ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

MANAWA ENERGY

TRUSTPOWER LIMITED
(MANAWA CNIR &
TRUSTPOWER TRUS PARTICIPANT CODES)
NZBN: 9429038917912

Prepared by: Steve Woods and Rebecca Elliot

Date audit commenced: 19 January 2022

Date audit report completed: 12 April 2022

Audit report due date: 30 April 2022

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EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Trustpower Limited.** Trustpower Limited currently has two participant codes, CNIR and TRUS. The TRUS code ICPs will become the responsibility of Mercury NZ Limited (**Mercury**) from May 1st, 2022. Trustpower Limited will continue to trade using their CNIR participant code **(Manawa).** Therefore, at the time this audit is due to be submitted to the Electricity authority both codes are included. For clarity, I have provided two non-compliance and recommendation tables. The first is for both codes, the second is for the Manawa (CNIR) participant code only.

This audit report is submitted to support Trustpower Limited's application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2.

Manawa (CNIR)

From 1 October 2021 Trustpower's commercial and industrial customer base began to switch from the TRUS participant code to the new CNIR (Manawa) participant code.

Registry and Switching

Minor issues were identified with processes and data quality during the transition period. Controls were strengthened and additional training was provided shortly after the transition period was over. Additional reporting is still being developed as part of Manawa's continuous improvement.

Reading and Reconciliation

Meter reading and billing validations processes are generally robust. I make one recommendation to review the Account Managers tracking of attempts to get reads to meet the "best endeavours" requirement.

AMI events are not currently being reviewed. Manawa are working to put reporting in place to identify any meter events that require action.

The reconciliation processes in place are robust. Some reporting in this area is still to be deployed but overall compliance is high.

Trustpower (TRUS)

The controls are generally strong, and compliance is well controlled. Registry update timeliness continues to have a high level of compliance. Switching file content and timeliness also has a high level of compliance.

As mentioned in the last audit, improvements are required to the AMI event monitoring area, and these are already in progress.

The next audit frequency indicator for the combined CNIR and TRUS participant code recommends that the next audit be conducted in three months. The TRUS code will move to Mercury NZ Limited from May 1st, 2022, therefore I have only considered the non-compliances that are directly attributed to the CNIR code. The audit frequency indicator for this recommends that the next audit be conducted in 12 months. I have considered this in conjunction with Trustpower's responses, that ten of the 18 non-compliances recorded have a control rating of strong and recommend that the next audit be conducted in 18 months.

The matters raised are shown in the tables below:

AUDIT SUMMARY

NON-COMPLIANCES

CNIR and TRUS

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	15.2	**TRUS** Some inaccurate information is recorded on the registry and/or in GTV. Some submission inaccuracies. Corrections not conducted for two ICPs where meters were bridged. Investigation and correction not conducted for three ICPs with potentially inaccurate metering installations.	Moderate	Low	2	Investigating
Temporary Electrical Connection of an ICP	2.10	10.33	**TRUS** 11 ICPs were temporarily electrically connected without written permission from the network.	Moderate	Low	2	Identified
Electrical Connection of Point of Connection	2.11	10.33A	**TRUS** 73 metered reconnected ICPs were not certified within five business days of becoming active. Three metered newly connected ICPs were not certified within five business days of becoming active.	Moderate	Low	2	Identified
Meter bridging	2.17	10.33C and 2A of Schedule 15.2	**TRUS** Corrections not conducted for two ICPs where meters were bridged.	Moderate	Low	2	Identified
Changes to registry information	3.3	10 Schedule 11.1	**CNIR** Two ICPs were not updated to inactive status on the registry within five business days of the event date. One ICP was not updated to active status on the registry within five business days of the event date. 127 ICPs did not have trader information updated on the registry within five business days of the event date.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Ten ICPs did not have ANZSIC codes populated within 20 business days of switch in or initial electrical connection. **TRUS** 205 ICPs were not updated to inactive status on the registry within five business days of the event date. 377 ICPs were not updated to active status on the registry within five business days of the event date. 2,149 ICPs did not have trader information updated on the registry within five business days of the event date. 59 ICPs did not have ANZSIC codes populated within 20 business days of switch in or initial electrical connection.				
Trader responsibility for an ICP	3.4	11.18	**TRUS** 11 ICPs with the incorrect MEP nominated in the first instance. MEP not notified for one of the ten decommissioned ICPs checked.	Strong	Low	1	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	**CNIR** 22 late updates to active status for new connections. Ten late ANZSIC codes not updated within 20 days of commencing trading. **TRUS** 13 new ICPs (11 temporarily connected and ICPs 1000599753PCDB2 and 1002108871LC5B6) had the incorrect active status dates of the samples checked. 417 late updates to active status for new connections. 59 late ANZSIC codes not updated within 20 days of commencing trading.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			40 late updates to 1,12 (inactive new connection in progress) status for new connections, which also resulted in late MEP nominations. ICP 0000702000MP807 unmetered load details not populated when electrically connected.				
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	**CNIR** Five incorrect ANZSIC codes of a sample of 60 ICPs sample (error rate 8.3%). **TRUS** Seven category 2 ICPs with a residential ANZSIC code applied. Nine ICPs of the 120 ICPs sampled with an incorrect ANZSIC code applied.	Strong	Low	1	Identified
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	**TRUS** Two ICPs had incorrect daily unmetered kWh recorded on the registry. ICP 0000702000MP807 unmetered load details not populated when electrically connected.	Moderate	Low	2	Identified
Management of "active" status	3.8	17 Schedule 11.1	**TRUS** 13 new ICPs (11 temporarily connected and ICPs 1000599753PCDB2 and 1002108871LC5B6) had the incorrect active status dates of the samples checked. ICPs 0000931333NVFD5 and 0119010321LC5F4 incorrectly left active.	Strong	Low	1	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	**TRUS** ICP 0151745161LC3F3 was incorrectly backdated to inactive on 15/04/21 for 25/06/20 due to human error resulting in the volumes for the R14 revisions for the months of July to November 2020 not being submitted.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Three ICPs recorded as ready for decommissioning in error. ICP 1000020907BP931 was recorded as disconnected meter removed in error.				
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**TRUS** Five ICPs with proposed event dates greater than ten business days of the NT receipt date.	Strong	Low	1	Identified
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	**TRUS** One TR breach. CS average daily consumption of zero was invalidly recorded for 0001061745AL30B (15/07/21).	Strong	Low	1	Identified
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	**CNIR** One late NT file.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**CNIR** Six AN files had the incorrect response code applied. **TRUS** Two AN files had the incorrect response code applied. Three ET breaches. Four E2 breaches.	Strong	Low	1	Identified
Losing trader determines a different date - switch move	4.9	10(2) Schedule 11.3	**TRUS** Two incorrect AN codes sent. One CS file breach. Seven T2 breaches.	Strong	Low	1	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	**CNIR** Incorrect average daily consumption for one ICP. **TRUS** One incorrect negative daily consumption value sent.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Five ICPs with the incorrect last read type of "E". Two CS file sent with a read for the date of the switch event.				
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	**TRUS** Six RR breaches.	Strong	Low	1	Identified
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 of Schedule 11.3	**CNIR** 25 HH switch requests sent with the incorrect profile of GXP. 13 Category 2 AMI sites requested as a HH switch. **TRUS** All HH switch requests sent with the incorrect profile of GXP.	Moderate	Low	2	Identified
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	**CNIR** Three incorrect AN codes for HH switches. **TRUS** ICP0002272113ML5AB was issued incorrectly with the MU (unmetered load) due to human error.	Strong	Low	1	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**TRUS** Three incorrect NW codes found of the sample checked. One NW request sent in error. One WR breach. 13 SR breaches. 35 NA breaches.	Strong	Low	1	Identified
Metering information	4.16	21 Schedule 11.3	**TRUS** Five ICPs with the incorrect last read type of "E".	Strong	Low	1	Identified
Maintaining shared unmetered load	5.1	11.14	**TRUS** Two ICPs with the incorrect shared unmetered load recorded.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Unmetered threshold	5.2	10.14 (2)(b)	**CNIR** Unmetered load threshold exceeded for nine ICPs.	Strong	Low	1	Identified
Unmetered threshold exceeded	5.3	10.14 (5)	**CNIR** Nine ICPs with an unmetered load greater than 6,000kWh per annum not resolved within 20 business days of the exemption expiring.	Strong	Low	1	Identified
Distributed unmetered load	5.4	11 Schedule 15.3, Clause 15.37B	**CNIR** Errors found in 14 databases, one database still to be audited and three audits are overdue. For those completed the specific findings are detailed in the DUML database audit reports.	Moderate	High	6	Investigating
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**TRUS** Some ICPs with distributed generation not quantified. While meters were bridged, energy was not metered and quantified according to the code for 40 ICPs.	Moderate	Low	2	Identified
Reporting of defective metering installations	6.4	10.43(2) and (3)	**TRUS** MEP not notified for three ICPs where metering installations could be inaccurate, defective, or not fit for purpose	Moderate	Low	2	Investigating
NHH meter reading application	6.7	6 Schedule 15.2	**TRUS** Five ICPs with the incorrect last read type of "E". Disconnection reads applied to the day before the disconnection.	Strong	Low	1	Cleared
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**CNIR** Exceptional circumstances not proven for nine ICPs not read during the period of supply due to the short period of supply. **TRUS**	Weak	Low	3	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Exceptional circumstances not proven for two of a sample of five ICPs not read during the period of supply.				
NHH meters 90% read rate	6.10		**CNIR** Exceptional circumstances not met for six of the potential 685 ICPs on NSPs with a less than 90% read rate.	Weak	Low	3	Investigating
Identification of readings	9.1	3(3) Schedule 15.2	**TRUS** Five ICPs with the incorrect last read type of "E".	Strong	Low	1	Identified
Meter data used to derive volume information	9.3	3(5) of schedule 15.2	**CNIR** Raw meter data is rounded upon receipt and not when volume information is created. **TRUS** Raw meter data is rounded upon receipt and not when volume information is created.	Moderate	Low	2	Investigating
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	**CNIR** Event information is not analysed and acted upon. **TRUS** Event information is not analysed and acted upon for all MEPs. Voltage on the load side of the meter should be obtained and evaluated.	Weak	Low	3	Investigating
ICP days	11.2	15.6	**CNIR** Incorrect ICP days for seven ICPs. **TRUS** ICP days submitted for generation only ICPs.	Strong	Low	1	Identified
Grid connected generation	12.6	15.11	Both TRUS and CNIR codes in the NSP vols file for the period October 1st to 7th.	Strong	Low	1	Identified
Accuracy of submission information	12.7	15.12	**TRUS**	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Corrections not conducted for two ICPs where meters were bridged. 13 new ICPs had the incorrect active status dates of the samples checked: - 11 ICPs temporarily electrically connected but not made active resulting in the volumes being reconciled for the incorrect period. - ICP 1002108871LC5B6 made active to replace an incorrectly decommissioned ICP for 25/5/19 on 4/05/21 resulting in an estimated 1,310 kWh under submission as the volumes from May 19-February 2020 not being recoiled as they are beyond the 14-month revision cycle. - ICP 1000599753PCDB2 made active to on 16/04/21 was found to have an existing electrically connected meter on site and is likely to have been consuming since mid-2018 resulting in under submission. ICP 0151745161LC3F3 was incorrectly backdated to "inactive" on 15 April 2021 for 25 June 2020 due to human error and reversed to "active" during the audit resulting in the volumes for the R14 revisions for the months of July to November 2020 not being submitted. Two ICPs not active for the correct date as the NT request date was after the reconnection date resulting in consumption being				

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			reconciled to the incorrect period. One example of a disconnection read not being entered resulting 10kWh of under submission.				
Forward estimate process	12.12	6 Schedule 15.3	**TRUS** Some FE thresholds not met in some instances.	Strong	Low	1	Identified
Historical estimate reporting to RM	13.3	10 Schedule 15.3	**CNIR** Historic estimate thresholds were not met for the two R3 revisions submitted. **TRUS** Historic estimate thresholds were not met for some revisions.	Moderate	Low	2	Identified
Future Risk Rating						63	

Future risk rating	0	1-3	4-14	16-40	41-55	55+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

CNIR ONLY

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Changes to registry information	3.3	10 Schedule 11.1	Two ICPs were not updated to inactive status on the registry within five business days of the event date. One ICP was not updated to active status on the registry within five business days of the event date. 127 ICPs did not have trader information updated on the registry within five business days of the event date. Ten ICPs did not have ANZSIC codes populated within 20 business days of switch in or initial electrical connection.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Provision of information to the registry manager	3.5	9 Schedule 11.1	22 late updates to active status for new connections. Ten late ANZSIC codes not updated within 20 days of commencing trading.	Strong	Low	1	Identified
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	Five incorrect ANZSIC codes of a sample of 60 ICPs sample (error rate 8.3%).	Strong	Low	1	Identified
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	One late NT file.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	Six AN files had the incorrect response code applied.	Strong	Low	1	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	Incorrect average daily consumption for one ICP.	Strong	Low	1	Identified
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 of Schedule 11.3	25 HH switch requests sent with the incorrect profile of GXP. 13 Category 2 AMI sites requested as a HH switch.	Moderate	Low	2	Identified
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	Three incorrect AN codes for HH switches.	Strong	Low	1	Identified
Unmetered threshold	5.2	10.14 (2)(b)	Unmetered load threshold exceeded for nine ICPs.	Strong	Low	1	Identified
Unmetered threshold exceeded	5.3	10.14 (5)	Nine ICPs with an unmetered load greater than 6,000kWh per annum not resolved within 20 business days of the exemption expiring.	Strong	Low	1	Identified
Distributed unmetered load	5.4	11 Schedule 15.3,	Errors found in 14 databases, one database	Moderate	High	6	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
		Clause 15.37B	still to be audited and three audits are overdue. For those completed the specific findings are detailed in the DUML database audit reports.				
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Exceptional circumstances not proven for nine ICPs not read during the period of supply due to the short period of supply.	Weak	Low	3	Identified
NHH meters 90% read rate	6.10		**CNIR** Exceptional circumstances not met for six of the potential 685 ICPs on NSPs with a less than 90% read rate.	Weak	Low	3	Investigating
Meter data used to derive volume information	9.3	3(5) of schedule 15.2	Raw meter data is rounded upon receipt and not when volume information is created.	Moderate	Low	2	Investigating
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	Event information is not analysed and acted upon.	Weak	Low	3	Investigating
ICP days	11.2	15.6	Incorrect ICP days for seven ICPs.	Strong	Low	1	Identified
Grid connected generation	12.6	15.11	Both TRUS and CNIR codes in the NSP vols file for the period October 1st to 7th.	Strong	Low	1	Identified
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for the two R3 revisions submitted.	Moderate	Low	2	Identified
Future Risk Rating						33	

Future risk rating	0	1-3	4-14	16-40	41-55	55+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

RECOMMENDATIONS

CNIR and TRUS

Subject	Section	Description	Recommendation
Management of "active" status	3.8	Enter reconnection reads into GTV	**TRUS** Reconnection readings should be entered wherever possible to ensure that consumption is apportioned to the correct period by the historic estimate process. Because GTV's historic estimate process allocates all consumption in each read-to-read period against the active days within the read period, it will be important to ensure that no consumption is present during read-to-read periods which are entirely inactive. If consumption does occur during an inactive period, it is likely that the status is incorrect.
Management of "inactive" status	3.9	Enter disconnection reads into GTV	**TRUS** Disconnection readings should be entered wherever possible to ensure that consumption is apportioned to the correct period by the historic estimate process. Because GTV's historic estimate process allocates all consumption in each read-to-read period against the active days within the read period, it will be important to ensure that no consumption is present during read-to-read periods which are entirely inactive. If consumption does occur during an inactive period, it is likely that the status is incorrect.
Interrogate meters once (Clause 7(1) and (2) Schedule 15.2)	6.8	No read process	**CNIR** Review no read process to ensure that the best endeavours process has an audit trail. **TRUS** Change the period of supply report to exclude HHR ICPs, ICPs where an actual read was obtained at the time of switch in or switch out and ICPs where the first reading was a "new connection" actual reading.
NHH metering information data validation	9.5	Processing discrepancies and corrections.	**TRUS** Ensure appropriate resourcing is in place to process discrepancies and corrections.
Electronic meter readings and estimated readings	9.6	Event management	**CNIR and TRUS** Obtain event information description information from MEPs. Ensure all events, including tamper, are appropriately evaluated.

CNIR only

Subject	Section	Description	Recommendation
Interrogate meters once (Clause 7(1) and (2) Schedule 15.2)	6.8	No read process	Review no read process to ensure that the best endeavours process has an audit trail.
Electronic meter readings and estimated readings	9.6	Event management	Obtain event information description information from MEPs. Ensure all events, including tamper, are appropriately evaluated.

ISSUES

Subject	Section	Description	Issue

Nil		Nil	

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

I checked exemptions on the Electricity Authority website.

Audit commentary

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. There is one current exemption relevant to the scope of this audit.

Exemption 250 – clause 10.14(2)(b)

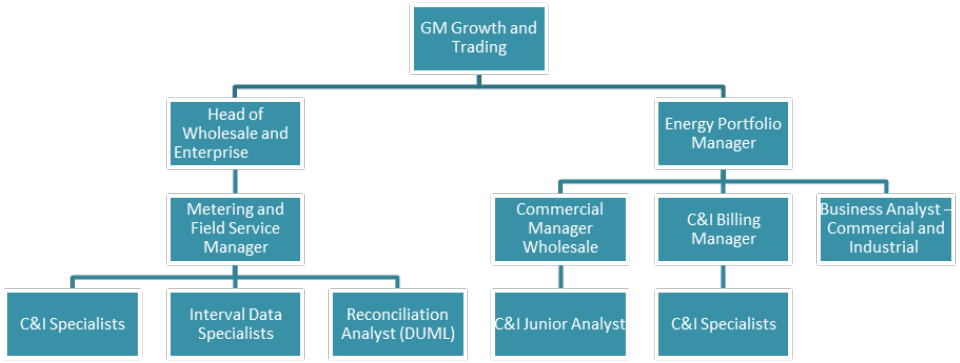
Exemption 250 allows five unmetered ICPs to consume more than 6,000 kWh per annum. This exemption expires on 31 December 2026, when all the ICPs are all metered, or when Manawa is no longer responsible for the ICPs. None of these ICPs are metered and Manawa is still responsible for all except ICP 0007146036RN593, which is now decommissioned.

ICP	Comments
0007146031RN859	Exemption still valid, ICP supplied by Manawa
0007146032RN499	Exemption still valid, ICP supplied by Manawa
0007146034RN516	Exemption still valid, ICP supplied by Manawa
0007146035RN953	Exemption still valid, ICP supplied by Manawa
0007146036RN593	Decommissioned

1.2. Structure of Organisation

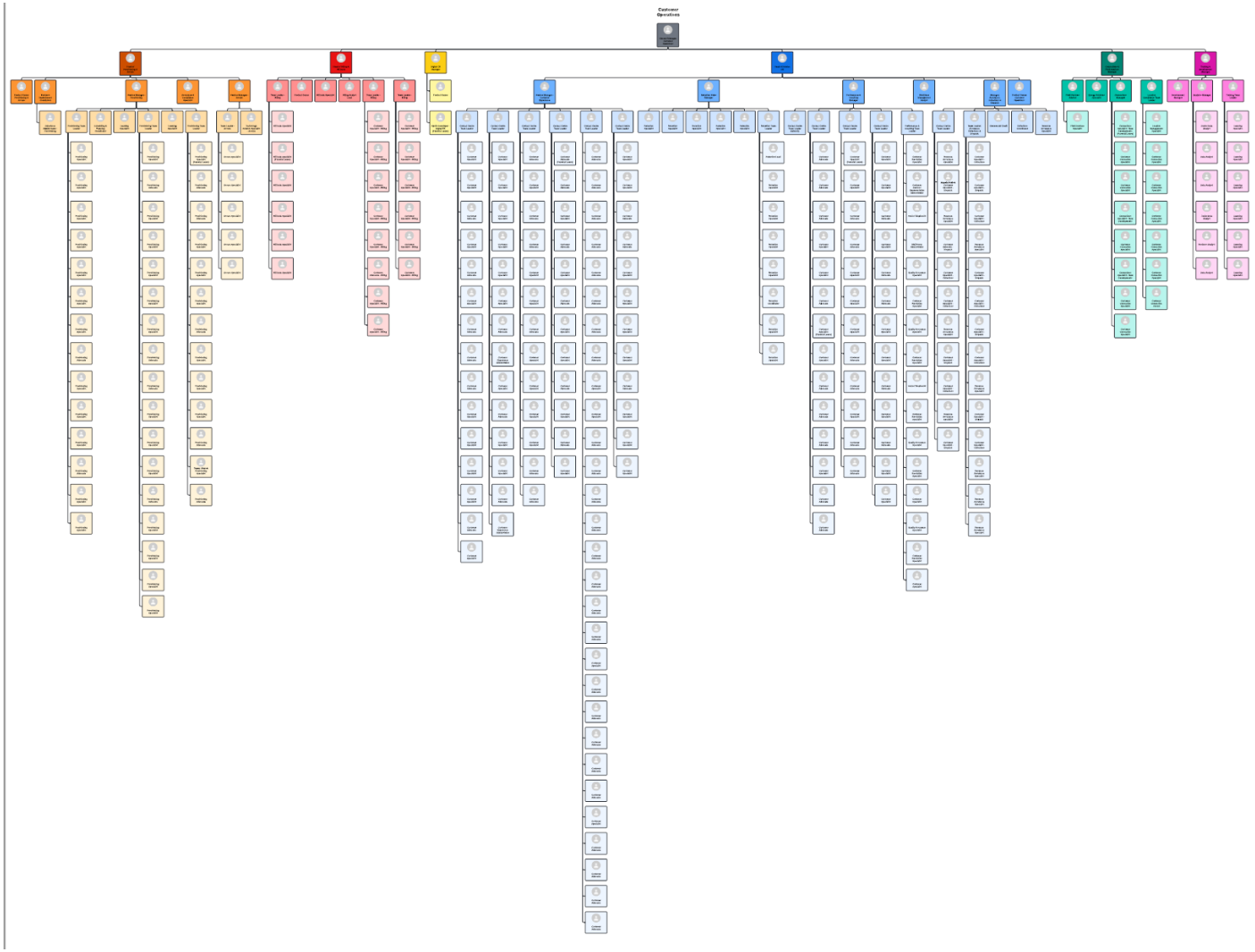
CNIR

Manawa provided a copy of their organisation structure.



TRUS

Trustpower provided a copy of their organisation structure.



1.3. Persons involved in this audit

Auditors:

Name	Company	Role
Steve Woods	Veritek Limited	Lead auditor
Rebecca Elliot	Veritek Limited	Supporting auditor

CNIR personnel assisting in this audit were:

Name	Title
Ben Rice	Commercial Manager Wholesale
Jamie Watts	C&I Specialist
Jane Burtenshaw	C&I Specialist
Lisa Edge	Business Analyst – Commercial and Industrial
Paula Sibbald	Junior Analyst – Commercial and Industrial
Robbie Diederen	Reconciliation Analyst (DUML)
Simon Darmody	Energy Portfolio Manager
Sinead Mulholland	C&I Specialist
Taniya Coxhead	Interval Data Specialist
Tony McGeady	Metering and Field Service Manager
Delwyn Jeffrey	Commercial and Industrial Billing Manager

TRUS personnel assisting in this audit were:

Name	Title
Ben Rice	Manawa Commercial Manager - Wholesale
Christine Maxwell	New Connections Specialist
Elena Smirnova	Manager Wholesale & Commercial

Name	Title
Emma Brownless	Energy Provisioning Team Leader
Evan Dodds	Energy Provisioning Specialist
Helen Taylor	Retention Sales Manager
Jo Andrews	Assurance & Compliance Specialist
Jungeun Lee	Reconciliation Analyst
Kieran Armstrong	Billing and data team leader
Lana Baard	Lead Bill Data Specialist
Marcia Cooley	Energy Solution Specialist
Michaels Hayles	COBU Analytics BA
Michelle Turner	New Connections Manager
Paul Collins	Assurance / Collections and Dispatch Manager
Rachel Honora	Team Leader Dispatch
Sammy Dunham	Billing & Payments Team Leader
Scott Smith	Energy Provisioning Specialist
Shay McNae	Location Management Team Leader
Steph Roberts	COBU Analytics BA
Taniya Coxhead	HHR data
Tanya Jones	Revenue Assurance Specialist
Vikki Kingham	Connection Specialist

Agent personnel assisting with this audit:

Name	Role	Company
Julie Feasey	Senior C and I Data Services Specialist	Vector Metering
Nick Appleby	Solution Support Specialist	EDMI NZ Limited
Peter MacKenzie	General Manager Operations	Arthur D Riley & Co Ltd
Sunny Feng	Data Analyst	EMS

1.4. Use of Agents (Clause 15.34)

Code reference

Clause 15.34

Code related audit information

A reconciliation participant who uses an agent

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

Audit observation

Use of agents was discussed with CNIR and TRUS.

Audit commentary

CNIR

Manawa uses a number of agents in relation to the functions covered by the scope of this audit. They are identified in **section 1.9.**

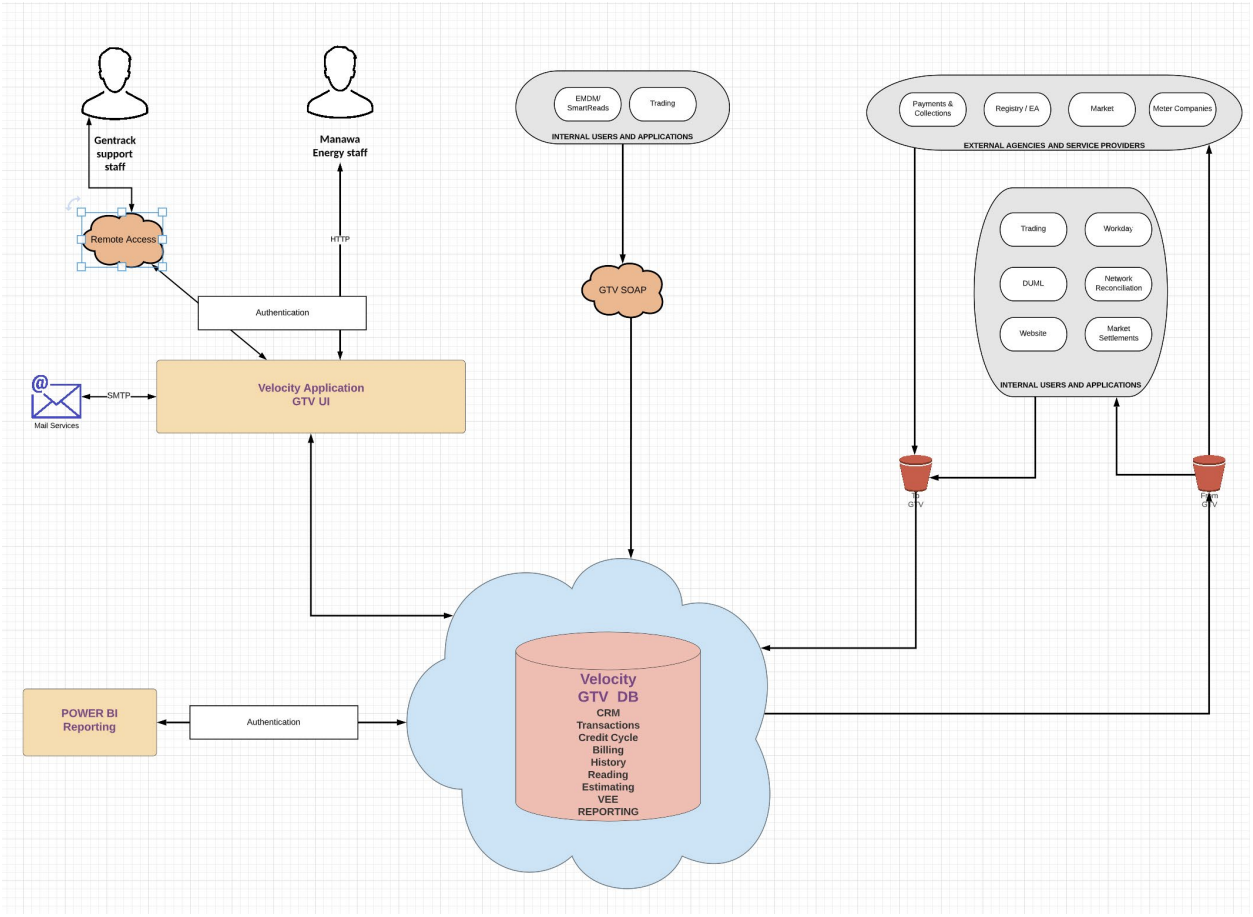
TRUS

Trustpower uses a number of agents in relation to the functions covered by the scope of this audit. They are identified in **section 1.9.**

1.5. Hardware and Software

CNIR

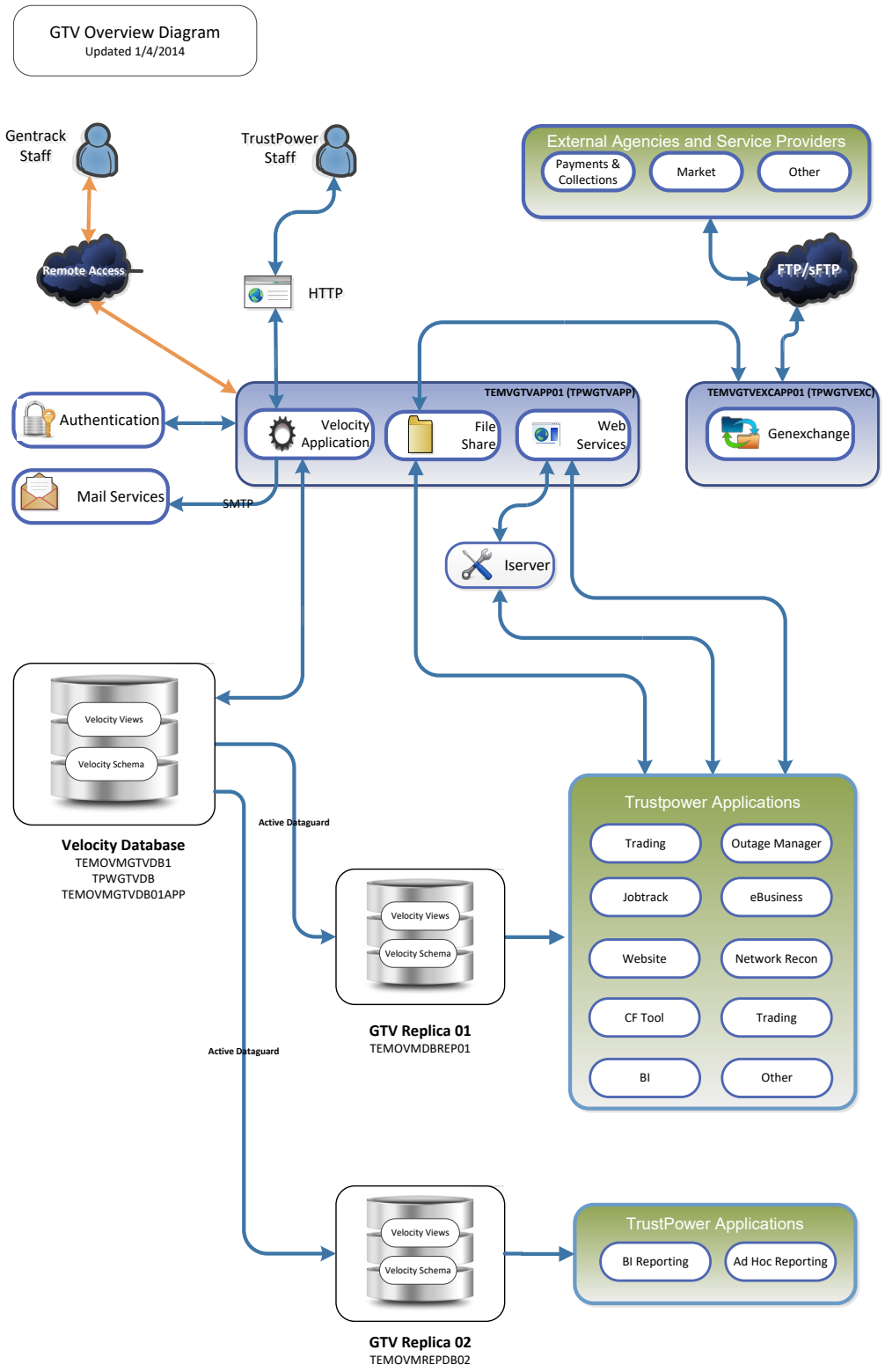
A diagram of Manawa's system configuration is shown below.



Access to systems is restricted using logins and passwords. There are many comprehensive back up processes in place. Manawa provided a detailed breakdown of these.

TRUS

A diagram of Trustpower's system configuration is shown below.



1.6. Breaches or Breach Allegations

CNIR

No breaches relevant to the scope of this audit were recorded by the Electricity Authority.

TRUS

There are two breach allegations recorded by the Authority. The first allegation is regarding clause 11.32A which relates to the provision of information to consumers and is outside the scope of this audit.

The second breach allegation is regarding clause 15.2(1)(a) which is the requirement to provide complete and accurate information. The NSP Volumes file for October 2021 contained volumes under participant identifiers TRUS and CNIR for the NSPs COL0661-TRUS and MAT1101-TRUS for the period 1 October 2021 to 7 October 2021. This case is currently at the fact-finding stage and is discussed further in **section 12.6**.

1.7. ICP Data

CNIR

The active ICPs from the list file are summarised by meter category in the table below. 2,365 of the 2,369 active ICPs with meter category 9 or blank are unmetered. The ICPs which did not have unmetered load indicated were checked and confirmed to be timing differences, and MEP nominations were made and accepted, the status changed to inactive or decommissioned, or the switch had been withdrawn prior to the audit.

Metering Category	(Jan 2022)
1	10,639
2	1,127
3	354
4	153
5	32
9	835
Blank	1,534

Status	Number of ICPs (Jan 2022)
Active (2,0)	14,674
Inactive – new connection in progress (1,12)	41
Inactive – electrically disconnected vacant property (1,4)	-
Inactive – electrically disconnected remotely by AMI meter (1,7)	-
Inactive – electrically disconnected at pole fuse (1,8)	-
Inactive – electrically disconnected due to meter disconnected (1,9)	-
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)	3
Inactive – reconciled elsewhere (1,5)	-
Decommissioned (3)	11

TRUS

The active ICPs from the list file are summarised by meter category in the table below. Most of the active ICPs with meter category 9 or blank are unmetered. The ICPs which did not have unmetered load indicated were checked and confirmed to be timing differences, and had metering details added, MEP nominations made and accepted, or the status changed to inactive prior to the audit. This is discussed further in **section 3.4**.

Metering Category	(Dec 2021)	(Jan 2021)	(2020)	(2018)	(2017)	(2016)
1	250,054	260,226	262,066	260,624	256,587	238,159
2	732	2,041	2273	2,281	2,305	2,362
3	-	389	462	430	450	457
4	-	147	163	163	170	164
5	-	33	37	36	34	36
9	41	884	921	990	1,056	1,441
Blank	122	1,557	1,413	1,432	1,445	2,915

Status	Number of ICPs (Dec 2021)	Number of ICPs (Jan 2021)	Number of ICPs (2020)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	250,949	265,277	267,335	265,956	262,047	245,534
Inactive – new connection in progress (1,12)	1,138	899	1,029	665	654	770
Inactive – electrically disconnected vacant property (1,4)	4,812	4,680	4,876	4,481	4,388	4,350
Inactive – electrically disconnected remotely by AMI meter (1,7)	474	281	59	212	7	7
Inactive – electrically disconnected at pole fuse (1,8)	71	69	77	31	20	2
Inactive – electrically disconnected due to meter disconnected (1,9)	62	57	50	30	7	0
Inactive – electrically disconnected at meter box fuse (1,10)	1	2	0	0	0	0
Inactive – electrically disconnected at meter box switch (1,11)	1	1	2	0	0	0
Inactive – electrically disconnected ready for decommissioning (1,6)	140	230	254	409	802	976
Inactive – reconciled elsewhere (1,5)	0	3	3	0	0	0
Decommissioned (3)	28,805	27,906	26,961	25,094	23,734	22,624

1.8. Authorisation Received

CNIR

Manawa provided an email authorisation to Veritek permitting the collection of data from other parties for matters directly related to the audit.

TRUS

Trustpower provided an email authorisation to Veritek permitting the collection of data from other parties for matters directly related to the audit.

1.9. Scope of Audit

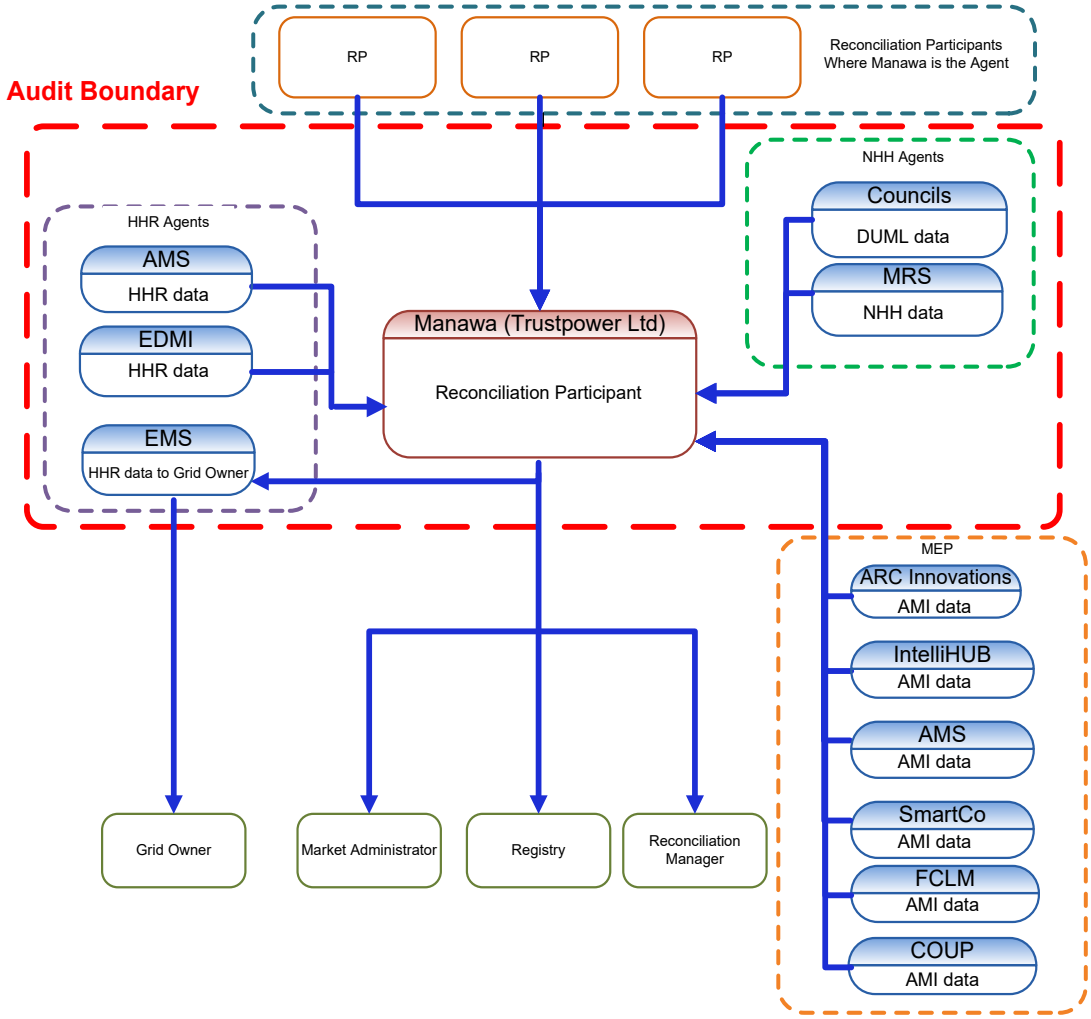
This audit report is submitted to support Trustpower Limited's application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2.

CNIR

The audit was carried out at Manawa's offices in Tauranga on 21 to 22 March 2022.

Registry list, event detail, and audit compliance reports for 1 October 2021 to 13 January 2022, and a registry list snapshot for 1 October 2021 to 13 January 2022 were reviewed.

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



The table below shows the tasks under clause 15.38 of part 15 for which Manawa requires certification. This table also lists those 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
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data	MRS - NHH FCLM - NHH AMS - HHR EMS - HHR EDMI - HHR	IntelliHUB– AMI as an MEP ARC Innovations – AMI as an MEP AMS – AMI as an MEP Smartco – AMI as an MEP FCLM – AMI as an MEP Counties Power- AMI as an MEP
(c)(iii) - Creation and management of volume information	AMS - HHR EMS - HHR EDMI - HHR Various Councils - DUML databases	
(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	

Manawa receives DUML data from a number of Councils, who are considered agents under clause 15.34 of part 15. These databases are now audited separately. A summation of these audits is detailed in **section 5.4**.

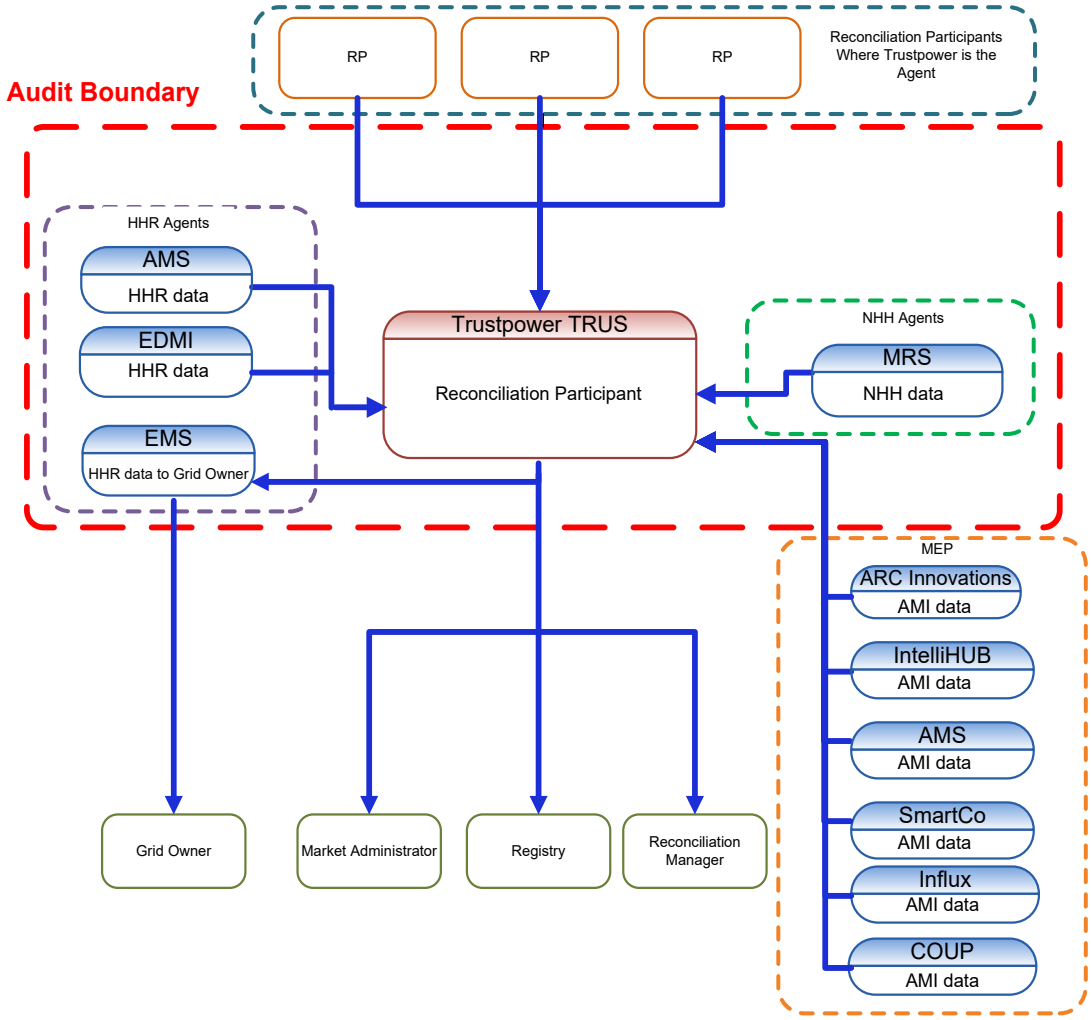
The remaining agents listed above have been audited in accordance with the Guidelines for Reconciliation Participant Audits V7.2. Their audit reports are expected to be submitted with this audit. The AMS, EMS, EDMI and MRS audits were completed more than seven months prior to this audit, and the agents confirmed that there have been no changes to their processes which could have a negative impact on Manawa's compliance. Comments are included in this report in relation to any issues found.

TRUS

The audit was carried out at Trustpower's offices in Tauranga on 21-22 February 2022.

Registry list, event detail, and audit compliance reports for 1 March 2021 to 26 November 2021, and a registry list snapshot for 26 November 2021 were reviewed.

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



1.10. Summary of previous audit

Trustpower Limited provided a copy of their previous audit report completed in April 2021 by Rebecca Elliot of Veritek Limited. The summary tables below show the statuses of the non-compliances and recommendations raised in the previous audit. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	15.2	Some inaccurate information is recorded on the registry and/or in GTV.	Still existing for TRUS
Electrical Connection of Point of Connection	2.11	10.33A	68 reconnected ICPs were not certified within five business days of becoming active. One metered newly connected ICP was not certified within five business days of becoming active of the 15 ICPs sampled.	Still existing for TRUS
Changes to registry information	3.3	10 Schedule 11.1	2,964 ICPs did not have trader information updated on the registry within five business days of the event date. 245 ICPs were not updated to inactive status on the registry within five business days of the event date. 446 ICPs were not updated to active status on the registry within five business days of the event date.	Still existing
Trader responsibility for an ICP	3.4	11.18	24 ICPs with the incorrect MEP nominated in the first instance. MEP not notified for one of the ten decommissioned ICPs checked.	Still existing for TRUS
Provision of information to the registry manager	3.5	9 Schedule 11.1	ICP 0001113373WM8B8 unmetered load details not populated when electrically connected. 642 late updates to active status for new connections. Six new ICPs have incorrect active status dates of the sample checked. 157 late ANZSIC codes not updated within 20 days of commencing trading.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	One ICP with a T99 series ANZSIC code. Nine category 2 ICPs with a residential ANZSIC code applied. 24 ICPs of the 150 ICPs sampled with an incorrect ANZSIC code applied	Still existing

Subject	Section	Clause	Non-compliance	Status
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	19 ICPs had incorrect daily unmetered kWh recorded on the registry and were corrected during the audit. The unmetered load details for ICP 0001113373WM8B8 were not recorded until 9/03/21. ICP 0000175658WT7E2 incorrectly recorded as a 12-hour supply when it should be 24-hour supply.	Still existing for TRUS
Management of "active" status	3.8	17 Schedule 11.1	Six new ICPs had incorrect active status dates of the sample checked. ICP 1000510999PCD42 had active status recorded from 13/08/19 but should have had active status recorded from 24/07/19. ICP 0000519838BU421 identified in the 2020 audit not corrected during the audit period.	Still existing for TRUS
Management of "inactive" status	3.9	19 Schedule 11.1	ICP 0000511333WEE0E incorrectly recorded as electrically disconnected due to the being meter disconnected and reconnected on the same date of 9/03/20.	Still existing for TRUS
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	18 ICPs with proposed event dates greater than ten business days of the NT receipt date.	Still existing for TRUS
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	CS average daily consumption of zero was invalidly recorded for 0012132394ELAA1 (1/12/20)	Still existing for TRUS
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	One AN file had the incorrect response code applied. One AN file sent for ICP 0000912258TU8AA with an event date earlier than the gaining trader requested. 50 T2 breaches (CS file not issued within five business days of the NT file).	Still existing
Losing trader determines a different date - switch move	4.9	10(2) Schedule 11.3	One AN file sent with an event date earlier than the gaining trader requested.	Still existing for TRUS
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	Six late RR files for switch moves. One RR accepted of the sample checked where the reads were not applied in GTV for the correct date.	Still existing for TRUS

Subject	Section	Clause	Non-compliance	Status
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 of Schedule 11.3	All HH switch requests sent with the incorrect profile of GXP. One Category 2 AMI site requested as a HH switch.	Still existing
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	One incorrect NW code found of the sample checked. 69 NA breaches, where the NW arrival date was more than two calendar months after the CS actual transfer date. 14 SR breaches, where the NW was issued more than ten business days after the initial NW. Eight WR breaches, where the AN or CS arrival date (whichever is applicable, may be one or both) are delivered by the losing trader more than two business days after the arrival date of the AW rejecting the withdrawal and a subsequent NW is not provided before delivery of the AN or CS.	Still existing for TRUS
Switch saving protection	4.17	11.15 AA-11.15 AC	Saves and win-back activity undertaken within 180 days of the ICP being requested to switch.	Cleared
Unmetered threshold	5.2	10.14 (2)(b)	Unmetered load threshold exceeded for eight ICPs.	Still existing for CNIR
Unmetered threshold exceeded	5.3	10.14 (5)	Eight ICPs with an unmetered load greater than 6,000kWh per annum not resolved within 20 business days of the exemption expiring.	Still existing for CNIR
Distributed unmetered load	5.4	11 Schedule 15.3, Clause 15.37B	Errors found in 13 databases, one database still to be audited and three audits are overdue. For those completed the specific findings are detailed in the DUML database audit reports.	Still existing for CNIR
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	ICP 0002211488TGB0D has wind generation and PV1 profile is recorded, instead of EG1. While meters were bridged, energy was not metered and quantified according to the code for 36 ICPs.	Still existing for TRUS
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Exceptional circumstances not proven for two of a sample of ten ICPs not read during the period of supply.	Still existing
Meter data used to derive volume information	9.3	3(5) of schedule 15.2	Raw meter data is rounded upon receipt and not when volume information is created.	Still existing

Subject	Section	Clause	Non-compliance	Status
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	Event information is not analysed and acted upon for all MEPs.	Still existing
ICP days	11.2	15.6	Incorrect ICP days for four ICPs.	Still existing
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates file does not contain electricity supplied information.	Cleared
Creation of submission information	12.2	19(1) Schedule 15.2	ICP 0000880323NVEBD was not submitted in March and April 2020 for Day 4 but was in the Day 13 files for both months.	Cleared
Accuracy of submission information	12.7	15.12	One ICP from the previous audit with an accepted RR read that was not used, resulting in under submission of 450 kWh.	Still existing for TRUS
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Forward estimates were not replaced by revision 14 for March and April 2019.	Cleared
Forward estimate process	12.12	6 Schedule 15.3	Some FE thresholds not met in some instances.	Still existing for TRUS
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Still existing

Subject	Section	Description	Recommendation	Status
Management of "active" status	3.8	Enter reconnection reads into GTV	Reconnection readings should be entered wherever possible to ensure that consumption is apportioned to the correct period by the historic estimate process. Because GTV's historic estimate process allocates all consumption in each read-to-read period against the active days within the read period, it will be important to ensure that no consumption is present during read-to-read periods which are entirely inactive. If consumption does occur during an inactive period, it is likely that the status is incorrect.	Still existing for TRUS
Management of "inactive" status	3.9	Enter disconnection reads into GTV	Disconnection readings should be entered wherever possible to ensure that consumption is apportioned to the correct period by the historic estimate process. Because GTV's historic estimate process allocates all consumption in each read-to-read period against the active days within the read period, it will be important to ensure that no consumption is present during read-to-read periods which are entirely inactive. If consumption	Still existing for TRUS

Subject	Section	Description	Recommendation	Status
			does occur during an inactive period, it is likely that the status is incorrect.	
Electricity conveyed & notification by embedded generators	6.1	Validation of NHH generation profiles PV1 and EG1	Validate the generation profiles applied against the distributor's generation fuel type. Only ICPs with a solar fuel type are expected to use PV1 profile, other generation fuel types are expected to use EG1 profile.	Adopted
Electronic meter readings and estimated readings	9.6	Event management	Obtain event information description information from MEPs. Ensure all events, including tamper, are appropriately evaluated.	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 processes to find and correct incorrect information was examined. The registry validation processes were examined in detail in relation to the achievement of this requirement.

The registry list and AC020 reports were examined to identify any registry discrepancies, and to confirm that all information was correct and not misleading.

Audit commentary

CNIR

Registry synchronisation

I observed the process to update status and trader information in the registry. Status and/or trader attributes are updated for a time slice in GTV, which specifies the date that the record applies from. The change is automatically sent from GTV to the registry.

Notifications files are imported into GTV, and action is taken as required.

Acknowledgement files are imported into GTV and reviewed for issues like rejected MEP nominations, invalid profiles, and invalid submission types using Manawa's reporting.

Registry validation

Manawa's registry validation and management processes are robust.

Work queue items are actioned and monitored daily, and focus is on discrepancies in the current values rather than historic values.

A suite of data discrepancy reports is used to ensure information is accurate and consistent:

- all trader-maintained fields are checked against the registry,
- distributor maintained fields are held in GTV and checked against the registry, with a focus on fields used for reconciliation submission aggregation and pricing,
- ANZSIC codes are checked for consistency, missing codes, and T99 series codes,
- trader and distributor unmetered load fields on the registry and GTV are compared, and discrepancies are thoroughly investigated with assistance from the account manager and/or customer and the distributor, and

- ICPs with installation type B which do not have import/export metering and PV1 profile are investigated to confirm whether generation is present, and service orders to install import/export metering are raised as required.

Registry information analysis

The analysis of the list file and AC020 report returned the following findings.

Item No.	Issue	Jan 2022	Comments
1	Status of "new connection in progress" with an initial electrical connection date populated. Status of "ready" with an initial electrical connection date populated	1	It was a timing difference and was made active effective from the initial electrical connection date after the report was run.
2	Active date variance with Initial Electrical connection date and/or meter certification date	54	20 examples were checked, confirming Manawa's date was correct in all cases. Refer to **section 3.5**.
3	Incorrect submission flag	-	Compliant.
4	Blank ANZSIC codes	-	Compliant.
5	ANZSIC "T999" not stated	-	Compliant.
6	ANZSIC "T994" don't know	1	Compliant.
7	Category 9 or blank but Active with MEP and UML "N"	1	This was a timing difference the switch was withdrawn after the report was run. Refer to **section 2.9**.
8	ICPs with Distributor unmetered load populated but retailer unmetered load is blank	4	All the ICPs are metered but have distributor unmetered load details recorded. Refer to **section 3.7**.
9	ICPs with unmetered load flag Y but load is recorded as zero	5	The ICPs are for unmetered residual load, and zero daily unmetered kWh is correctly recorded. Refer to **section 3.7**.
10	ICPs with incorrect shared unmetered load	0	No ICPs with incorrect shared unmetered load were identified.
11	ICPs with Distributed Generation indicated but no DG profile	1	ICP 0416267068LCAB5 has the GXP profile and is being investigated. Refer to **section 6.1**.

Data discrepancies identified during the previous audit were re-checked and confirmed to be resolved.

Read and volume data accuracy

Read and volume accuracy issues are identified through Manawa's validation processes, which are described in detail in **sections 9.5** and **9.6**.

Manawa continues to follow the processes established from Trustpower. Changes to consumption information can occur if changes have been made to billing information. In these situations, Manawa adopts a "reverse and rebill" process to correct billing and therefore consumption information. This process was examined and as long as the "reverse and rebill" process is used, consumption information for prior consumption periods is included in the revision process and provided to the reconciliation manager. In situations where consumption will not be billed to a consumer, GTV has a field for "adjustment consumption" (ADJ). The correct consumption is calculated and recorded on a "Revenue Assurance Case Summary" worksheet, then entered into the ADJ field, where it automatically flows through to submission and revision files.

Manawa peer reviews all corrections before they are released. All corrections were conducted accurately, and the consumption information was correctly recorded in the relevant revision files for of the examples checked.

I checked a sample of NHH corrections as described in the table below:

Defective meters	All corrections were processed correctly. Where reads are available, they are used. For the three examples provided the consumption was missing. It was calculated either using consumption from the replaced meter or consumption on the meter prior to it becoming faulty. The volume was applied across the correct period in all instances, and this flowed through to submission files.
Incorrect multipliers	Multiplier corrections are processed by reversing invoices for the affected period, correcting the master data and then re-invoicing. The one example provided was checked and confirmed to be correct.
Bridged meters	If a meter is bridged a job is logged to un-bridge the site. If a reconnection job is open after three days from being issued, it is followed up with the contractor to ensure closure of the job occurs within five business days. The ICP status is updated to active when the job is closed. Discrepancy reporting is in place to monitor any status mismatches between GTV and the registry. These are managed on a daily basis. Manawa has a robust methodology to identify and resolve bridged meters. Reporting is in place for ICPs switched in with AMI meters and zero consumption, plus there is reporting for the word "bridged" in the reconnection reports. No bridged meters have been identified since Manawa commenced trading from 01/10/21.
Consumption while inactive	Inactive ICPs with consumption are identified through the NHH read validation process discussed in **section 9.5**. No examples have been identified since Manawa commenced trading on 01/10/21.
Unmetered load corrections	I checked a sample of five CNIR ICPs where the daily unmetered kWh changed on the registry. The value changes flowed through to Gentrack and into submission files.

TRUS

Registry synchronisation

I observed the process to update status and trader information in the registry. Status and/or trader attributes are updated for a time slice in GTV, which specifies the date that the record applies from. The change is automatically sent from GTV to the registry.

Notifications files are imported into GTV, and action is taken as required.

Acknowledgement files are imported into GTV and reviewed for issues like rejected MEP nominations, invalid profiles, and invalid submission types using Trustpower's BI reporting. Not all registry acknowledgements are checked due to the volume of files received. The last audit noted that status updates were failing in some instances due to timing issues of event management in GTV and status discrepancies not being checked for a match rather than date accuracy. Trustpower have adopted the last audit's recommendation to compare the GTV connection date to other date fields, and the registry active status date. I did not find any evidence of incorrect active dates due to the issues identified in the last audit.

Registry validation

Trustpower's registry validation and management processes continue to be robust. The switching and metering teams are responsible for ensuring that data entered through their processes is accurate.

A Work-Flow Analyst is responsible for ensuring that the GTV life cycle accurately reflects what is recorded on the registry, and life cycle discrepancy reporting is used. Work queue items are actioned and monitored daily, and focus is on discrepancies in the current values rather than historic values.

A suite of daily data discrepancy reports is used to ensure information is accurate and consistent:

- all trader-maintained fields are checked against the registry,
- distributor maintained fields are held in GTV and checked against the registry, with a focus on fields used for reconciliation submission aggregation and pricing,
- ANZSIC codes are checked for consistency, missing codes, and T99 series codes,
- trader and distributor unmetered load fields in the registry and GTV are compared, and discrepancies are thoroughly investigated with assistance from the account manager and/or customer and the distributor, and
- ICPs with installation type B which do not have import/export metering and PV1 profile are investigated to confirm whether generation is present, and service orders to install import/export metering are raised as required.

This reporting has been moved to the Power BI platform during the audit period. Essentially these are the same reports but run from a different platform. A minor tweak was made to the ANZSIC code discrepancy reporting where the code determination also checks the customer's name. This caused some backdated changes as detailed in **section 3.3**, trader events.

Registry information analysis

The analysis of the list file and AC020 report returned the following findings.

Item No.	Issue	Dec 2021	Jan 2021	2020	2018	2017	2016	2015	Comments
1	Status of "new connection in progress" with an initial electrical connection date populated. Status of "ready" with an initial electrical connection date populated	51 7	21 1	20 7	6	5	12	90	The AC020 report identified 58 ICPs with an initial electrical connection date populated which had not been made active: • seven ICPs were moved to "decommissioned - set up in error" status, • one ICP switched out, and • 50 ICPs were moved to active status - 49 had active status dates consistent with the initial electrical connection date. (ICP 0007201725RNFBD was switched in at the incorrect status; the switch has been withdrawn and is waiting for the losing trader update to active and then the switch can be re-requested).
2	Active date variance with Initial Electrical connection date and/or meter certification date	660	117	-	-	-	-	-	Of the samples checked 13 new ICPs (11 temporarily connected and ICPs 1000599753PCDB2 and 1002108871LC5B6) had the incorrect active status dates. Refer **section 3.8**.
3	Incorrect status	6							Two ICPs switched in for a date after the reconnection. Refer **section 3.8**. Three ICPs incorrectly recorded as "ready for decommissioning". Refer **section 3.9**.

Item No.	Issue	Dec 2021	Jan 2021	2020	2018	2017	2016	2015	Comments
									ICP incorrectly backdated to inactive on 15/04/21 for 25/06/20. Refer **section 3.9**.
4	Active with no MEP and UNM = N	22	19	120	4	13	6	4	All were timing differences, and the ICPs had meter details populated on the registry, moved to an inactive status, or had MEP nominations made and accepted prior to the audit. Refer to **section 2.9**.
5	Incorrect submission flag	-	-	-	1	2	67	3	Compliant.
6	Blank ANZSIC codes	-	-	-	-	-	1	56	Compliant.
7	ANZSIC "T999" not stated	-	-	-	4	1	22	47	Compliant.
8	ANZSIC "T994" don't know	2	1	1	-	0	4	10	This has been corrected. Refer to **section 3.6**.
9	Category 9 or blank but Active with MEP and UML "N"	29	23	11	3	5	9	7	All were timing differences, and the ICPs had meter details populated on the registry, moved to an inactive status, or had MEP nominations made and accepted prior to the audit. Refer to **section 2.9**.
10	ICPs with Distributor unmetered load populated but retailer unmetered load is blank	2	11	24	27	31	43	185	Refer to **section 3.7**.
11	Unmetered load missing from registry	1	1						Refer to **section 3.7**.

Item No.	Issue	Dec 2021	Jan 2021	2020	2018	2017	2016	2015	Comments
12	ICPs with unmetered load flag Y but load is recorded as zero	3	2	5	4	2	4	4	Refer to **section 3.7**.
13	ICPs with incorrect shared unmetered load	2	-	-	-	-	-	-	Two ICPs with incorrect shared unmetered load were identified. Refer to **section 5.1**.
14	ICPs with Distributed Generation indicated but no DG profile	29	4	8	18	24	-	-	Compliant. Refer **section 6.1.**

Data discrepancies identified during the previous audit were re-checked and confirmed to be resolved.

Read and volume data accuracy

Read and volume accuracy issues are identified through Trustpower's validation processes, which are described in detail in **sections 9.5** and **9.6**.

Changes to consumption information can occur if changes have been made to billing information. In these situations, Trustpower adopts a "reverse and rebill" process to correct billing and therefore consumption information. This process was examined and as long as the "reverse and rebill" process is used, consumption information for prior consumption periods is included in the revision process and provided to the reconciliation manager. In situations where consumption will not be billed to a consumer, GTV has a field for "adjustment consumption" (ADJ). The correct consumption is calculated and recorded on a "Revenue Assurance Case Summary" worksheet, then entered into the ADJ field, where it automatically flows through to submission and revision files.

Trustpower have added an additional peer review of all corrections before they are released. All corrections were conducted accurately, and the consumption information was correctly recorded in the relevant revision files for of the examples checked.

If the period of the correction is longer than 14 months, an adjustment is made to the period to ensure all consumption is apportioned to the 14-month period.

I checked a sample of NHH corrections as described in the table below:

Defective meters	TRUS provided ten examples of stopped or faulty meters, which were identified by the billing team, reconciliation team, meter reader or customer, or on meter replacement. All corrections were processed correctly. Where reads were available, they were used. Where consumption was missing, it was calculated either using consumption from the replaced meter or consumption on the meter prior to it becoming faulty. The volume was applied across the correct period in all instances, and this flowed through to submission files. I checked the meter condition reports from MRS and checked a sample of 10 ICPs where MRS had reported potentially defective meters. There were three ICPs where the MEP was not notified, and it appears the metering installations may be inaccurate. The ICPs are 0000252550WT7EC, 0000460349WT61D and 1000003149BP32F. ICP 1000003149BP32F had a suspected tamper reported and there was no consumption recorded by either the controlled or uncontrolled meter for the entire period it was with Trustpower, which was 26/06/19 to 09/08/20, despite having an active customer
Incorrect multipliers	Multiplier corrections are processed by reversing invoices for the affected period, correcting the master data and then re-invoicing. I checked two examples, and both were conducted correctly.
Bridged meters	If a meter is bridged a job is logged to un-bridge the site. If a reconnection job is open after three days from being issued, it is followed up with the contractor to ensure closure of the job occurs within five business days. The ICP status is updated to "active" for the bridged period when the job is closed. Discrepancy reporting is in place to monitor any status mismatches between GTV and the registry. These are managed on a daily basis. Trustpower has a robust methodology to identify and resolve bridged meters. Reporting is in place for ICPs switched in with AMI meters and zero consumption, plus there is reporting for the word "bridged" in the reconnection reports. TRUS provided a list of 40 ICPs with AMI metering where bridging had occurred during the audit period. All 40 were checked. Consumption during the bridged period was estimated using volumes recorded post the meter being un-bridged. This is applied across the bridged period and these corrections flow to the submission files. ICPs 0000414945TPD12 and 1000007390BPCBB were not corrected prior to them switching out.
Consumption while inactive	Inactive ICPs with consumption are identified through the NHH read validation process discussed in **section 9.5**. TRUS provided a list of 27 ICPs with inactive consumption during the audit period. Consumption was submitted for all of the ten ICPs checked.
Unmetered load corrections	I checked a sample of five TRUS ICPs where the daily unmetered kWh changed on the registry. The value changes flowed through to Gentrack and into submission files.
Active date discrepancies	ICP 1002108871LC5B6 was not reconciled from May 2019 through February 2020 due to being beyond the 14-month revision cycle resulting in an estimated under submission of 1,310 kWh as detailed in **section 2.11**. Eight ICPs temporarily electrically connected but not active on the registry resulting in a minor under submission of volume as detailed in **section 2.10**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11.2 & 15.2 From: 01-Mar-21 To: 26-Nov-21	**TRUS** Some inaccurate information is recorded on the registry and/or in GTV. Some submission inaccuracies. Corrections not conducted for two ICPs where meters were bridged. Investigation and correction not conducted for three ICPs with potentially inaccurate metering installations. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are moderate, as most data is recorded accurately, and validation processes are in place. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
New connections: Best efforts are made to align information between GTV and the Registry via regular file transfer between the two systems and working queues that identify issues and errors within the transfers as well as discrepancy reporting.	Ongoing	Investigating
Revenue Assurance:		
Bridged meters: Best efforts are used where possible for resolution controls. If data is not available, we can now use historical reads ascertained from the registry to estimate any unbilled consumption.	Ongoing	
Investigation and correction not conducted: 0000252550WT7EC – transposed reads investigation commenced – still in progress 0000460349WT61D – supply for house construction site - customer confirmed power not being used – meter since replaced – No RA issue 1000003149BP32F – meter reader alert first raised 09/09/20 – property disconnected 10/08/20 – and as we were unable to ascertain any current or historic reads, no RA case was able to be completed. However, as a result of the audit we have opened a RA case to calculate and submit the consumption for this ICP.	Ongoing Completed Ongoing	
We acknowledge that our current reporting capability in this area doesn't allow us to identify stopped meters in a timely manner. We will continue to look at viable options to counter this inefficiency.	Ongoing	

Preventative actions taken to ensure no further issues will occur	Completion date	
New Connections: Exception Reporting continues to be used and enhanced to identify and resolve any discrepancies that occur between GTV and the Registry. A gap in knowledge was identified around temporary connections, training will take place with the New Connections team will take place to ensure this is no longer an issue. **Revenue Assurance:** Bridged meters: Best efforts are used where possible for resolution controls. If data is not available, we can now use historical reads ascertained from the registry to estimate any unbilled consumption. Any MRS reports with instances are looked at by the team as they come in and RA investigations logged with the MEP where required. Between the period of September 21 to February 22, Revenue assurance were heavily resource restrained with 5 of our team leaving which has reflected on our ability to monitor reports effectively. We are now once again fully staffed to address this shortfall.	March 2022 Ongoing Completed Completed	

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 and compliance is confirmed with regard to timeliness and format of information in accordance with Part 15.

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

The data transmission method and security were examined for all data sources to CNIR and TRUS.

Audit commentary

CNIR

NHH

NHH meter readings are transmitted by SFTP from MRS.

AMI data and reads from agents are stored in a separate database with appropriate controls in place. Two days after a scheduled read is due a web process is run. This retrieves the relevant read from the database and these then enter GTV and are treated as any other manual reads.

HHR/Generation

HHR data is provided by all agents in a secure format via MV90.

TRUS

NHH

NHH meter readings are transmitted by SFTP from Influx and MRS. Influx is no longer providing NHH meter readings. Some substation meter readings are provided by Powerco and these are sent in pdf format with photos.

AMI data and reads from agents are stored in a separate database with appropriate controls in place. Two days after a scheduled read is due a web process is run. This retrieves the relevant read from the database and these then enter GTV and are treated as any other manual reads.

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

The audit trail was examined for all data gathering, validation and processing functions by a walk though of the processes.

Audit commentary

CNIR & TRUS

A complete audit trail was available for all data gathering, validation and processing functions. The logs of these activities include the activity identifier, date and time and an operator identifier. Compliance is confirmed.

The agent audit reports record compliance with this clause.

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

CNIR and TRUS' contract terms and conditions were reviewed.

Audit commentary

CNIR

This requirement was confirmed to be covered in Manawa's customer contract terms and conditions.

TRUS

This requirement was confirmed to be covered in Trustpower's customer contract terms and conditions.

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

CNIR and TRUS' contract terms and conditions were reviewed.

Audit commentary

CNIR

Manawa's contract with their customers includes consent to access for authorised parties for the duration of the contract.

Manawa assists other parties to gain access to their customers' metering installations where requested. This process may involve investigation to determine why access has been refused and contacting the customer to arrange access to be provided.

Manawa confirmed that there have been no instances where access could not be arranged for other parties during the audit period when their assistance was requested.

TRUS

Trustpower's contract with their customers includes consent to access for authorised parties for the duration of the contract.

Trustpower assists other parties to gain access to their customers' metering installations where requested. This process may involve investigation to determine why access has been refused and contacting the customer to arrange access to be provided.

Trustpower confirmed that there have been no instances where access could not be arranged for other parties during the audit period when their assistance was requested.

Audit outcome

Compliant

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

Code reference

Clause 10.35(1)&(2)

Code related audit information

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

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

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

Audit observation

CNIR and TRUS were requested to provide details of any installations with loss compensation.

Audit commentary

CNIR

Manawa confirmed they do not deal with any installations with loss compensation.

TRUS

Trustpower confirmed they do not deal with any installations with loss compensation.

Audit outcome

Compliant

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

Code reference

Clause 11.15B

Code related audit information

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

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

- *the trader to provide information about the customer to the Authority and for the Authority to provide the information to another trader if required under Schedule 11.5 (clause 11.15B(1)(d));* ***and***
- *the trader to assign the rights and obligations of the trader to another trader (clause 11.15B(1)(e)).*

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

Audit observation

CNIR and TRUS' contract terms and conditions were reviewed.

Audit commentary

CNIR

Manawa's terms and conditions were checked, and I confirm appropriate clauses are recorded.

TRUS

Trustpower's terms and conditions were checked, and I confirm appropriate clauses are recorded.

Audit outcome

Compliant

2.9. Connection of an ICP (Clause 10.32)

Code reference

Clause 10.32

Code related audit information

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

- *accept responsibility for their obligations in Parts 10, 11 and 15 for the point of connection; and*
- *have an arrangement with an MEP to provide 1 or more metering installations for the point of connection.*

Audit observation

The new connection processes were examined in detail for both the CNIR and TRUS participant codes to evaluate the strength of controls, and the registry list and audit compliance reports were examined to confirm process compliance. Late updates to active for new connections are discussed in **section 3.5**.

Audit commentary

CNIR

Manawa's new connection application process varies by distributor. In most cases, the customer or the customer's agent requests a new connection from Manawa, 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 Manawa that a new ICP is to be created and seeks their approval.

Once the distributor has provided an ICP it is entered into GTV and assigned to the customer. An automated process retrieves the registry information for the new ICP using an event detail report and creates a system work action for the ICP to be claimed at 1,12 ("new connection in progress") status and an MEP nomination is sent at the same time.

GTV and Jira are used to manage new connections. Jira is the replacement for the Jobtrack tool used previously. Field service orders are raised in GTV and transferred to a Jira ticket, which is pasted into an email. Job closure information is entered into GTV and is automatically transferred from GTV to the registry.

If an MEP provides meter certification or distributor updates meter certification details prior to Manawa receiving connection paperwork, the daily new connections automation process will update the affected ICPs to "active" status based on the initial electrical connection date and meter certification date, in an effort to ensure that the registry is updated within five business days. Once connection paperwork is received, corrections to the "active" status date are carried out as required.

HHR new connections follow the same general application process as NHH new connections. Once the connection is ready, the TOU metering team liaise directly with the MEP to arrange meter installation. When determining the correct active date, Manawa reviews the HHR volume information to determine when consumption started.

I checked 34 NHH new connections and three HHR new connections. In all cases, Manawa had accepted responsibility.

The AC020 report recorded one active ICP with metering category 9, and no ICPs with a metering category of null or zero which did not have the unmetered flag set to yes. This was a timing difference the switch was withdrawn after the report was run.

The AC020 report did not record any ICPs where the MEP had been nominated but no response had been received within 14 days of the nomination.

TRUS

Trustpower's new connection application process varies by distributor. In most cases, the customer or the customer's agent requests a new connection from Trustpower, 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 Trustpower that a new ICP is to be created and seeks their approval.

Once the distributor has provided an ICP it is entered into GTV and assigned to the customer. An automated process retrieves the registry information for the new ICP using an event detail report and creates a system work action for the ICP to be claimed at 1,12 ("new connection in progress") status and an MEP nomination is sent at the same time.

GTV and Jobtrack are used to manage new connections. Field service orders are raised in GTV and transferred to Jobtrack, and job closure information is transferred from Jobtrack to GTV.

Jobtrack is a custom web-based system built by Trustpower which is used to dispatch field services jobs. Some contractors input field results directly into Jobtrack, and others provide paperwork via email which is manually entered into Jobtrack. Open jobs are tracked daily using the Jobtrack operational reporting and followed up if paperwork is not received. Once paperwork is received GTV is updated, and the status update is automatically transferred from GTV to the registry.

If an MEP provides meter certification or a distributor updates meter certification details prior to Trustpower receiving connection paperwork, the daily new connections automation process will update the affected ICPs to "active" status based on the initial electrical connection date and meter certification date, in an effort to ensure that the registry is updated within five business days. Once connection paperwork is received, corrections to the "active" status date are carried out as required.

HHR new connections follow the same general application process as NHH new connections. Once the connection is ready, the TOU metering team liaise directly with the MEP to arrange meter installation. When determining the correct active date, Trustpower reviews the HHR volume information to determine when consumption started.

I checked 25 NHH new connections and nine HHR new connections. In all cases, Trustpower had accepted responsibility.

The AC020 report recorded 27 active ICPs with metering category 9, null, or zero which did not have the unmetered flag set to yes. 22 of these also had no MEP recorded. All were timing differences, and the ICPs had meter details populated on the registry, moved to an inactive status, or had MEP nominations made and accepted prior to the audit.

The AC020 report did not record any ICPs where the MEP had been nominated but no response had been received within 14 days of the nomination.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

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

Audit observation

The new connection process was examined in detail for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

Manawa claims ICPs at 1,12 ("inactive - new connection in progress") status which helps to ensure that the trader is recorded on the registry if an ICP is temporarily electrically connected.

Manawa was not aware of any new connections which were temporarily electrically connected during the audit period.

TRUS

Trustpower claims ICPs at 1,12 ("inactive - new connection in progress") status which helps to ensure that the trader is recorded on the registry if an ICP is temporarily electrically connected.

11 ICPs were identified where the ICP was temporarily electrically connected for meter certification and then disconnected. The day of the temporary electrical connection needs to be recorded as "active" in the registry, then subsequent days need to be "inactive – vacant" or similar. The first active date in the registry is currently showing as the permanent electrical connection date not the temporary electrical connection date. The non-compliance for the incorrect active dates is recorded in **sections 2.1, 3.5, 3.8** and **12.7.** The code requires that the network give written approval for the electrical connection, and this was not gained. This is recorded as non-compliance in below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.10 With: Clause 10.33 From: 05-Aug-20 To: 20-May-21	**TRUS** 11 ICPs were temporarily electrically connected without written permission from the network. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate and will mitigate risk most of the time but there is room for improvement. The audit risk rating is low as the number of ICPs affected is small.

Actions taken to resolve the issue	Completion date	Remedial action status
Current reporting around New Connection date mismatches (IED, CO, Metering, Certification) is robust and does identify any sites temporarily connected for certification purposes. A gap in knowledge was identified and this will be filled by training within the teams.	March 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
A gap in knowledge was identified during the Audit around temporarily connected sites. Training will be done within the relevant teams, specifically New Connections to improve our process around temporary connections. Updated task documents and team training ongoing	March 2022	

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

Code reference

Clause 10.33A(1)

Code related audit information

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

- *for a point of connection to the grid – the grid owner has approved the connection,*
- *for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection.*

- *for a point of connection that is an ICP, but is not as NSP:*
    - *the 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 2 business days of electrical connection,*
    - *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 electrical connection.*

Audit observation

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

Audit commentary

CNIR

MEP information for active ICPs

The new connection process is discussed in detail in **sections 2.9**. Manawa nominates the MEP at the same time as taking the ICP to the "inactive - new connection in progress" status. All new connections have an MEP nominated, and robust reporting is in place to monitor the workflow and identify and address exceptions. Clause 10.33A states that only reconciliation participants can electrically connect, therefore Manawa is required to authorise this activity, which is managed through the trader acceptance process and MEP service request process.

All ICPs recorded as "active" with metering installed have an MEP recorded.

The AC020 report recorded one active ICP with metering category 9, and no ICPs with a metering category of null or zero which did not have the unmetered flag set to yes. This was a timing difference the switch was withdrawn after the report was run.

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".

Manawa is changing the daily discrepancy report to identify ICPs which are reconnected without full meter certification. The report will be reviewed, and the MEP emailed using an email template to advise that connection has occurred at an ICP with expired metering certification.

Review of the AC020 report found no late certifications for new connections of metered ICPs, or reconnections.

Meter recertification for bridged meters

Manawa use a daily discrepancy report to identify ICPs which are unbridged without the meter being recertified. The report is reviewed, and the MEP is emailed using an email template. No examples of bridged meters were identified during the audit period.

TRUS

MEP information for active ICPs

The new connection process is discussed in detail in **sections 2.9**. Trustpower nominate the MEP at the same time as taking the ICP to the "inactive - new connection in progress" status. All new connections have an MEP nominated, and robust reporting is in place to monitor the workflow and identify and address exceptions. Clause 10.33A states that only reconciliation participants can electrically connect, therefore Trustpower is required to authorise this activity, which is managed through the trader acceptance process and MEP service request process.

All ICPs recorded as "active" with metering installed have an MEP recorded.

The AC020 report recorded 27 active ICPs with metering category 9, null, or zero which did not have the unmetered flag set to yes. 22 of these also had no MEP recorded. All were timing differences, and the ICPs had meter details populated on the registry, moved to an inactive status, or had MEP nominations made and accepted 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".

Trustpower use a daily discrepancy report to identify ICPs which are reconnected without full meter certification. The report is reviewed, and the MEP is emailed using an email template to advise that connection has occurred at an ICP with expired metering certification.

Review of the AC020 report found 75 late certifications for metered ICPs which moved from "inactive" to "active" status. All the ICPs had metering category 1. I checked the 20 meter certifications which had expired more than 100 days before reconnection:

- 14 ICPs appeared on the discrepancy report, and an email was sent to the MEP - two of these have since been certified,
- five ICPs did not appear on the daily discrepancy report and no action was taken; this issue was found in the last audit too and the reporting is being reviewed to ensure all instances are identified, and
- ICP0001741120PC156 was identified on the report but closed with no action being taken due to human error.

Review of the AC020 report found 39 late certifications for new connections of metered ICPs. All were checked:

- 33 were timing differences for meter category one ICPs, where the MEP populated the meter certification details effective from the initial electrical connection date after the report was run,
- two HHR ICPs (0007201223RNB37 and 0007201217RNDC5) were certified late; this is recorded as non-compliance below,
- the active date for ICP 0000050395HRE93, has since been corrected and now aligns with the meter certification.
- ICP 0000702000MP807 was electrically connected on 23 April 2021 but the meter was not installed until 4 May 2021; the period intervening should have been recorded as an unmetered supply and this is recorded as non-compliance in **section 3.5**.
- ICP 1002108871LC5B6 was created by the network on 4 May 2021 to replace ICP 0123630002LC0F1 that had been decommissioned in error on 24 May 2019; the distributor should have returned the original ICP to "active" when the customer called in to query why they had had not had a power bill but instead the new ICP was backdated to "active" for 25 May 2019 (it had a certified meter throughout this period and was recertified on 31 May 2021) - the volumes from May 2019 through to February 2020 will not be reconciled as it is beyond the revision cycle and I estimate that 1,310 kWh will not have been submitted based on the meter readings taken at the point of disconnection and the new ICP being made "active" which is recorded as non-compliance in **sections 2.1, 3.9** and **12.7**,
- the contractor installed a Northpower meter instead of a Metrix meter for ICP 0000571851NR2D8 on 6 July 2021 in error; Northpower refused to accept the MEP nomination, so the meter was never recorded on the registry and was replaced with a Metrix meter on 25 August 2021 - non-compliance is recorded as the meter wasn't certified within five business days due to Northpower's refusal to be the MEP.

Eight ICPS were found with meter certifications earlier than the first active date due to the temporary electrical connection to certify the meters. This is recorded as non-compliance in **sections 2.1, 2.10, 3.5**, **3.8** and **12.7**.

Meter recertification for bridged meters

Trustpower use a daily discrepancy report to identify ICPs which are unbridged without the meter being recertified. The report is reviewed, and the MEP is emailed using an email template.

Trustpower provided details of 40 bridged meters during the audit period. All of the meters were unbridged, and they were all certified within five business days of the date that they were unbridged.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: Clause 10.33A From: 29-Oct-20 To: 25-Nov-21	**TRUS** 73 metered reconnected ICPs were not certified within five business days of becoming active. Three metered newly connected ICPs were not certified within five business days of becoming active. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate. Reporting is in place to identify metering certification issues, but some ICPs are not being identified as expected. 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
Current reporting in place identifies sites that have been reconnected but are not recertified within 5 business days. In almost all instances reporting is working correctly identifying sites reconnected when uncertified. MEPs are notified of certification status however in most cases they do not re-certify.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have already improved reporting around uncertified sites that have been reconnected and all ICPs identified during Audit as having not been picked up by reporting are now showing. We continue to engage MEPs to rectify uncertified sites as the occur.	Completed Ongoing	

2.12. Arrangements for line function services (Clause 11.16)

Code reference

Clause 11.16

Code related audit information

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

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

Audit observation

The process to ensure an arrangement is in place before trading commences on a network was examined for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

A table within GTV prevents the loading of any installation data, prior to the establishment of arrangements for line services. Not all Use of Systems Agreements are signed, however the clause requires that an arrangement is in place and does not require a signed agreement.

Manawa did not add any new networks during the audit period.

TRUS

A table within GTV prevents the loading of any installation data, prior to the establishment of arrangements for line services. Not all Use of Systems Agreements are signed, however the clause requires that an arrangement is in place and does not require a signed agreement.

One new network was added during the audit period. An arrangement is in place.

Audit outcome

Compliant

2.13. Arrangements for metering equipment provision (Clause 10.36)

Code reference

Clause 10.36

Code related audit information

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

Audit observation

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 for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

Manawa has an arrangement in place with all MEPs that manage metering for their customer base. All new connections are taken to the "inactive - new connection in progress" (1,12) status and an MEP is nominated at the same time. GTV holds a table detailing all the MEPs that they have arrangements with. This ensures that only MEPs that have an arrangement are selected.

Manawa did not add any new MEPs during the audit period.

TRUS

Trustpower has an arrangement in place with all MEPs that manage metering for their customer base. All new connections are taken to the "inactive - new connection in progress" (1,12) status and an MEP is nominated at the same time. GTV holds a table detailing all the MEPs that they have arrangements with. This ensures that only MEPs that have an arrangement are selected.

Trustpower did not add any new MEPs during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 10.33B

Code related audit information

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

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

Audit observation

The process for reconnecting ICPs in the process of switching in was examined for both the CNIR and TRUS participant codes. Traders are only able to update ICP status for event dates where they are responsible for the ICP on the registry.

Audit commentary

CNIR

If an ICP was reconnected as part of the switching process and the switch was later withdrawn, Manawa would restore the disconnection and reimburse the losing trader for any direct costs incurred if requested. No examples were identified.

TRUS

All new customers are credit checked in the first instance. If they pass the credit check the reconnection is actioned. Trustpower expects to reconnect a customer within four hour and the NT is sent to the registry requesting the ICP. There are some occasions where a reconnection will be processed from a partial credit check. In these instances, the reconnection will proceed but the customer must provide ID and a bond within 48 hours. If they are subsequently declined, they are advised they have 48 hours to switch to another provider. The NT is expected to be sent the next day. If the customer doesn't provide the required information after 48 hours the switch is withdrawn, and a disconnection is booked. This process is managed by the vacant properties team.

If an ICP was reconnected as part of the switching process and the switch was later withdrawn, Trustpower would restore the disconnection and reimburse the losing trader for any direct costs incurred if requested.

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 for both the CNIR and TRUS participant codes. Traders are only able to update ICP status for event dates where they are responsible for the ICP on the registry.

Audit commentary

CNIR

The disconnection process in relation to reconnected ICPs that subsequently get disconnected is described in **section 2.14.** Other than these ICPs Manawa will only disconnect ICPs where they are the trader recorded on the registry.

Manawa checks they are listed as the current trader in the registry before initiating a disconnection.

TRUS

The disconnection process in relation to reconnected ICPs that subsequently get disconnected is described in **section 2.14.** Other than these ICPs Trustpower will only disconnect ICPs where they are the trader recorded on the registry.

Trustpower checks they are listed as the current trader in the registry before initiating a disconnection.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

Audit observation

Policies and processes for removal and breakage of seals were reviewed for both the CNIR and TRUS participant codes.

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

Audit commentary

CNIR

Manawa uses the MEP who in turn utilise a test house for the reconnection or disconnection of ICPs and typically they don't bridge meters. MEPs are required to ensure that only qualified personnel perform work and manage and trace seals. MEPs do not usually provide details of seals in their job completion paperwork.

Manawa receives work completion paperwork from MEPs and uses this information to confirm the correct ICP attributes including status and profile, and updates their system and the registry.

TRUS

Trustpower uses the MEP who in turn utilise a test house for the reconnection or disconnection of ICPs and typically they don't bridge meters. MEPs are required to ensure that only qualified personnel perform work and manage and trace seals. MEPs do not usually provide details of seals in their job completion paperwork.

Trustpower receives work completion paperwork from MEPs and uses this information to confirm the correct ICP attributes including status and profile; and updates their system and the registry.

I checked a sample of 55 disconnections, 30 reconnections, 44 ICPs with distributed generation and 40 bridged meters and found that where physical disconnection or reconnection was initiated, the MEP was advised where the ICP was metered, or remote disconnection or reconnection had occurred.

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 bridging process and associated processes were examined for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

Bridged meters would be identified through the read validation process, or reconnection paperwork returned from the contractor. Meters will only be bridged if they cannot be reconnected without bridging and delaying reconnection would cause significant disadvantage to the customer because they would be without hot water or power.

No bridged meters were identified.

TRUS

Bridged meters would be identified through the read validation process, or reconnection paperwork returned from the contractor. Meters will only be bridged if they cannot be reconnected without bridging and delaying reconnection would cause significant disadvantage to the customer because they would be without hot water or power.

A list of 40 bridged meters was provided. The MEP was notified in all instances and the meter was unbridged and recertified.

Corrections were processed accurately for 38 of the 40 ICPs, but ICPs 1000007390BPCBB and 0000414945TPD12 did not have corrections conducted. ICP 1000007390BPCBB was not corrected because it switched away. The bridged period was 45 days. ICP 0000414945TPD12 was only with Trustpower for 10 days and historic consumption was not available to estimate consumption. The lack of correction for these two ICPs is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.17 With: Clause 10.33C and 2A of Schedule 15.2 From: 01-Aug-21 To: 27-Sep-21	**TRUS** Corrections not conducted for two ICPs where meters were bridged. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate 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
0000414945TPD12 – site was bridged on reconnection 01/08/21 – bridged meter follow up logged 11/08/21 – paperwork confirming meter unbridged received 15/09/21. As the ICP had switched to an alt provider on 03/09/21 we were unable to ascertain any current or historic reads. No RA case was able to be completed. 1000007390BPCBB – site was bridged on reconnection 11/08/21 – bridged meter follow up logged 16/08/21. This job was cancelled due to Covid Level 4 lockdown and then relogged 03/09/21. We received paperwork 27/09/21 confirming meter unbridged 08/09/21. The ICP had switched to an alt provider on 27/09/21 and as we were unable to ascertain any current or historical reads, no RA case was able to be completed.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Best efforts are used where possible for resolution controls. If data is not available, we can now use historical reads gained from the registry to estimate any unbilled consumption.	Ongoing	

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

Code reference

Clause 11.30

Code related audit information

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

Audit observation

A sample of invoices and letter templates relating to invoicing were reviewed to confirm that the ICP number is present for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

Invoices and credit notes contain the ICP number, and ICP numbers are included in communications relating to the sale of electricity. Only the account number is included on correspondence relating to payments, as one account can have one or many ICPs attached.

TRUS

Invoices and credit notes contain the ICP number, and ICP numbers are included in communications relating to the sale of electricity. Only the account number is included on correspondence relating to payments, as one account can have one or many ICPs attached.

Audit outcome

Compliant

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

Code reference

Clause 11.30A

Code related audit information

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

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

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

Audit observation

The process to ensure that information on Utilities Disputes is provided to customers was discussed. A sample of invoices, correspondence, and recorded greetings for inbound calls were reviewed to determine whether clear and prominent information on Utilities Disputes is provided.

Audit commentary

At the time of this audit, Manawa do not have their own website and were still operating under the Trustpower branded website. Clear and prominent information on Utilities Disputes is provided:

- in Trustpower's terms and conditions under section 11.2,
- on Trustpower's website,
- on invoices,
- on outbound letters,
- on inbound calls, and
- in emails

When the sale of Trustpower completes and the Trustpower brand moves to Mercury, Manawa will have their own website so the compliance of the Manawa branded website will be assessed in the next audit.

Audit outcome

Compliant

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

Code reference

Clause 11.30B

Code related audit information

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

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

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

Audit observation

The process to ensure that information on Powerswitch is provided to customers was discussed. A sample of invoices and correspondence were reviewed to determine whether clear and prominent information on Powerswitch is provided.

Audit commentary

At the time of this audit, Manawa do not have their own website and were still operating under the Trustpower branded website. Clear and prominent information on Powerswitch is provided:

- on Trustpower's website,
- on outbound letters relating to pricing and billing,
- on invoices,
- other correspondence, and
- on annual notification.

When the sale of Trustpower completes and the Trustpower brand moves to Mercury, Manawa will have their own website so the compliance of the Manawa branded website will be assessed in the next audit.

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 for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

This requirement is well understood and managed by Manawa, and the new connections process is described in **section 2.9** above.

ICPs exist where Manawa is the direct purchaser from an embedded generator and where Manawa is the embedded generator selling directly to the clearing manager.

TRUS

This requirement is well understood and managed by Trustpower, and the new connections process is described in **section 2.9** above.

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 processes were examined in detail to evaluate the strength of controls, and the registry list and audit compliance reports were examined to confirm process compliance for both the CNIR and TRUS participant codes. Late updates to active for new connections are discussed in **section 3.5**.

Audit commentary

CNIR

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

A robust suite of reports is in place to manage any discrepancies and workflow issues for both NHH and HHR new connections.

TRUS

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

A robust suite of reports is in place to manage any discrepancies and workflow issues for both NHH and HHR. HHR TOU new connections are no longer undertaken by TRUS.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

If information provided by a trader to the registry manager about an ICP changes, the trader must provide written notice to the registry manager of the change no later than 5 business days after the change.

Audit observation

The processes to manage status changes are discussed in detail in **sections 3.8** and **3.9** below. The processes to manage MEP nominations and trader updates were discussed. These were examined for both the CNIR and TRUS participant codes

The audit compliance report was examined and a sample of late status updates, trader updates and MEP nominations were checked as described in the audit commentary.

Audit commentary

CNIR

Status updates

Changes to status are updated within the GTV life cycle and automatically transferred to the registry.

Updates to active status

The timeliness of status updates to active (for reconnections) is set out on the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	Jan 2022	1	90.91%	3.55

The late update was made eight business days after the event date. This update was due to a processing issue at the time of the transition from TRUS to CNIR. The late update was accurately processed from the correct event date.

Updates to inactive status

The timeliness of status updates to inactive is set out on 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	Jan 2022	12	83.10%	4.99

All late updates were checked:

1,12 Inactive - new connection in progress	Ten of the late status updates were to 1,12 (inactive - new connection in progress) status and although they were backdated there was no impact because the next status event is to active, also by Manawa.
1,4 Electrically disconnected vacant property	One late update was to 1,4 status and made 15 business days after the event date. This status change was late due to late paperwork from the field.
1,6 Electrically disconnected ready for Decommissioning	One late update was to 1,6 status and made 16 business days after the event date. This was due to a processing issue, which is now resolved.

The late updates were accurately processed from the correct event date.

Trader updates

Changes to trader information are updated within the GTV life cycle and automatically transferred to the registry. The timeliness of trader updates is set out on 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
Trader	Jan 2022	127	26.59%	17.75

124 of the late trader updates were made more than ten business days after the event date, and four updates were made over 30 business days after the event date. The latest update was 44 business days after the event date. I checked the five latest updates of each type and found:

ANZSIC updates – new connections and switch ins	There were ten late ANZSIC code updates for new connections and switch ins where the ANZSIC code was not populated within 20 business days of commencing trading. I found: • three were backdated switches in, and • seven were corrections after switching in with the incorrect code.
Downgrades	There were four late changes to submission flags. Two were due to late notification from the field and two were corrections.
DUML daily unmetered kWh change	I checked a sample of ten late updates and all were due to a process where the previous month is updated based on information provided in the first week of the following month.
MEP nomination	The MEP nomination process is well managed. The MEP is nominated at the time the service order is raised, and bulk updates are made for AMI meter roll outs. In some cases, the MEP will initiate a change, and ask Manawa to raise an MEP nomination. There is reporting in place to identify any MEP mismatches between the job issued and the MEP nominated. This also identifies any missing MEP nominations for jobs issued. I checked five late updates and they were all due to late field notification.
Profile change	GTV processes profile changes automatically when meter changes occur, and backdated meter certification details changes can result in backdated profile changes. I checked three late profile changes and they were all due to profiles defaulting to GXP at the time of switch, then a correction to the correct profile.
Unmetered load removal	There was one late updated due to late notification from the field.

The late updates were accurately processed from the correct event date.

TRUS

Status updates

Changes to status are updated within the GTV life cycle and automatically transferred to the registry. Jobtrack's operational reporting is used daily to monitor ICPs where status changes are expected and follow up outstanding paperwork.

Updates to active status

The timeliness of status updates to active (for reconnections) is set out on 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	183	76%	10.5
	2016	700	80%	8.1
	2017	2,942	88%	5.4
	2018	1,405	84%	4
	2020	481	90.82%	2.93
	Jan 2021	446	87.78%	4.92
	Dec 2021	377	90.06%	4.11

The level of compliance has improved during the audit period. 43 of the late updates were made more than 30 business days after the event date, and 13 more than 100 business days. The latest update was made 1,399 business days after the event date. I checked an extreme case sample of the 20 latest updates, which included all updates made more than 70 business days after the event date:

- nine late updates were corrections to active status for ICPs with consumption during a period with inactive status due to revenue assurance work,
- three were due to status updates made by the previous trader overwriting Trustpower's active date so the event had to be repopulated; there is reporting in place to identify such incidents, but these were missed due to being outside the date range the report covered so this has been corrected so all instances should be identified,
- two were corrections to the ICPs active date, which weren't identified until the reporting date range was extended as described in the second point above,
- two were due to late notification from either the network or Chorus,
- two were due to the ICPs (0000050533TR977 and 0000161189TR1B5) being reconnected for an earlier date than the NT request date which stops the active event going to the registry; these should have been withdrawn and requested for the correct date as the volumes will be reconciled to the incorrect period and are recorded as non-compliance in **sections 2.1, 3.8** and **12.7**, and
- two were due to backdated switch ins.

I re-checked ICP 1000510999PCD42, which was found to have an incorrect status date in the previous audit**.** This has been corrected.

Updates to inactive status

The timeliness of status updates to inactive is set out on 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	39	90.74%	4.14
	2016	105	85.50%	17.39
	2017	241	92.57%	5.99
	2018	145	93.32%	3.72
	2020	913	92.68%	6.81
	Jan 2021	634	93.96%	7.36
	Dec 2021	503	95.30%	6.28

Overall, I found that the late updates were predominantly caused by corrections, and late notifications.

1,12 Inactive new connection in progress	338 of the late status updates were to 1,12 (inactive - new connection in progress) status. 298 of the updates were made before the initial electrical connection date and are considered to be on time. The other 40 updates were made between one and 96 days after initial electrical connection. I checked the ten latest updates and found all were due to corrections.
1,4 Electrically disconnected vacant property	81 of the late updates were to 1,4 status. 42 of these updates were made 30 or more business days after the event date, and the latest update was 5,172 business days after the event date. I checked an extreme case sample of the ten latest updates, including all over 150 business days late: • eight updates were backdated to correct statuses - ICP 0151745161LC3F3 was incorrectly backdated to inactive on 15/04/21 for 25/06/20 due to human error; this was reversed during the audit returning the ICP to active which will have resulted in the volumes for the R14 revisions for the months of July to November 2020 not being submitted (the other affected revisions will be washed up through the revision process) and this is recorded as non-compliance in **sections 2.1,3.9** and **12.7**, and • two updates were due to the meter being removed between the customer's final read and the request for the ICP to be decommissioned being received from the network; Trustpower created a report to identify such incidents, and these were identified when the report went live and were backdated to the correct date.

1,6 Electrically disconnected ready for Decommissioning	46 of the late updates were to 1,6 status. 23 of these updates were made were made 30 or more business days after the event date, and the latest update was 4,772 business days after the event date. I checked an extreme case sample of the ten latest updates, including all over 60 business days late: • six were due to late notification from the network, • three (ICPs 0001030951TG668, 0000507276DEB8F and 0000507275DE74F) were new connections that never progressed where the new connection in progress status should have been reversed and the network should have decommissioned these as set up in error, but these were instead recorded as "installation dismantled"- the use of the incorrect inactive status is recorded as non-compliance in **section 3.9**, and • ICP 0000961264TU415 was identified via the new reporting in place described in the 1,4 status findings.
1,7 Electrically disconnected remotely by AMI meter	13 of the late updates were to 1,7 status. Two of these updates were made 30 or more business days after the event date, and the latest update was 78 business days after the event date. I checked the five latest updates and found all related to late notification from the MEP.
1,8 Electrically disconnected at pole fuse	Seven of the late updates were to 1,8 status. Three of these updates were made 30 or more business days after the event date, and the latest update was 518 business days after the event date. I checked the five latest updates and found: • four were due to late notification from the field, and • ICP 0000931839TUA38 was a correction from the last audit.
1,9 Electrically disconnected due to meter disconnected	18 of the late updates were to 1,9 status. Nine of these updates were made 30 or more business days after the event date, and the latest update was 513 business days after the event date. I checked the five latest updates: • three were corrections; two of these were changes of status from "ready to decommission" to this status as the distributor confirmed that the sites were not ready to be decommissioned, • one was a late notification from the distributor, and • ICP 1000020907BP931 was an ICP amalgamation where the ICP should be decommissioned and Trustpower are contacting the customer to progress this; this is recorded as non- compliance in **section 3.9**.

There were no updates to 1,5, 1,10 or 1,11 status recorded on the event detail report.

Trader updates

Changes to trader information are updated within the GTV life cycle and automatically transferred to the registry. The timeliness of trader updates is set out on 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
2020	7,896	89.90%	3.64
Jan 2021	2,964	93.23%	4.25
Dec 2021	2,149	85.65%	10.74

449 of the late trader updates were made between 30 and 2,169 business days after the event date, and 33 updates were made over 1,000 business days after the event date. I checked the 15 latest updates and found six related to ANZSIC code population and nine related to trader unmetered load details population for telecommunications cabinets.

A further 40 late trader updates were checked as described in the table below. The AC020 report details the changes but the change indicated is not always correct as is detailed in my findings below:

ANZSIC updates - changes	In addition to the six of the 15 latest updates above, I checked five late ANZSIC code updates made between 30 and 1,000 business days after the event date and found that they all related to ANZSIC code corrections. The new Power BI reporting identified some more ANZSIC codes changes based on the customer name. Trustpower backdated the corrections to reflect the date of the ANZSIC code change, which meets the requirement to provide complete and accurate data but causes Trustpower to be non-compliant for backdating.
ANZSIC updates – new connections and switch ins	There were 59 late ANZSIC code updates for new connections and switch ins where the ANZSIC code was not populated within 20 business days of commencing trading. I checked the ten latest updates and found: • five were due to backdated new connections or switch ins, and • five were corrections to new connections moving from construction to the end user's applicable code.
Trader unmetered load details changes	In addition to the nine of the 15 latest updates above, I checked five late unmetered load details updates made between 30 and 1,000 business days after the event date and found they incorrectly identified as unmetered load changes in the AC020, but all related to the ANZSIC codes and all were corrections. The previous audit exception relating to on hours for ICP 0000175658WT7E2 has been corrected.
Unmetered daily kWh changes	A sample of five late updates were checked and found to be changes made to DUML loads before they switched to the CNIR participant code. As these are reconciled by databases the daily unmetered load figure is not required for submission purposes.
Profile updates	GTV processes profile changes automatically when meter changes occur, and backdated meter certification details changes can result in backdated profile changes. A sample of five late updates were checked and found all related to corrections. Two were as a result of the last audit and the remaining three were identified via the discrepancy reporting.
Submission type updates	A sample of five late updates were checked and found: • three were due to late paperwork, and • two related to backdated metering events that prevent Trustpower from updating their profile.
MEP nominations	The MEP nomination process is well managed. The MEP is nominated at the time the service order is raised, and bulk updates are made for AMI meter roll outs. In some cases, the MEP will initiate a change, and ask Trustpower to raise an MEP nomination. There is reporting in place to identify any MEP mismatches between the job issued and the MEP nominated. This also identifies any missing MEP nominations for jobs issued.

	I checked the ten latest MEP nominations, and a sample of five made between 30 and 400 business days after the event date and found:
	• the ten latest updates were due to:
	  ○ changes made to the ANZSIC code logic discussed in **section 2.1** for seven ICPs; the ANZSIC codes were updated correctly but it appears that the incorrect MEP was also nominated at the same time (these were then corrected an hour later),
	  ○ two were not a change of MEP but were a correction to profile for two Chorus ICPs, and
	  ○ the ANZSIC code was updated for ICP 1000579560PC1F0 with no change of MEP,
	• of the remaining five ICPs sampled:
	  ○ one (ICP 0118927108LC01F) was affected by the same issue as the MEP updates above,
	  ○ for ICP 0000734961NV064, the MEP nomination was to fix where IHUB was nominated in the first instance and then a MTRX meter was installed, an old MEP nomination was used rather than creating a new MEP nomination which caused this to be backdated and a subsequent MEP nomination was created for the correct date,
	  ○ no notification of fieldworks on site caused the late MEP nomination for ICP 0000026203NTAA4, and
	  ○ LMGL was nominated in the first instance for ICP 0000413520TEF46 as part of a revenue assurance case, but the customer requested a smart meter, so the MEP nomination was changed.
	In all cases the correct dates were applied. The nine ICPs (eight due to the ANZSIC code updates) where the incorrect MEP was nominated in the first instance is recorded as non-compliance in **section 3.4**.

The late updates were accurately processed from the correct event date for all except ICP 0000734961NV064. This was corrected as part of the BAU business processes in place.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 Schedule 11.1 **CNIR** From: 19-Oct-21 To: 17-Jan-22 **TRUS** From: 01-Mar-21 To: 26-Nov-21	**CNIR** Two ICPs were not updated to inactive status on the registry within five business days of the event date. One ICP was not updated to active status on the registry within five business days of the event date. 127 ICPs did not have trader information updated on the registry within five business days of the event date. Ten ICPs did not have ANZSIC codes populated within 20 business days of switch in or initial electrical connection. **TRUS** 205 ICPs were not updated to inactive status on the registry within five business days of the event date. 377 ICPs were not updated to active status on the registry within five business days of the event date. 2,149 ICPs did not have trader information updated on the registry within five business days of the event date. 59 ICPs did not have ANZSIC codes populated within 20 business days of switch in or initial electrical connection. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are 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
CNIR Manawa Energy's reporting tools and knowledge sharing continues to ensure that Registry Information is updated within correct timeframes. A continuous improvement process is adopted. A number of these issues were related to the transition from TRUS to CNIR and the establishment of modified reporting to capture any ICPs due or overdue for updates. New Manawa specific reporting is now in place. Regular monitoring of timeliness of changes to registry information has been adopted via Audit Compliance Reporting analysis ordered from the Registry. Relationship development with MEPs and Networks to ensure the transfer of prompt information. **TRUS** Trustpower continues to look for opportunities to refine our reporting and processes to improve our performance in updating registry information within 5 business days. Reporting has been improved and created since last Audit to close gaps identified there. This will be an on-going task for us as a retailer. We continue to work with MEPs and Network to ensure updates are made in a timely manner on their side, so we do not experience flow on effects.	Ongoing Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
CNIR Gentrack has been enhanced so that GXP profiles are NOT used as a default for HHR Switches and New Connections this should eliminate the need for some backdated corrections. This will be released into Production following Separation 1 May 2022. ANZSIC Power BI Reporting has been recently developed. Discrepancies that were picked up were backdated. Report now up to date. **TRUS** Reporting was created to look for sites where the meter removal date and decommissioned status date differ to avoid late backdated inactive statuses being entered. As it is now live issues around backdating should disappear. Trustpower also continues to engage with third parties (MEPs) to reduce the number of late MEP nominations, specifically IHUB as we continue to have issues around alternate MEP metering being installed without advising TRUS.	Done Ongoing	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

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

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

Audit commentary

CNIR

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process is discussed in detail in **section 2.9** above. Manawa nominate the MEP at the same time as taking the ICP to the "inactive - new connection in progress" status. All new connections have an MEP nominated. This is semi-automated to select the MEP based on area as TRUM is no longer the default MEP for new connections. In addition to this, training documentation has also been created for users to reference.

The AC020 report recorded one active ICP with metering category 9, and no ICPs with a metering category of null or zero which did not have the unmetered flag set to yes. This was a timing difference, and the switch was withdrawn after the report was run.

The AC020 report did not record any ICPs where the MEP had been nominated but no response had been received within 14 days of the nomination. No active ICPs had a blank MEP.

One of the 52 MEP nominations identified on the event detail report was a rejection. It was believed the MEP was going to change, but the decision was made to stay with the existing MEP.

ICP Decommissioning

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

In all cases, 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. Manawa also advise the MEP responsible that a site is to be decommissioned.

A sample of ten ICPs were examined, and I confirmed they all had meter readings where meters were present (three were unmetered), and the MEP was notified.

TRUS

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process is discussed in detail in **section 2.9** above. Trustpower nominate the MEP at the same time as taking the ICP to the "inactive - new connection in progress" status. All new connections have an MEP nominated. This is semi-automated to select the MEP based on area as TRUM is no longer the default MEP for new connections. In addition to this, training documentation is available for users to reference.

The AC020 report recorded 27 active ICPs with metering category 9, null, or zero which did not have the unmetered flag set to yes. 22 of these also had no MEP recorded. All were timing differences, and the ICPs had meter details populated on the registry, moved to an inactive status, or had MEP nominations made and accepted prior to the audit.

The AC020 report did not record any ICPs where the MEP had been nominated but no response had been received within 14 days of the nomination or any active ICPs with a blank MEP.

There is a report in place that notifies the team immediately of any MEP rejections. Two of the 16,461 MEP nominations identified on the event detail report were rejections. ICP 1000597751PC5F7 was rejected because AMCI was incorrectly nominated and then this was reissued and accepted by MTRX. The remaining ICP 0000070101MQ9BB was rejected because TRUM was nominated in the first instance and then this was reissued and accepted by AMCI. Both have since transferred to CNIR.

As detailed in **section 3.3**, nine ICPs had the incorrect MEP nominated in the first instance due to ANZSIC updates nominating the incorrect MEP. This is recorded as non-compliance below.

ICP Decommissioning

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

In all cases, 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. Trustpower also advise the MEP responsible that a site is to be decommissioned with the exception of NGCM as Trustpower were being charged for the asset collection.

A sample of ten ICPs were examined, and I confirmed an attempt to read the meter was made at the time of removal. The final read for ICP 0349782024LCEBF was not entered resulting in 10 kWh not being reconciled. This is recorded as non-compliance in **section 12.7**. I have repeated the recommendation for this process to be automated in **section 3.9**. I also found one instance for ICP 0001080550TG828, which was decommissioned on 5 August 2021, but the MEP was not notified until 4 September 2021. This was due to the report to look for any ICPs ready for decommissioning or decommissioned where an MEP has not been notified not being in place at the time. The disconnected read wasn't entered which resulted in 10 kWh not being reconciled. This is recorded as non-compliance in **section 12.7**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.4 With: Clause 11.18 From: 01-Mar-21 To: 26-Nov-21	**TRUS** 11 ICPs with the incorrect MEP nominated in the first instance. MEP not notified for one of the sample of ten decommissioned ICPs checked. 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	The controls are strong, as the reporting in place will mitigate risk to an acceptable level. The audit risk rating is assessed to be low as the correct MEP subsequently nominated.

Actions taken to resolve the issue	Completion date	Remedial action status
All nominations to incorrect MEP's in the first instance have now been addressed and corrected. Some of these instances are caused by MEPs installing metering not requested by TRUS in the first instance, we continue to communicate with MEPs to avoid this where possible. Reporting in place since last audit that ensures MEPs are notified of DEC/DED sites on all occasions. The above instance of late notification was picked up after reporting was created and MEP was notified once identified in reporting.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Ongoing conversations with IHUB so that if they are using a MTRX meter instead or vice versa they are notifying TRUS early so a correction nomination can be made. Reporting in place since last audit that ensures MEPs are notified of DEC/DED sites on all occasions. This is monitored on a daily basis to ensure MEPs are notified in all instances.	Ongoing	

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

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

The trader must provide information specified in (a) to (j) above within 5 business days of trading (clause 9(2)).

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

Audit observation

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

Audit commentary

CNIR

New connection information timeliness

The new connection process is described in detail in **section 2.9**. MEP nomination occurs when the ICP is at "inactive - new connection in progress" status as part of the service request process. All MEP nominations were accepted within 14 business days of initial electrical connection.

The timeliness of status updates to active (for new connections) is set out on 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
Jan 2022	22	69.01%	5.85

Five of the late updates were made more than ten business days after the event date, and the latest update was made 23 business days after the event date. I checked both late updates for HHR new connections, five of the six late updates for NHH new connections, and ten of the 15 late updates for unmetered new connections. I found:

- the 10 updates for unmetered new connections were all for Auckland Transport, some of the field notifications went to TRUS instead of CNIR and some others were late due to processing issues which are now resolved through training and improved process documentation,
- the two late HHR new connections were late due to processing issues,
- the five late NHH new connections were late due to:
    - processing issues for four ICPs, and
    - one ICP required a reversal and correction, which then needs to be conducted manually in the registry because the automated update doesn't operate for corrections after reversals have been processed; the manual step was missed.

The late updates were accurately processed for the correct event date.

New connection information accuracy

Discrepancy reporting is in place to detect status mismatch between GTV and the registry for both NHH and HHR new connections, including:

- **Current status mismatch,**
- **New connections connected and no metering** - shows ICPs which have been connected, and do not have metering recorded in the Registry and/or GTV within ten business days, and within 20 business days; staff follow up the late metering paperwork with the MEP, and
- **CO date mismatch -** shows differences between GTV's connection date and the initial electrical connection date, which are investigated and resolved

The AC020 report identified one ICP with an initial electrical connection date populated which had not been made active. It was a timing difference and was made active effective from the initial electrical connection date after the report was run.

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 57 ICPs with date discrepancies, three discrepancies were not genuine because the ICPs were unmetered, and the active status date matched the initial electrical connection date.

The 54 ICPs with genuine discrepancies were checked:

Exception type	Quantity	Commentary
No IECD and MCD = active date	18	The Active date was correct for a sample of 10.
No IECD and no MCD and unmetered	36	The Active date was correct for a sample of 10.
Total	54	

MEP nomination

Manawa nominate the MEP at the same time as taking the ICP to the "inactive - new connection in progress" status. All new connections have an MEP nominated.

ANZSIC code population

There were ten late ANZSIC code updates for new connections and switch ins where the ANZSIC code was not populated within 20 business days of commencing trading. I found:

- three were backdated switches in, and
- seven were corrections after switching in with the incorrect code.

TRUS

New connection information timeliness

The new connection process is described in detail in **section 2.9**. MEP nomination occurs when the ICP is at "inactive - new connection in progress" status as part of the service request process. As discussed in **section 3.3**, there were 40 late updates to 1,12 (inactive new connection in progress) status for new connections, which also resulted in late MEP nominations. All MEP nominations were accepted within 14 business days of initial electrical connection.

The timeliness of status updates to active for new connections is set out on 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	358	14%	14.3
2016	140	80%	4.7
2017	169	91%	2.8
2018	120	91%	2.9
2020	487	92.60%	3.17
Jan 2021	642	88.26%	6.81
Dec 2021	417	92.14%	4.22

The level of compliance for new connections has continued to improve. 39 of the late updates were made more than 30 business days after the event date, and the latest update was made 752 business days after the event date. I checked all 24 late updates made 60 or more business days after the event date (which were NHH or unmetered), and all nine late updates for HHR new connections.

NHH late new connections

- 12 were due to corrections to the first active date. ICP 0000045843HRE91 was found to be incorrect. It was temporarily electrically connected for meter certification 5 May 2020 and then disconnected and was electrically connected by the network on 18 May 2020. Trustpower's original date of 5 May 2020 was correct, and the site should have been made inactive from 6 May 2020 until 18 May 2020. The temporary electrical connection without the network's written permission is recorded as non-compliance in **section 2.10** as part of the 11 ICPs. The incorrect first active date is recorded as non-compliance below and in **sections 2.1**, **3.8** and **12.7**.
- Seven updates were for unmetered new connections. Five were notified late by the distributor. Of these, three were streetlight ICPs and two were CCTV cameras. The remaining two updates were part of the Chorus clean-up project. All of these ICPs have since switched to CNIR.

- Two were new connections that were missed. ICP 1000577692PCAA1 was identified on the 185-day new connection pending report and was found to have been connected. A decommissioning request was received for ICP 1000582719PCA87 and this was made active and then decommissioned.
- ICP 1000599753PCDB2 was created by the network on 16 April 2021 as a new connection, but ICP 1000574360PCDD6 had been created for the same address and then "decommissioned - set up in error" on 27 March 2018 with the same existing certified metering and start reads of 6,299 and 17,323; it appears that the site has been consuming for the intervening period and should have been investigated before being made active for 2021 which is recorded as non-compliance below and in **sections 2.1, 3.8** and **12.7.**
- ICP 0000519838BU421 had a backdated status update but there was no change to the active date.

HHR late new connections

- Six were due to late notification from the field.
- Two were corrections to the first active date based on subsequent information received.

New connection information accuracy

GTV and Jobtrack continue to be used to manage new connections. Field service orders are raised in GTV and transferred to Jobtrack, and job closure information is transferred from Jobtrack to GTV. Work orders remain open and are monitored until completion paperwork is received.

Jobtrack is used to dispatch field services jobs. Some contractors input field results directly into Jobtrack, and others provide paperwork which is manually entered into Jobtrack. Open jobs are tracked daily using the Jobtrack operational reporting and followed up if paperwork is not received. Once paperwork is received GTV is updated, and the status update is automatically transferred from GTV to the registry.

The daily new connections automation process identifies ICPs which have meter certification and/or an initial electrical connection date but have not been updated to "active" status. Bulk processes are used to update these ICPs to "active" status based on the initial electrical connection date and meter certification date, in an effort to ensure that the registry is updated within five business days. Once connection paperwork is received, corrections to the "active" status date are carried out as required.

Trustpower do not expect to undertake any HHR new connections as this operation has now moved to the CNIR participant code and is included here as some TOU new connections were undertaken during the audit period. They followed the same general application process as new connections. Once the connection was ready, the TOU metering team liaised directly with the MEP to arrange meter installation. When determining the correct active date, Trustpower reviewed the HHR volume information to determine when consumption started.

Daily discrepancy reporting is in place to detect status mismatch between GTV and the registry for both NHH and HHR new connections, including:

- **Current status mismatch,**
- **New connections connected and no metering** shows ICPs which have been connected, and do not have metering recorded in the Registry and/or GTV within ten business days, and within 20 business days; staff follow up the late metering paperwork with the MEP, and
- **CO date mismatch** shows differences between GTV's connection date and the initial electrical connection date, which are investigated and resolved (Trustpower have adopted the last audit's recommendation that this is also checked against the registry date).

The AC020 report identified 58 ICPs with an initial electrical connection date populated which had not been made active:

- seven ICPs were moved to "decommissioned - set up in error" status,
- one ICP switched out, and
- 50 ICPs were moved to "active" status; 49 had active status dates consistent with the initial electrical connection date and ICP 0007201725RNFBD was switched in at the incorrect status (the switch has been withdrawn and is waiting for the losing trader update to "active" and then the switch can be re-requested).

Active dates for new connections were compared to the distributor's initial electrical connection date and the MEP's certification date using the AC020 report. The AC020 report identified 713 ICPs with date discrepancies, 53 discrepancies were not genuine because the ICPs were unmetered, and the active status date matched the initial electrical connection date.

The 660 ICPs with genuine discrepancies were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	32	I checked a sample of five of these and found: • for two ICPs the MEP had the incorrect meter certification date, and this has since been corrected and aligns with the first active date, • ICP 0007201217RNDC5 is a HHR new connection; the first active date is correct, but this was certified late as detailed in **section 2.11**, • ICP 1000599753PCDB2 has the incorrect first active date and is discussed above and is recorded as non-compliance below and in **sections 2.10, 3.8** and **12.7**, and • ICP 0007201222RN772 was certified within five business days of electrical connection and is compliant.
IECD ≠ active date and MCD = active date	12	I checked a sample of five of these and found: • for four of these, the distributor's initial electrical connection date was incorrect, and • ICP 0000758017WP638 was temporarily electrically connected on 03/03/21 but was not made active until 09/04/21; this is recorded as non-compliance below in **sections 2.10, 3.8** and **12.7** (one of the 11 ICPs temporarily electrically connected).
IECD ≠ active date and MCD ≠ active date	3	I checked all three and found: • ICPs 0000048279WE539 and 0007204477RN313) were switched in as a "new connection in progress" when they were already electrically connected; this has been recorded as non-compliance in the losing trader's audits and Trustpower is compliant., and • ICP 0007201223RNB37 is a HHR TOU new connection and was certified late which is recorded as non-compliance in **section 2.10** (this has since switched to CNIR).
IECD = active date and no MCD	38	I checked a sample of five and found that the meter certifications have since been loaded to the registry and the active dates are correct.

Exception type	Quantity	Commentary
No IECD and MCD = active date	550	I checked a sample of five NHH and five HHR new connections and found that these were all due to timing. The initial electrical connection date and meter certification dates matched in all instances.
No IECD and MCD ≠ active date	7	I checked a sample of five and found: • four had the correct active date, and • ICP 0007200869RN0A9 was temporarily electrically connected on 23/03/21 but was not made active until 26/03/21 which is recorded as non-compliance below and in **sections 2.10, 3.8** and **12.7** (one of the 11 ICPs temporarily electrically connected).
No IECD and no MCD	10	I checked a sample of five and found: • four had the correct active date, and • ICP 1002108871LC5B6 has the incorrect first active date and is recorded as non-compliance below in **sections 2.10, 3.8** and **12.7**.
No IECD and unmetered	8	I checked a sample of five and confirmed all were recorded as active for the correct date.
Total	660	

In addition to the three ICPs identified above, a further eight ICPs were identified with meter certifications earlier than the first active date. These were confirmed to be temporarily electrically connected to certify metering. The incorrect first active date is recorded as non-compliance below and in **sections 2.1, 2.10, 3.8** and **12.7**.

As identified in **section 2.11**, ICP 0000702000MP807 was electrically connected on 23 April 2021 but the meter was not installed until 4 May 2021. The period intervening should have been recorded as an unmetered supply. This is recorded as non-compliance below and in **sections 2.1** and **3.7**.

MEP nomination

Trustpower nominate the MEP at the same time as taking the ICP to the "inactive - new connection in progress" status. All new connections have an MEP nominated.

ANZSIC code population

There were 59 late ANZSIC code updates for new connections and switch ins where the ANZSIC code was not populated within 20 business days of commencing trading. I checked the ten latest updates and found:

- five were due to backdated new connections or switch ins, and
- five were corrections to new connections moving from construction to the end user's applicable code.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 of schedule 11.1 **CNIR** From: 04-Oct-21 To: 17-Jan-22 **TRUS** From: 01-Jan-21 To: 25-Nov-21	**CNIR** 22 late updates to active status for new connections. Ten late ANZSIC codes not updated within 20 days of commencing trading. **TRUS** 13 new ICPs (11 temporarily connected and ICPs 1000599753PCDB2 and 1002108871LC5B6) had the incorrect active status dates of the samples checked. 417 late updates to active status for new connections. 59 late ANZSIC codes not updated within 20 days of commencing trading. 40 late updates to 1,12 (inactive new connection in progress) status for new connections, which also resulted in late MEP nominations. ICP 0000702000MP807 unmetered load details not populated when electrically connected. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong as there is robust reporting and processes in place. The impact on settlement and participants is minor based on the number of genuine exceptions identified, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR		Identified
Robust reporting across the New Connection process to pick up discrepancies are worked daily by the New Connections Team.	Ongoing	
Paperwork timing is often a key cause of some late status updates, processes have been put in place to identify and follow-up on this outstanding paperwork	Sept 2022	
Current reporting around New Connection date mismatches (IED, CO, Metering, Certification) is robust and does identify any sites temporarily connected for certification purposes.		
TRUS		
Robust reporting across the New Connection process to pick up discrepancies are worked daily by the New Connections Team.		
Current reporting around New Connection date mismatches (IED, CO, Metering, Certification) is robust and does identify any sites temporarily connected for certification purposes.	Ongoing	
A gap in knowledge was identified and this will be filled by training within the teams.	March 2022	
Reporting will be introduced to stop TRUS from switching in sites at INC.	Sept 2022	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
CNIR		
With relatively new staff and processes and reports being transitioned from TRUS to CNIR, there was a transition time to get all reports and training completed.	Ongoing	
Ongoing development and improvement of processes will continue, and any reporting required will be introduced over the coming months	Sept 2022	
TRUS		
A gap in knowledge was identified during the Audit around temporarily connected sites. Training will be done within the relevant teams, specifically New Connections to improve our process around temporary connections.	March 2022	
Reporting will be introduced to stop TRUS from switching in sites at INC that will mean we will no longer bring in sites prior to the ALT updating the status to CO.	Sept 2022	

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 for both the CNIR and TRUS participant codes. The registry list and AC020 reports were reviewed and ANZSIC codes were checked for a sample of ICPs to determine compliance for both.

Audit commentary

CNIR

ANZSIC codes are captured at the point of customer registration or switch in. Validation occurs to ensure there are no blanks or T99 fields. There is also a check between business tariff and residential ANZSIC code.

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

- no ICPs had T99 series, blank or unknown ANZSIC codes, and
- no ICPs with meter category two or higher had residential ANZSIC codes.

I checked a diverse sample of 60 active ICPs across the ten most frequently applied ANZSIC codes:

- 55 ICPs were confirmed to have the correct ANZSIC code applied, and
- five were incorrect and have now been updated.

TRUS

ANZSIC codes are captured at the point of customer registration and then reconfirmed as part of the welcome call to newly connected customers. ANZSIC code discrepancies between GTV and the registry are identified and resolved as part of the registry discrepancy reporting process. As detailed in **section 3.3**, the reporting has been refined during the audit period to consider customer name as part of the validation process.

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

- two ICPs with a T994 series ANZSIC codes, which were corrected through Trustpower's normal processes prior to the audit,
- no ICPs with meter category three and residential ANZSIC codes,
- 14 ICPs with meter category two and residential ANZSIC codes; these were checked and found:
    - seven ICPs were correct, and
    - seven have been corrected from the customer's move in date.

I checked a diverse sample of 120 active ICPs across the 20 most frequently applied ANZSIC codes:

- 111 ICPs were confirmed to have the correct ANZSIC code applied, and
- nine ICPs were found to be incorrect and have since been corrected which represents a 7.5% error rate.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: 9 (1(k) Schedule 11.1 **CNIR** From: 01-Oct-21 To: 10-Mar-22 **TRUS** From: 01-Mar-21 To: 26-Nov-21	**CNIR** Five incorrect ANZSIC codes of a sample of 60 ICPs sample (error rate 8.3%). **TRUS** Seven category 2 ICPs with a residential ANZSIC code applied. Nine of the 120 ICPs sampled with an incorrect ANZSIC code applied. Potential impact: None Actual impact: None Audit history: Once previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong because they mitigate risk to an acceptable level. 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
CNIR Most examples are instances where we have switched a property in with the incorrect ANZSIC code. The implementation of new reporting limited the capability during the early period of transition to identify where an existing ANZSIC code may be incorrect. Reporting is now in place, and additional training will be given to help correctly identify the appropriate ANZSIC codes. **TRUS** **ANZIC codes – Cat 2 ICPs with a residential code applied:** 0007115757RN8B0 – Residential is correct code applied 0006004920RNDB8 – Residential is correct code applied 0000130745WE70F – Residential is correct code applied All other ICP's on this list have since been corrected as advised. A report was created after last year's audit findings that included looking at Cat 2 ICP's with a residential ANZSIC code. We have logged a ticket asking for more enhancements for better visibility and functionality. **ANZSIC codes – Incorrect code applied:** Most examples are instances where we have switched a property in with the incorrect ANZSIC code. As highlighted in last year's audit response we don't have the capability at this time to identify where an existing commercial ANZSIC code may be incorrect, and no way of practically determining that. One way of mitigating part of the problem may be to monitor "House Construction" where an ICP has switched in with this code, or where this code has been in place for some time. A ticket has been logged to analyse if this is a viable option to add to our reporting capability.	Ongoing Ongoing Ongoing September 2022	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
CNIR Reporting and processes have been amended to better capture changes to ANZSIC codes at signup and capture potential variances on an ongoing basis. We believe we have taken best endeavours to help achieve compliance in this area with reporting enhancements	Done	
TRUS Our reporting has been amended to highlight CAT 2 sites better. Our training and training documents have been updated to ensure these are not missed and are completed within expected timeframes.	Completed	
ANZSIC codes – Incorrect code applied: Most examples occurred when we have switched a property in with the incorrect ANZSIC code. As highlighted in last year's audit we don't have the capability to identify where an existing commercial ANZSIC code may be incorrect.	Ongoing	
One way of mitigating part of the problem may be to monitor "House Construction" where an ICP has switched in with this code, or where this code has been in place for some time. A ticket has been logged to analyse if this is a viable option to add to our reporting capability. We believe we have taken best endeavours to help achieve compliance in this area with reporting enhancements.	September 2022	

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

the code ENG - if the load is profiled through an engineering profile in accordance with profile class 2.1 (clause 9(1)(f)(i)); or

the daily average kWh of unmetered load at the ICP - in all other cases (clause 9(1)(f)(ii)).

Audit observation

The processes to manage unmetered load were examined for both the CNIR and TRUS participant codes.

The audit compliance reports for both were examined to identify any ICPs where:

- unmetered load is identified by the distributor, but none is recorded by CNIR/TRUS, and
- CNIR/TRUS' unmetered load figure does not match with the Distributor's figure where it was possible to calculate this if the Distributor is using the recommended format and the variance is greater than 0.1 kWh per day (0.1 kWh per day was chosen as a sample only; this does not indicate compliance is achieved if an error is found that is less than 0.1 kWh per day).

Audit commentary

CNIR

Manawa has strong controls in place for the management of unmetered load. Discrepancy reports identify differences between the trader and distributor unmetered load fields in both GTV and the registry. Discrepancies are investigated with assistance from the account manager and/or customer, and the distributor.

Manawa supplies 2,383 active ICPs with the unmetered flag set to "yes". 57 ICPs are indicated to be distributed unmetered load, one ICP has shared unmetered load, and the remainder have standard unmetered load.

Distributor and trader unmetered load details were compared using the AC020 report and registry list. The table below lists the discrepancies found.

Issue	Dec 2022 ICPs	Comments
Daily kWh difference more than 1.0 kWh per day	17	It appears Manawa's field is correct.
Distributor's unmetered field is populated but the retailer field is not populated	4	All the ICPs are metered but have distributor unmetered load details recorded. The distributor's field is incorrect.
Unmetered flag = Y but daily unmetered kWh = 0	5	The ICPs are for unmetered residual load, and zero daily unmetered kWh is correctly recorded.
The retailer's unmetered load fields are populated but the distributor's are not	422	I checked 26 examples. Manawa is correct for 24 ICPs and ICPs 0000508311NR56A and 0000010398EA0D0 are being investigated.

The previous audit exception relating to on hours for ICP 0000175658WT7E2 has been corrected.

Unmetered BTS

I checked the registry list and did not identify any active unmetered BTS ICPs.

TRUS

All unmetered load new connections or capacity changes require an application to Trustpower that is reviewed and authorised to ensure accuracy.

Daily discrepancy reports identify differences between the trader and distributor unmetered load fields in both GTV and the registry. Discrepancies are investigated with assistance from the account manager and/or customer, and the distributor. With the splitting of the business, Trustpower has a new team looking after the unmetered space and further training is intended to be provided to bring them up to speed.

Trustpower supplies 330 active ICPs with the unmetered flag set to "yes". 93 ICPs are indicated to have shared unmetered load, and the remainder have standard unmetered load.

Distributor and trader unmetered load details were compared using the AC020 report. The table below lists the discrepancies found.

Issue	Dec 2021 ICPs	Jan 2021 ICPs	2020 ICPs	2018 ICPs	2017 ICPs	2016 ICPs	Comments
Daily kWh difference more than 0.1 kWh per day	2	42	30	118	762	1,344	ICP 0000540598TU2BD has the shared unmetered load recorded incorrectly for both the trader and the distributor due to the incorrect load description. This is being corrected to 2.392 kWh. ICP 0000540598TU2BD has shared unmetered load and is incorrect. This is being corrected to 0.27 kWh. These are recorded as non-compliance below and in **sections 2.1** and **5.1.**
Daily kWh difference more than 1.0 kWh per day	-	27	19	37	189	122	Compliant
Distributor's unmetered field is populated but the retailer field is not populated	1	11	24	27	31	43	ICP 0005732298RN43C has the load recorded in GTV and is this is being reconciled but not in the registry. This has been corrected.
Unmetered flag = Y but daily unmetered kWh = 0	2	2	5	4	2	4	In both cases (ICPs 0000842905WPDC2 and 0000602090WP7E0), the customer wishes for the ICP to remain active as the customer does not want to disconnect as the transformer will be removed. This has been agreed with the network.

As identified in **section 2.11**, ICP 0000702000MP807 was electrically connected on 23 April 2021 but the meter was not installed until 4 May 2021. The period intervening should have been recorded as an unmetered supply. This is recorded as non-compliance below and in **sections 2.1** and **3.7**.

The previous audit exception relating to on hours for ICP 0000175658WT7E2 has been corrected and has now switched to CNIR.

Unmetered BTS

I checked the registry list to identify active unmetered BTS ICPs. Eight active unmetered BTS ICPs were identified. Five of these were confirmed to be valid unmetered BTS supplies. The remaining three ICPs have since been moved to permanent supplies as part of BAU.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 01-Mar-21 To: 26-Nov-21	**TRUS** Two ICPs had incorrect daily unmetered kWh recorded on the registry. ICP 0000702000MP807 unmetered load details not populated when electrically connected. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate due to the change of staff, training is planned to bring the new team up to speed. The impact on settlement and participants is minor, as the discrepancies are very small.

Actions taken to resolve the issue	Completion date	Remedial action status
Shared Unmetered Load UML compliance has been a challenge for our team in recent times however the future looks brighter in this area. We now have Power BI discrepancy reporting in place and have recently trained two of our newer team members in the task, and with the move of the Chorus sites to Manawa Energy, the workload in this space is significantly more manageable. 0000540598TU2BD – Logged for correction by the RA team 0900086782PC61A – Logged for correction by the RA team	Completed June 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We now have the capacity and capability to identify and correct shared unmetered load discrepancies in a timely manner.	Completed	

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

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

The reconnection process was examined using the AC020 and event detail reports for both the CNIR and TRUS participant codes.

- The timeliness and accuracy of data for new connections is assessed in **section 3.5**.
- The timeliness of data for reconnections is assessed in **section 3.3**, and a sample of 20 updates were checked for accuracy.

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

Audit commentary

CNIR

GTV will not allow more than one party per ICP, nor will it allow an ICP to be set up without either a meter or, if it is unmetered, the daily kWh. When an ICP is loaded in GTV the user must specify whether the load is metered or unmetered.

New connections

The new connection process is described in **section 2.9**. New ICPs are updated to active status once Manawa confirms the ICP is connected. This is normally when connection paperwork is received or HHR volumes begin to be recorded. In some cases, the distributor or MEP may update their connection information on the registry before connection paperwork is received. The daily new connections automation process identifies ICPs which have meter certification and/or an initial electrical connection date but have not been updated to active status. Bulk processes are used to update these ICPs to active status based on the initial electrical connection date and meter certification date, in an effort to ensure that the registry is updated within five business days. Once connection paperwork is received, corrections to the active status date are carried out as required.

The AC020 report identified one ICP with an initial electrical connection date populated which had not been made active. It was a timing difference and was made active effective from the initial electrical connection date after the report was run.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. As recorded in **section 3.5**, Manawa's date was correct for a sample of 20.

Reconnections

GTV and Jira are used to manage reconnections. Field service orders are raised in GTV and transferred to a Jira ticket, which is pasted into an email. Job closure information is entered into GTV and is automatically transferred from GTV to the registry. Discrepancy reporting is in place to detect status mismatches between GTV and the registry.

Wherever possible reconnections are conducted remotely. If remote reconnection cannot occur, a field services contractor is dispatched.

A sample of ten reconnections were checked, and I confirmed that the status and date had been applied correctly. In all but one example, reconnection readings were provided.

Timeliness of status updates to active

Some late status changes to active are recorded as non-compliance in **sections 3.3** and **3.5**.

TRUS

GTV will not allow more than one party per ICP, nor will it allow an ICP to be set up without either a meter or, if it is unmetered, the daily kWh. When an ICP is loaded in GTV the user must specify whether the load is metered or unmetered.

New connections

As described in **section 3.5**, new ICPs are updated to "active" status once Trustpower confirms the ICP is connected. This is normally when connection paperwork is received or HHR volumes begin to be recorded. In some cases, the distributor or MEP may update their connection information on the registry before connection paperwork is received. The daily new connections automation process identifies ICPs which have meter certification and/or an initial electrical connection date but have not been updated to "active" status. Bulk processes are used to update these ICPs to "active" status based on the initial electrical connection date and meter certification date, in an effort to ensure that the registry is updated within five business days. Once connection paperwork is received, corrections to the "active" status date are carried out as required.

The AC020 report identified 58 ICPs with an initial electrical connection date populated which had not been made active:

- seven ICPs were moved to "decommissioned - set up in error" status,
- one ICP switched out, and
- 50 ICPs were moved to "active" status; 49 had active status dates consistent with the initial electrical connection date and ICP 0007201725RNFBD was switched in at the incorrect status; the switch has been withdrawn and is waiting for the losing trader update to "active" and then the switch can be re-requested.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report and found:

- ICP 1002108871LC5B6 was created by the network on 4 May 2021 to replace ICP 0123630002LC0F1 that had been decommissioned in error on 24 May 2019; the distributor should have returned the original ICP to "active" when the customer called in to query why they had had not had a power bill but instead the new ICP was backdated to "active" for 25 May 2019 (it had a certified meter throughout this period and was recertified on 31 May 2021) - the volumes from May 2019 through to February 2020 will not be reconciled as it is beyond the revision cycle and I estimate that 1,310 kWh will not have been submitted based on the meter readings taken at the point of disconnection and the new ICP being made "active" which is recorded as non-compliance in **sections 2.1, 3.5** and **12.7**,
- as detailed in **section 3.5**, ICP 1000599753PCDB2 was created by the network on 16 April 2021 as a new connection, but ICP 1000574360PCDD6 had been created for the same address and then "decommissioned - set up in error" on 27 March 2018 with the same existing certified metering and start reads of 6,299 and 17,323; it appears that the site has been consuming for the intervening period and should have been investigated before being made active for 2021 which is recorded as non-compliance below and in **sections 2.1**, **3.5** and **12.7.**

11 ICPs were identified with meter certifications earlier than the first active date. These were confirmed to be temporarily electrically connected to certify metering. The incorrect first active date is recorded as non-compliance below and in **sections 2.1, 2.10, 3.5** and **12.7**.

Reconnections

GTV and Jobtrack are used to manage disconnections and reconnections. Field service orders are raised in GTV and transferred to Jobtrack, and job closure information is transferred from Jobtrack to GTV.

Jobtrack is used to dispatch field services jobs. Some contractors input field results directly into Jobtrack, and others provide paperwork which is manually entered into Jobtrack. Open jobs are tracked daily using the Jobtrack operational reporting and followed up if paperwork is not received. Daily discrepancy reporting is in place to detect status mismatch between GTV and the registry.

Wherever possible reconnections are conducted remotely. If remote reconnection cannot occur, a field services contractor is dispatched.

A sample of 20 reconnections were checked, and I confirmed that the status and date had been applied correctly for all but two ICPs (0000931333NVFD5 and 0119010321LC5F4). This was due to revenue assurance returning the ICP to an "active" status to reconcile unbilled quantities and these should have then been returned to an "inactive" status, but that step was missed. These have both been corrected.

As detailed in **section 3.3**, two were due to the ICPs (0000050533TR977 and 0000161189TR1B5) being reconnected for an earlier date than the NT request date. This stops the active event going to the registry. These should have been withdrawn and requested for the correct date as the volumes will be reconciled to the incorrect period. This is recorded as non-compliance in **sections 2.1, 3.8** and **12.7**.

I re-checked ICP 1000510999PCD42, which was found to have an incorrect status date in the previous audit**.** The reconnected date should be 24 July 2019 but is still recorded as 13 August 2019. This has not been corrected and is now outside of the 14-month revision cycle.

As detailed in the last two audits, I found that when reconnections are processed, reads are only usually entered if reconnection coincides with a meter change. I repeat the recommendation that disconnection and reconnection reads should be recorded to ensure that consumption is reported against the correct consumption period. This is unlikely to occur until Jobtrack is replaced and this is will not be considered until the sale of the TRUS code is completed, but I have repeated the recommendation to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Enter reconnection reads into GTV	Reconnection readings should be entered wherever possible to ensure that consumption is apportioned to the correct period by the historic estimate process. Because GTV's historic estimate process allocates all consumption in each read-to-read period against the active days within the read period, it will be important to ensure that no consumption is present during read-to-read periods which are entirely inactive. If consumption does occur during an inactive period, it is likely that the status is incorrect.	We agree that utilising reconnection contractor reads would be advantageous. When Jobtrack came up for review this year (Jobtrack = current software where jobs are managed) this was one area that was put forward as a consideration to address. The upgrade/replacement of this tool has now been put on hold pending the sale of Trustpower's retail division.	Investigating

Timeliness of status updates to active

Some late status changes to active are recorded as non-compliance in **sections 3.3** and **3.5**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 of schedule 11 From: 01-Mar-21 To: 26-Nov-21	**TRUS** 13 new ICPs (11 temporarily connected and ICPs 1000599753PCDB2 and 1002108871LC5B6) had the incorrect active status dates of the samples checked. ICPs 0000931333NVFD5 and 0119010321LC5F4 incorrectly left active. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong as there is robust reporting and processes in place. The impact on settlement and participants is minor based on the number of genuine exceptions identified, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
All ICP's with incorrect active status dates identified in the audit have now been corrected in both GTV and the Registry. A gap in knowledge was identified and this will be filled by training within the teams.	Done March 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
A gap in knowledge was identified during the Audit around temporarily connected sites. Training will be done within the relevant teams, specifically New Connections to improve our process around temporary connections.	March 2022	

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

Code reference

Clause 19 Schedule 11.1

Code related audit information

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

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

Audit observation

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

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

This was undertaken for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

Inactive - new connection in progress

As recorded in **section 1.7** there were 41 ICPs at this status in the list file. Manawa monitors any ICPs which have been at "inactive - new connection in progress" status for more than 185 days using their discrepancy reporting. The customer is contacted to determine whether the ICP is still required. If the ICP is not still required, the status is reversed back to "ready" and the distributor is advised. Action taken is recorded as a note within the discrepancy report and in the memos in GTV.

There are four ICPs which have been at "inactive - new connection in progress" for more than 24 months. One ICP was confirmed as still being required. Three ICPs are still being investigated to determine if they are still required.

As discussed in **section 3.8**, the AC020 report identified one ICP with an initial electrical connection date populated which had not been made active. It was a timing difference and was made active effective from the initial electrical connection date after the report was run.

Inactive Status (excluding new connection in progress)

ICPs are only changed to an inactive status once Manawa has received confirmation that the ICP is disconnected. Usually requests for disconnection are initiated by Manawa and completed by an approved contractor, but sometimes the distributor or MEP will disconnect ICPs for safety, or the distributor will disconnect for credit where they bill the customer for line charges directly. Contractors are periodically audited to ensure the appropriate policies and procedures are being complied with.

Disconnections are not a frequent event for Manawa. They mainly occur for safety, vacancy or where decommissioning is going to occur.

GTV and Jira are used to manage disconnections. Field service orders are raised in GTV and transferred to a Jira ticket, which is pasted into an email. Job closure information is entered into GTV and is automatically transferred from GTV to the registry. Discrepancy reporting is in place to detect status mismatches between GTV and the registry.

Disconnection readings are entered manually into GTV where they are provided.

I reviewed a sample of eight updates to inactive status, including at least five (or all) updates for each status reason code used during the audit period. The updates were accurately processed from the correct event date.

The AC020 report did not record any ICPs with 1,7 (Electrically disconnected due to meter disconnected) status where the AMI flag is set to no.

Inactive ICPs with consumption

There were no ICPs identified with inactive consumption. The process to manage any examples is discussed in **section 2.1.**

TRUS

Inactive - new connection in progress

As recorded in **section 1.7** there were 1,138 ICPs at this status in the list file. Trustpower monitors any ICPs which have been at "inactive - new connection in progress" status for more than 185 days using their discrepancy reporting. The customer is contacted to determine whether the ICP is still required. If the ICP is not still required, the status is reversed back to "ready", and the distributor is advised. Action taken is recorded as a note within the discrepancy report and in the memos in GTV.

There are 44 ICPs which have been at "inactive - new connection in progress" for more than 24 months. I checked an extreme case sample of the 15 oldest ICPs. I found that all had been followed up in the last year.

As discussed in **section 3.8**, the AC020 report identified 58 ICPs with an initial electrical connection date populated which had not been made active:

- seven ICPs were moved to "decommissioned - set up in error" status,
- one ICP switched out, and
- 50 ICPs were moved to active status; 49 had active status dates consistent with the initial electrical connection date but ICP 0007201725RNFBD was switched in at the incorrect status; the switch has been withdrawn and is waiting for the losing trader update to "active" and then the switch can be re-requested.

Inactive Status (excluding new connection in progress)

ICPs are only changed to an inactive status once Trustpower has received confirmation that the ICP is disconnected. Usually requests for disconnection are initiated by Trustpower and completed by an approved contractor, but sometimes the distributor or MEP will disconnect ICPs for safety, or the distributor will disconnect for credit where they bill the customer for line charges directly. Contractors are periodically audited to ensure the appropriate policies and procedures are being complied with.

When an ICP becomes vacant, Trustpower contacts the occupier requesting that they register for electricity supply. If no registration is received, the ICP will be disconnected seven to 14 days later.

After 20 days with no readings, disconnected AMI ICPs are moved to a manual meter reading route.

GTV and Jobtrack are used to manage disconnections and reconnections. Field service orders are raised in GTV and transferred to Jobtrack, and job closure information is transferred from Jobtrack to GTV.

Jobtrack is used to dispatch field services jobs. Some contractors input field results directly into Jobtrack, and others provide paperwork which is manually entered into Jobtrack. Open jobs are tracked daily using the Jobtrack operational reporting and followed up if paperwork is not received. Daily discrepancy reporting is in place to detect status mismatch between GTV and the registry.

ICP 0151745161LC3F3 was incorrectly backdated to "inactive" on 15 April 2021 for 25 June 2020 due to human error. This was reversed during the audit returning the ICP to "active". This will have resulted in the volumes for the R14 revisions for the months of July to November 2020 not being submitted. The other affected revisions will be washed up through the revision process. This is recorded as non-compliance below and in **section 12.7**.

As detailed in **section 3.3**:

- three (ICPs 0001030951TG668, 0000507276DEB8F and 0000507275DE74F) were new connections that never progressed; the "new connection in progress" status should have been reversed and the network should have decommissioned these as set up in error, but these were instead recorded as "installation dismantled"; the use of the incorrect inactive status is recorded as non-compliance below, and
- ICP 1000020907BP931 was an ICP amalgamation; the ICP should be decommissioned and Trustpower are contacting the customer to progress this.

As reported in the last two audits, there is no automated process to enter disconnection reads into GTV. Reads for credit disconnections are usually manually entered into GTV from the disconnection paperwork. As noted in **section 3.8**, this is unlikely to occur until Jobtrack is replaced and this is will not be considered until the sale of the TRUS code is completed, but I have repeated the recommendation to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Enter disconnection reads into GTV	Disconnection readings should be entered wherever possible to ensure that consumption is apportioned to the correct period by the historic estimate process. Because GTV's historic estimate process allocates all consumption in each read-to-read period against the active days within the read period, it will be important to ensure that no consumption is present during read-to-read periods which are entirely inactive. If consumption does occur during an inactive period, it is likely that the status is incorrect.	We agree that utilising disconnection contractor reads would be advantageous. When Jobtrack came up for review this year (Jobtrack = current software where jobs are managed) this was one area that was put forward as a consideration to address. The upgrade/replacement of this tool has now been put on hold pending the sale of Trustpower's retail division.	Investigating

I reviewed a sample of 45 updates to "inactive" status, including at least five (or all) late status updates for each status reason code used during the audit period. The updates were accurately processed from the correct event date.

Ten examples of inactive ICPs with consumption were checked in **section 2.1**. All were found to have been correctly processed.

The AC020 report recorded 31 ICPs with 1,7 "electrically disconnected due to meter disconnected" status where the AMI flag is set to no. All had the AMI flag set to yes at the time the disconnection event was processed.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 01-Mar-21 To: 26-Nov-21	**TRUS** ICP 0151745161LC3F3 was incorrectly backdated to inactive on 15/04/21 for 25/06/20 due to human error resulting in the volumes for the R14 revisions for the months of July to November 2020 not being submitted. Three ICPs recorded as ready for decommissioning in error. ICP 1000020907BP931 was recorded as disconnected meter removed in error. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong as there is robust reporting and processes in place. The impact on settlement and participants is minor based on the number of genuine exceptions identified, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
New connections: ICP's with incorrect inactive status dates identified in the audit have now been corrected where possible in both GTV and the Registry. The New Connection team has been advised that cancelled New Connections will no longer be updated to DEC. Revenue Assurance: 0151745161LC3F3 – Request logged with the RA team to process a case to ensure the missed consumption is correctly submitted. Human error and one-off incident.	Done Done	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The New Connection team has been advised that cancelled New Connections will no longer be updated to DEC. The process for cancelling New Connections will be the same across the board for all Networks. Revenue Assurance: Highlighted the error to the team and used this as a training opportunity.	Done Done	

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

I analysed a registry list of ICPs with “new” or “ready” status and CNIR or TRUS as the proposed trader, and reviewed processes to monitor new connections.

Audit commentary

CNIR

Manawa take all new connections to the “inactive - new connection in progress” status. Discrepancy reporting is in place to identify ICPs where Manawa is recorded as the proposed trader and the ICP is not loaded in GTV.

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.

Ready status

ICPs at “ready” status are monitored using discrepancy reporting, and review dates are set for each ICP based on information provided by the customer or their electrician. Notes on action taken are recorded in the discrepancy report and in the GTV memos.

No ICPs have been at “ready” status for more than 24 months.

New status

ICPs at “new” status are not actively monitored. If the distributor enters any information indicating that a new ICP has been connected, such as an initial electrical connection date, the ICP will appear in the connection date discrepancy reporting and be investigated.

No ICPs have been at “new” status for more than 24 months.

TRUS

Trustpower take all new connections to the “inactive - new connection in progress” status. Daily discrepancy reporting is in place to identify ICPs where Trustpower is recorded as the proposed trader and the ICP is not loaded in GTV.

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.

Ready status

ICPs at “ready” status are monitored using discrepancy reporting, and review dates are set for each ICP based on information provided by the customer or their electrician. Notes on action taken are recorded in the discrepancy report and in the GTV memos.

Two ICPs have been at “ready” status for more than two years. Trustpower are the proposed trader for ICP 0001187170WF770 which has been ready since 2008. This is an SB ICP for the New Zealand Windfarm generation. This is not an embedded generator, so the SB ICP is no longer required. The network has been advised that ICP 0000046087HRA99 can be “decommissioned-set up in error” sometime ago.

New status

ICPs at “new” status are not actively monitored. If the distributor enters any information indicating that a new ICP has been connected, such as an initial electrical connection date, the ICP will appear in the connection date discrepancy reporting and be investigated.

No ICPs have been at “new” 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 unmetered ICP at which another trader supplies electricity, or the trader assumes responsibility for such an ICP.

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

A gaining trader must advise the registry manager of a switch no later than 2 business days after the arrangement comes into effect and include in its advice to the registry manager that the switch type is TR and one or more profile codes associated with that ICP.

Audit observation

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

Audit commentary

CNIR

Manawa's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986.

Switch type is selected based on information provided by the customer on application. The customer is asked whether they are moving to a new address or remaining at the same address and transferring between retailers as part of the application process.

Commercial and industrial contracted customers usually switch between retailers on the first day after their contract term ends to avoid paying contract termination fees for switching early, or standard pricing where they remain with a retailer after their contract ends. Contract customers such as district and city councils may switch large numbers of ICPs between retailers at one time.

Review of the event detail report found no transfer NTs were issued.

TRUS

Trustpower's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. Trustpower confirmed that they do not hold electricity only customer switches for the five-business day cooling off period, and instead withdraw the switch if the customer changes their mind. Switches for bundled customers (which purchase telecommunications as well as energy) are held for the five-business day cooling off period. Both approaches are confirmed to be a compliant practice as advised by the Electricity Authority via email on May 22nd, 2013.

Switch type is selected based on information provided by the customer on application. The customer is asked whether they are moving to a new address or remaining at the same address and transferring between retailers as part of the application process.

In some cases where a certain switch event date is required, Trustpower requests a switch move instead of a transfer switch with the agreement of the losing trader. While it is possible to request a standard switch with a proposed switch event date, the losing trader may elect to use a different date. For switch moves, the losing trader should comply with the requested date, increasing the likelihood that the ICPs will switch on the correct date. This practice is still used; and led to an alleged breach during the previous audit period, which was not pursued, and no warning was issued. I found no evidence of this occurring during the audit period therefore I have recorded compliance.

Review of the event detail report found 10,584 transfer NTs were issued. The highest metering category was checked for the 10,572 ICPs with transfer NTs which were also included on the registry list snapshot report. None of the ICPs checked had a metering category of three or higher.

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

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 for CNIR and TRUS to:

- identify AN files issued during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- ANs were reviewed to determine whether the codes had been correctly applied.

The switch breach history report for both codes CNIR and TRUS were examined for the audit period, and reports used in the switching process were reviewed.

Audit commentary

CNIR

AN content

I checked AN response codes for all three transfer switches and found they were correctly applied.

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

- two ANs (66.67%) had proposed event dates within five business days of NT receipt, and
- all ANs (99.6%) had proposed event dates within ten business days of NT receipt.

AN timeliness

Manawa monitors the timeliness of switches using the switch breach report.

The switch breach history report did not record any late AN files for transfer switches.

TRUS

AN content

I checked AN response codes for all 1,239 transfer switches and confirmed all were correct.

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

- 1,085 ANs (87.5%) had proposed event dates within five business days of NT receipt,
- 1,234 ANs (99.6%) had proposed event dates within ten business days of NT receipt, and
- five ANs had proposed event dates more than ten business days of NT receipt, and in all cases the proposed event date matched the date requested by the gaining trader in the NT file.

AN timeliness

Trustpower monitors the timeliness of switches using:

- the Electricity Switch Loss Approve Errors (HOLDS) report, which shows any ICPs which require intervention or review before GTV can issue the AN file, such as switch move NTs received for occupied premises, and ICPs with no reads during the period of supply (the held ICPs are worked through daily, and prioritised by the AN due date), and
- the switch breach history report is monitored three to four times per day to ensure that ANs are issued by their due date.

Switch timeliness and event date setting is also monitored using Trustpower's switching compliance report, which is reviewed monthly.

The switch breach history report did not record any late AN files for transfer switches.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: Clauses 3 and 4 Schedule 11.3 From: 08-Jul-21 To: 15-Nov-21	**TRUS** Five ICPs with proposed event dates greater than ten business days of the NT receipt 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 AN code assignment is automated based on hierarchy and the AN proposed dates process is robust. The impact is assessed as low as the AN dates matched those requested by the gaining trader.

Actions taken to resolve the issue	Completion date	Remedial action status
We acknowledge that our AN response controls are strong. In 2021 a support ticket was logged to prevent GTV from sending AN's that are more than 10 business in advance of the NT receipt.	September 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Following the fix being implemented in January; we have found an example that indicates the controls are not working as intended for GTV automated AN response on transfers. Another support ticket has been logged to find a more appropriate fix to ensure there will be no further issues of non-compliance.	September 2022	

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 5 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 CNIR and TRUS during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records. 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

CNIR

CS timeliness

Manawa monitors the timeliness of switches using the switch breach report to ensure that AN and CS files are issued by their due date.

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

CS content

Average daily kWh is based on the consumption between the last two validated actual or permanent estimate readings recorded in GTV. When an ICP switches out without at least two actual readings the average daily kWh from the incoming CS is applied.

Analysis of the average daily kWh on the event detail report did not identify any transfer CS files with average daily kWh that was negative, zero or over 200 kWh.

I checked for inconsistencies between last actual read dates and switch event read types both transfer CS files issued during the audit period and did not identify any issues. The content of the two CS files was checked and this confirmed accuracy.

The switch breach history report did not record any breaches.

TRUS

CS timeliness

Trustpower monitors the timeliness of switches using:

- the Electricity Switch report, which shows any CS files which are due to be issued, and
- the switch breach history report is monitored three to four times per day to ensure that AN and CS files are issued by their due date.

The switch breach history report recorded one TR breach for ICP 0001042680PC1A0 which was missed due to human error.

CS content

Average daily kWh is based on the consumption between the last two validated actual or permanent estimate readings recorded in GTV. When an ICP switches out without at least two actual readings the average daily kWh from the incoming CS is applied. Zero-day bills are not automatically produced, the previous invoice is reversed and replaced with a final invoice.

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

Average daily kWh	Count of transfer CS files	Comment
Negative	0	Compliant.
Zero	19	A typical sample of five files were checked. Four were correct. ICP 0001061745AL30B was incorrectly recorded as zero. Trustpower are investigating as to why this has occurred.
More than 200 kWh	1	The value was confirmed to be correct.

I checked for inconsistencies between last actual read dates and switch event read types for all 842 transfer switch CS files and found one CS file with a last actual read date on the event date. This was due to human error and the switch was subsequently withdrawn and the correct details were sent on the subsequent CS file.

I checked a sample of eight transfer CS files to determine whether the content was accurate and found the content was correct for all files checked.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 Schedule 11.3 From: 05-May-21 To: 15-Jul-21	**TRUS** One TR breach. CS average daily consumption of zero was invalidly recorded for 0001061745AL30B (15/07/21). Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong, as there are robust checks in place to mitigate risk. 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
TR Breach ICP 0001042680PC1A0 – A thorough investigation has found the incorrect switch type was missed in error and the site was allowed to switch out as a Move In rather than a Transfer. CS Average daily load 0 – This was a system issue the ICP did not have an ADL loaded in GTV. A support ticket has been logged to analyse accounts that have a 0 ADL.	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TR Breach – Additional training has been delivered to ensure that the correct switch type is being identified and actioned appropriately. CS Average Daily Load – A ticket logged to explore installations with 0 ADL will be given urgent priority. A further support ticket has been logged to create reporting that will capture existing accounts with 0 ADL so that these can be amended.	04/2022 09/2022	

4.4. Retailers must use same reading - standard switch (Clause 6(1) and 6A Schedule 11.3)

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

The losing trader and the gaining trader must both use the same switch event meter reading as determined by the following procedure:

- *if the switch event meter reading provided by the losing trader differs by less than 200 kWh from a value established by the gaining trader, the gaining trader must use the losing trader's validated meter reading or permanent estimate (clause 6(a)); or*
- *the gaining trader may dispute the switch meter reading if the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more. (clause 6(b)).*

If the gaining trader disputes a switch meter reading because the switch event meter reading provided by the losing trader differs by 200 kWh or more, the gaining trader must, within 4 calendar months of the registry manager giving the gaining trader written notice of having received information about the switch completion, provide to the losing trader a changed switch event meter reading supported by 2 validated meter readings.

- *the losing trader can choose not to accept the reading, however, must advise the gaining trader no later than 5 business days after receiving the switch event meter reading from the gaining trader (clause 6A(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader. (clause 6A(b)).*

Audit observation

The process for the management of read change requests was examined for both the CNIR and TRUS participant codes.

The event detail reports were reviewed 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 both CNIR and TRUS' 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 both CNIR and TRUS' systems.

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

Audit commentary

CNIR

RR

RR requests are generally initiated via email between the two parties and once agreement has been reached, an RR file is sent to complete the process. RR requests are required to be supported by two validated actual readings.

Once an acknowledgement file is received from the other trader, the switching team advises the billing team of the outcome, and the billing team manually updates GTV and corrects the customer's billing.

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

AC

All RR requests are evaluated and validated against the ICP information. If the request meets validation requirements it is accepted.

Manawa did not issue any AC files during the audit period.

CS files without RRs raised

There were no incoming transfer CS files with estimated reads.

TRUS

RR

RR requests are generally initiated via email between the two parties and once agreement has been reached, an RR file is sent to complete the process. RR requests are required to be supported by two validated actual readings. The issue identified in the last audit where customer reads, or customer photo reads were used as validated reads as part of the RR process is no longer occurring. Training was provided so that RRs are only issued based on two actual validated reads.

Once an acknowledgement file is received from the other trader, the switching team advises the billing team of the outcome, and the billing team manually updates GTV and corrects the customer's billing.

Trustpower issued 55 RR files for transfer switches. 51 were accepted and four were rejected. A sample of all rejected files and five accepted files were checked, and all were compliant.

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

AC

All RR requests are evaluated and validated against the ICP information. If the request meets validation requirements it is accepted.

No AC files were issued by Trustpower, and the switch breach history report did not record any late AC files.

CS files without RRs raised

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

Audit outcome

Compliant

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

- *the gaining trader will trade electricity from a meter with a half hour submission type in the registry (clause 6(2)(b);*
- *the gaining trader within 5 business days after receiving final information from the registry manager, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading.*

Audit observation

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

Audit commentary

CNIR

No RR or AC files were issued by Manawa.

TRUS

No AC files were issued by Trustpower.

Trustpower did not issue any RR requests under clause 6(2) and (3) of Schedule 11.3, no transfer switches were issued with a profile indicating a HHR submission type. No RRs for transfer switches were issued within five business days of switch completion.

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 CNIR and TRUS whether any disputes have needed to be resolved in accordance with this clause.

Audit commentary

CNIR

Manawa confirms that no disputes have needed to be resolved in accordance with this clause.

TRUS

Trustpower confirms that no disputes have needed to be resolved in accordance with this clause.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.3

Code related audit information

The switch move process applies where a gaining trader has an arrangement with a customer or embedded generator to trade electricity at an ICP using non half-hour metering or an 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 processes were examined to determine when CNIR and TRUS deem all conditions to be met. A typical sample of ten ICPs were checked for each participant code to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

CNIR

Manawa's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986.

Switch type is selected based on information provided by the customer on application. The customer is asked whether they are moving to a new address or remaining at the same address and transferring between retailers as part of the application process.

Commercial and industrial contracted customers usually switch between retailers on the first day after their contract term ends to avoid paying contract termination fees for switching early, or standard pricing where they remain with a retailer after their contract ends. Contract customers such as district and city councils may switch large numbers of ICPs between retailers at one time.

Review of the event detail report found 14,271 switch move NTs were issued. The highest metering category was checked for the 11,888 ICPs with switch move NTs which were also included on the registry list with history. ICP 0000165174CK6DC is Category 3 but had an MI switch request sent. At the time the NT was sent, there were no metering details loaded in the registry, therefore I have recorded compliance because there was no way of knowing what the metering category was going to be.

Nine of the ten NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected. ICP 0032789710NP18D was not sent within two business days due to a processing delay immediately after the TRUS/CNIR transition.

TRUS

Trustpower's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. Trustpower confirmed that they do not hold electricity only customer switches for the five-business day cooling off period, and instead withdraw the switch if the customer changes their mind.

Switch type is selected based on information provided by the customer on application. The customer is asked whether they are moving to a new address or remaining at the same address and transferring between retailers as part of the application process.

Review of the event detail report found 20,167 switch move NTs were issued. The highest metering category was checked for the 20,151 ICPs with switch move NTs which were also included on the registry list snapshot report. None of the ICPs checked had a metering category of three or higher at the time the NT was issued.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.7 With: Clause 9 Schedule 11.3 From: 01-Oct-21 To: 03-Nov-21	**CNIR** One late NT file. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. 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
CNIR The team are aware of the requirement to have a switch request on the registry within 2 business days of preconditions being cleared. The late NT file for ICP 0032789710NP18D was due to a human error in not checking details thoroughly to determine that there was >1 ICP to be switched for 1 customer.	Done	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
CNIR The team and the account managers have been reminded about the 2 business days rules. The team have also been reminded to check all attachments and contracts to ensure all ICPs are accounted for.	Done	

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

- *10(1)(a) If the losing trader accepts the event date proposed by the gaining trader, the losing trader must complete the switch by providing to the registry manager:*
  - *confirmation of the switch event date; and*
  - *a valid switch response code; and*
  - *final information as required under clause 11; or*

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

Audit observation

The event detail reports were reviewed to:

- identify AN files issued by CNIR and TRUS during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- ANs were reviewed to determine whether the codes had been correctly applied.

The switch breach history reports were examined for the audit period, and reports used in the switching process were reviewed.

Audit commentary

CNIR

AN content

AN files are created manually.

I checked AN response codes for all 118 switch move ANs and identified the following exceptions:

- three ICPs had AA instead of AD,
- one ICP had MU but was not unmetered, and
- two ICPs had OC instead of AD.

Additional training and improved process documentation has now been provided to ensure the correct AN codes are selected.

The event detail report was reviewed for all 118 switch move AN files 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 ANs had an event date before the gaining trader's proposed event date.

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

File timeliness

Manawa monitors the timeliness of switches using the switch breach report.

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

TRUS

AN content

AN files are automatically generated by GTV.

I checked AN response codes for all 497 switch move ANs with the AA, AD, MU and PD response codes, and a sample of five ANs with the OC response code and identified two ICPs that were sent incorrectly:

- ICP 0000020494WE986 was sent with the AA code when it should have been sent with the AD code.
- ICP 0001042680PC1A0 was sent with the OC code when it should have been sent with the AD code.

These were both due to human error as these were not processed via the auto upload process. This is recorded as non-compliance below.

The event detail report was reviewed for all 538 switch move AN files to assess compliance with the setting of event dates requirements:

- 537 ANs had proposed event dates within ten business days of NT receipt,
- one AN had an event date more than ten days after NT receipt, and the AN proposed event date matched the date requested by the gaining trader.

The switch breach history report was reviewed to identify non-compliant event dates.

- Six ET breaches for switch moves, where the AN expected date was earlier than the NT requested date or more than ten business days after the NT receipt date. Three were not genuine because the AN proposed event dates were not before the NT proposed event date, and the proposed event dates were not more than ten business days after the NT receipt date. The remaining three were genuine breaches. ICPs 1000601044PC3A7 and 0033040130WM3CD were both due to human error where the event date was input incorrectly. The requested event date for ICP 0001434390UNAA8 was used but this was more than ten business days in advance causing Trustpower to be non-compliant. This is recorded as non-compliance below.
- Six E2 breaches where the NT proposed transfer 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 after receipt of the NT. Two were not genuine because the AN proposed event dates were not before the NT proposed event date, and the proposed event dates were not more than ten business days after the NT receipt date. The remaining four were genuine breaches and were due to human error where a new agent predated the event date.

GTV has been enhanced since these occurred and agents are no longer able to prior date event dates. There have been no occurrences of this since September 2021.

File timeliness

Trustpower monitors the timeliness of switches using:

- the Electricity Switch Loss Approve Errors (HOLDS) report, which shows any ICPs which require intervention or review before GTV can issue the AN file, such as switch move NTs received for occupied premises, and ICPs with no reads during the period of supply; the held ICPs are worked through daily, and prioritised by the AN due date,
- the Electricity Switch report, which shows any CS files which are due to be issued, and
- the switch breach history report is monitored three to four times per day to ensure that AN and CS files are issued by their due date.

Switch timeliness and event date setting is also monitored using Trustpower's switching compliance report, which is reviewed monthly.

The switch breach history report recorded:

- no late switch move AN files.

seven T2 breaches for CS arrival dates more than five business days after NT receipt, where no NW has been provided and the NT proposed event date matches the AN transfer date. These were all sent 1-2 days late as Trustpower holds the CS file until an actual read.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) Schedule 11.3 **CNIR** From: 01-Oct-21 To: 13-Jan-22 **TRUS** From: 05-Jun-21 To: 24-Nov-21	**CNIR** Six AN files had the incorrect response code applied. **TRUS** Two AN files had the incorrect response code applied. Three ET breaches. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating
Low	The controls are rated as strong as the AN process has been improved during the audit period. The impact is assessed as low because the incorrect codes did not impact on switch timeliness.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR AN response codes are selected manually from a dropdown list. Additional training and knowledge sharing has been provided. Documentation has been enhanced. **TRUS** Trustpower agrees to the findings in all instances: Incorrect AN code – Both ICPs listed were actioned by users prior to our AN upload process being completed as part of our holds switching process. Learnings from these findings will be part of ongoing team training on this task and a recap will be delivered in addition to continue monitoring to emphasize the importance of updating the AN status correctly and adhering to the timing of our processes. ET Breaches – All of these occurred due to human error, as per our audit findings in 2021 a support ticket was logged, and an enhancement put in place to prevent the user from entering an event date that is prior to the NT proposed event date. Also, in response to our audit findings in 2021 a support ticket was logged to prevent GTV from sending AN's that are more than 10 business days in advance of the NT receipt.	Done Ongoing 11/2021 01/2022	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
CNIR AN response codes will be monitored on a regular basis to check for any further non-compliances. **TRUS** N Files with incorrect response code – Additional training will be delivered to the team to reinforce the importance of checking and amending the AN status code when working a switch from the responses. ET Breaches – We have seen no further instances of an event date prior to the NT proposed event date since the enhancement was put in place in November 2021. Therefore, there should be no more instances of non-compliance. In 2021 a support ticket was logged to prevent GTV from sending AN's that are more than 10 business in advance of the NT receipt. However, following the fix being implemented in January; we have found an example that indicates the controls are not working as intended for GTV automated AN response on transfers. Another support ticket has been logged to find a more appropriate fix to ensure there will be no further issues of non-compliance.	Ongoing 4/2022 11/2021 09/2022	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

If the losing trader determines a different date, then within 10 business days of receiving notice the losing trader must also complete the switch by providing to the registry manager as described in subclause (1)(a):

- *the event date proposed by the losing trader; and*
- *a valid switch response code; and*
- *final information as required under clause 1.*

Audit observation

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

Audit commentary

CNIR

The event detail report was reviewed for all 118 switch move AN files 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 ANs had an event date before the gaining trader's proposed event date.

Switches were completed as required by this clause, and the switch breach history report did not record any breaches.

TRUS

I checked AN response codes for all 538 switch moves and confirmed all were correct except for two ICPs (0000020494WE986 and 0001042680PC1A0) due to human error. This is recorded as non-compliance below.

The event detail report was reviewed for all 538 switch move AN files to assess compliance with the setting of event dates requirements:

- 537 ANs had proposed event dates within ten business days of NT receipt, and
- one AN had an event date more than ten days after NT receipt, and the AN proposed event date matched the date requested by the gaining trader.

The switch breach history report recorded:

- no late switch move AN files,
- one CS breaches for CS arrival dates more than five business days after the CS actual transfer date where no NW had been provided this was due to human error, and
- seven T2 breaches for CS arrival dates more than five business days after NT receipt, where no NW has been provided and the NT proposed event date matches the AN transfer date; these were all caused by the gaining trader requesting the move switch for six days in advance of the NT.

Switches were completed as required by this clause.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.9 With: Clause 10(2) Schedule 11.3 From: 02-Dec-20 To: 29-Dec-20	**TRUS** Two incorrect AN codes sent. One CS file breach. Seven T2 breaches. 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	The controls are rated as strong as processes and reporting in place will mitigate risk. The impact is assessed as low as the number of late files was small in relation to the volume processed.

Actions taken to resolve the issue	Completion date	Remedial action status
Trustpower agrees to the findings in all instances: Incorrect AN code – Both ICPs listed were actioned by users prior to our AN upload process being completed as part of our holds switching process. CS File Breach - Human error, this ICP 0000056673TRD11 was not picked up in our reporting due to continuously sitting at low priority until the due date. Modifications have been introduced to the reporting to highlight and move up the most urgent switches. Seven T2 Breaches - All instances were sent 1-2 days late as Trustpower was holding the CS files until an actual read and the delay was causing a non-compliance. The process and training documents have been amended to avoid these breaches.	Complete Complete Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
CS File Breach – We will continue to monitor CS time breaches via daily and monthly reports. Modifications have been introduced to the reporting to highlight and move up the most urgent switches. This should prevent any future instances of non-compliance. T2 Breaches – CS switch loss report and process is now amended and working as intended. Training documents have been amended and ongoing training provided. This will prevent any further instances of non-compliance in this area.	05/2021 04/2021	

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 CNIR and TRUS during the audit period. The accuracy of the content of CS files for both participant codes were confirmed by checking a sample of records. 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 for both participant codes were checked to determine whether the average daily consumption was correct.

Audit commentary

CNIR

Average daily kWh is based on the consumption between the last two validated actual or permanent estimate readings recorded in GTV. When an ICP switches out without at least two actual readings the average daily kWh from the incoming CS is applied.

Analysis of the average daily kWh on the event detail report identified some potential discrepancies as shown in the table below. One ICP incorrectly had zero average daily kWh recorded.

Average daily kWh	Count of switch move CS files	Comment
Negative	-	
Zero	16	A typical sample of five files were checked. ICP 0000103425TREA9 had zero daily kWh recorded.
More than 200 kWh	7	The five largest values were checked and they were all correct.

I checked for inconsistencies between last actual read dates and switch event read types for all 122 switch move CS files and found:

- no CS files with a last actual read date is the day before the event date with an estimated read type,
- no CS files with a last actual read date more than one day before the event date with an actual read type, and
- no CS files with a last actual read date on the event date.

I checked a sample of five switch move CS files and found the content was correct for all files checked.

TRUS

Average daily kWh is based on the consumption between the last two validated actual or permanent estimate readings recorded in GTV. When an ICP switches out without at least two actual readings the average daily kWh from the incoming CS is applied. Zero-day bills are no longer automatically produced, the previous invoice is reversed and replaced with a final invoice.

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

Average daily kWh	Count of switch move CS files	Comment
Negative	1	Any ICPs with a negative value are sent to an exception queue to be reviewed and corrected. This one was missed due to human error.
Zero	31	A typical sample of five files were checked. All were correct.
More than 200 kWh	4	All were checked and were correct.

I checked for inconsistencies between last actual read dates and switch event read types for all 281 switch move CS files and found:

- five CS files with a last actual read date the day before the event date that should have been sent with the read type of "A" but were sent with an estimated read type due to human error; all related to ICPs being transferred from TRUS to CNIR and this is recorded as non-compliance below and in **sections 4.16, 6.7** and **9.1,**
- two CS files with a last actual read date on the event date:
    - for ICP 0001113435WM490 this was due to the ICP being electrically connected on the same date as the switch which was subsequently withdrawn and requested for the next date, and
    - for ICP 5406004000CHEA0 this came up on exception reporting but was bypassed by the operator; this switch was subsequently withdrawn and sent for the correct date.

I checked a sample of five switch move CS files and found the content was correct for all files checked.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 Schedule 11.3 **CNIR** From: 01-Oct-21 To: 30-Nov-21 **TRUS** From: 01-Jul-21 To: 03-Oct-21	**CNIR** Incorrect average daily consumption for one ICP. **TRUS** One incorrect negative daily consumption value sent. Five ICPs with the incorrect last read type of "E". Two CS file sent with a read for the date of the switch event. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. 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
CNIR The CS file calculated a zero average daily load for ICP 0000103425TREA9 based on a very rare situation. A switch event occurring on the same day as a meter downgrade (Half Hourly to Non-Half Hourly). We have not taken actions to resolve this issue. **TRUS** Trustpower agrees to the findings. Incorrect Negative Daily Consumption Value – The ICP 0000901347TUEDC final was billed with the incorrect data. This is human error by a call centre agent. There is a validation in GTV that picks up negative read on reads; however, this was overridden. Training docs are available for all agents in regards to billing finals and validations to help mitigate these errors. Five CS Files with incorrect read type of E – The invoicing was created by a system upload rather than an individual in preparation for the switch to CNIR. No further action required. Two CS file sent with a read for the date of the switch event. 0001113435WM490 – User error here. New meter installed and connected for same date as requested date. Correction applied using 2/07/2021. 5406004000CHEA0 – human error this was picked up by the administrator quickly and amended. No further action required as there are robust controls and systems in place.	Done 4/2022 Done	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
CNIR Regular Monitoring will take place to ensure that these scenarios are rare. The Average Daily Load calculation is automated within Gentrack and is tested and reliable. **TRUS** Incorrect Negative Daily Consumption Value – Discussions with Billing team had to negate negative reads occurring. Billing to regularly review training documentation and keep available to CEA's highlighting importance of approving validations. Five CS files with E status - this was a unique process created for the switch of large commercial sites to CNIR and there should be no further instances of non-compliance.	Ongoing April/2022 Done	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

The gaining trader may use the switch event meter reading supplied by the losing trader or may, at its own cost, obtain its own switch event meter reading. If the gaining trader elects to use this new switch event meter reading, the gaining trader must advise the losing trader of the switch event meter reading and the actual event date to which it refers as follows:

- *if the switch meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader (clause 12(2)(a)); or*
- *if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch meter reading. In this case, the gaining trader, within four calendar months of the date the registry manager gives the gaining trader written notice of having received information about the switch completion, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by two validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):*
- *advise the gaining trader if it does not accept the switch event meter reading and the losing trader and the gaining trader must resolve the dispute in accordance with the disputes procedure in clause 15.29 (with all necessary amendments) (clause 12(3)(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader. (clause 12(3)(b)).*

12(2A) If the losing trader trades electricity from a non-half hour meter, with a switch event meter reading that is not from an AMI certified meter flagged Y in the registry,

- *the gaining trader will trade electricity from a meter with a half hour submission type in the registry (clause 12(2A)(b));*
- *the gaining trader no later than five business days after receiving final information from the registry manager, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading (clause 12(2B)).*

Audit observation

The event detail reports were reviewed 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 CNIR and TRUS' 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 Manawa's systems.

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

Audit commentary

CNIR

RR

RR requests are generally initiated via email between the two parties and once agreement has been reached, an RR file is sent to complete the process.

Once an acknowledgement file is received from the other trader, the switching team advises the billing team of the outcome, and the billing team manually updates GTV and corrects the customer's billing.

Manawa issued one RR file for one ICP. I confirmed that the reading was calculated from two actual readings and that the file was sent on time. Manawa has a template for calculating switch event meter readings.

AC

All RR requests are evaluated and validated against the ICP information. If the request meets validation requirements it is accepted.

Manawa issued one AC file and the switch breach history report did not record any breaches.

CS files without RRs raised

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

TRUS

RR

RR requests are generally initiated via email between the two parties and once agreement has been reached, an RR file is sent to complete the process. The issue identified in the last audit where customer reads, or customer photo reads were used as validated reads as part of the RR process is no longer occurring. Training was provided so that RRs are only issued based on two actual validated reads.

Once an acknowledgement file is received from the other trader, the switching team advises the billing team of the outcome, and the billing team manually updates GTV and corrects the customer's billing.

The switch breach history report recorded six RR breaches for RR files issued more than four months after switch completion. All six genuine breaches were reviewed and found to be delayed either by the COVID 19 pandemic or while investigation was conducted to determine the correct switch event read.

AC

All RR requests are evaluated and validated against the ICP information. If the request meets validation requirements it is accepted.

No AC files were issued by Trustpower, and the switch breach history report did not record any late AC files.

CS files without RRs raised

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 12 of Schedule 11.3 From: 19-Aug-21 To: 11-Nov-21	**TRUS** Six RR breaches. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, as the processes in place mitigate risk are robust. The potential impact is low as the number of ICPs affected is small.

Actions taken to resolve the issue	Completion date	Remedial action status
Trustpower agrees to the findings. **Switching:** We will continue to send late RRs only if it deems more important for our customer. GTV does display a warning box if you are about to send a RR that is over 4 months old. **Billing:** We have implemented some changes to our billing processes after our 2021 audit findings. • We have increased the number of units Trustpower absorbs, before requesting a Switch Read Adjustment. • Implemented an approval process where all switch read adjustments over 4 months have to be approved by the Billing TL & the Switching TL. • We only request RR's outside of the 4-month mark if it is in the customer's best interest. • Reporting built to identify customers who have switched in on an estimate, to capture possible issues earlier.	Complete Completed March 2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Switching: All RR requests outside of 4 months need to be reviewed and authorised by a Team Leader. Late RR's are only requested if they are of benefit to the customer. GTV has a flag that alerts the user that RR's are outside of 4 months so they can't be requested in error. **Billing:** We review our processes on a regular basis to ensure they are still fit for purpose and remain in everyone's best interest.	Ongoing Ongoing	

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

Code reference

Clause 14 Schedule 11.3

Code related audit information

The gaining trader switch process applies when a trader has an arrangement with a customer or embedded generator to trade electricity at an ICP at which the losing trader trades electricity with the customer or embedded generator, and one of the following applies at the ICP:

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

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

A gaining trader must advise the registry manager of the switch and expected event date no later than 3 business days after the arrangement comes into effect.

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

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

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

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

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

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

Audit observation

The switch gain process was examined to determine when CNIR and TRUS deem all conditions to be met. All HH NTs on the event detail reports were examined, and a typical sample of five ICPs for each participant codes were checked to confirm that the switches were notified to the registry within three business days, and that the correct switch type was selected.

Audit commentary

CNIR

HH switches are managed by the HH billing team. Account managers provide signed contracts, and then the ICPs are loaded into GTV with a start date. The NT files are automatically generated on the start date, or the date they are loaded if this is after the start date.

574 HH NT files were issued during the period:

- 551 ICPs had metering category 3, 4 or 5,
- 13 ICPs had metering category 2; some were sent as part of the bulk switch files from TRUS to CNIR and some were sent in November and December - GTV uses the HH switch type for all "externally billed" ICPs, which are HHR ICPs and there is now a workaround for this to ensure the correct switch type is selected,
- five ICPs were inactive and unmetered,
- two ICPs had distributed unmetered load, and
- two ICPs had unmetered residual load.

25 NTs were issued with NHH profiles. There is reporting in place to identify these and correct these but most of these were conducted as part of the bulk switching from TRUS to CNIR. Manawa have raised a ticket with GTV to get this corrected. This is recorded as non-compliance.

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

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

TRUS

Trustpower are not anticipating undertaking any HH switching as this part of Trustpower has moved to the CNIR code. The switching process prior to this has not changed since the last audit.

32 HH NT files were issued during the period were examined. 27 of the ICPs had a metering category of three or higher, and five had a HHR non-AMI metering installation with a metering category of two.

All 32 HH NTs were issued with GXP profile. A GXP profile is automated within the system file process. The GXP profile gets picked up and corrected via reporting. A ticket to fix this process was raised in 2021 however a decision was made not to proceed as Trustpower are no longer gaining, connecting or servicing Half Hour TOU ICPs. This is recorded as non-compliance below.

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

The highest metering category was checked for the 10,572 ICPs with transfer NTs and 20,151 ICPs with switch move NTs which were also included on the registry list snapshot report. None of the ICPs checked had a metering category of three or higher at the time the NT was issued.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.12 With: Clause 14 of Schedule 11.3 **CNIR** From: 01-Oct-21 To: 01-Dec-21 **TRUS** From: 01-Mar-21 To: 26-Nov-21	**CNIR** 25 HH switch requests sent with the incorrect profile of GXP. 13 Category 2 AMI sites requested as a HH switch. **TRUS** All HH switch requests sent with the incorrect profile of GXP. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as there is now reporting in place to identify and get these corrected. The potential impact is low as the number of ICPs affected is minor.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR Gentrack has been enhanced so that GXP profiles are NOT used as a default for HHR Switches and New Connections. This enhancement will be released into Production following Separation 1 May 2022. All HH switch requests will be sent with the correct profile of HHR. A system and training issue was identified and Category 2 ICPs (that were to be billed with a HHR profile) were being selected with a HH switch type. **TRUS** A ticket to fix this process was raised in 2021 however a decision was made not to proceed as Trustpower are no longer gaining, connecting, or servicing Half Hour TOU ICPs.	Done 11/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
CNIR Additional training and knowledge sharing has been provided. Documentation has been enhanced. **TRUS** As we will no longer be gaining, connecting, or servicing Half Hour TOU ICP's there should be no further instances of non-compliance.	Done 11/2021	

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report was examined to identify all HH NT files issued by other traders and AN files issued by CNIR and TRUS.

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

Audit commentary

CNIR

The timeliness of HH switches is monitored daily using Manawa's TOU gain breach report which records any ICPs which are due to breach or have already breached the switching timeframes. The registry switch breach history report is also monitored three to four times per day to ensure that AN and CS files are issued by their due date.

HH AN files are automatically created by GTV, and AN response codes and event dates are automatically applied.

Ten HH ANs were issued. Seven had the AA (Acknowledge and accept) response code correctly applied and three had the MU (Unmetered supply) code applied. The three with MU were incorrect, which was a user error and is now resolved.

TRUS

Trustpower are not anticipating undertaking any HH switching as this part of Trustpower has moved to the CNIR code. The switching process prior to this has not changed since the last audit.

All three ANs issued with MU (unmetered load) were reviewed. Two were correct as the meters had been removed. These switches were later withdrawn and the ICPs were decommissioned. ICP 0002272113ML5AB was issued incorrectly with the MU (unmetered load) due to human error.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.13 With: Clause 15 Schedule 11.3 **CNIR** From: 01-Jan-22 To: 01-Jan-22 **TRUS** From: 14-Sep-21 To: 12-Oct-21	**CNIR** Three incorrect AN codes for HH switches. **TRUS** ICP0002272113ML5AB was issued incorrectly with the MU (unmetered load) due to human error. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. 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
CNIR AN response codes are selected manually from a dropdown list. Additional training and knowledge sharing has been provided. Documentation has been enhanced. **TRUS** We agree that the MU code was issued incorrectly due to human error	Done 03/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
CNIR AN response codes will be monitored on a regular basis to check for any further non-compliances. **TRUS** As we will no longer be gaining, connecting, or servicing Half Hour TOU ICP's there should be no further instances of non-compliance in this area.	Ongoing 11/2021	

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

The gaining trader must complete the switch no later than 3 business days, after receiving the valid switch response code, by advising the registry manager of the event date.

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

> *16(a)- give the losing trader or MEP for the ICP an opportunity to interrogate the metering installation immediately before the ICP is electrically disconnected or the metering equipment is removed; or*
>
> *16(b)- carry out an interrogation and, no later than 5 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.

All HH NT and CS files issued by CNIR and TRUS were identified on the event detail reports, and CS content was examined. The switch breach history reports were reviewed.

Audit commentary

CNIR

The timeliness of HH switches is monitored daily using Manawa's TOU gain breach report which records any ICPs which are due to breach or have already breached the switching timeframes. The registry switch breach history report is also monitored three to four times per day to ensure that AN and CS files are issued by their due date.

All HH NT files had a corresponding CS file. No late HH CS files were identified on the switch breach history report.

The content of all 571 HH CS files identified on the event detail report was reviewed and found to be compliant. Eight ICPs with the AMI flag set to Y had CS metering component, channel and installation details provided as required by the registry.

TRUS

Trustpower are not anticipating undertaking any HH switching as this part of Trustpower has moved to the CNIR code. The switching process prior to this has not changed since the last audit.

All HH NT files had a corresponding CS file. No late HH CS files were identified on the switch breach history report.

The content of all 34 HH CS files identified on the event detail report was reviewed and found to be compliant.

Audit outcome

Compliant

4.15. Withdrawal of switch requests (Clauses 17 and 18 Schedule 11.3)

Code reference

Clauses 17 and 18 Schedule 11.3

Code related audit information

A losing trader or gaining trader may request that a switch request be withdrawn at any time until the expiry of two calendar months after the event date of the switch.

If a trader requests the withdrawal of a switch, the following provisions apply:

- *for each ICP, the trader withdrawing the switch request must provide the registry manager with (clause 18(c)):*
  - *the participant identifier of the trader making the withdrawal request (clause 18(c)(i)); and*
  - *the withdrawal advisory code published by the Authority. (clause 18(c)(ii))*
- *within five business days after receiving notice from the registry manager of a switch, the trader receiving the withdrawal must advise the registry manager that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal (clause 18(d)).*
- *on receipt of a rejection notice from the registry manager, in accordance with clause 18(d), a trader may re-submit the switch withdrawal request for an ICP in accordance with clause 18(c). All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request (clause 18(e))*
- *if the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within two business days after receiving notice from the registry manager in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16 (clause 18(f)).*

Audit observation

The event detail reports for the CNIR and TRUS were reviewed to:

- identify all switch withdrawal requests issued, and check a sample for accuracy,
- identify all switch withdrawal acknowledgements issued, and check a sample of rejections, and
- confirm timeliness of switch withdrawal requests.

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

Audit commentary

CNIR

NW

Various Manawa departments identify the need for a switch to be withdrawn, through review of ICP or customer provided information. All withdrawal requests are issued by the switching team by creating a NW service order, which includes the NW advisory code. Once the AW response is received from the other retailer, a bulk process is used to close the withdrawal work queue for the affected ICPs and update GTV.

Manawa issued 19 NW files. Two were rejected and 17 were accepted.

I reviewed the content of a sample of three (or all) NWs per advisory code NWs and confirmed that the files were validly issued, and the correct withdrawal reason codes were applied.

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

AW

Withdrawal requests received from other retailers are directed to work queues for action, and responses are considered on a case-by-case basis.

Four (7.27%) of the 55 AWs issued by Manawa were rejections. I confirmed they were rejected based the information available at the time the response was issued.

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

TRUS

NW

Various Trustpower departments identify the need for a switch to be withdrawn, through review of ICP or customer provided information. All withdrawal requests are issued by the switching team by creating a NW service order, which includes the NW advisory code. Once the AW response is received from the other retailer, a bulk process is used to close the withdrawal work queue for the affected ICPs and update GTV.

Trustpower issued 3,000 NW files. 212 were rejected and 2,788 were accepted.

I reviewed the content of a sample of 20 NWs and confirmed that the files were validly issued, and the correct withdrawal reason codes were applied except for:

- three were sent using DF (date failed) but CE (customer error) is correct as these were not requested ten days in advance but requested for the incorrect date; this is recorded as non-compliance below, and
- ICP 0195112865LC913 was sent in error as a CX (customer cancellation) due to human error; Trustpower contacted the other trader and requested that the NW be rejected and this is recorded as non-compliance below.

The switch breach history report recorded:

- four WR breaches where an AN or CS arrival date (whichever is applicable, may be one or both) are delivered by the losing trader more than two business days of the arrival date of the AW rejecting the withdrawal, and a subsequent NW is not provided before delivery of the AN or CS; three were not genuine but the CS file was sent late for ICP 1002144098UNB51 which is recorded as non-compliance below,
- 35 NA breaches, where the NW arrival date was more than two calendar months after the CS actual transfer date - I checked the 15 latest files and found that all were delayed due to either late notification from the customer or the investigation required to confirm a withdrawal was required, and
- 13 SR breaches, where the NW was issued more than ten business days after the initial NW; I checked all 13 which were more than one business day overdue and found they were late due the time required to investigate and confirm the withdrawal.

AW

Withdrawal requests received from other retailers are directed to work queues for action, and responses are considered on a case-by-case basis.

104 (6.0%) of the 1,727 AWs issued by Trustpower were rejections. I reviewed a sample of 14 rejections by Trustpower (at least two per NW advisory code) and confirmed all but one rejection was based on the information available at the time the response was issued. ICP 0000924283TUFD0 was rejected due to human error. Trustpower contacted the losing trader and requested they resend the NW request which was accepted.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clause 17&18 of schedule 11.3 From: 17-Mar-21 To: 05-Nov-21	**TRUS** Three incorrect NW codes found of the sample checked. One NW request sent in error. One WR breach. 13 SR breaches. 35 NA breaches. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong as they mitigate risk to an acceptable level. 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
Trustpower agrees to the findings here.		Identified
Three incorrect NW codes selected. All ICP's 1002138585LC08F, 0431963096LC44A, 0001250100TG8A8 were sent with the DF code as the customers could not move on their original move date due to COVID. Training documents have been updated, and training delivered to ensure that administrators select the CE code for these instances.	04/2022	
NW request sent in error as CX. The RA team requested the incorrect account due to a data entry error. No further action required.	Completed	
WR Breach - 1002144098UNB51: PSNZ NTMI received on the 12/10/2021, TRUS NW sent and rejected by PSNZ on the 12/10. The requested switch gain date was the 16th which meant if we had sent the CS within 2 days of receiving the NW rejection, we would have breached for it being prior to the event date.		
This ICP was worked to be compliant with the CS being sent 5 days after receiving the NT. Reporting is in place to capture these so that action can be taken to prevent a breach, but this ICP did not appear on the report. A support ticket for analysis has been logged with the COBU analytics team to check the logic of report and if there are any further instances.	10/2022	
13 SR Breaches – Time needed to investigate and confirm withdrawals and negotiate double withdrawals to remove TRUS time slice.		
35 NA breaches - we will continue to send late NW files when it is important to make corrections that will otherwise detrimentally impact our customer.	Completed	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
1002138585LC08F, 0431963096LC44A, 0001250100TG8A8 – Training documents to be updated and training to be delivered to ensure that we are selecting the correct NW codes in all instances.	4/2022	
NW request sent in error as CX 0195112865LC913 – no further action required.	Completed	
WR Breach 1002144098UNB51 – A support ticket will be logged to analyse the logic and effectiveness of the reporting we have in place. particular instance was missed through the BI reporting system not working on that day.	10/2022	
We will continue to send late NW files when it is vitally important to make corrections that will otherwise detrimentally impact our customer.	Ongoing	

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

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

Audit observation

The meter reading processes for CNIR and TRUS in relation to meter reads for switching purposes were examined.

Audit commentary

CNIR

The reads applied in switching files were examined. The meter readings used in the switching process are validated meter readings or permanent estimates.

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

TRUS

The reads applied in switching files were examined. The meter readings used in the switching process are validated meter readings or permanent estimates.

I reviewed five CS files with a last actual read date the day before the event date with an estimated read type. These should have been sent with the read type of "A". This was due to human error and all related to ICPs being transferred from TRUS to CNIR. This is recorded as non-compliance below and in **sections 4.10, 6.7** and **9.1.**

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.16 With: Clause 21 Schedule 11.3 From: 01-Oct-21 To: 03-Oct-21	**TRUS** Five ICPs with the incorrect last read type of "E". 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 rated as strong, as the processes in place mitigate risk are robust. 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
Trustpower agrees with the findings. Five CS Files with incorrect read type of E – the invoices are showing as calculated which means that the E status is correct in the switch file however the AMI reads were available at the time of invoicing. This was done as a bulk upload process in preparation for the switch to CNIR. No further action required.	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Five CS files with E status – no further action required. This was a unique process created for the switch of large commercial sites in bulk to CNIR and there should be no further instances of non-compliance.	Complete	

4.17. Switch saving protection (Clause 11.15AA to 11.15AB)

Code reference

Clause 11.15AA to 11.15AC

Code related audit information

A losing retailer (including any party acting on behalf of the retailer) must not initiate contact to save or win back any customer who is switching away or has switched away for 180 days from the date of the switch.

The losing retailer may contact the customer for certain administrative reasons and may make a counteroffer only if the customer initiated contacted with the losing retailer and invited the losing retailer to make a counteroffer.

The losing retailer must not use the customer contact details to enable any other retailer (other than the gaining retailer) to contact the customer.

Audit observation

Win-back processes were discussed for both the CNIR and TRUS participant codes. The event detail reports were analysed to identify all withdrawn switches with a CX code applied within 180 days of switch completion.

Audit commentary

CNIR

One NW was issued within 180 days of switch completion with a CX (Customer cancellation) code where Manawa was the losing retailer. There was no "winback" discussions or correspondence in relation to this ICP.

Manawa deals mainly with commercial customers and they do not have an outbound communication process at the time of switch out.

TRUS

Trustpower have an off-boarding team. If a switch has associated exit fees or the customer receives other services from Trustpower (e.g., gas, phone or broadband) a task will be created to make a courtesy call to the customer which is allowed under the code. No enticements are offered.

A sample of 15 NWs issued within 180 days of switch completion with a CX (Customer cancellation) code where Trustpower was the losing retailer were examined, including all six rejected NWs and confirmed all were compliant.

Audit outcome

Compliant

5. MAINTENANCE OF UNMETERED LOAD

5.1. Maintaining shared unmetered load (Clause 11.14)

Code reference

Clause 11.14

Code related audit information

The trader must adhere to the process for maintaining shared unmetered load as outlined in clause 11.14:

11.14(2) - The distributor must give written notice to the traders responsible for the ICPs across which the unmetered load is shared, of the ICP identifiers of the ICPs.
11.14(3) - A trader who receives such a notification from a distributor must give written notice to the distributor if it wishes to add or omit any ICP from the ICPs across which unmetered load is to be shared.
11.14(4) - A distributor who receives such a notification of changes from the trader under (3) must give written notice to the registry manager and each trader responsible for any of the ICPs across which the unmetered load is shared.
11.14(5) - If a distributor becomes aware of any change to the capacity of a shared unmetered load ICP or if a shared unmetered load ICP is decommissioned, it must give written notice to all traders affected by that change as soon as practicable after that change or decommissioning.
11.14(6) - Each trader who receives such a notification must, as soon as practicable after receiving the notification, adjust the unmetered load information for each ICP in the list for which it is responsible to ensure that the entire shared unmetered load is shared equally across each ICP.
11.14(7) - A trader must take responsibility for shared unmetered load assigned to an ICP for which the trader becomes responsible as a result of a switch in accordance with Part 11.
11.14(8) - A trader must not relinquish responsibility for shared unmetered load assigned to an ICP if there would then be no ICPs left across which that load could be shared.
11.14(9) - A trader can change the status of an ICP across which the unmetered load is shared to inactive status, as referred to in clause 19 of Schedule 11.1. In that case, the trader is not required to give written notice to the distributor of the change. The amount of electricity attributable to that ICP becomes UFE.

Audit observation

The processes to identify and monitor shared unmetered load were discussed for both the CNIR and TRUS participant codes. The registry lists and AC020 reports were reviewed to identify all ICPs with shared unmetered load and assess compliance.

Audit commentary

CNIR

Manawa supplies one active ICP with shared unmetered load. The unmetered flag is populated correctly, and the load matches the distributor's details within 0.1 kWh.

TRUS

As detailed in **section 3.7**, Daily discrepancy reports identify differences between the trader and distributor unmetered load fields in both GTV and the registry. Discrepancies are investigated with assistance from the account manager and/or customer, and the distributor. With the splitting of the business, Trustpower has a new team looking after the unmetered space and further training is intended to be provided to bring them up to speed.

Trustpower supplies 93 active ICPs with shared unmetered load. All had the unmetered flag populated correctly, and 91 were found to match the distributor's details within 0.1 kWh.

- ICP 0000540598TU2BD has the shared unmetered load recorded incorrectly for both the trader and the distributor due to the incorrect load description; this is being corrected to 2.392 kWh, and

ICP 0000540598TU2BD has incorrect shared unmetered load; this is being corrected to 0.27 kWh.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: Clause 11.14 From: 01-Mar-21 To: 26-Nov-21	**TRUS** Two ICPs with the incorrect shared unmetered load recorded. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate due to the change of staff, training is planned to bring the new team up to speed. The impact on settlement and participants is minor, as the discrepancies are very small.

Actions taken to resolve the issue	Completion date	Remedial action status
Shared Unmetered Load UML compliance has been a challenge for our team in recent times however the future looks brighter in this area. We now have Power BI discrepancy reporting in place (screenshot attached), have recently trained two of our newer team members in the task, and with the move of the Chorus sites to Manawa Energy, the workload in this space is significantly more manageable.	Completed	Identified
0000540598TU2BD – Logged for correction by the RA team 0900086782PC61A – Logged for correction by the RA team	June 2022	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We now have the capacity and capability to identify and correct shared unmetered load discrepancies in a timely manner.	Completed	

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 processes to manage ICPs over the unmetered thresholds were discussed for both the CNIR and TRUS participant codes. The AC020 reports were reviewed to identify all ICPs with unmetered load over 3,000 kWh per annum and assess compliance.

Audit commentary

CNIR

There are 80 ICPs with standard unmetered load of between 3,000 and 6,000 kWh per annum. 79 were confirmed to have an approved load type. ICP 0476125847LC368 is being investigated because it appears the load is lighting but the description should contain this information.

There are 61 ICPs with standard unmetered load over 6,000 kWh per annum:

- 44 ICPs are distributed unmetered load,
- four ICPs are indicated to have distributed unmetered load but are not recorded on the DUML register; the DUML register needs updating,
- four of the ICPs are included in exemption 250 which allows DUML ICPs to be settled as standard unmetered load, and
- nine telecom cabinets with no current exemption; Manawa intends to make an exemption application.

TRUS

There are two ICPs with standard unmetered load of between 3,000 and 6,000 kWh per annum. Both were confirmed to have an approved load type.

There are no ICPs with annual unmetered load over 6,000 kWh.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.2 With: Clause 10.14 (2)(b) From: 01-Oct-21 To: 01-Apr-22	**CNIR** Unmetered load threshold exceeded for nine 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	The controls are rated as strong, as unmetered thresholds are monitored and managed with robust controls. The impact is assessed to be low as these are historic ICPs and the load is known and is being reconciled correctly.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR The nine ICP's identified have been reviewed and determined cost and access issues make these sites prohibitive to meter, therefore an exemption request has been submitted to the EA. These are waiting on the EA process to complete to grant the exemption.	Completed Sep 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Reporting is in place to capture any unmetered sites that exceed the threshold and a process to evaluate if metering is an option has been established. If not viable then any future sites identified will then have an exemption request completed and submitted to the EA for Review	Completed	

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

- *within 20 business days, commence corrective measure to ensure it complies with Part 10,*
- *within 20 business days of commencing the corrective measure, complete the corrective measures,*

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

Audit observation

The processes to manage ICPs over the unmetered thresholds were discussed for both the CNIR and TRUS participant codes. The registry lists and AC020 reports were reviewed to identify all ICPs with unmetered load over 6,000 kWh per annum and assess compliance.

Audit commentary

CNIR

As mentioned in **section 5.2**, there are 61 ICPs with standard unmetered load standard unmetered load over 6,000 kWh per annum:

- 44 ICPs are distributed unmetered load,
- four ICPs are indicated to have distributed unmetered load but are not recorded on the DUML register; the DUML register needs updating,
- four of the ICPs are included in exemption 250 which allows DUML ICPs to be settled as standard unmetered load, and
- nine telecom cabinets with no current exemption; Manawa intends to make an exemption application.

TRUS

As mentioned in **section 5.2**, there are no ICPs with standard unmetered load over 6,000 kWh per annum.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.3 With: Clause 10.14 (5) From: 01-Oct-21 To: 01-Apr-22	**CNIR** Nine ICPs with an unmetered load greater than 6,000kWh per annum not resolved within 20 business days of the exemption expiring. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, as unmetered thresholds are monitored and managed with robust controls. The impact is assessed to be low as these are historic ICPs and the load is known and is being reconciled correctly.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR The nine ICP's identified have been reviewed and determined cost and access issues make these sites prohibitive to meter, therefore an exemption request has been submitted to the EA. These are waiting on the EA process to complete to grant the exemption.	Completed Sep 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Reporting is in place to capture any unmetered sites that exceed the threshold and a process to evaluate if metering is an option has been established. If not viable then any future sites identified will then have an exemption request completed and submitted to the EA for Review	Completed	

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

CNIR

Manawa is responsible for 17 DUML databases. One of these has not been audited and three audits are overdue, which was also recorded in the previous audit report.

TRUS

Trustpower is not responsible for any DUML databases. These have all switched to the CNIR participant code.

Audit commentary

The table below shows the findings from the last audits. The NZTA Otago DUML database has not been audited (highlighted in blue) since the DUML audit regime came into effect on 1 June 2017. Manawa is investigating this to identify the location of the database information.

There are three audits that are overdue, and all relate to NZTA lights in the Waikato area. NZTA are currently reviewing all of the unmetered load in the area and are looking to consolidate both the number of ICPs and the number of traders these lights are with. The information has been requested from NZTA for the audit but has not been provided as yet.

			Compliance Achieved (Yes/No)								
Database	Next audit due date	DUML Audit completed 16A.26 and 17.295F	Deriving submission information 11(1) of schedule 15.3	ICP identifier 11(2)(a) of schedule 15.3	Location of items of load 11(2)(b) of schedule 15.3	Description of load 11(2)(c)&(d) of schedule 15.3	All load recorded in database 11(2A) of schedule 15.3	Tracking of load changes 11(3) of schedule 15.3	Audit trail 11(4) of schedule 15.3	Database accuracy 15.2 and 15.37B(b)	Volume information accuracy 15.2 and 15.37B(c)
Kawakawa BA	1/12/2023	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No
Kingfisher Residents Association - Parawera	1/06/2024	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NZTA West Waikato South	1/12/2018	No	No	No	Yes	No	No	Yes	Yes	No	No
NZTA West Waikato North	1/12/2018	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
NZTA Taupo	1/05/2019	No	No	No	Yes	No	Yes	Yes	Yes	No	No
WBOP DC	1/11/2023	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Western Bay NZTA	09/04/2023	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
WBOP Parks & Reserves	28/05/2023	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Tauranga CC	27/11/2023	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Tauranga CC Parks & Reserves	23/05/2022	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	No
Tauranga NZTA	23/05/2022	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No

Database	Next audit due date	DUML Audit completed 16A.26 and 17.295F	Deriving submission information 11(1) of schedule 15.3	ICP identifier 11(2)(a) of schedule 15.3	Location of items of load 11(2)(b) of schedule 15.3	Description of load 11(2)(c)&(d) of schedule 15.3	All load recorded in database 11(2A) of schedule 15.3	Tracking of load changes 11(3) of schedule 15.3	Audit trail 11(4) of schedule 15.3	Database accuracy 15.2 and 15.37B(b)	Volume information accuracy 15.2 and 15.37B(c)
Ocean Shores Village Ltd	30/06/2023	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
NZTA Central Otago- Aurora	Under review	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No
NZTA Central Otago--QLDC	Under review	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No
NZTA Central Otago-Otagonet	1/06/2018	No	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
NZTA Westland	10/05/2023	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No
NZTA Nelson STHY 6	25/08/2022	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.4 With: Clause 11 Schedule 15.3 From: 01-Oct-21 To: 01-Apr-22	**CNIR** Errors found in 14 databases, one database still to be audited and three audits are overdue. For those completed the specific findings are detailed in the DUML database audit reports. Potential impact: High Actual impact: High Audit history: Multiple times Controls: Moderate Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
High	The effectiveness of the controls is recorded as moderate as Manawa actively works with its DUML customers to provide complete and accurate information. The impact on settlement is major because the incorrect submission figures are major when considered across all databases.

Actions taken to resolve the issue	Completion date	Remedial action status
We continue to see most of our DUML issues occur on databases and processes with NZTA. The EA is aware of the ongoing issues that all retailers are having with NZTA. We continue to commit significant resource to try and resolve these issues and have recently taken a 'top down' approach – working more closely with the Wellington office of NZTA to try and standardise and improve processes across the group. As noted – we manage 17 DUML databases and despite challenges have made improvements in processes and data accuracy across the year – with the majority of our DUML databases being well managed. Speaking specifically to the audits that are overdue/incomplete. NZTA West Waikato and Taupo We have tried for some time to get support from the customer to provide information for the NZTA West Waikato DUML audits. The comments below are feedback from a recent follow up between Trustpower and Veritek to get these progressed: *"The Waikato and Taupo NZTA audits have been unable to be progressed due to no database being provided. I have been liaising with NZTA to getting a database extract but nothing has been forthcoming as yet. They were undertaking a 100% field audit last time I contacted them in July 2021. We are happy to*	Ongoing	Investigating

assist with getting data but I would expect Trustpower to also be working with the clients to progress these." We can confirm that a full field audit has taken place (2021) and was provided to Trustpower in early 2022. We have carried out extensive reconciliation work to compare new and existing data and continue to work with the customer on this. Complicating the matter is a lack of resource within NZTA to respond to questions, and the fact that NZTA are currently in market looking for a new supply agreement - as their contract with Trustpower has expired. NZTA Otago - OtagoNet We have located a previous audit completed on this DUML by Veritek in 2015. The DUML covers 3 ICPS. As stated in our previous participant audit – a number of the lights (under at least 2 of the 3 ICPS in the OtagoNet DUML) were covered by other DUML audits. NZTA lights in the Clutha District Council (CDC) have been included in the CDC RAMM database as confirmed in their recent audit. These lights will now be managed under that DUML database. Similarly, Trustpower has identified that NZTA lights in the Waitaki District Council (WDC) jurisdiction exist in a DUML database managed by WDC. The remaining fitting details are few. We have discussed with PowerNet (Distributor for Otagonet), a plan to establish individual UML ICP's for each of the remaining lights.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Overall, Trustpower believe we have good governance in place, we know what audits are required, when and what the issues are, and we monitor this via a monthly governance meeting. We successfully manage a number of council, contractor and other 3rd party relationships and there have been material corrections made in a number of areas. We have strong internal capability in terms of understanding requirements, and effective DUML management process. While we have ongoing challenges with NZTA in particular – these are well known to the EA. As outlined above, we continue to take practical steps to correct data and processes.	Ongoing	

6. GATHERING RAW METER DATA

6.1. Electricity conveyed & notification by embedded generators (Clause 10.13, Clause 10.24 and 15.13)

Code reference

Clause 10.13, Clause 10.24 and Clause 15.13

Code related audit information

A participant must use the quantity of electricity measured by a metering installation as the raw meter data for the quantity of electricity conveyed through the point of connection.

This does not apply if data is estimated or gifted in the case of embedded generation under clause 15.13.

A trader must, for each electrically connected ICP that is not also an NSP, and for which it is recorded in the registry as being responsible, ensure that:

- *there is one or more metering installations,*
- *all electricity conveyed is quantified in accordance with the Code,*
- *it does not use subtraction to determine submission information for the purposes of Part 15.*

An embedded generator must give notification to the reconciliation manager for an embedded generating station, if the intention is that the embedded generator will not be receiving payment from the clearing manager or any other person through the point of connection to which the notification relates.

Audit observation

Processes for metering, submission, and distributed generation were reviewed. The registry lists and AC020 files were examined to determine compliance.

Audit commentary

CNIR

Metering installations installed.

Manawa's new connection process includes a check that metering is installed before electrical connection occurs, and that any unmetered load is quantified.

The AC020 report recorded one active ICP with metering category 9, and no ICPs with a metering category of null or zero which did not have the unmetered flag set to yes. This was a timing difference as the switch was withdrawn after the report was run.

No load is determined by subtraction.

Distributed generation

Manawa's discrepancy reports include ICPs with installation type B which do not have import/export metering and PV1 profile. ICPs are investigated to confirm whether generation is present, and service orders to install import/export metering are raised as required.

In some cases, the customer wishes to gift their generation rather than have import/export metering installed. Where this occurs, a letter is provided to the Reconciliation Manager, and appended to the customer account.

Manawa supplies 81 active ICPs with distributed generation recorded by the distributor. All ICPs with generation recorded by Manawa also have distributed generation recorded by the distributor.

The AC020 report did not record any ICPs where the distributor recorded generation and the MEP recorded an I flow register, but Manawa did not record a generation compatible profile.

I compared the registry list and meter installation details report and identified 17 ICPs where the distributor recorded generation but the MEP did not record an I flow register. These were examined and found:

- Manawa is billing and reconciling generation and load on 16 ICPs; Manawa have emailed the relevant MEPs to correct the metering record, so compliance is confirmed, and
- ICP 0416267068LCAB5 (Kawakawa Bay Library) has distributed generation recorded by the distributor; I have checked the high-risk database but can find no record of distributed generation being installed so Manawa are liaising with the customer to confirm if generation is present at the site.

I checked that where generation profiles were recorded they were consistent with the fuel type.

Bridged meters

The process remains unchanged for the management of bridged meters. This is discussed in **section 2.17**. No bridged meters were identified since Manawa commenced trading in October 2021.

TRUS

Metering installations installed.

Trustpower's new connection process includes a check that metering is installed before electrical connection occurs, and that any unmetered load is quantified.

All active, metered ICPs have an MEP, and at least one meter channel. The AC020 report recorded 27 active ICPs with metering category 9, null, or zero which did not have the unmetered flag set to yes. 22 of these also had no MEP recorded. All were timing differences, and the ICPs had meter details populated on the registry, moved to an inactive status, or had MEP nominations made and accepted prior to the audit.

No load is determined by subtraction.

Distributed generation

Trustpower's daily discrepancy reports include ICPs with installation type B which do not have import/export metering and PV1 profile. ICPs are investigated to confirm whether generation is present, and service orders to install import/export metering are raised as required.

The discrepancy report includes references to jobs raised in Jobtrack for the ICP and notes from the last review. I saw evidence that exceptions were being reviewed and progressed.

In some cases, the customer wishes to gift their generation rather than have import/export metering installed. Where this occurs, a letter is provided to the Reconciliation Manager, and appended to the customer account.

Trustpower supplies 4,423 active ICPs with distributed generation recorded by the distributor.

The AC020 report recorded 29 ICPs where the distributor recorded generation and the MEP recorded an I flow register, but Trustpower did not record a generation profile and found all have since been updated to the correct profile.

I compared the registry list and meter installation details report and identified 53 ICPs where the distributor recorded generation, but the MEP did not record an I flow register. These were examined and found:

- 23 ICPs have distributed generation installed but no import export metering installed. These are all under investigation with the customer with the expectation that metering will be installed. Trustpower is non-compliant for generation not being quantified. This is recorded as non-compliance below.
- 14 ICPs have since had import/export metering installed and the profile has been updated as part of BAU.
- Generation is being gifted for seven ICPs but these do not have an import export meter installed. This is recorded as non-compliance below.
- Four ICPs have no distributed generation installed and the Distributor's record is incorrect.
- Three ICPs (0337138028LCB71, 1001106714UN119 and 0000560914HB9CC) are switching out and the customer intends to have the new trader install an import export meter. The distributed generation has been installed August or November 2021. Trustpower is non-compliant for generation not being quantified. This is recorded as non-compliance below.
- ICP 1001293290LC618 had distributed generation installed on 11/11/21 and has since switched to another trader. Trustpower is non-compliant for generation not being quantified. This is recorded as non-compliance below.
- The Distributor has since removed the distributed generation from the registry for ICP 0000430897TU6BE as it has been removed.

71 active ICPs have PV1 profile where there is no generation capacity recorded by the distributor. I checked a sample of twenty ICPs and found 19 have since had a meter change and the profile has been updated accordingly. The customer has confirmed that they have only solar hot water present for ICP 0011002947PCD94. Trustpower has requested that the network update the registry accordingly.

I checked that where generation profiles were recorded, they were consistent with the fuel type. The previous audit exception relating to ICP 0002211488TGB0D was corrected before the ICP switched out.

Bridged meters

A list of 40 bridged meters was provided. When a meter is bridged, Trustpower is not compliant with the requirement to ensure all electricity conveyed is quantified in accordance with the Code.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13, Clause 10.24 From: 06-Jan-21 To: 08-Dec-21	**TRUS** Some ICPs with distributed generation not quantified. While meters were bridged, energy was not metered and quantified according to the code for 40 ICPs. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating:2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate as they will mitigate risk most of the time but there is room for improvement in relation to distributed generation. Submission information is estimated for the bridged period in most cases, so the impact on submission accuracy is considered low and the volume of unaccounted for distributed generation is expected to be low.

Actions taken to resolve the issue	Completion date	Remedial action status
Location management: ICP# 0011002947PCD94 has been corrected by the Network since audit.	Done	Identified
Data will be pulled to identify sites that do not have IMP/EXP metering installed with no open meter change service order and these will be worked through with customers/Networks to have IMP/EXP metering installed.	April 2022 and ongoing	
Revenue Assurance: Bridged meters 0000414945TPD12 – site was bridged on reconnection 01/08/21 – bridged meter follow up logged 11/08/21 – paperwork confirming meter unbridged received 15/09/21. As the ICP had switched to an alt provider on 03/09/21 we were unable to ascertain any current or historic reads. No RA case was able to be completed.	Completed	
1000007390BPCBB – site was bridged on reconnection 11/08/21 – bridged meter follow up logged 16/08/21. This job was cancelled due to Covid Level 4 lockdown and then relogged 03/09/21. We received paperwork 27/09/21 confirming meter unbridged 08/09/21. The ICP had switched to an alt provider on 27/09/21 and as we were unable to ascertain any current or historical reads, no RA case was able to be completed.	Completed	

Preventative actions taken to ensure no further issues will occur	Completion date	
Along with data being pulled to rectify historical sites without IMP/EXP metering our process will also change so that all sites with generation will have an IMP/EXP meter installed regardless of gifting etc.	April 2022 and ongoing	
Revenue Assurance: Best efforts are used where possible for resolution controls. If data is not available, we can now use historical reads ascertained from the registry to estimate any unbilled consumption.	Ongoing	

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

Code reference

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

Code related audit information

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

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

The participant responsible for the metering installation must:

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

Audit observation

The NSP table on the Authority's website was checked to identify any GIPs that had been recertified during the audit period and proof of updates being carried out within ten business days of the recertification occurring was requested. Certification records were checked to confirm the correct dates were loaded.

Audit commentary

Manawa is responsible for the grid connected metering installations shown in the table below, which transferred from the Trustpower TRUS to the Manawa CNIR participant code on 8 October 2021:

Responsible party	Description	NSP	MEP	Reconciliation Type	Certification expiry date as recorded on the NSP table
Manawa	ARGYLE	ARG1101ManawaGG	TPNZ	GG	17/12/2023
Manawa	BERWICK	BWK1101ManawaGG	TPNZ	GG	2/04/2022
Manawa	COLERIDGE	COL0661ManawaGG	ACCM	GG	13/12/2022
Manawa	HAWERA	HWA1101ManawaGG	TPNZ	GG	7/12/2023
Manawa	MATAHINA	MAT1101ManawaGG	ACCM	GG	30/11/2023
Manawa	ROTORUA	ROT1101ManawaGG	TPNZ	GG	21/04/2024

All metering installations have a current certification. Two of the metering installations had changes during the period where the TRUS code was responsible:

Responsible party	Description	NSP	Old certification expiry date	New certification expiry date
TRUS	ARGYLE	ARG1101TRUSGG	8/04/2021	17/12/2023
TRUS	ROTORUA	ROT1101TRUSGG	6/06/2021	21/04/2024

All meter certifications were checked and found to be accurately recorded. All updates to the RM were on time.

Audit outcome

Compliant

6.3. Certification of control devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3)

Code reference

Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3

Code related audit information

The reconciliation participant must advise the metering equipment provider if a control device is used to control load or switch meter registers.

The reconciliation participant must ensure the control device is certified prior to using it for reconciliation purposes.

Audit observation

The AC020 reports and registry lists were reviewed to confirm the profiles used for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

Manawa has applied the CMS, DFP, GXP, HHR, PV1, STL, T07, T08, T23, T24, TM1, TM2, TM3, TM4, TM5, TM6, TM7, TOC, TON, TW1, TW2, TW3, TW4, TW5, TW6, TW7, and UML profiles during the period.

Review of the AC020 report confirmed that all ICPs on profiles requiring a certified control device had AMI or HHR metering, or a certified control device.

TRUS

TRUS has applied the EG1, GXP, HHR, PV1, STL, T07, T08, T23, T24, TOC, TON and UML profiles during the period.

Review of the AC020 report confirmed that all ICPs on profiles requiring a certified control device had AMI or HHR metering, or a certified control device.

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 for both the CNIR and TRUS participant codes.

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

Audit commentary

CNIR

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

Three examples of faulty or defective meters were identified during the audit period. The MEP was advised in all cases and the meter was replaced.

TRUS

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

A sample of ten stopped or faulty meters and 40 bridged meters were provided. The MEP was notified in all instances and the meter was replaced for faulty meters and unbridged for bridged meters.

I checked the meter condition reports from MRS and checked a sample of 10 ICPs where MRS had reported potentially defective meters. There were three ICPs where the MEP was not notified, and it appears the metering installations may be inaccurate. The ICPs are 0000252550WT7EC, 0000460349WT61D and 1000003149BP32F. ICP 1000003149BP32F had a suspected tamper reported and there was no consumption recorded by either the controlled or uncontrolled meter for the entire period it was with Trustpower, which was 26 June 2019 to 9 August 2020, despite having an active customer.

AMS and EDMI confirmed that no defective meters have been identified since their last agent audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.4 With: Clause 10.43(2) and (3) From: 26-Jun-19 To: 21-Feb-22	**TRUS** MEP not notified for three ICPs where metering installations could be inaccurate, defective, or not fit for purpose Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate 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
Defective meter detection		Investigating
0000252550WT7EC – transposed reads investigation commenced – still in progress	Ongoing	
0000460349WT61D – supply for house construction site - customer confirmed power not being used – meter since replaced – No RA issue	Completed	
1000003149BP32F – meter reader alert first raised 09/09/20 – property disconnected 10/08/20 – and as we were unable to ascertain any current or historic reads, no RA case was able to be completed. However as a result of the audit we have opened a RA case to calculate and submit the consumption for this ICP.	Ongoing	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We acknowledge that our current reporting capability in this area doesn't allow us to identify stopped meters in a timely manner. We will continue to look at viable options to counter this inefficiency.	Ongoing	

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

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

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

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

2(6) – The interrogation systems must record:

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

Audit observation

CNIR

The data collection and clock synchronisation processes were examined.

Manawa, their 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.

Manawa collects generation data, using MV90. I walked through the clock synchronisation process.

TRUS

The data collection and clock synchronisation processes were examined.

Trustpower, their 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.

Trustpower collects generation data, using MV90. I walked through the clock synchronisation process.

HHR data collection is now a CNIR responsibility from 01/10/21.

Audit commentary

CNIR

All information used to determine volume information is collected from the services interface or the metering installation by Manawa, one of their agents, or the MEP. A sample of data was checked as described in **section 2.3**.

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 Manawa when clock synchronisation events occur for HHR and AMI meters. Each of the MEPs advises Manawa of clock synchronisation events, and no action is usually required. AMS and EDMI confirmed that no clock synchronisation events outside acceptable thresholds had occurred since their last agent audit.

Data collected by Manawa

The collection of data carried out by Manawa is carried out using MV90 for both generation and half hour sites read by Manawa. MV90 has an auto time correction function. For any time-drifts greater than 60 seconds a job is raised with the MEP to investigate and resolve.

TRUS

All information used to determine volume information is collected from the services interface or the metering installation by Trustpower, one of their agents, or the MEP. A sample of data was checked as described in **section 2.3**.

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 Trustpower when clock synchronisation events occur for HHR and AMI meters. Each of the MEPs advises Trustpower of clock synchronisation events, and no action is usually required. AMS and EDMI confirmed that no clock synchronisation events outside acceptable thresholds had occurred since their last agent audit.

Data collected by Powerco

Trustpower also receives data from Powerco, who provide NHH meter readings from their substations. These parties provide digital photos of the meters, and the readings are entered into GTV by Trustpower personnel. They are considered contractors rather than agents and they operate under Trustpower's control

Data collected by Trustpower

The collection of data carried out by Trustpower is carried out using MV90 for both generation and half hour sites read by Trustpower. MV90 has an auto time correction function. For any time-drifts greater than 60 seconds a job is raised with the MEP to investigate and resolve. HHR data collection is now a CNIR responsibility

Audit outcome

Compliant

6.6. Derivation of meter readings (Clauses 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

CNIR

The data collection process was examined.

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

Processes for customer and photo reads were reviewed.

TRUS

The data collection process was examined.

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

Processes for customer and photo reads were reviewed.

Audit commentary

CNIR

I checked a sample of 20 readings and confirmed that they are loaded into GTV as actual readings and are validated.

MRS data validation

During interrogation, the meter register value is collected and entered into a hand-held device. This reading enters Manawa's GTV system and is labelled "R" which denotes that it is a meter reading collected and validated by a meter reader.

MRS 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. These are reviewed and any that need action are issued to the MEP as a service request. Three defective meters were identified by MRS during the audit period and all were actioned as discussed in **section 6.4**.

Customer and photo readings

The management of customer and photo readings was examined, and all customer and photo reads are treated as estimates. MRS do not accept or provide customer readings.

Customer and photo readings received from customers pass though the billing validation process to ensure they are correct. These are not treated as validated reads by the reconciliation process.

TRUS

I checked a sample of 10 readings and confirmed that they are loaded into GTV as actual readings and are validated.

MRS data validation

During interrogation, the meter register value is collected and entered into a hand-held device. This reading enters Trustpower's GTV system and is labelled "R" which denotes that it is a meter reading collected and validated by a meter reader.

MRS 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.

Influx data validation

Influx had processes in place to identify and report on tampering, damage, broken and missing seals, phase failure and unsafe situations. The details were sent in the same file as the meter readings. Influx no longer conducts meter reading for Trustpower, all reading is now conducted by MRS.

Powerco data validation

The meters read by Powerco are read by engineers and any issues found with the meter would be flagged to Trustpower to action with the relevant MEP. None have occurred during the audit period.

Customer and photo readings

The management of customer and photo readings was examined, and all customer and photo reads are treated as estimates. MRS do not accept or provide customer readings.

Customer and photo readings received from customers pass though the billing validation process to ensure they are correct. I checked five examples, which confirmed compliance confirm compliance.

Audit outcome

Compliant

6.7. NHH meter reading application (Clause 6 Schedule 15.2)

Code reference

Clause 6 Schedule 15.2

Code related audit information

For NHH switch event meter reads, for the gaining trader the reading applies from 0000 hours on the day of the relevant event date and for the losing trader at 2400 hours at the end of the day before the relevant event date.

In all other cases, All NHH readings apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation.

Audit observation

The processes of the application of meter readings were examined for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

NHH reading application

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 MRSL and FCLM are applied correctly.

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

Switching file content

The content of CS and RR files was examined in **sections 4.3**, **4.4**, **4.10** and **4.11**. There were no incorrect meter readings.

Upgrades and downgrades

I walked through the process for NHH to HHR and HHR to NHH meter changes, including viewing examples. The industry has adopted a process that achieves accuracy in relation to submission information and ICP days.

- For upgrades, the process is to "remove" the NHH meter from the registry and GTV on the day before the meter change, and then the ICP becomes HHR all day on the day of the meter change, with the trading periods up until the meter change being populated with zeros.
- The reverse applies for downgrades, with the ICP treated as HHR all day on the date of the removal, with zeros populated until the end of the day and the NHH meter installed the following day.

Both a NHH and HHR meter cannot be "present" on the same day in the registry. This matter is also relevant to decommissioned ICPs, where the disconnection readings are applied to the day before the disconnection to ensure submission does not occur for an "inactive" day. Three downgrade examples were checked to confirm this. There were no genuine upgrades identified in the audit period.

TRUS

NHH reading application

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 Influx are applied correctly.

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

Switching file content

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

- five CS files with a last actual read date the day before the event date that should have been sent with the read type of "A" but were sent with an estimated read type due to human error; all related to ICPs being transferred from TRUS to CNIR and this is recorded as non-compliance below and in **sections 4.10, 4.16** and **9.1.**

Upgrades and downgrades

I walked through the process for NHH to HHR and HHR to NHH meter changes, including viewing examples where possible. The industry has adopted a process that achieves accuracy in relation to submission information and ICP days.

- For upgrades, the process is to "remove" the NHH meter from the registry and GTV on the day before the meter change, and then the ICP becomes HHR all day on the day of the meter change, with the trading periods up until the meter change being populated with zeros. There were no examples to examine during the audit period. I checked the event detail report to confirm this.
- The reverse applies for downgrades, with the ICP treated as HHR all day on the date of the removal, with zeros populated until the end of the day and the NHH meter installed the following day. I checked five examples where compliance is confirmed because the NHH reading is correctly applied to the end of the day.

Both a NHH and HHR meter cannot be "present" on the same day in the registry. This matter is also relevant to decommissioned ICPs, where the disconnection readings are applied to the day before the disconnection to ensure submission does not occur for an "inactive" day. Three examples were checked to confirm this.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.7 With: Clause 6 Schedule 15.2 From: 01-Oct-21 To: 03-Oct-21	**TRUS** Five ICPs with the incorrect last read type of "E". Disconnection reads applied to the day before the disconnection. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong, as there are robust checks in place to mitigate risk. 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
Trustpower agrees with the findings. Five CS Files with incorrect read type of E – the invoices are showing as calculated which means that the E status is correct in the switch file however the AMI reads were available at the time of invoicing. This was done as a bulk upload process in preparation for the switch to CNIR. No further action required.	Complete	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Five CS files with E status – no further action required. This was a unique process created for the switch of large commercial sites to CNIR and there should be no further instances of non-compliance.	Complete	

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 processes to manage missed reads was examined for both the CNIR and TRUS participant codes. Reporting on ICPs not read during the period of supply was examined, and all ICPs unread during the period of supply where that period was more than 90 days were examined for both codes.

Audit commentary

CNIR

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".

Manawa

The no read process during period of supply is still being developed. There is reporting in place that identifies ICPs with no reads. During the audit it was identified that there is no demarcation between reads gained from the TRUS period and it included C&I TOU ICPs that are not billed from GTV so the reporting contains some false positives. This is being corrected.

Manawa reviews the no read ICPs for both manually read and AMI sites that have not had an actual read for more than 20 days. Unread AMI sites are moved to a manual read round once three estimated bills have been sent.

The Manawa customer base is largely commercial so any account managed ICPs that are not being read are passed to the Account Manager to resolve. There is no visibility of these communications to confirm if best endeavours have been met. If no contact can be made a no read letter is sent. I recommend this process is reviewed.

Description	Recommendation	Audited party comment	Remedial action
No read process	Review no read process to ensure that the best endeavours process has an audit trail.	The no read process has been reviewed and the following actions has been proposed: Enhancement Ticket logged with Gentrack **MEPPS-369** A Switch Loss Service Order Queue will open in Gentrack is there is no read during period of supply (looking over ONLY CNIR period). Manual checks are now being made as part of the switch loss process. The admin team will NOT allow a switch to progress without checking if a read has been obtained and ensuring best efforts are made to obtain one, including contact the Account Manager and placing clear memos notes in Gentrack. A Power BI report continues to be monitored to analyse results.	Identified

Nine metered ICPs were unread during the period of supply. All had a short period of supply with Manawa and therefore best endeavours could not be met.

TRUS

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".

Trustpower uses best endeavours to get at least one read during the period of supply even if the period of supply is short. The process was confirmed by a "walk through" of the following steps:

- a "queue" is created when a NT file is received, and a validated reading has not been obtained during the period of supply, and
- an attempt is then made to get a reading by booking a special reading or by calling the customer or landlord to get a customer reading if the customer is new to Trustpower and has no history.

If a reading cannot be obtained from the steps above, then the winning retailer is contacted to see if they have an actual start reading and this is used.

I reviewed Trustpower's meter reading processes. All manual meter readings are carried out by MRS. The process to obtain reads is described in their agent report which will be submitted with this audit. Skipped read messages are reviewed and actioned based on the issue identified. Trustpower makes contact with the customer to arrange an appointment or obtain keys etc. This is by phone in the first instance where at least two attempts are made. If this is unsuccessful then a letter is sent. Text is also used but the current service has a restriction in the number of characters available, so this is only used where possible.

Trustpower provided a list of 219 metered ICPs which were unread during the period of supply where the period of supply ended between March and October 2021:

Period of supply	Count of ICPs
Within 30 Days	84
31 to 90 Days	43
91 to 365 Days	44
365 Days +	48
Grand Total	219

I checked 10 ICPs supplied for over 90 days to determine whether exceptional circumstances existed. It appears this report is recording HHR ICPs as well as NHH ICPs. Seven of the 10 ICPs checked were HHR. Exceptional circumstances were present for two of the remaining three and the final ICP had an actual reading in the CS file at switch in. Whilst compliance is achieved for the ten ICPs discussed above, I checked another five ICPs where the period of supply was between 30 and 90 days and found two examples where compliance was not achieved. Compliance was achieved for the other three because Covid restrictions prevented readings being obtained.

The Code allows switch in and switch out meter readings to be considered when evaluating compliance with this requirement. I found some ICPs where the switch in reads were actuals, which can be excluded from the reporting. I recommend the report is reviewed and changed to ensure only genuine ICPs are included.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 7(1) and (2) Schedule 15.2	Change the period of supply report to exclude HHR ICPs, ICPs where an actual read was obtained at the time of switch in or switch out and ICPs where the first reading was a "new connection" actual reading.	We agree with your recommendations and have raised a ticket to adjust the period of supply report to exclude the HHR ICP's.	Identified

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 **CNIR** From: 01-Oct-21 To: 31-Jan-22 **TRUS** From: 01-Mar-21 To: 31-Dec-21	**CNIR** Exceptional circumstances not proven for nine ICPs not read during the period of supply due to the short period of supply. **TRUS** Exceptional circumstances not proven for two of a sample of five ICPs not read during the period of supply. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak, as this process is still being refined for CNIR and I have recommended the process is reviewed to improve the controls. The audit risk rating is low as the number of ICPs not read during the period of supply is very small.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR Manual checks are now being made as part of the switch loss process. The admin team will NOT allow a switch to progress without checking if a read has been obtained and ensuring best efforts are made to obtain one, including contact the Account Manager and placing clear memos notes in Gentrack. **TRUS** We agree this is non-compliant. However, this remains a rare occurrence and we do not currently have the current resource/ability to monitor these sites where a customer moves out prior to our meter readers accessing the site.	Ongoing Ongoing	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
CNIR		
Enhancement Ticket logged with Gentrack **MEPPS-369** A Switch Loss Service Order Queue will open in Gentrack is there is no read during period of supply (looking over ONLY CNIR period).	June 2022	
More emphasis in place to obtain reads across a smaller database of customers and to address historical inherited issues on hard to access sites.	Ongoing	
TRUS		
Ticket logged to investigate the viability of sending automated SMS/Email messages when a customer's property is skipped by the meter reader.	September 2022	
Ticket logged to review changes we could make to our bills, to better highlight when a customer has been estimated.	September 2022	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

CNIR

CNIR has not supplied any ICPs for 12 months.

TRUS

The meter reading process was examined. Monthly reports for June to October 2021 were provided and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2.

A sample of ten unread ICPs on the NSPs where less than 100% read attainment was achieved for October 2021 were reviewed to determine whether exceptional circumstances existed.

Audit commentary

TRUS

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
Jun-21	274	102	520	99.76%
Jul-21	274	103	523	99.76%
Aug-21	276	104	518	99.76%
Sep-21	276	103	547	99.75%
Oct-21	249	85	234	99.89%

As discussed in **section 6.8**, there are processes in place to monitor read attainment, and attempt to resolve issues preventing read attainment. The meter reading attainment level has improved slightly during the audit period.

The sample of ten ICPs checked from the October 2021 report confirmed exceptional circumstances in all cases.

I reviewed meter reading reports for June to October 2021 and confirmed that they met the meter reading frequency report requirements and were submitted in the required timeframe.

Audit outcome

Compliant

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

In relation to each NSP, each reconciliation participant must ensure that for each NHH ICP at which the reconciliation participant trades continuously for each 4 months, for which consumption information is required to be reported into the reconciliation process. A validated meter reading is obtained at least once every 4 months for 90% of the non-half hour metered ICPs.

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

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

Audit observation

CNIR

The meter reading process was examined. The first monthly report sent in February 2022 was provided and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2.

TRUS

The meter reading process was examined. Monthly reports for June to October 2021 were provided and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2.

A sample of all four unread ICPs on the NSPs where less than 90% read attainment was achieved for October 2021 were reviewed to determine whether exceptional circumstances existed.

Audit commentary

CNIR

Manawa began to supply ICPs from 1 October 2021:

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	Total ICPs unread for 4 months	Overall percentage read
Jan 2022	193	33	910	91.70%

Manawa's smaller commercial customer base and the impact of COVID has resulted in a larger number of NSPs not meeting the 90% read threshold. The 33 NSPs affected had a total of 685 ICPs. Manawa investigated these and found the issues were:

- 210 sites where meter access is an issue,
- 174 sites where meter reader resourcing was an issue,
- 181 sites where Covid restrictions have restricted entry,
- 41 sites where a meter issue was identified,
- 31 sites that have a six monthly read arrangement in place,
- 42 meters that were unable to be located, and
- six ICPs that are currently obstructed by construction work and are therefore unsafe for meter readers to access.

As discussed in **section 6.8**, these processes are still being refined and will take more than four months to meet the "best endeavours" threshold. In many cases these are account managed sites and therefore there is no tracking of attempts made by the account managers to get these read. I recommend in **section 6.8**, that this process is reviewed.

I checked a sample of six ICPs from three larger NSPs and found that either further instruction has been sent to the meter reader to gain access to these sites or the Account Manager had been advised of the no access issue. Due to the four month timeframe and the no read process taking longer than this non-compliance is recorded.

TRUS

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	Total ICPs unread for 4 months	Overall percentage read
Jun-21	287	13	1,896	99.23%
Jul-21	289	12	2,115	99.14%
Aug-21	289	12	2,240	99.09%
Sep-21	291	9	2,953	98.81%
Oct-21	262	3	2,155	99.09%

As discussed in **section 6.8**, there are processes in place to monitor read attainment, and attempt to resolve issues preventing read attainment. The meter reading attainment level has improved slightly during the audit period.

All four unread ICPs on the NSPs where less than 90% read attainment was achieved for October 2021 were reviewed to determine whether exceptional circumstances existed. In all instances these were NSPs with a small number of ICPs recorded, therefore one missed ICP will cause the threshold requirement not to be met. Exceptional circumstances were proven for all four ICPs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.10 With: Clause 9(1) and (2) Schedule 15.2 From: 01-Oct-21 To: 31-Jan-22	**CNIR** Exceptional circumstances not met for six of the potential 685 ICPs on NSPs with a less than 90% read rate. Potential impact: Medium Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak, as this process is still being refined and I have recommended the process is reviewed to improve the controls. The audit risk rating is assessed to be low but has a potential to be medium due to the flow on effect to submission accuracy.

Actions taken to resolve the issue	Completion date	Remedial action status
Our C&I specialists are regularly reviewing reporting and contacting Meter Reading Services with meter information as well as our Account Managers to gain information from the customers.	01/10/2021	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Process to be reviewed with Account Managers to gain more of a visual to wider teams of the attempts made to contact customers.	01/06/2022	

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

CNIR

NHH data is collected by:

- MEPs, and
- MRS.

The data interrogation log requirements were reviewed as part of the agent audits for MRS, and the MEP audits.

NHH data interrogation was reviewed for MRS.

TRUS

NHH data is collected by:

- MEPs, and
- MRS.

The data interrogation log requirements were reviewed as part of the agent audits for MRS, and the MEP audits.

NHH data interrogation was reviewed for MRS.

Audit commentary

CNIR

Data collected by MEPs and agents

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

Manawa's agents confirmed that there were no changes to their processes or systems since their most recent audit that could have a negative impact on Manawa's compliance.

TRUS

Data collected by MEPs and agents

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

Trustpower's agents confirmed that there were no changes to their processes or systems since their most recent audit that could have a negative impact on Trustpower's compliance.

The read process undertaken by Powerco for the substations read by them was examined and compliance was confirmed.

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

CNIR

HHR data is collected by AMS, EMS, and EDMI. The data collection requirements were reviewed as part of their agent audits.

HHR data for generation sites and some HHR sites is collected by Manawa using MV90. A walkthrough of the HHR data collection function was performed to confirm compliance.

TRUS

HHR data collection is now a CNIR responsibility.

Audit commentary

CNIR

Data collected by agents

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

Manawa receives some HHR AMI data. This data is transmitted in a secure manner. Appropriate validation is conducted, and audit trails were demonstrated where changes were made.

Data collected by Manawa

Manawa interrogates half hour interval meters at approximately 1,500 ICPs with their MV90 system. This includes all generation meters. Remotely collected data is also provided by EDMI and AMS. No data is routinely collected manually.

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

CNIR

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

A walkthrough of the HHR data collection function was performed to confirm compliance.

TRUS

HHR data collection is now a CNIR responsibility.

Audit commentary

CNIR

Data collected by agents

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

Data collected by Manawa

The following information is collected 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, and
- the events log.

The events collected and reviewed in the events log by Manawa are:

- phase failure,
- less than 80% of voltage class,
- pulse overflow,
- power outage,
- zero data,
- battery failure, and
- low battery.

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

CNIR

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

A walkthrough of the HHR data collection function was performed to confirm compliance.

TRUS

HHR data collection is now a CNIR responsibility.

Audit commentary

CNIR

Data collected by agents

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

Data collected by Manawa

An interrogation log is generated by MV90 to record details of all interrogations. Appropriate action is taken where problems are apparent. The interrogation log contains the following information:

- the unique identifier of the meter or data logger,
- the time of commencement of interrogation,
- the date of interrogation,
- the operator identifier (machine id),
- the clock errors outside the range specified in clause 12,
- the method of interrogation, and
- the identifier of the reading device used for interrogation (where applicable).

In situations where agents provide data, the method of interrogation is not provided, however it is present in their systems.

Audit outcome

Compliant

7. STORING RAW METER DATA

7.1. Trading period duration (Clause 13 Schedule 15.2)

Code reference

Clause 13 Schedule 15.2

Code related audit information

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

Audit observation

CNIR

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

Manawa uses MV90 to retrieve HHR and generation data, and evidence of trading period duration checks was reviewed.

TRUS

HHR data collection is now a CNIR responsibility.

Audit commentary

CNIR

Compliance with this clause has been demonstrated by Manawa's agents as part of their agent audits.

MV90 has an auto time correction function. For any time-drifts greater than 60 seconds a job is raised with the MEP to investigate and resolve. 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. CNIR and TRUS' 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.

CNIR and TRUS' own audit trails were reviewed in **section 2.4**.

Audit commentary

CNIR

Data collected by MEPs and agents

Compliance with this clause has been demonstrated by Manawa's agents and MEPs as part of their agent and MEP audits.

All data will be archived for a period well in excess of the 48 months required by the code. Password protection is in place to ensure unauthorised personnel cannot access raw meter data.

AMI data is stored in a separate database with appropriate controls in place. The data is archived in accordance with clause 10.7 of part 10.

Manawa data is intended to be retained for at least 48 months.

Data collected by Manawa

All data collected in MV90 is archived as required by this clause.

Manawa data is intended to be retained for at least 48 months.

TRUS

Data collected by MEPs and agents

Compliance with this clause has been demonstrated by Trustpower's agents and MEPs as part of their agent and MEP audits.

All data is archived for a period well in excess of the 48 months required by the code. Password protection is in place to ensure unauthorised personnel cannot access raw meter data. I reviewed raw NHH meter data for TRUS from 2017, confirming that meter reading data is retained for at least 48 months.

AMI data is stored in a separate database with appropriate controls in place. The data is archived in accordance with clause 10.7 of part 10.

Data collected by Trustpower

All data collected in MV90 is archived as required by this clause. I sighted data prior to 2017 for TRUS to confirm this.

HHR data collection is now a CNIR responsibility.

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

CNIR

Examples of streetlight on/off time files were observed to confirm compliance.

TRUS

The management of streetlight information is now a CNIR responsibility.

Audit commentary

CNIR

The relevant files are securely stored for an indefinite period.

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) Schedule 15.2)

Code reference

Clause 19(1) Schedule 15.2

Code related audit information

If a reconciliation participant detects errors while validating non-half hour meter readings, the reconciliation participant must:

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

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

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

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

Audit observation

Processes for the correction of NHH meter readings were reviewed for both the CNIR and TRUS participant codes. 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

CNIR

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.

Transposed meters

When a meter reading is found to be transposed, Manawa swaps the readings between registers and the corrected readings are recorded as actuals. One example was provided, and I confirmed compliance.

TRUS

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.

Transposed meters

When a meter reading is found to be transposed, Trustpower swaps the readings between registers and the corrected readings are recorded as actuals. I checked an example to confirm this.

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:

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

Audit observation

CNIR

Processes for the correction of HHR meter readings were reviewed. Five examples of HHR corrections were reviewed.

TRUS

Processes for the correction of HHR meter readings were reviewed. Five examples of HHR corrections were reviewed.

HHR data collection is now a CNIR responsibility.

Audit commentary

CNIR

Where errors are detected during validation of half-hour metering information, and check metering data is not available, then data from a period with a quantity and profile similar to that expected is used. Check metering is normally not available.

A "data edit worksheet" is produced as a record of this activity. No HHR corrections were identified as all estimations were replaced with actual data but the process was confirmed by checking the estimations as detailed in **section 9.4**.

With all meter changes, a comparison occurs in trading (billing data) to verify consistency.

All switched sites have a HHR load check with the previous data collector for the same half hour to ensure the site is set up correctly.

A sample of five corrections were checked and found to be processed accurately.

TRUS

Where errors are detected during validation of half-hour metering information, and check metering data is not available, then data from a period with a quantity and profile similar to that expected is used. Check metering is normally not available.

A "data edit worksheet" is produced as a record of this activity. No HHR corrections were identified as all estimations were replaced with actual data, but the process was confirmed by checking the estimations as detailed in **section 9.4**.

With all meter changes, a comparison occurs in trading (billing data) to verify consistency.

All switched sites have a HHR load check with the previous data collector for the same half hour to ensure the site is set up correctly.

Four examples were checked in **section 9.4** which confirmed an appropriate audit trail is maintained in MV90.

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

I requested details of all ICPs where error or loss compensation occurs for the CNIR and TRUS participant codes.

Audit commentary

CNIR

Manawa confirms that they do not deal with any data where error or loss compensation occurs. The site set-up processes are designed to identify these arrangements for any new sites.

TRUS

Trustpower confirms that they do not deal with any data where error or loss compensation occurs. The site set-up processes are designed to identify these arrangements for any new sites.

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 8.1** and **8.2**, which confirmed that raw meter data is not overwritten as part of the correction process. Audit trails are discussed in **section 2.4**.

Raw meter data retention for MEPs and agents was reviewed as part of their own audits.

Audit commentary

CNIR and TRUS

Raw meter data cannot be accessed or overwritten by any person or process. The raw data is "locked down" and even if working data is edited, the raw data remains unchanged.

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

CNIR

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

Provision of estimated reads to other participants during switching was reviewed in **sections 4.3**, **4.4**, **4.10** and **4.11**.

Correct identification of estimated reads, and review of the estimation process was completed in **sections 8.1, 8.2** and **9.4**.

TRUS

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

Provision of estimated reads to other participants during switching was reviewed in **sections 4.3**, **4.4**, **4.10** and **4.11**.

Correct identification of estimated reads, and review of the estimation process was completed in **sections 8.1, 8.2** and **9.4.**

Audit commentary

CNIR

All estimated readings, permanent estimates and actual readings are clearly identified as required by this clause.

TRUS

All estimated readings, permanent estimates and actual readings are clearly identified as required by this clause. NHH readings reviewed during the audit were correctly classified apart from:

- five CS files with a last actual read date the day before the event date that should have been sent with the read type of "A" but were sent with an estimated read type due to human error; all related to ICPs being transferred from TRUS to CNIR and this is recorded as non-compliance below and in **sections 4.10, 4.16** and **6.7.**

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.1 With: Clause 3(3) Schedule 15.2 From: 01-Oct-21 To: 03-Oct-21	**TRUS** Five ICPs with the incorrect last read type of "E". Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong, as there are robust checks in place to mitigate risk. 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
Trustpower agrees with the findings. Five CS Files with incorrect read type of E – the invoices are showing as calculated which means that the E status is correct in the switch file however the AMI reads were available at the time of invoicing. This was done as a bulk upload process in preparation for the switch to CNIR. No further action required	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Five CS files with E status – no further action required. This was a unique process created for the switch of large commercial sites to CNIR and there should be no further instances of non-compliance.	Completed	

9.2. Derivation of volume information (Clause 3(4) Schedule 15.2)

Code reference

Clause 3(4) Schedule 15.2

Code related audit information

Volume information must be directly derived, in accordance with Schedule 15.2, from:

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit observation

A sample of submission data was reviewed in **section 12**, to confirm that volume was based on readings as required for both participant codes of CNIR and TRUS.

Audit commentary

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

Audit outcome

Compliant

9.3. Meter data used to derive volume information (Clause 3(5) Schedule 15.2)

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

All meter data that is used to derive volume information must not be rounded or truncated from the stored data from the metering installation.

Audit observation

CNIR

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

- NHH data is collected by MRS.
- HHR data is collected by AMS, EMS, EDMI, FCLM and Manawa using MV90.
- Generation data was checked during the audit.

TRUS

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

- NHH data is collected by MRS, Influx and Powerco authorised staff,
- HHR data is collected by AMS, EMS, EDMI, Influx and Trustpower using MV90, and
- Generation data was checked during the audit.

HHR data collection is now a CNIR responsibility.

Audit commentary

CNIR

Manual meter readings do not record decimal places and are not rounded or truncated on import into GTV.

AMI data is rounded to zero decimal places upon being uploaded to Gentrack. This is recorded as non-compliance.

HHR data is received in HHF format from EDMI and AMS, which is unrounded. HHR data collected via MV90 is not truncated on import.

Generation data was checked during the audit and rounding only occurs at the time of submission to two decimal places.

TRUS

Manual meter readings do not record decimal places and are not rounded or truncated on import into GTV.

AMI data is rounded to zero decimal places upon being uploaded to Gentrack. This is recorded as non-compliance.

HHR data is received in HHF format from EDMI and AMS, which is unrounded. HHR data collected via MV90 is not truncated on import.

Generation data was checked during the audit and rounding only occurs at the time of submission to two decimal places.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.3 With: Clause 3(5) of schedule 15.2 **CNIR** From: 01-Oct-21 To: 31-Jan-22 **TRUS** From: 01-Apr-21 To: 22-Feb-22	**CNIR and TRUS** Raw meter data is rounded upon receipt and not when volume information is created. Potential impact: Low Actual impact: None Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls for HHR data are strong but there are no controls to prevent rounding of NHH raw meter data, the system is designed to round as soon as the data arrives. Overall, the controls are rated as moderate. There is no impact because no metered consumption information is "missing", therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR Manawa accepts these finding and is investigating options to resolve the rounding issue. The system changes required will be reviewed in conjunction with the wider use of AMI data within Manawa (Including HHR data, Event files etc) and changes made once the solution is scoped. **TRUS** Trustpower accepts these finding. We have recently scaled our MDM solution to include all AMI networks. We agree that AMI decimal data is now available, but not yet integrated.	Ongoing 18/03/2022 Ongoing	Investigating

Preventative actions taken to ensure no further issues will occur	Completion date	
CNIR Manawa will be reviewing and scoping changes and the extended use of the AMI datasets, once the Mercury sale and all separation activities have been completed. **TRUS** We are scoping the integration of MDM to GTV, this has been delayed from NOV 2022 due to the sale to Mercury being rescheduled by 6 months.	Dec 2022 April 2023	

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

CNIR

Processes for the estimation of HHR meter readings were reviewed. Five examples of HHR estimates were reviewed.

TRUS

Processes for the estimation of HHR meter readings were reviewed. Five examples of HHR estimates were reviewed.

HHR processes are now a CNIR responsibility.

Audit commentary

CNIR

When Manawa is unable to interrogate any HHR metering installation prior to the deadline for providing submission information, then estimated data is provided. There is a requirement to use "reasonable endeavours" to ensure this data is accurate to within 10%.

Manawa provided five examples of estimates of missing data for Manawa. Estimates are based on a "like day and time" basis, when considering the load pattern either side of the missing data, and this is considered to meet the "reasonable endeavours" requirement of this clause. Estimates of more than 500 kWh have a management sign off process as an additional check to ensure the estimation processes are robust. Four of the examples were within the required accuracy threshold and all met the best endeavours requirements.

TRUS

When Trustpower is unable to interrogate any HHR metering installation prior to the deadline for providing submission information, then estimated data is provided. There is a requirement to use "reasonable endeavours" to ensure this data is accurate to within 10%.

Trustpower provided four examples of estimates of missing data. Estimates are based on a "like day and time" basis, when considering the load pattern either side of the missing data, and this is considered to meet the "reasonable endeavours" requirement of this clause.

I checked an embedded generation estimation conducted prior to "day 4" which was replaced by an actual set of data. The difference was less than 1.0% because SCADA data was used as the basis for the estimate.

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 no- half hour meter readings and estimated readings must include the following:

> *16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register,*
>
> *16(2)(b) - checks for invalid dates and times*
>
> *16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend,*
>
> *16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected 0 values.*

Audit observation

I reviewed and observed the NHH data validation process, including checking a sample of data validations for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

Meter reader validation

For meters manually interrogated by MRS, a validation within their hand-held device identifies readings outside specified high/low parameters and prompts the reader to check the reading. This process is discussed further in the agent audit reports.

MRS also check the condition of the meters, to identify issues that could affect meter accuracy or safety. If an issue is identified, the appropriate condition code is entered into the hand-held device and provided to Manawa. This process is discussed further in **section 6.6**.

AMI validation

For AMI meters, the MEPs have access to meter event and clock synchronisation information that may identify issues with meter accuracy. The process to receive and review this information is discussed in **section 9.6**.

Read import and billing validation

The next two levels of validation occur in GTV, pre-billing and post billing. This validation remains largely the same as it was and includes the following checks:

- high consumption,
- no consumption - there is a discrepancy management tool used to identify registers with zero consumption for the last three actual reads, zero consumption on AMI meters following switch in (to detect possible meter bypass), and day/night consumption discrepancies,
- no reading,
- consumption on vacant connected ICPs - this consumption is not billed until a disconnection occurs or a customer is moved in, but the consumption is included in submission files,
- consumption on disconnected ICPs - this list is dealt with daily; if a customer is not identified the consumption is billed to "Manawa unbilled" so it is included in submission files,
- credit reads (reading lower than the previous reading or estimate),
- minimum and maximum number of days,
- ICPs not on a meter reading schedule,
- ICPs with no registers,
- multiple reads available,
- transposed registers on two rate meters,
- multipliers of one which should be greater than one,
- embedded generation where GTV has load instead of generation,
- incorrect register content codes, and
- incorrect unit of measure.

The check for transposed registers on two rate meters is still to be added.

Zero consumption is checked via the power BI reporting rather than in GTV due to the small numbers of customers.

Each register that fails validation is manually checked. If it is decided that the reading may be incorrect then billing is delayed, and a check reading is performed. Readings are not edited as part of this process.

The matter of "bypassed" metering was evaluated to ensure validation processes are comprehensive enough to identify any meters that have been bypassed. The following checks are conducted which will identify any bridged meters:

- zero consumption on recently switched in ICPs,
- consumption on controlled tariff but zero on the 24-hour tariff, and
- continuous consumption for six months then zero consumption.

Whilst bridged meters are being identified and the consumption information estimated, it is still a matter of non-compliance with clauses 10.12 and 10.24 of part 10. No bridged meters were identified during the audit period as detailed in **section 6.1**. Compliance is confirmed for the validation processes.

Reconciliation submissions are also reviewed prior to submission, this process is discussed in **section 12.3**.

TRUS

Meter reader validation

For meters manually interrogated by MRS, a validation within their hand-held device identifies readings outside specified high/low parameters and prompts the reader to check the reading. This process is discussed further in the agent audit reports.

MRS also check the condition of the meters, to identify issues that could affect meter accuracy or safety. If an issue is identified, the appropriate condition code is entered into the hand-held device and provided to Trustpower. This process is discussed further in **section 6.6**.

AMI validation

For AMI meters, the MEPs have access to meter event and clock synchronisation information that may identify issues with meter accuracy. The process to receive and review this information is discussed in **section 9.6**.

Read import and billing validation

The next two levels of validation occur in GTV, pre-billing and post billing. This validation includes the following checks:

- high consumption,
- no consumption - there is a discrepancy management tool used to identify registers with zero consumption for the last three actual reads, zero consumption on AMI meters following switch in (to detect possible meter bypass), and day/night consumption discrepancies,
- zero consumption on meters with a known high failure rate,
- no reading,
- consumption on vacant connected ICPs - this consumption is not billed until a disconnection occurs or a customer is moved in, but the consumption is included in submission files,
- consumption on disconnected ICPs - this list is dealt with daily; if a customer is not identified the consumption is billed to “Trustpower unbilled” so it is included in submission files,
- credit reads (reading lower than the previous reading or estimate),
- minimum and maximum number of days,
- ICPs not on a meter reading schedule,
- ICPs with no registers,
- multiple reads available,
- transposed registers on two rate meters,
- multipliers of one which should be greater than one,
- embedded generation where GTV has load instead of generation,
- incorrect register content codes, and
- incorrect unit of measure.

Each register that fails validation is manually checked. If it is decided that the reading may be incorrect then billing is delayed, and a check reading is performed. Readings are not edited as part of this process.

The matter of "bypassed" metering was evaluated to ensure validation processes are comprehensive enough to identify any meters that have been bypassed. The following checks are conducted which will identify any bridged meters:

- zero consumption on recently switched in ICPs,
- consumption on controlled tariff but zero on the 24-hour tariff, and
- continuous consumption for six months then zero consumption.

Whilst bridged meters are being identified and the consumption information estimated, it is still a matter of non-compliance with clauses 10.12 and 10.24 of part 10, as recorded in **section 6.1**. Compliance is confirmed for the validation processes.

Reconciliation submissions are also reviewed prior to submission, this process is discussed in **section 12.3**.

Whilst the validation steps meet the requirements of the Code, there are many instances where discrepancies are not being actioned due to resource constraints. Examples are stopped meters and meter reading conditions. I've made a recommendation in this section to ensure visibility of this matter.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 16 Schedule 15.2	Ensure appropriate resourcing is in place to process discrepancies and corrections.	Our new reporting will resolve resourcing constraints within Revenue Assurance. This report has given Revenue Assurance tools to filter and identify any critical events.	Identified

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

17(4)(f) - a review of meter and data storage device event 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

I checked the HHR and AMI data collection functions by conducting a walk-through of the processes, and I checked the management of events by checking a sample of files from all relevant providers.

HHR C&I processes are now a CNIR responsibility.

Audit commentary

CNIR

MV90 HHR and generation data

MV90 Interrogation occurs either nightly or every second night, so there is little risk that data will be overwritten.

Each validity check for automatically collected half-hour metering information includes the following:

1. checks for missing data (an export to "trading" will not occur if data is missing),
2. checks for invalid dates and times (an export to "trading" will not occur if dates and times are invalid),
3. checks of unexpected zero values (these settings are at channel level and some are set to allow for a certain number of zeros depending on the customer type),
4. comparison with expected or previous flow patterns (demand and energy maximum and minimum settings exist at channel level), and
5. a review of meter and data logger event list.

Any event that could have affected the integrity of metering is investigated.

HHR data received from agents

This function was examined as part of the MEP and agent audits and found to be compliant. The agents confirmed that no meter events which could affect accuracy occurred during the audit period.

AMI data

For AMI data collection (conducted by MEPs), the check for invalid dates and times is conducted at the time the files are loaded. There is an exception if the incorrect file is attempted to be loaded. A check for missing data, unexpected zeros and a comparison with previous flow patterns is conducted as part of the normal validation process.

The Code requires *"…a review of meter and data storage device event log for any event that could have affected the integrity of the metering data."*

The MEP provided event information is not currently being reviewed. Any emailed requests from MEP's are actioned via Gentrack. Manawa are working to get the management of the meter event reporting in place. As part of the meter event reporting I recommend that Manawa seeks the event information explanations for each event and then builds a query to extract these events to ensure they are acted upon. The full event lists often contain a large number of tamper events and these can be caused by vibration. However, I suggest the tamper event is evaluated in conjunction with the zero-consumption reporting to ensure a higher priority is given to ICPs where there is zero consumption and a tamper event.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 17 Schedule 15.2	Obtain event information description information from MEPs. Ensure all events, including tamper, are appropriately evaluated.	Manawa are working to get the management of the meter event reporting in place. Event data is downloaded from the MEP's and referred to as required at the moment, but the intention is to validate this data is a similar fashion to the C&I data, which will include the use of the event logs as part of that process	Investigating

TRUS

MV90 HHR and generation data

MV90 Interrogation occurs either nightly or every second night, so there is little risk that data will be overwritten.

Each validity check for automatically collected half-hour metering information includes the following:

1. checks for missing data (an export to "trading" will not occur if data is missing),
2. checks for invalid dates and times (an export to "trading" will not occur if dates and times are invalid),
3. checks of unexpected zero values (these settings are at channel level, and some are set to allow for a certain number of zeros depending on the customer type),
4. comparison with expected or previous flow patterns (demand and energy maximum and minimum settings exist at channel level), and
5. a review of meter and data logger event list.

Any event that could have affected the integrity of metering is investigated.

HHR data received from agents

This function was examined as part of the MEP and agent audits and found to be compliant. The agents confirmed that no meter events which could affect accuracy occurred during the audit period.

AMI data

For AMI data collection (conducted by MEPs), the check for invalid dates and times is conducted at the time the files are loaded. There is an exception if the incorrect file is attempted to be loaded. A check for missing data, unexpected zeros and a comparison with previous flow patterns is conducted as part of the normal validation process.

The Code requires *"…a review of meter and data storage device event log for any event that could have affected the integrity of the metering data."*

These requirements have changed from February 1st, 2021, therefore I checked how each MEP provided event information and what steps were taken by Trustpower once the event information was received. The table below describes the different event management processes.

MEP	Full event list provided	Specific notification of critical events	Comments
NGCM	Yes	Yes	
SMCO	Yes	Yes	
ARCS	No	Yes	ARC events are limited to power down, power up and clock changes, due to the hardware limitations.
MTRX	No	Yes	MTRX provides ICP specific information to the Revenue Assurance helpdesk if there is a critical event. MTRX is therefore acting as Trustpower's agent.
IHUB	No	Yes	IHUB provides ICP specific information to the Revenue Assurance helpdesk if there is a critical event. IHUB is therefore acting as Trustpower's agent.
COUP	No	Yes	COUP provides ICP specific information to the Revenue Assurance helpdesk if there is a critical event. COUP is therefore acting as Trustpower's agent.
Influx	Yes	Yes	

All events sent to the Revenue Assurance helpdesk are acted upon. Development is in progress for a system where all bulk events can be loaded and analysed.

During the previous audit, I recommended Trustpower seek the event information explanations for each event and then builds a query to extract these events to ensure they are acted upon. The full event lists often contain a large number of tamper events, and these can be caused by vibration. However, I suggest the tamper event is evaluated in conjunction with the zero-consumption reporting to ensure a higher priority is given to ICPs where there is zero consumption and a tamper event. I've repeated this recommendation to maintain visibility of this issue.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 17 Schedule 15.2	Obtain event information description information from MEPs. Ensure all events, including tamper, are appropriately evaluated.	As per recommendations we have reached out to all our MEPs for their event types and descriptions. Our new reporting covers all events including tampers.	Identified

The other important event is "voltage on the load side of a meter". This indicates that the meter is bridged, and immediate action is required. This event is present for Elster/Honeywell and Landis + Gyr meters. The Code requires that all events are evaluated, and this event is not evaluated, therefore non-compliance exists.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.6 With: Clause 17 Schedule 15.2 **CNIR** From: 01-Oct-21 To: 31-Jan-22 **TRUS** From: 01-Apr-21 To: 21-Feb-22	**CNIR** Event information is not analysed and acted upon. **TRUS** Event information is not analysed and acted upon for all MEPs. Voltage on the load side of the meter should be obtained and evaluated. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak as meter events reporting is not reviewed. The audit risk rating is low as the number of ICPs affected by not monitoring meter event reporting is expected to be low.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR Manawa are working to get the management of the meter event reporting in place. Event data is downloaded from the MEP's and referred to as required on an ad-hoc basis, but the intention is to validate this data is a similar fashion to the C&I data, which will include the use of the event logs as part of that process **TRUS** Trustpower agrees with the findings. Our Analytics team have built a report in PowerBI to make this process a more manageable task, this has been handed to our Revenue Assurance team with recommendations to check that the report is fit for purpose on a regular basis. IHUB now monitor AMI events from their end, sending us service request orders to raise for all critical events and then following up with a monthly summary report, with all AMI events requiring a service request.	Ongoing March 2022 Dec 2021	Investigating

Preventative actions taken to ensure no further issues will occur	Completion date	
CNIR Manawa are working to get meter event reporting in place, this will continue to be improved as more use is made of the AMI dataset. **TRUS** Revenue Assurance will be monitoring the Power BI report for its success and will be making any amendments identified over the coming months.	Ongoing Ongoing	

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 was managed by EMS on behalf of TRUS and has now transferred to CNIR.

Audit commentary

Compliance is confirmed in EMS' audit report.

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 was managed by EMS on behalf of TRUS and has now transferred to CNIR.

Audit commentary

Compliance is confirmed in EMS' audit report.

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 was managed by EMS on behalf of TRUS and has now transferred to CNIR.

Audit commentary

Compliance is confirmed in EMS' audit report.

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 was managed by EMS on behalf of TRUS and has now transferred to CNIR.

Audit commentary

Compliance is confirmed in 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 give notice to the reconciliation manager if it is to commence or cease trading electricity at a point of connection using a profile with a profile code other than HHR, RPS, UML, EG1, or PV1 at least five business days before commencing or ceasing trader.

The notification must comply with any procedures or requirements specified by the reconciliation manager.

Audit observation

Processes to create buying and selling notifications were reviewed for both the CNIR and TRUS participant codes. I checked examples of notifications provided and whether any breach allegations had been made.

Audit commentary

CNIR

Manawa conducts a check each month as part of the process for preparing submission information.

There have not been any breach allegations in relation to this clause during the audit period.

TRUS

Trustpower conducts a check each month as part of the process for preparing submission information.

There have not been any breach allegations in relation to this clause during the audit period.

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

CNIR

The process for the calculation of ICP days was examined by checking NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct. I reviewed variances for three months of GR100 reports.

Alleged breaches were reviewed to determine whether any submissions were made late.

TRUS

The process for the calculation of ICP days was examined by checking NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct. I reviewed variances for 22 months of GR100 reports.

Alleged breaches were reviewed to determine whether any submissions were made late.

Audit commentary

CNIR

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 50 NSPs with a small number of ICPs on the November 2021 submission. The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between the Manawa files and the RM return file (GR100) for all available revisions at an aggregate level. Positive numbers indicate that the Manawa ICPs days figures are lower than those contained on the registry. The discrepancies are very small and generally improve over time as expected.

Month	Ri	R1
Oct-21	0.08%	-0.01%
Nov-21	0.01%	-0.01%
Dec-21	0.02%	-

I checked a sample of ten NHH differences and all six HHR differences present at November 2021 r1 and found the following issues:

- in three instances, generation only ICPs were incorrectly included; this has been corrected,
- in four instances, submission flags were incorrect i.e., HHR profile but the submission flag was NHH; this is due to the known GTV issue where all HH switches are sent the GXP profile and these must be corrected to HHR once the switch has completed - in these instances the profile was changed but not the submission flags as reporting to identify these discrepancies was not put in place until January 2021, however all errors since October 2021 were identified and have been corrected and this will be checked as part of BAU going forward,
- backdated switch ins, and
- one instance due to the registry counting ICP days against an SB ICP but Manawa do not submit volumes for an SB ICP as it is a residual load ICP.

TRUS

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 50 NSPs with a small number of ICPs on the October 2021 submission. The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between Trustpower files and the RM return file (GR100) for all available revisions for several months at an aggregate level. Positive numbers indicate that the Trustpower ICPs days figures are lower than those contained on the registry. The discrepancies are very small and generally improve over time as expected.

Month	Ri	R1	R3	R7	R8	R14	R15
Jan-20	-	-	0.01%	0.00%		-	0.00%
Feb-20	-	-	0.02%	0.03%		0.00%	-
Mar-20	0.04%	0.03%	0.00%	0.00%		0.00%	-
Apr-20	0.01%	0.02%	0.00%	0.00%		0.00%	-
May-20	0.02%	0.00%	0.00%	0.00%	-	0.00%	-
Jun-20	0.01%	0.00%	0.03%	0.00%	-	0.00%	-
Jul-20	0.02%	0.01%	0.00%	0.00%	-	0.00%	-
Aug-20	0.02%	0.04%	0.00%	0.00%	-	0.00%	-
Sep 2020	0.01%	0.00%	0.00%	0.00%	-	-	-
Oct 2020	0.03%	0.01%	0.00%	0.01%	0.00%	-	-
Nov 2020	-	0.01%	0.00%	0.00%	-	-	-
Dec 2020	0.01%	0.00%	0.00%	0.00%	-	-	-
Jan 2021	0.03%	0.02%	0.00%	0.00%	-	-	-
Feb 2021	0.02%	0.00%	0.01%	0.00%	-	-	-
Mar 2021	0.00%	0.00%	0.00%	0.00%	-	-	-
Apr 2021	0.02%	0.02%	0.00%	-	-	-	-
May 2021	0.03%	0.00%	0.00%	-	-	-	-

Month	Ri	R1	R3	R7	R8	R14	R15
Jun 2021	0.02%	0.00%	0.01%	-	-	-	-
Jul 2021	0.02%	0.00%	0.00%	-	-	-	-
Aug 2021	0.01%	0.01%	-	-	-	-	-
Sep 2021	0.01%	0.00%	-	-	-	-	-
Oct 2021	0.03%	-	-	-	-	-	-

I checked a sample of 10 HHR differences and 10 NHH differences present at r7 or later and found the following issues:

- five ICPs with generation only had ICP days submitted; the ICP days file should only have records for ICPs with load or both load and generation, not generation only,
- three ICPs had backdated events and the ICP days were corrected in the revisions,
- the ICPCOMP report had an error for TFS0011 for R7 for January 2021; ICP days were correctly not submitted by Trustpower but the report shows they did,
- the ICPCOMP report had an error for TSG0011 for January, February and March R7; ICP days were correctly not submitted by Trustpower but the report shows they did,
- the ICPCOMP report expected ICP days for the Waipori residual load ICP, but Trustpower correctly did not submit ICP days because residual load ICPs don't have submission information provided.

The other NHH ICP days discrepancies relate to backdated registry events or incorrect registry information for a period of time by the distributor or errors in the ICPCOMP report.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.2 With: Clause 15.6 **CNIR** From: 01-Oct-21 To: 31-Jan-22 **TRUS** From: 01-Jan-21 To: 31-Mar-21	**CNIR** Incorrect ICP days for seven ICPs. **TRUS** ICP days submitted for generation only 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	The controls are recorded as strong as controls have been improved to identify discrepancies going forward. 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
CNIR The non-compliances related to the generation only HHR sites will be rectified as the revision cycles roll through. The non-compliances related to the incorrect submission flags has been rectified by updating the registry. **TRUS** The existing revision cycle will replace with updated ICP days files. File creation code has been enhanced to eliminate the need for a load meter to be onsite in order for inclusion in the ICP days file	Complete Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
CNIR The non-compliances related to the generation only HHR sites were identified prior to the audit and a fix was implemented before the on-site audit took place. Non-compliances related to incorrect submission flags will now be identified through reporting that is being attended to daily. **TRUS** A step in the submission file check process detects any consumption loaded against generation only profile in AV-080 file. This enables identifying affected Transmission point(s) and ICP(s). Investigation of the cause and correction will be carried out prior to the file submission.	Complete Complete	

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

CNIR

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

GR130 reports for October 2021 onwards were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

TRUS

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

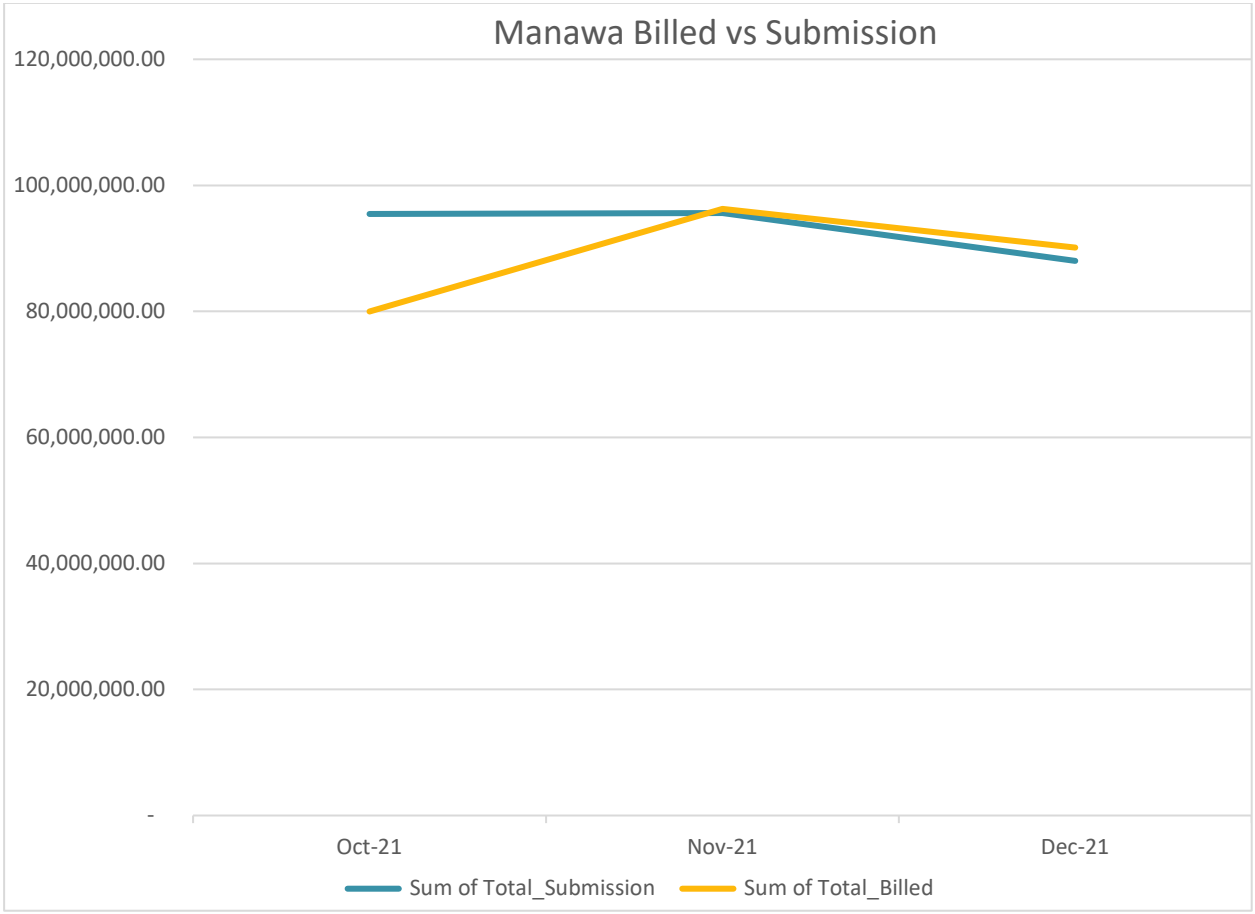
GR130 reports for November 2018 to October 2021 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

Audit commentary

CNIR

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs against Manawa's invoice information for November 2021. This confirmed the accuracy of the electricity supplied information.

I checked the difference between submission and electricity supplied information for the period October to December 2021, and the results are shown in the chart below. The total difference is 4.6% (billed lower than submitted) for the three months ending December 2021. The difference is due to the billing cycles being different and fixed charges for some customers across a smaller customer base. This is expected to settle over time.

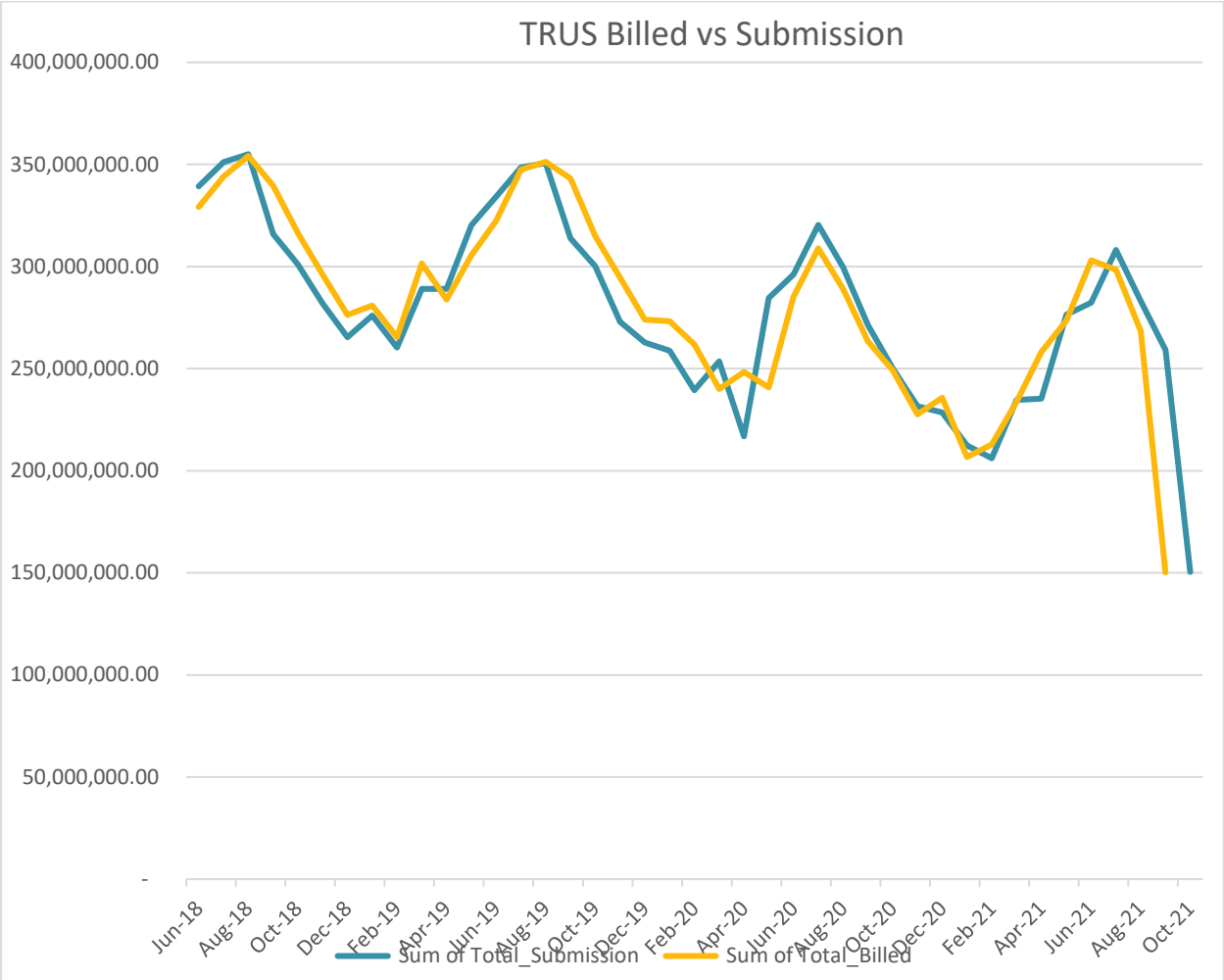

Manawa Billed vs Submission
120,000,000.00
100,000,000.00
80,000,000.00
60,000,000.00
40,000,000.00
20,000,000.00
-
Oct-21
Nov-21
Dec-21
Sum of Total_Submission
Sum of Total_Billed

TRUS

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs against Trustpower's invoice information for October 2021. This confirmed the accuracy of the electricity supplied information.

Trustpower has robust monitoring and controls in place to identify any possible errors in files.

I checked the difference between submission and electricity supplied information for the period November 2018 to October 2021, and the results are shown in the chart below. The total difference is 0.13% (billed lower than submitted) for the year ended October 2021.



Audit outcome

Compliant

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

Code reference

Clause 15.8

Code related audit information

Using relevant volume information, each retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity consumed for each half hourly metered ICP for which it has provided submission information to the reconciliation manager, including:

> *15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

CNIR

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 nine submissions.

The GR090 ICP Missing files were examined for October to December 2021, and all missing ICPs were checked.

I checked the raw data in MV90 through to the data in the aggregates file for five ICPs.

TRUS

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 nine submissions.

The GR090 ICP Missing files were examined for August 2020 to October 2021. An extreme case sample of the 20 ICPs missing from the most revisions were checked.

I checked the raw data in MV90 through to the data in the aggregates file for two ICPs.

Audit commentary

CNIR

I checked the process for aggregation of HHR data is correct, by matching HHR aggregates information to the volumes for all submissions since Manawa commenced trading in October 2021. The volumes and aggregates matched exactly to two decimal places. I checked the raw data in MV90 through to the data in the aggregates file for five ICPs.

The GR090 ICP Missing files were examined for October to December 2021, and all missing ICPs were checked. I found ICPs were missing because of:

- backdated switch outs,
- backdated changes to a NHH submission type and profile, and
- backdated NSP change for ICP 0006005909HBB08.

Late switching files and updates to the registry are discussed in **sections 3** and **4**.

TRUS

I checked the process for aggregation of HHR data is correct, by matching HHR aggregates information to the volumes for nine submissions. The volumes and aggregates matched exactly to two decimal places. I checked the raw data in MV90 through to the data in the aggregates file for two ICPs.

The GR090 ICP Missing files were examined for all revisions for August 2020 to October 2021. I checked an extreme case sample of the 20 ICPs missing from the most revisions and found they related to:

- backdated switch outs,
- backdated changes to a NHH submission type and profile, and
- backdated NSP changes.

Late switching files and updates to the registry are discussed in **sections 3** and **4**.

Audit outcome

Compliant

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

CNIR

HHR data is collected by AMS, EMS and EDMI as agents. Daylight savings adjustments were reviewed as part of their agent audits.

I checked files for the start and end of daylight savings to ensure they were correct.

TRUS

HHR data is collected by AMS, EMS and EDMI as agents. Daylight savings adjustments were reviewed as part of their agent audits.

I checked files for the start and end of daylight savings to ensure they were correct.

HHR data collection is now a CNIR responsibility.

Audit commentary

The process has not changed since it moved from TRUS to CNIR.

Compliance with this clause has been demonstrated by Manawa's agents as part of their agent audits.

Manawa uses the "trading period run on" technique. The files for the start of daylight savings were correct.

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 for both the CNIR and TRUS participant codes. A list of breaches was obtained from the Electricity Authority.

Audit observation

No breaches had been recorded for late provision of submission information for either the CNIR or TRUS participant codes.

CNIR

Generation

Generation submissions were checked in **section 12.6** and found to be compliant.

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**.

The GR090 ICP Missing files were examined for all revisions for October to December 2021. I checked all ICPs missing and found they related to:

- backdated switch outs,
- backdated changes to a NHH submission type and profile, and
- backdated NSP change for ICP 0006005909HBB08.

NHH

Manawa prepares NHH submissions using GTV. A sample of NHH ICPs were checked to make sure they are handled correctly, including:

- vacant consumption,
- inactive consumption,
- five ICPs with injection/export registers were checked and found that generation consumption was correctly submitted, and
- six ICPs with unmetered volumes were reviewed, including five ICPs with standard unmetered load and the only ICP with shared unmetered load, and I found that the correct consumption was submitted.

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

TRUS

Generation

Generation submissions were checked in **section 12.6** and found to be compliant.

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**.

The GR090 ICP Missing files were examined for all revisions for August 2020 to October 2021. I checked an extreme case sample of the 20 ICPs missing from the most revisions and found they related to:

- backdated switch outs,
- backdated changes to a NHH submission type and profile, and
- backdated NSP changes.

Generation and HHR processes are now a CNIR responsibility.

NHH

Trustpower prepares NHH submissions using GTV. A sample of NHH ICPs were checked to make sure they are handled correctly, including:

- 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 by checking a sample 10 ICPs with inactive consumption, and
- ten ICPs with unmetered volumes were reviewed, including five ICPs with standard unmetered load and five ICPs with shared unmetered load; I found that the correct consumption was submitted.

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

Audit outcome

Compliant

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

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

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

Audit observation

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

I evaluated the process for ensuring the correct NSP is recorded by conducting a walk-through of the registry validation and submission processes for NHH and HHR. NSP errors will also show in the ICPCOMP and ICPMISS reports, so these were checked as well for both the CNIR and TRUS participant codes.

The process for aggregating the AV080 was examined by checking five NSPs with a small number of ICPs for both the CNIR and TRUS participant codes.

Audit commentary

CNIR

I checked the process for NHH to HHR upgrades, and HHR to NHH downgrades. No upgrades were identified. I found all consumption was captured and reported for the three downgraded ICPs checked.

HHR

HHR submission occurs by using the registry as the starting point; this ensures the correct NSP is used for any given submission because the data used includes history of NSP changes. Manawa has emulated the robust Trustpower monitoring and controls processes to ensure data looks reasonable at an aggregated level.

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.

The NHH registry validation is robust and includes the NSP. Manawa has emulated the robust Trustpower monitoring and controls processes to ensure data looks reasonable at an aggregated level.

GR170 and AV080 files for all revisions since October 2021 were compared. All NSPs in the GR170 were included in the AV080 confirming that zeroing is occurring as required for AV080 submissions.

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

TRUS

I checked the process for NHH to HHR upgrades, and HHR to NHH downgrades, and found all consumption was captured and reported for the ICPs checked.

HHR

HHR submission occurs by using the registry as the starting point; this ensures the correct NSP is used for any given submission because the data used includes history of NSP changes. Trustpower has robust monitoring and controls in place to ensure data looks reasonable at an aggregated level.

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.

The NHH registry validation is robust and includes the NSP. Trustpower has robust monitoring and controls in place to ensure data looks reasonable at an aggregated level.

GR170 and AV080 files for eight revisions were compared. All NSPs in the GR170 were included in the AV080 confirming that zeroing is occurring as required for AV080 submissions.

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

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

I checked whether Trustpower Limited was a grid owner to determine whether this clause applied.

Audit commentary

Trustpower Limited is not a grid owner, therefore this clause does not apply.

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

Trustpower Limited is responsible for the NSP vols submission for the Waipori Village embedded network. This has transferred from the TRUS to the CNIR participant code. I checked the HHR submission processes by conducting a walk-through of the relevant steps and I checked that the data from MV90 flowed through to the relevant submission files.

Audit commentary

Compliance is confirmed for all HHR submission steps.

Audit outcome

Compliant

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

CNIR

Trustpower is responsible for the NSP vols submission for six grid connected generators. I checked the HHR submission processes by conducting a walk-through of the relevant steps and I checked that the data from MV90 flowed through to the relevant submission files.

Audit commentary

Compliance is confirmed for all HHR submission steps.

As recorded in **section 1.6**, the NSP Volumes file for October 2021 contained volumes under participant identifiers TRUS and CNIR for the NSPs COL0661-TRUS and MAT1101-TRUS for the period 1 October 2021 to 7 October 2021. These should have been separate files. The matter was resolved immediately.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.6 With: Clause 15.11 From: 01-Oct-21 To: 07-Oct-21	Both TRUS and CNIR codes in the NSP vols file for the period October 1st to 7th. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	**Rationale for audit risk rating**		
Low	The controls are recorded as strong because they mitigate risk to an acceptable level and were improved immediately after this issue. 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**
Upon being advised of the error we investigated immediately. We identified where the issue had occurred, corrected the offending file, and resubmitted within 3 hours. This was done prior to the publication of October 2021 3-month reconciliation reports.		Done	Identified
Preventative actions taken to ensure no further issues will occur		**Completion date**	
We identified that the zero-out portion of our market submission process omitted volumes included in our AV-130 submission. We have since included AV-130 volumes to our zero-out process. In addition, where possible we intend to make future NSP changes effective from the beginning of a month to avoid part-month submissions. Process notes have also been updated to note that where this cannot be achieved AV-130 files are to remain separate.		Ongoing	

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 8.1** and **8.2**.

Audit commentary

CNIR

Review of alleged breaches confirmed there were no late revision submissions.

Corrections are discussed in **sections 2.1, 8.1** and **8.2**. I checked the kWh information in GTV before and after the corrections, and I confirmed that the data flowed through to the submission files by checking these at ICP level.

TRUS

Review of alleged breaches confirmed there were no late revision submissions.

Corrections are discussed in **sections 2.1, 8.1** and **8.2**. I checked the kWh information in GTV before and after the corrections, and I confirmed that the data flowed through to the submission files by checking these at ICP level.

During the Influx MEP audit, it was discovered that ICP 0000130005UN6E9 had a compensation factor of 1 recorded in the registry and it should have been 50. The meter was installed on 1 May 2016, therefore Trustpower needed to apply a correction from that date, which they did, and the consumption was apportioned to the 14-month revision period as required by the Authority. The correction occurred at the next available opportunity, so compliance is achieved.

During the checks of ICPs where NHH correction was required, I identified two ICPs with bridged meters where corrections were not conducted prior to the ICPs switching out.

As detailed in **section 3.3**:

- two ICPs were reconnected but requested for a later date resulting in the volumes being reconciled to the incorrect period; this is recorded as non-compliance in **sections 2.1** and **3.8**, and
- ICP 0151745161LC3F3 was incorrectly backdated to "inactive" on 15 April 2021 for 25 June 2020 due to human error and reversed to "active" during the audit resulting in the volumes for the R14 revisions for the months of July to November 2020 not being submitted which is recorded as non-compliance below and in **sections 2.1** and **3.9** (the other affected revisions will be washed up through the revision process).

As detailed in **section 3.4**:

- The final read for ICP 0349782024LCEBF gained from the decommissioning was not entered resulting in 10 kWh not being reconciled due to disconnection reads not being entered in all cases and the recommendation made in the last two audits is repeated to maintain visibility as detailed in **section 3.9**.

As detailed in **section 3.8**, 13 ICPs had the incorrect first active dates:

- 11 ICPs were temporarily electrically connected for meter certification but the first active date recorded was post this; the volumes from the initial electrical connection will be reconciled to the incorrect period which is recorded as non-compliance below and in **sections 2.1, 2.10, 3.5** and **3.8,**
- ICP 1002108871LC5B6 was created by the network on 4 May 2021 to replace ICP 0123630002LC0F1 that had been decommissioned in error on 24 May 2019; the distributor should have returned the original ICP to "active" when the customer called in to query why they had had not had a power bill but instead the new ICP was backdated to "active" for 25 May 2019 (it had a certified meter throughout this period and was recertified on 31 May 2021) - the volumes from May 2019 through to February 2020 will not be reconciled as it is beyond the revision cycle and I estimate that 1,310 kWh will not have been submitted based on the meter readings taken at the point of disconnection and the new ICP being made "active", and

- as detailed in **section 3.5**, ICP 1000599753PCDB2 was created by the network on 16 April 2021 as a new connection, but ICP 1000574360PCDD6 had been created for the same address and then "decommissioned - set up in error" on 27 March 2018 with the same existing certified metering and start reads of 6,299 and 17,323; it appears that the site has been consuming for the intervening period and should have been investigated before being made active for 2021 which is recorded as non-compliance below and in **sections 2.1**, **3.5** and **3.8.**

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 25-May-18 To: 22-Nov-21	**TRUS** Corrections not conducted for two ICPs where meters were bridged. 13 new ICPs had the incorrect active status dates of the samples checked: • 11 ICPs temporarily electrically connected but not made active resulting in the volumes being reconciled for the incorrect period, • ICP 1002108871LC5B6 made active to replace an incorrectly decommissioned ICP for 25/5/19 on 4/05/21 resulting in an estimated 1,310 kWh under submission as the volumes from May 19-February 2020 have not been recoiled as they are beyond the 14-month revision cycle, and • ICP 1000599753PCDB2 made active to on 16/04/21 was found to have an existing electrically connected meter on site and is likely to have been consuming since mid-2018 resulting in under submission. ICP 0151745161LC3F3 was incorrectly backdated to "inactive" on 15 April 2021 for 25 June 2020 due to human error and reversed to "active" during the audit resulting in the volumes for the R14 revisions for the months of July to November 2020 not being submitted. Two ICPs not active for the correct date as the NT request date was after the reconnection date resulting in consumption being reconciled to the incorrect period. One example of a disconnection read not being entered resulting 10kWh of under submission. Potential impact: Medium Actual impact: Low Audit history: Three times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong because they ensure risks are mitigated to an acceptable level. The potential impact is low based on the kWh impact

Actions taken to resolve the issue	Completion date	Remedial action status
Reconciliation: Reconciliation has no visibility over these ICP level of errors unless they result in significant discrepancy in consumption compared with previously submitted consumption. In that case, we investigate it and work with teams responsible to rectify prior to the submission. New Connections: A gap in knowledge was identified during the Audit around temporarily connected sites. Training will be done within the relevant teams, specifically New Connections to improve our process around temporary connections. Human error – provided as a training opp. Logged ticket. Refer: 3.9 ICP 0151745161LC3F3 was incorrectly backdated to "inactive" on 15 April 2021 for 25 June 2020 due to human error and reversed to "active" during the audit resulting in the volumes for the R14 revisions for the months of July to November 2020 not being submitted.	Ongoing March 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
New Connections: A gap in knowledge was identified during the Audit around temporarily connected sites. Training will be done within the relevant teams, specifically New Connections to improve our process around temporary connections so that the correct CO date is added even if only CO for certification. <u>Revenue Assurance:</u> Bridged meters: Best efforts are used where possible for resolution controls. If data is not available, we can now use historical reads ascertained from the registry to estimate any unbilled consumption.	March 2022 Ongoing	

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

Code reference

Clause 4 Schedule 15.2

Code related audit information

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

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

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

Audit observation

CNIR

Manawa began trading in October 2021 and no ICPs have been supplied for 12 months or more.

TRUS

NHH volumes 14-month revisions were reviewed for July to September 2020 to identify any forward estimate still existing.

Audit commentary

CNIR

Manawa began trading in October 2021 and no ICPs have been supplied for 12 months or more.

TRUS

Review of the 14-month revisions for July to September 2020 showed no forward estimate remained.

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

CNIR and TRUS

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

Aggregation and content of reconciliation submissions was reviewed, and the registry lists were reviewed.

Audit commentary

CNIR

Aggregation of reconciliation submissions has robust controls in place. Compliance with this clause was assessed:

- HHR volume is reported for all ICPs with a meter category 3 or higher,
- five ICPs with injection/export registers were checked and found that generation consumption was correctly submitted,
- all active ICPs had submission types consistent with their profiles,
- unmetered load submissions were checked in **section 12.2,**
- all ICPs on profiles requiring a certified control device had AMI or HHR metering, or a certified control device,
- no loss or compensation arrangements are required, and
- aggregation of the AV080, AV090 and AV140 reports is compliant.

I checked the process for NHH to HHR upgrades, and HHR to NHH downgrades, to ensure all consumption information was accounted for. Three downgrade examples were checked to confirm this. There were no genuine upgrades identified in the audit period. The processes in place ensure all consumption is accounted for.

TRUS

Aggregation of reconciliation submissions has robust controls in place. Compliance with this clause was assessed:

- HHR volume is reported for all ICPs with a meter category 3 or higher,
- five ICPs with injection/export registers were checked and found that generation consumption was correctly submitted,
- all active ICPs had submission types consistent with their profiles,
- unmetered load submissions were checked in **section 12.2,**
- all ICPs on profiles requiring a certified control device had AMI or HHR metering, or a certified control device,
- the compensation factor in the registry is used for ICPs,
- no loss or error compensation arrangements are required, and
- aggregation of the AV080, AV090 and AV140 reports is compliant.

I walked through the process for NHH to HHR and HHR to NHH meter changes, including viewing examples where possible. The industry has adopted a process that achieves accuracy in relation to submission information and ICP days.

- For upgrades, the process is to "remove" the NHH meter from the registry and GTV on the day before the meter change, and then the ICP becomes HHR all day on the day of the meter change, with the trading periods up until the meter change being populated with zeros. There were no examples to examine during the audit period. I checked the event detail report to confirm this.
- The reverse applies for downgrades, with the ICP treated as HHR all day on the date of the removal, with zeros populated until the end of the day and the NHH meter installed the following day. I checked five examples where compliance is confirmed because the NHH reading is correctly applied to the end of the day.

The processes in place ensure all consumption is accounted for.

Audit outcome

Compliant

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

Code reference

Clause 3 Schedule 15.3

Code related audit information

For each ICP that has a non-half hour metering installation, volume information derived from validated meter readings, estimated readings, or permanent estimates must be allocated to consumption periods using the techniques described in clauses 4 to 7 to create historical estimates and forward estimates.

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

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

Audit observation

CNIR and TRUS

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

CNIR

I reviewed all AV080 submissions submitted since October 2021 and confirm that forward and historic estimates are included and identified.

TRUS

I reviewed nine AV080 submissions for a diverse sample of months and revisions and confirm that forward and historic estimates are included and identified.

Audit outcome

Compliant

12.11. Historical estimate process (Clause 4 and 5 Schedule 15.3)

Code reference

Clause 4 and 5 Schedule 15.3

Code related audit information

The methodology outlined in clause 4 of Schedule 15.3 must be used when preparing historical estimates of volume information for each ICP when the relevant seasonal adjustment shape is available, and the reconciliation participant is not using an approved profile in accordance with clause 4A.

If the Authority has approved a profile for the purpose of apportioning volume information (in kWh) to part or full consumption periods, a reconciliation participant may use the profile despite the relevant seasonal adjustment shape being available; and if it uses the profile, must otherwise prepare the historical estimate in accordance with the methodology in clause 4.

*If a seasonal adjustment shape is not available, and the **reconciliation participant** is not using an approved **profile** under clause 4A, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities kWh_{Px} must be prorated as determined by the reconciliation participant using its own methodology or on a flat shape basis using the relevant number of days that are within the consumption period and within the period covered by kWh_{Px}.*

Audit observation

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

Audit commentary

CNIR

The table below shows that all scenarios are calculating as expected and correct SASV (seasonal adjusted shape values) are applied. The historic estimate process spreads consumption for the read-to-read period across the active days within that period.

Test	Scenario	Test expectation	Result
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
c	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant
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	Compliant, all customer reads are

Test	Scenario	Test expectation	Result
		validated against a set of validated readings from another source	now considered estimates.
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, all photo reads are now considered estimates.
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant

TRUS

The table below shows that all scenarios are calculating as expected and correct SASV (seasonal adjusted shape values) are applied. The historic estimate process spreads consumption for the read-to-read period across the active days within that period.

Test	Scenario	Test expectation	Result
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
c	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant

Test	Scenario	Test expectation	Result
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant
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, all customer reads are now considered estimates.
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, all photo reads are now considered estimates.
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

CNIR and TRUS

I checked the documentation for the forward estimate methodology, and I checked examples where the difference between the Ri and subsequent revisions exceeded 100,000 kWh and 15%.

Audit commentary

CNIR

Manawa's forward estimate methodology is the same as is used for Trustpower and is based on the following:

- consumption from the same period one year earlier, scaled up using the previous months volume and then adjusted by profile shape data,
- if a read was not conducted in the previous year, then the last read period will be used, and
- where no reading history is available then a daily average figure is used from the CS file for a switch in or manually entered for new connections.

Where profile shape data is not available then the average of the read-to-read period is used.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. Manawa began trading in October 2021 and the table below shows the variation between revisions. There were no differences over the thresholds.

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

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total
Oct 2021	0	0			117
Nov 21	0	0			119
Dec 21	0				121
Jan 22	0				114

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Oct 2021	1.24%	1.12%		
Nov 21	-3.06%	-2.07%		
Dec 21	1.01%			
Jan 22	-0.09%			

TRUS

Trustpower's forward estimate methodology is based on the following:

- consumption from the same period one year earlier, scaled up using the previous months volume and then adjusted by profile shape data,
- if a read was not conducted in the previous year, then the last read period will be used, and
- where no reading history is available then a daily average figure is used from the CS file for a switch in or manually entered for new connections.

Where profile shape data is not available then the average of the read-to-read period 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 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
Apr 2020	1	1	1	1	202
May 2020	1	1	0	2	202
Jun 2020	0	0	0	0	208
Jul 2020	0	0	0	0	208
Aug 2020	0	0	0	0	210
Sep 2020	0	1	1		211
Oct 2020	0	0	0		211
Nov 2020	3	3	2		212
Dec 2020	0	0	0		213
Jan 2021	0	1	1		216
Feb 2021	0	0	0		218
Mar 2021	0	0	0		215
Apr 2021	0	0			214
May 2021	0	1			213
Jun 2021	0	0			212

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total
Jul 2021	0	0			215
Aug 2021	0				220
Sep 2021	0				221

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Apr 2020	1.16%	1.28%	1.45%	1.42%
May 2020	-4.10%	-5.26%	-4.98%	-5.24%
Jun 2020	0.79%	0.14%	0.28%	0.33%
Jul 2020	-3.05%	-3.86%	-3.91%	-3.92%
Aug 2020	2.89%	2.66%	2.65%	2.70%
Sep 2020	-1.37%	-1.18%	-1.17%	
Oct 2020	0.64%	1.09%	1.18%	
Nov 2020	-0.68%	-0.29%	-0.51%	
Dec 2020	-0.42%	-1.01%	-0.97%	
Jan 2021	1.26%	1.33%	1.45%	
Feb 2021	-0.93%	-0.93%	-0.90%	
Mar 2021	-2.59%	-2.90%	-2.85%	
Apr 2021	-3.21%	-3.54%		
May 2021	-4.34%	-5.39%		
Jun 2021	-1.11%	-1.26%		
Jul 2021	-0.61%	-0.95%		

Month	Revision 1	Revision 3	Revision 7	Revision 14
Aug 2021	-1.15%			
Sep 2021	0.77%			

I checked all differences over the threshold since April 2020 and found the following issues:

- reads replacing estimates at NSPs with a high proportion of irrigation load, and
- changes in profile shapes through the revisions.

Trustpower has robust high-level validations in place to ensure the accuracy of submission, including:

- variances between revisions at ICP level,
- all ICPs where corrections have been made with "ADJ" rows,
- consumption over 2,000 kWh at ICP level, and

credits of more than 500 kWh at ICP level.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.12 With: Clause 6 Schedule 15.3 From: 01-Apr-20 To: 31-May-21	**TRUS** Some FE thresholds not met in some instances. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as they mitigate risk to an acceptable level. The audit risk rating is low as the Initial data is replaced with revised data and washed up.

Actions taken to resolve the issue	Completion date	Remedial action status
Read attainment was impacted by COVID-19 restrictions and accuracy reduced. The implemented end-of-month read for the AMI sites we did have reliable data and easing back into normality will increase our read percentage & accuracy markedly."	Complete	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
AMI rollouts have increased, with more than 200k sites now possessing AMI meters. Combined with the ongoing use of the EOM read process has resulted in a more robust process should similar events happen in the future.	Ongoing	

12.13. Compulsory meter reading after profile change (Clause 7 Schedule 15.3)

Code reference

Clause 7 Schedule 15.3

Code related audit information

If the reconciliation participant changes the profile associated with a meter, it must, when determining the volume information for that meter and its respective ICP, use a validated meter reading or permanent estimate on the day on which the profile change is to take effect.

The reconciliation participant must use the volume information from that validated meter reading or permanent estimate in calculating the relevant historical estimates of each profile for that meter.

Audit observation

CNIR and TRUS

The event detail reports were 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

CNIR

In the event of a profile change, Manawa uses a validated meter reading or a permanent estimate on the day that the change is effective. Manawa mainly uses the GXP profile for NHH, and a meter change normally occurs at the same time as the profile change.

A sample of five profile changes were checked. All of these had a meter change at the time of the profile change and a meter read was gained.

TRUS

In the event of a profile change, Trustpower uses a validated meter reading or a permanent estimate on the day that the change is effective. Trustpower mainly uses the GXP profile for NHH, and a meter change normally occurs at the same time as the profile change.

A sample of ten profile changes were checked. All of these had a meter change at the time of the profile change and a meter read was gained.

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

CNIR and TRUS

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

CNIR and TRUS

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.

No incorrect aggregation issues were identified.

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

CNIR and TRUS

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

CNIR and TRUS

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

Audit outcome

Compliant

13.3. Historical estimate reporting to RM (Clause 10 Schedule 15.3)

Code reference

Clause 10 Schedule 15.3

Code related audit information

By 1600 hours on the 13th business day of each reconciliation period the reconciliation participant must report to the reconciliation manager the proportion of historical estimates per NSP contained within its non-half hour submission information.

The proportion of submission information per NSP that is comprised of historical estimates must (unless exceptional circumstances exist) be:

- *at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))*
- *at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))*
- *100% for revised data provided at the month 14 revision (clause 10(3)(c)).*

Audit observation

CNIR

The timeliness of submissions of historic estimate was reviewed in **section 12.2**.

I reviewed all of the AV080 reports since Manawa began trading in October 2021, to determine whether historic estimate requirements were met.

TRUS

The timeliness of submissions of historic estimate was reviewed in **section 12.2**.

I reviewed nine months of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

CNIR

The quantity of historical estimates is contained in the submission file and is not a separate report. The proportion of HE in the two R3 revision files were checked and shows that compliance has not been achieved.

Quantity of NSPs where revision targets were met:

Month	Revision 3 80% Met	Total
Oct 21	174	203
Nov 21	178	205

The table below shows that the percentage HE at a summary level for all NSPs. The HE percentage attainment has been impacted, as discussed in **section 6.8**, due to the no read process still being refined and the ongoing Covid-19 pandemic that has impacted meter reading attainment.

Month	Revision 3 80% Met
Oct 21	86%
Nov 21	91%

CNIR

The quantity of historical estimates is contained in the submission file and is not a separate report. The proportion of HE in the revision files was checked for nine separate months, and the table below shows that compliance has not been achieved in all instances.

Quantity of NSPs where revision targets were met:

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jul 2020			291	291
Aug 2020			294	294
Sep 2020			294	294
Feb 2021		297		302
Mar 2021		294		299
Apr 2021		290		297
Jun 2021	285			295
Jul 2021	288			300
Aug 2021	281			303

The table below shows that the percentage HE at a summary level for all NSPs is at or above the required targets for revisions 3 and 7, and 14. I checked ten combinations of NSP month and revision where the 3-month targets were not met, and ten where the 7-month targets were not met. In all cases, the issues were inability to get meter readings. Covid-19 has impacted meter reading attainment in the last two years and there have been periods where meter readers have not been reading inside meters.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met
Jul 2020	-	-	100.00%
Aug 2020	-	-	100.00%
Sep 2020	-	-	100.00%
Feb 2021	-	99.55%	-
Mar 2021	-	99.53%	-
Apr 2021	-	99.46%	-
Jun 2021	98.49%	-	-
Jul 2021	98.47%	-	-
Aug 2021	98.10%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 **CNIR** From: 01-Oct-21 To: 31-Jan-22 **TRUS** From: 01-Feb-21 To: 31-Aug-21	**CNIR and TRUS** Historic estimate thresholds were not met for the two R3 revisions submitted. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as there is room for improvement. The audit risk rating is low as percentage of HE overall is greater than the required 80%.

Actions taken to resolve the issue	Completion date	Remedial action status
CNIR As the uptake of AMI increases this will reduce the issue. We continue to monitor the FE volumes. **TRUS** Our R3 HE percentages have increased markedly largely because of the AMI rollout. The scenario that causes the non-compliance (embedded networks with a mix of high & low consumption sites and the high consumption site has restricted access) is still present. COVID-19 restrictions had notable impact on obtaining reads from these sites. We continue to monitor the FE volumes	Ongoing Ongoing	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
CNIR As the access restrictions attributed Covid-19 begin to ease, our meter readers are now able to access meters previously unavailable. The AMI rollout will also continue to improve this metric. **TRUS** Our metering services team continue to progress on unread / restricted access sites that flow through to rectifying these scenarios. Also, the AMI rollout is continuing to have a positive impact on these volumes. Monthly reports that contain list of ICPs which have high consumption but low HE will be provided to Bill Data team post each R3 and R7 submission from April 2022. This will help the team prioritise read attainment from the ICPs that would make meaningful impact on improving HE proportion in submission data.	Ongoing Ongoing	

CONCLUSION

The TRUS code ICPs will become the responsibility of Mercury NZ Limited (**Mercury**) from May 1st, 2022. Trustpower Limited will continue to trade using their CNIR participant code **(Manawa).** Therefore, at the time this audit is due to be submitted to the Electricity authority both codes are included. For clarity, I have provided two non-compliance and recommendation tables. The first is for both codes, the second is for the Manawa (CNIR) participant code only.

This audit report is submitted to support Trustpower Limited's application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2.

Manawa (CNIR)

From 1 October 2021 Trustpower's commercial and industrial customer base began to switch from the TRUS participant code to the new CNIR (Manawa) participant code.

Registry and Switching

Minor issues were identified with processes and data quality during the transition period. Controls were strengthened and additional training was provided shortly after the transition period was over. Additional reporting is still being developed as part of Manawa's continuous improvement.

Reading and Reconciliation

Meter reading and billing validations processes are generally robust. I make one recommendation to review the Account Managers tracking of attempts to get reads to meet the "best endeavours" requirement.

AMI events are not currently being reviewed. Manawa are working to put reporting in place to identify any meter events that require action.

The reconciliation processes in place are robust. Some reporting in this area is still to be deployed but overall compliance is high.

Trustpower (TRUS)

The controls are generally strong, and compliance is well controlled. Registry update timeliness continues to have a high level of compliance. Switching file content and timeliness also has a high level of compliance.

As mentioned in the last audit, improvements are required to the AMI event monitoring area, and these are already in progress.

The next audit frequency indicator for the combined CNIR and TRUS participant code recommends that the next audit be conducted in three months. The TRUS code will move to Mercury NZ Limited from May 1st, 2022, therefore I have only considered the non-compliances that are directly attributed to the CNIR code. The audit frequency indicator for this recommends that the next audit be conducted in six months. I have considered this in conjunction with Trustpower's responses, that ten of the 18 non-compliances recorded have a control rating of strong and recommend that the next audit be conducted in 18 months.

PARTICIPANT RESPONSE

The C&I team would like to thank both Veritek and the team on the Trustpower side for their work on this audit. We appreciate the effort required to complete this Audit with the additional complexity added by the separation. This has been a great opportunity to test the resilience of our transitory arrangement and identify the holes that are inevitable with a change of this scale. The relatively small scale of the issues identified shows the great work by everyone involved in ensuring a smooth transition that continues to deliver excellent service for our customers.

The future risk rating of 30 alongside the conclusion from Veritek is evidence of this hard work. Veritek identified that our reading and reconciliation processes were robust with only minor areas for improvement. They also found that our registry and switching processes only had minor issues primarily caused by the transition. These issues were addressed by the expedient strengthening of controls and additional training that was undergone following the transition. We thank Veritek for their assistance in achieving this progress.

The major issue identified from this audit continues to be the database problems with some of our distributed unmetered load. These issues only occur with databases and processes associated with the NZTA. We note that over the year we have continued to make improvements to the processes and data accuracy. We have also discussed with Powernet a plan to establish individual UML ICPs for each of the remaining lights. These challenges have been unique to our engagement with the NZTA. Our processes have been effective with other stakeholders. These challenges are well known to the Authority.

We plan to address the issues identified in this report through the increased uptake of AMI, improvements to our monitoring processes, additional training and enhancements to Gentrack. The other non-compliances issues related to timeliness were caused by the separation and we expect are only transitory.