20	280			283
Aug 20	282			284

The table below shows that the percentage HE at a summary level for all NSPs is well above the required targets. A permanent estimate read type is used to deal with any ICPs without an actual reading at 14 months.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jul 19	-	-	100.00%
Aug 19	-	-	100.00%
Sep 19	-	-	100.00%
Jan 20	-	99.72%	-
Feb 20	-	99.71%	-
Mar 20	-	99.74%	-
Jun 20	99.06%	-	-
Jul 20	99.17%	-	-
Aug 20	99.23%	-	-

WISE

The quantity of historical estimates is contained in the submission file and is not a separate report. Historic estimate targets were met for all revisions. Read attainment rates are discussed in **sections 6.9, 6.10 and 6.11**.

Quantity of NSPs where revision targets were met:

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jul 2019	-	-	40	40
Aug 2019	-	-	39	39
Sep 2019	-	41	-	41
Feb 2020	-	42	-	42
Mar 2020	-	42	-	42
Apr 2020	-	42	-	42
Jun 2020	43	-	-	43
Jul 2020	44	-	-	44
Aug 2020	44	-	-	44

The table below shows that the percentage HE at a summary level for all NSPs is at or above the required targets for all revisions.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jul 2019	-	-	100.00%
Aug 2019	-	-	100.00%
Sep 2019	-	100.00%	-
Feb 2020	-	100.00%	-
Mar 2020	-	100.00%	-
Apr 2020	-	100.00%	-

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jun 2020	100.00%	-	-
Jul 2020	100.00%	-	-
Aug 2020	100.00%	-	-

HNET

The quantity of historical estimates is contained in the submission file and is not a separate report. There were nine examples between February 2020 and August 2020 where the R3 or R7 submissions were not 80% HE or 90% HE. These all related to seven ICPs where readings were not obtained.

Read attainment rates are discussed in **sections 6.9, 6.10 and 6.11.**

Quantity of NSPs where revision targets were met.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jul 2019	-	-	73	73
Aug 2019	-	-	74	74
Sep 2019	-	-	77	77
Feb 2020	80	82	-	84
Mar 2020	83	84	-	86
Apr 2020	86	88	-	89
Jun 2020	97	-	-	99
Jul 2020	107	-	-	109
Aug 2020	114	-	-	116

The table below shows that the percentage HE at a summary level for all NSPs is at or above the required targets for all revisions.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jul 2019	-	-	100.00%
Aug 2019	-	-	100.00%
Sep 2019	-	-	100.00%
Feb 2020	97.58%	98.62%	-
Mar 2020	98.14%	98.92%	-
Apr 2020	98.39%	98.87%	-
Jun 2020	98.90%	-	-
Jul 2020	99.19%	-	-
Aug 2020	99.12%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 13.3</p> <p>With: Clause 10 of Schedule 15.3</p> <p>From: June, July and August 2020 r3 and January, February and March 2020 r7</p>	<p>TODD</p> <p>Historic estimate thresholds were not met for R7 for a small number of months and revisions.</p> <p>HNET</p> <p>Historic estimate thresholds were not met for R3 and R7 for a small number of months and revisions.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>

Audit risk rating	Rationale for audit risk rating		
Low	<p>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.</p> <p>The audit risk rating is low because the overall percentage of HE is high.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TODD</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <ul style="list-style-type: none"> As noted by the auditor the NSPs identified that did not meet HE thresholds all contained less than 5 ICPs. NSPs with a small number of ICPs are susceptible to HE thresholds if one ICP can't be read i.e., due to access issues. 100% HE has been achieved for R14 Any Forward Estimates at R14 will continue to be checked. 'Permanent estimate' read types will continue to be applied. <p>HNET</p> <p>Response:</p> <p>Non-Compliance accepted.</p> <ul style="list-style-type: none"> The threshold was not met for some NSPs for revisions 3 and 7 because small number of ICPs are connected at the NSPs. We have been actively working on gaining an actual read at the earliest timeframe as possible. 		On-going	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>TODD & HNET</p> <ul style="list-style-type: none"> Continue focusing on optimising its standard by identifying and monitoring its performance and opportunities for improvement 		On-going	

CONCLUSION

TODD

TODD has continued to make progress in resolving non-compliance issues during the audit period, and there continues to be a strong focus on compliance. The positive highlights from this audit are as follows:

- a high level of compliance for the timeliness and accuracy of registry updates and switching,
- overall data accuracy is high with robust discrepancy reporting in place to identify and correct errors, and all corrections reviewed were processed accurately,
- NHH and HHR volume validation processes continue to be of a high standard, very few reconciliation data accuracy issues were identified, and where issues were identified they had a low impact and additional controls were promptly put in place to prevent recurrence, and
- issues relating to double counting of invoices for customers with ToD (time of day) billing in the AV120 have been resolved.

The key areas requiring improvement are:

- validation of customer and photo readings requires improvement to ensure that only readings which have been validated against a set of validated actual readings not provided by the customer are used in the reconciliation process, and
- the management of events from manual meter readers, as there were a number of the sample checked that hadn't been identified; Nova are reviewing the reporting to address this.

As found in previous audits, inactive ICP days are included in the ICP days submissions, but this process ensures that any consumption that occurs during the inactive period will be reported.

WISE

Registry updates were mostly found to be timely and accurate, and corrections were processed promptly and as required. Disconnected ICPs are not changed to inactive status unless they are disconnected for more than three days, which has a minor impact on the correct use of the inactive status.

Early in the audit period, WISE was contacting customers to ask the reason they were switching away. Three examples were found where the conversation ended up being about pricing, where WISE clarified existing pricing and the customer decided to remain with WISE. The reason for the initial contact with the customer did not meet the requirements of the Code. Wise advised this practice stopped in mid-2020.

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

HNET

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

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

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

An incorrect R14 submission occurred for one ICP, which was 1,176.73 kWh too low.

Conclusion

The audit found 31 non-compliances, six recommendations and one issue were raised. The audit risk rating is 46, which results in an indicative audit frequency of six months. Controls were strong for 19 non-compliances and moderate for ten non-compliances. Two non-compliances have weak controls.

My recommendation for the next audit date is in at least 18 months.

PARTICIPANT RESPONSE

TODD, HNET & WISE have reviewed this audit and our detailed comments are recorded in the report where appropriate.

The indicative audit frequency rating of 6months does not reflect on the consistently maintained and/or our improved position across our compliance obligations.

Work will continue to address areas of opportunity as such, Nova believes that the Authority can have confidence that an audit cycle of 24 months is both adequate, and appropriate.

31 non-compliances identified, of which 97% (or 30) are LOW risk and would have a minor impact if not addressed within 24months