

ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT



For

TRUSTPOWER LIMITED

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EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Trustpower Limited (Trustpower)**, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2.

Trustpower has made some progress in resolving non-compliance issues during the audit period. Key improvements are:

NHH switching	<p>CS average daily kWh is calculated in accordance with the code.</p> <p>The switch event read selection process has recently been improved and is now compliant.</p> <p>The AN response code logic has been refined, and there has been an improvement in the accuracy of the codes assigned.</p>
Registry data management	<p>Improvements have been made to the profile update process, to ensure only settled registers are included.</p> <p>Review of BTS ICPs with high consumption has resulted in improvements to data accuracy.</p>
Unmetered load	<p>Good progress has been made with resolving unmetered load discrepancies, and the number of discrepancies has continued to decline significantly.</p>
New connections	<p>The HH new connections process has been improved, and the consumption start date is now considered when determining the active date.</p> <p>There are strong monitoring controls in place to identify date discrepancies and ICPs which are connected that Trustpower has not received connection paperwork for. Further enhancement to identify differences between GTV and registry active dates for new connections would improve the effectiveness of this process.</p>

Registry validation, and HH switching processes continue to be strong.

The audit found 38 non-compliances and makes six recommendations. This is an increase from 25 non-compliances and two recommendations in the previous audit. A small proportion of the increase can be attributed to:

1. some minor non-compliances affecting small number of ICPs were captured in several report sections, inflating the total score, and
2. clarified interpretations on some clauses resulted in new non-compliances being recorded although processes have not changed, such as rounding of meter readings on import.

Key areas requiring improvement are:

NHH switching	<p>RR files are not consistently supported by two actual reads.</p> <p>GTV consumption history is not consistently updated to reflect the outcome of the RR process once an AC file is received.</p>
Registry data management	<p>Expansion of the registry discrepancy reporting to identify rejected status updates, particularly following automated status updates on switch in will increase data accuracy and reduce the need for backdated corrections.</p>
Unmetered load	<p>DUML - Two databases have yet to be audited since the new DUML audit regime came into effect and three DUML audits are overdue.</p>

Validation of customer and photo reads	The validation process in some instances results in customer and photo reads being validated against previous validated estimates.
Manual meter reading	The move to outsource all meter reading has resulted in a decline in meter reading attainment which has affected the variations between submissions and the billed vs submitted volumes. Trustpower are aware of this issue and working with their meter reading provider to resolve it.

In addition to these, some minor or technical non-compliances were identified, which did not indicate systemic issues.

The next audit frequency indicator recommends that the next audit be conducted in three months. I have considered this in conjunction with Trustpower's responses, which indicate that process improvements have or will be made to resolve the issues, apart from a technical non-compliance relating to the HHR aggregates submission. I recommend the next audit be conducted in 14 months.

The matters raised are shown in the tables below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	15.2	Some inaccurate information is recorded on the registry and/or in GTV. Correction calculated incorrectly resulting in under submission of 398 kWh for ICP 1002064518UN6BF. ICP status not corrected resulting in vacant consumption being pushed to the gaining trader for the incorrect period in some instances.	Moderate	Low	2	Identified
Electrical Connection of Point of Connection	2.11	10.33A	101 reconnected ICPs were not certified within five business days of becoming active. 139 metered newly connected ICPs were not certified within five business days of becoming active. Four ICPs were not certified on becoming unbridged.	Moderate	Low	2	Identified
Changes to registry information	3.3	10 Schedule 11.1	7,896 ICPs did not have trader information updated on the registry within five business days of the event date. 397 ICPs were not updated to inactive status on the registry within five business days of the event date. 481 ICPs were not updated to active status on the registry within five business days of the event date.	Moderate	Low	2	Investigating
Trader responsibility for an ICP	3.4	11.18	An incorrect MEP nomination for SMCO was raised for 0001090826TG113, and later replaced with a correct nomination for NGCM. The incorrect nomination remained in place on the registry from 20/12/19 until 21/01/20.	Strong	Low	1	Identified
Provision of information to	3.5	9 Schedule 11.1	487 late updates to active status for new connections.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
the registry manager			ICP 0000519838BU421 has active status recorded from 25/03/19 but should have active status recorded from 21/03/19. Seven new ICPs has incorrect active status dates, which were corrected during the audit.				
ANZSIC codes	3.6	9 (1)(k) of Schedule 11.1	ICP 0007171910RN50C has a residential ANZSIC code (000000) but relates to a residential property operator supply and is expected to have ANZSIC code L671100. ICP 0000010776NT35F had ANZSIC code M69 (Professional Scientific and Technical Services) but is expected to have ANZSIC code D281100 (Water Supply). The code has not been updated because the ICP has since switched out.	Strong	Low	1	Identified
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	Eight ICPs had incorrect daily unmetered kWh recorded on the registry, and were corrected during the audit.	Strong	Low	1	Identified
Management of "active" status	3.8	17 Schedule 11.1	Eight new ICPs has incorrect active status dates, seven were corrected during the audit. The other ICP was identified when reviewing ICP Days (section 11.2) is expected to be corrected. ICP 0000519838BU421 which has active status recorded from 25/03/19 but should have active status recorded from 21/03/19. ICP 0003120630WF52D which has active status recorded from 4/10/19 but should have active status recorded from 31/10/19 on the registry. ICP 0002222260WF869 which has an active status recorded from 9/10/18 but was disconnected from 20/11/18-2/12/18 on the registry.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Management of "inactive" status	3.9	19 Schedule 11.1	Inactive ICP not corrected to active for the period with vacant consumption.	Moderate	Low	2	Identified
Inform registry of switch request for ICPs - standard switch	4.1	2 Schedule 11.3	Trustpower issues switch move NTs for contract customers which are transferring between retailers at their existing address to ensure that the correct switch event date is applied.	Strong	Low	1	Identified
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	231 AN files had the AA or AD response code incorrectly applied.	Strong	Low	1	Identified
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	<p>The CS files for 0000054440TEFF8 (21/10/19), 0000474134WE8D7 (06/06/19), 0000620699UN1FC (03/07/19) and 0000027439EAEC4 (18/07/19) contained last actual read dates and read types which did not reflect the reading on Trustpower's last day of responsibility.</p> <p>CS average daily consumption of zero was invalidly recorded for 0000001057UHAB8 (16/07/19), 0000517820KE6DF (15/08/19), 0000907499TUAC7 (20/09/19)</p> <p>Incorrect average daily consumption was recorded for 0000670639WE6D6 (20/02/19).</p> <p>Negative CS average daily consumption was invalidly recorded for 0000023424EADB2 (02/05/19).</p> <p>Six transfer CS files were issued late. All the late files were issued within four business days of their due date.</p>	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	There were nine genuinely late RR files for transfer switches. Six RRs were issued without being supported by two validated actual readings. Four ICPs did not have the agreed switch reading recorded in GTV and six ICPs did not have the agreed switch reading type recorded in GTV.	Weak	Medium	6	Identified
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	Trustpower issues switch move NTs for contract customers which are transferring between retailers at their existing address to ensure that the correct switch event date is applied.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	Nine AN files had the AA or AD response code incorrectly applied. One late CS file.	Strong	Low	1	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	The CS files for 0000146325UN7C6 (07/09/19), 0001150370WMD0D (19/09/19), 0030126474PCB2A (15/11/19), 0000489012CE2E0 (08/11/19), 0000714936NVC6B (09/05/19) and 0000200599CTE33 (19/07/19) contained last actual read dates and read types which did not reflect the reading on Trustpower's last day of responsibility. CS average daily consumption of zero was invalidly recorded for 1002047549LC3CB (26/06/19).	Moderate	Low	2	Identified
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	25 genuinely late RR files for switch moves. Three RRs were issued without being supported by two validated actual readings.	Weak	Medium	6	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			<p>One ICP did not have the agreed switch reading recorded in GTV and four ICPs did not have the agreed switch reading type recorded in GTV.</p> <p>One RR was issued in error with the same event reading as the original CS file.</p>				
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	<p>32 late withdrawals on the event detail report.</p> <p>At least two genuine late withdrawals (NA breach type) on the switch breach report.</p>	Moderate	Low	2	Identified
Metering information	4.16	21 Schedule 11.3	For ten CS files issued by Trustpower, switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date and the read type was incorrectly recorded.	Moderate	Low	2	Identified
Distributed unmetered load	5.4	11 Schedule 15.3, Clause 15.37B	<p>Errors found in 12 databases, two databases still to be audited and three audits are overdue.</p> <p>For those completed the specific findings are detailed in the DUMML database audit reports.</p>	Moderate	High	6	Identified
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	<p>ICP 0000960325TU251 has solar generation and EG1 profile is recorded, instead of PV1.</p> <p>ICP 0002211488TGB0D has wind generation and PV1 profile is recorded, instead of EG1.</p> <p>While meters were bridged, energy was not metered and quantified according to the code for 65 ICPs.</p>	Strong	Low	1	Identified
Responsibility for metering at GIP	6.2	10.26 (7)	<p>One correct NSP meter certification not provided.</p> <p>Three NSP meter recertifications not provided within ten business days of recertification.</p>	Moderate	Low	2	Identified
Derivation of meter readings	6.6	3(1), 3(2) and 5	Customer reads validated against estimated reads in some instances.	Weak	Low	3	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
		Schedule 15.2					
NHH meter reading application	6.7	6 Schedule 15.2	For ten CS files issued by Trustpower, switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date. Meter readings not applied at the end of the day for NHH to HHR changes and decommissioning events.	Moderate	Low	2	Identified
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Exceptional circumstances not proven for one ICP not read during the period of supply.	Strong	Low	1	Identified
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	Exceptional circumstances not proven for one ICP not read annually.	Strong	Low	1	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	Exceptional circumstances not proven for four NSPs not meeting the 90% read threshold. All NSPs had either one or two ICPs per NSP.	Strong	Low	1	Identified
Identification of readings	9.1	3(3) Schedule 15.2	Four transfer switch and six switch move CS files contained incorrect read types. Six transfer switch and four switch move ICPs which had RRs issued had incorrect switch event read types recorded in GTV. One customer read was incorrectly recorded as an actual read in GTV.	Weak	Low	3	Identified
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.	None	Low	5	Identified
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates file does not contain electricity supplied information.	Strong	Low	1	Disputed
Creation of submission information	12.2	19(1) Schedule 15.2	Correction calculated incorrectly resulting in under submission of 398 kWh for	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			ICP 1002064518UN6BF, which had a bridged meter. Vacant consumption not submitted for ICP 0000113952UN10F resulting in under submission of 184 kWh.				
Accuracy of submission information	12.7	15.12	One correction calculated incorrectly resulting in under submission of 398 kWh. One ICP with vacant consumption not submitted resulting in under submission of 184 kWh. One ICP with the incorrect NSP dedication flag recorded. Five out of ten ICPs with accepted RR reads did not have the agreed switch reading recorded in GTV resulting in incorrect submission for these ICPs.	Moderate	Medium	4	Identified
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Three forward estimates were not replaced by revision 14 for September 2018.	Strong	Low	1	Identified
Reconciliation participants to prepare information	12.11	4 and 5 Schedule 15.3	Customer reads and photo reads are used to calculate historic estimates if they are validated against two previous reads regardless of whether they are estimates or actuals.	Weak	Low	3	Investigating
Forward estimate process	12.12	6 Schedule 15.3	The accuracy threshold was not met for all months and revisions.	Strong	Low	1	Identified
Compulsory meter reading after profile change	12.13	10 Schedule 15.3	Meter reading not gained for the date of the profile change for five profile changes.	Moderate	Low	2	Identified
Provision of submission information to the RM	13.1	8 Schedule 15.3	One ICP with the incorrect NSP dedication flag recorded.	Strong	Low	1	Identified
Historical estimate	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
reporting to RM							
Future Risk Rating						80	

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

Subject	Section	Description	Recommendation
Relevant information	2.1	Identification of failed registry updates for status changes and validation of connection dates	Review acknowledgements indicating failed status updates to determine whether a correction is required. These errors most commonly occur on ICPs which have recently switched in, had a withdrawal processed, or had a status correction processed. Create discrepancy reporting to identify instances where the connection date recorded in GTV and on the registry are different.
Relevant information	2.1	Status date correction process	Where a status event date is corrected to be a later date, ensure that the existing status record with the incorrect date is reversed on the registry, so that the change takes effect from the correct date.
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.
Management of “inactive” status	3.9	Follow up of account managed ICPs at “inactive new connection in progress” status for more than 24 months	Refer account managed ICPs at “inactive new connection in progress” status for more than 24 months to the account manager for follow up.
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 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.
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ISSUES

Subject	Section	Description	Issue
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. Three current exemptions are relevant to the scope of this audit.

Exemption 159 - clause 10.3(b)

Exemption 159 allowed 0001131999MLC77 to be treated as standard unmetered load, although the 11 points of connection consume between 3,000 and 6,000 kWh per annum. The exemption expired when Trustpower ceased to be responsible for the ICP, which has now been decommissioned.

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 31/12/2026, when all the ICPs are all metered, or Trustpower is no longer responsible for the ICPs. None of these ICPs are metered and Trustpower is still responsible for all except ICP 0007146036RN593, which is now decommissioned.

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

Exemption 268 – clause 11 of Schedule 15.3

Exemption 268 allows 30 ICPs, which should be treated as DUMML ICPs, to be treated as standard unmetered load and expires on 30/04/2020. 21 of the ICPs have switched out or been decommissioned, and the exemption currently applies to nine ICPs. Trustpower intends to apply for another exemption to allow time for these to be resolved once the COVID-19 crisis has passed. The ICPs are listed below.

ICP	Comments
0001416838UN920	Exemption still valid
0001416872UN914	Decommissioned

ICP	Comments
0001416873UN551	Decommissioned
0001416874UN89B	Decommissioned
0001416876UN81E	Decommissioned
0001416908UN7DC	Decommissioned
0001416909UNB99	Decommissioned
0001416910UNF65	Exemption still valid
0001416911UN320	Exemption still valid
0001416957UN00A	Switched away
0001416958UNFD4	Exemption still valid
0001416960UNA38	Exemption still valid
0001416960UNA38	Exemption still valid
0001416962UNABD	Exemption still valid
0001417100UN465	Decommissioned
0001417104UN56F	Decommissioned
0001417105UN92A	Decommissioned
0001417128UNB24	Decommissioned
0001417129UN761	Decommissioned
0001417130UN39D	Decommissioned
0001417131UNFD8	Decommissioned
0001417132UN318	Decommissioned
0001417133UNF5D	Decommissioned
0001417134UN297	Decommissioned
0001417135UNED2	Decommissioned
0001417136UN212	Decommissioned
0001417137UNE57	Decommissioned
0001417138UN189	Decommissioned
0001454794UN5FB	Exemption still valid

ICP	Comments
0001416954UNCCA	Exemption still valid

1.2. Structure of Organisation

Trustpower provided a copy of their organisation structure.







1.3. Persons involved in this audit

Auditors:

Name	Company	Role
Rebecca Elliot	Veritek Limited	Lead auditor
Tara Gannon	Veritek Limited	Supporting auditor

Personnel assisting in this audit were:

Name	Title
Anita Stokes	Bill Data Manager
Ben Rice	Reconciliation Analyst
Evan Dodds	Energy Provisioning Specialist
Glen Webley	Commercial Sales Manager
Howard Wood	Commercial Manager (Wholesale)
Jessie Cox	Billing Manager
Jo Andrews	Team Leader – Provisioning
Karen Vanstone	HHR data
Lisa Edge	AMI Deployment and Field Services Lead
Matt James	Head of Enterprise and Wholesale
Philip Bocock	Operations Supervisor (Location Compliance Team Leader during the audit period)
Rachel Falconer	Assurance & Quality Team Leader
Stephanie Roberts	Revenue Assurance Analyst
Shay McNae	Location Compliance Team Leader
Shinique-Lee Hughes-Timoti	Revenue Assurance Specialist
Teresa Stewart	Bill Data Specialist
Wendy Pyne	Assurance & Compliance Specialist

Agent personnel assisting with this audit:

Name	Role	Company
Josh Wairau	Grid Metering Specialist	EMS
Laura Ferrier	Senior Data Analyst	Vector Metering
Peter MacKenzie	Sales & Development Manager	ADRI Insights
Steven Graham	Solution Delivery & Support Team	EDMI NZ Limited

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

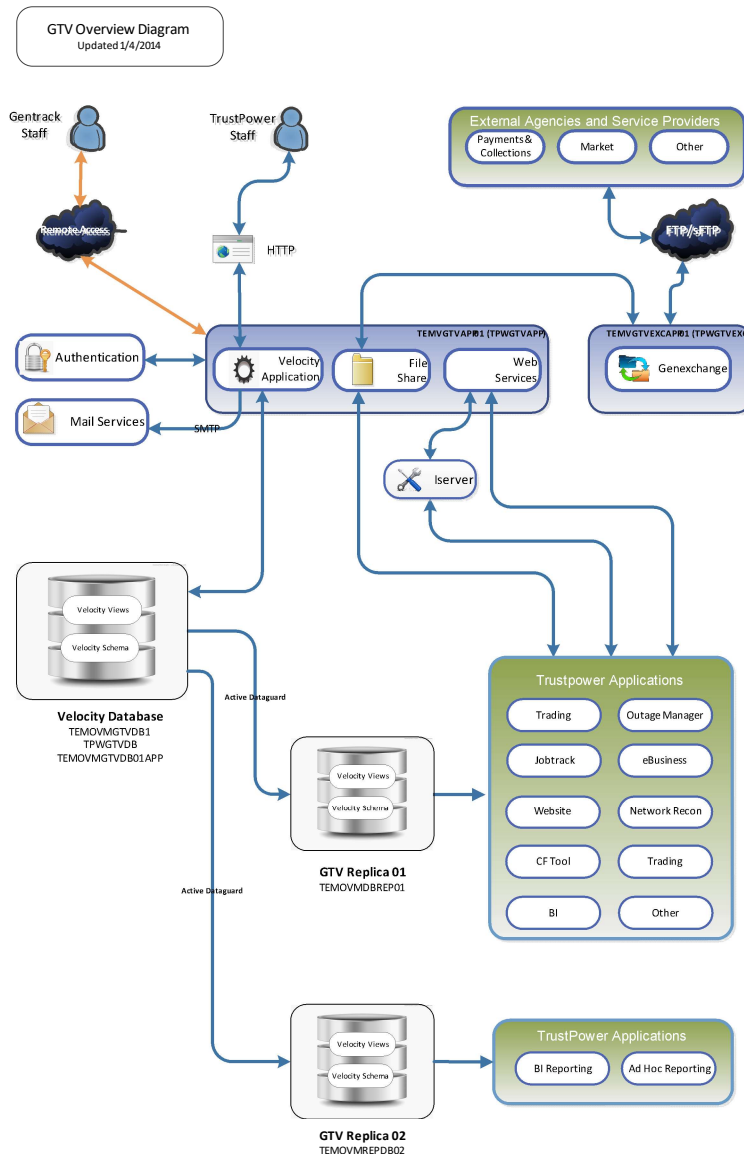
Use of agents was discussed with Trustpower.

Audit commentary

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

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



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

1.6. Breaches or Breach Allegations

Trustpower had one alleged breach relevant to the scope of this audit during the audit period:

Breach no	Breach of	Description	Outcome
1809TRUS2 4/12/18	2(2)(b) of Schedule 11.3, clause 11.2(1)	Trustpower uses incorrect switch codes when switching customers with a number of ICPs to correctly allocate one start date of the contract. Rules: 2(2)(b) of Schedule 11.3, clause 11.2(1) and clause 11.2(2)	decline to pursue without warning

	and clause 11.2(2)		
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1.7. ICP Data

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, all were made inactive, decommissioned or had metering details loaded prior to the audit. This is discussed further in **section 3.4**.

Metering Category	(2020)	(2018)	(2017)	(2016)
1	262,067	260,624	256,587	238,159
2	2273	2,281	2,305	2,362
3	462	430	450	457
4	163	163	170	164
5	37	36	34	36
9	921	990	1,056	1,441
Blank	1,413	1,432	1,445	2,915

Status	Number of ICPs (2020)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	267,336	265,956	262,047	245,534
Inactive – new connection in progress (1,12)	1,029	665	654	770
Inactive – electrically disconnected vacant property (1,4)	4,876	4,481	4,388	4,350
Inactive – electrically disconnected remotely by AMI meter (1,7)	59	212	7	7
Inactive – electrically disconnected at pole fuse (1,8)	77	31	20	2
Inactive – electrically disconnected due to meter disconnected (1,9)	50	30	7	0
Inactive – electrically disconnected at meter box fuse (1,10)	0	0	0	0
Inactive – electrically disconnected at meter box switch (1,11)	2	0	0	0
Inactive – electrically disconnected ready for decommissioning (1,6)	254	409	802	976
Inactive – reconciled elsewhere (1,5)	3	0	0	0
Decommissioned (3)	28,499	25,094	23,734	22,624

1.8. Authorisation Received

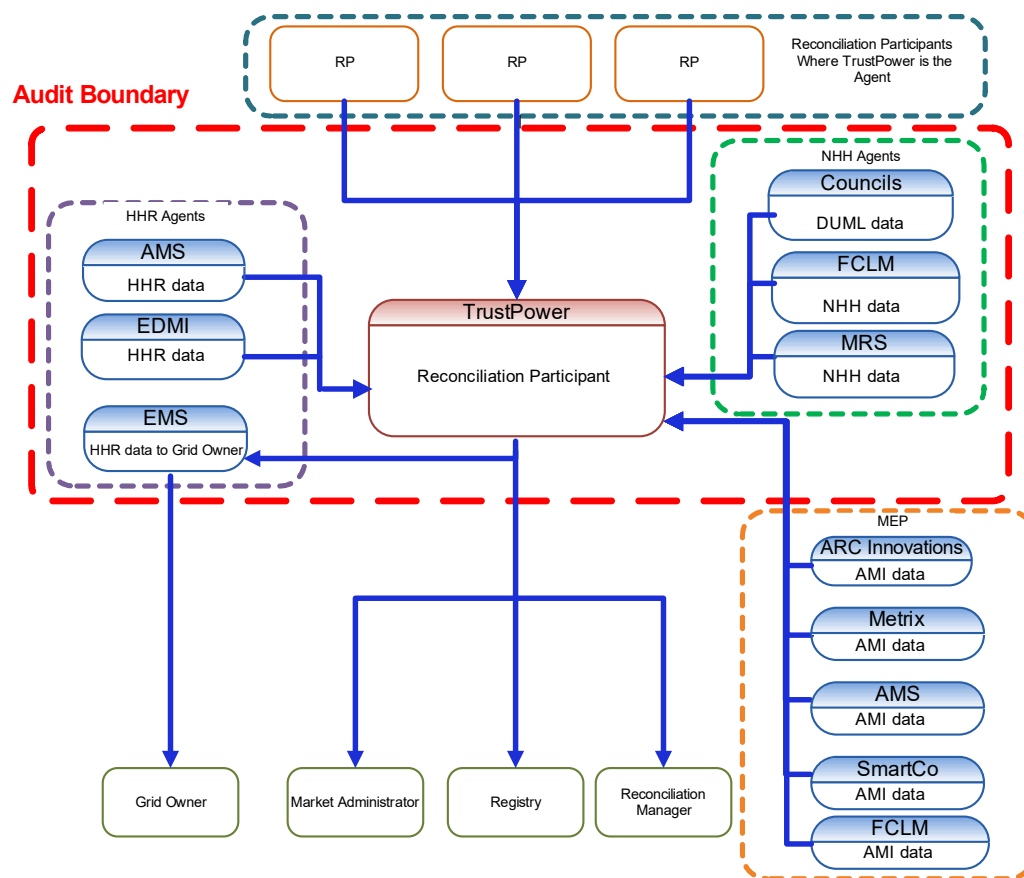
Trustpower provided a letter of authorisation to Veritek permitting the collection of data from other parties for matters directly related to the audit.

1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Trustpower, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.2.

The audit was carried out via zoom meetings between 24/03/20 and 03/04/20.

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



The table below shows the tasks under clause 15.38 of part 15 for which Trustpower 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	Metrix – 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
(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	

Trustpower 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**.

Trustpower also receives data from Powerco and Marlborough Lines, 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.

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, MRS, EMS and EDMI 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 Trustpower's compliance. Comments are included in this report in relation to any issues found.

1.10. Summary of previous audit

Trustpower provided a copy of their previous audit report completed in September 2018 by Rebecca Elliot and Steve Woods of Veritek Limited. The summary tables below shows 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
Provision of information	2.1	11.2 & 15.2	Small number of registry discrepancies affecting three ICPs. Inactive status not being applied for the correct periods for disconnected ICPs with consumption.	Still existing
Electrical connection	2.11	10.33A	4 ICPs certified late. 24 ICPs reconnected and not certified within 5 business days. 1 ICP reconnected by bridging and not re-certified.	Still existing
Changes to registry information	3.3	10 of schedule 11.1	Registry information not provided within 5 business days.	Still existing
Provision of registry information	3.5	Clause 9 Schedule 11.1	Some late status updates for new connections.	Still existing
Unmetered load	3.7	Clause 9(1)(f) of Schedule 11.1	Some incorrect unmetered load figures in the registry.	Still existing
Management of Active status	3.8	17 of schedule 11.1	Four incorrect active dates.	Still existing
Management of Inactive status	3.9	19 of schedule 11.1	ICPs recorded at the incorrect status on the registry. ICP 0007185876RN16B is at the incorrect status on the registry.	Still existing

Subject	Section	Clause	Non-compliance	Status
Switching	4.2	3 of schedule 11.3	16 AN files with AA instead of AD.	Still existing
Switching	4.3	5 of schedule 11.3	Some incorrect switch event meter readings and some incorrect average daily consumption.	Still existing
Switching	4.4	6(1) and 6A Schedule 11.3	11 late files and one actual read recorded as an estimate.	Still existing
Switching	4.8	10(1) of schedule 11.3	24 incorrect response codes. Two transfer dates prior to requested dates.	Still existing
Switching	4.10	11 of schedule 11.3	Some incorrect switch reads. Some incorrect daily consumption.	Still existing
Switching	4.11	12 of schedule 11.3	19 late files and two actual reads recorded as estimates.	Still existing
Switching	4.15	17&18 of schedule 11.3	21 late withdrawals. One incorrect NW code.	Still existing
Unmetered threshold	5.2	10.14 (2)(b)	1 ICP with consumption over 6,000 kWh per annum.	Still existing
Unmetered threshold exceeded	5.3	10.14 (5)	One ICP with annual consumption over 6,000 kWh per annum and remedial actions are not yet complete.	Cleared
Distributed unmetered load	5.4	11 Schedule 15.3	Distributed unmetered databases not accurate.	Still existing
Electricity conveyed	6.1	10.13 of part 10	41 metering installations bridged. 30 metering installations interfered with.	Still existing
Derivation of meter readings	6.6	5(c) of schedule 15.2	Phase failure not monitored for meters read by FCLM.	Cleared during FCLM's audit

Subject	Section	Clause	Non-compliance	Status
NHH meter reading application	6.7	6 Schedule 15.2	Meter readings not applied at the end of the day for NHH to HHR changes and decommissioning events.	Still existing
HHR aggregates	11.4	15.8	HHR aggregates files do not contain electricity supplied information.	Still existing
Creation of submission information	12.2	15.4	Change of profile wasn't zeroed out	Cleared
Submission accuracy	12.7	15.12	Volume allocated to the incorrect period for four out of ten ICPs checked. Volume for one half hour period for 19/6/18 for ICP 0003443370BU50D has not been corrected and submitted.	Still existing
Forward estimates	12.12	6 of Schedule 15.3	The accuracy threshold was not met for all months and revisions.	Still existing
HE reporting	13.3	10 of Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Still existing

Subject	Section	Recommendation	Description	Status
Electrical Connection of Point of Connection	2.11	Regarding Clause 10.33A	Identify electrical connection agents and ensure arrangements are in place for all areas.	Cleared
Provision of registry information	3.5	Clause 9 Schedule 11.1	Update the Active status to the registry for HHR new connections based on when data arrives rather than wait for metering to be loaded by the MEP	Cleared

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

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

Audit observation

The process to find and correct incorrect information was examined. The registry list file as at 19/12/19 and AC020 trader compliance report for 01/01/19 to 18/12/19 were examined to confirm that information was correct and not misleading. The registry validation process was examined in detail in relation to the achievement of this requirement.

Audit commentary

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. I saw evidence that some rejected registry status updates were not promptly identified and corrected. The updates were typically rejected because the registry status was the same as the GTV status, but effective from an earlier date. This most commonly occurs for:

1. Switch ins which are reconnected after rather than on the switch event date. The switching process automatically updates ICPs to active status on switch in. If the previous retailer's inactive record is not reinstated before the reconnection is processed in GTV, the registry update will fail because the required status is already recorded on the event date on the registry.
2. Status date corrections where the status date becomes later. If the original incorrect record is not reversed first, the registry update will fail because the required status is already recorded on the event date on the registry.

Where the current status values on the registry and GTV match but there is a status date discrepancy, the issue is not detected by Trustpower's existing discrepancy reports. Focus is on the current record values, and the new connection checks compare the GTV connection date to other date fields, and the registry active status date is not considered. The reconciliation team does identify some of these date discrepancies, but often not until later revisions which results in backdated corrections.

I recommend that validation is added to detect and resolve these status issues more promptly:

Recommendation	Description	Audited party comment	Remedial action
Identification of failed registry updates for status changes and validation of connection dates	<p>Review acknowledgements indicating failed status updates to determine whether a correction is required. These errors most commonly occur on ICPs which have recently switched in, had a withdrawal processed, or had a status correction processed.</p> <p>Create discrepancy reporting to identify instances where the connection date recorded in GTV and on the registry are different.</p>	<p>Additional reporting will be built to track failed status acknowledgements and make corrections accordingly.</p> <p>Current discrepancy reporting will be enhanced to include date differences between GTV and the registry for connection status updates.</p>	Identified
Status date correction process	Where a status event date is corrected to be a later date, ensure that the existing status record with the incorrect date is reversed on the registry, so that the change takes effect from the correct date.	<p>An additional process step will be introduced when the New Connections Team are making these corrections where an escalation will be sent to WFA for registry reversals and corrections will be done to match GTV.</p> <p>New Reporting will be set up to identify anomalies should this step be overlooked.</p>	Identified

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 are 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. All of the discrepancies were timing differences that were resolved prior to the audit, or where Trustpower's records were confirmed to be correct.

Item No.	Issue	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	20 7	6	5	12	90	All were timing differences which had backdated status updates to active, or were confirmed not to be connected yet. Late status updates are discussed in section 3.3 .
2	Active with no MEP and UNM = N	120	4	13	6	4	All were timing differences and the ICPs were decommissioned, made ready for decommissioning or had meter details populated on the registry prior to the audit. Refer to section 3.4 .
3	Incorrect submission flag	0	1	2	67	3	HHR new connection 0000054556NT918 had GXP profile applied until the metering was installed, and was then corrected to HHR 14 days later.
4	Blank ANZSIC codes	0	0	0	1	56	Compliant.
5	ANZSIC “T999” not stated	0	4	1	22	47	Compliant.
6	ANZSIC “T994” don’t know	1	0	0	4	10	The exception was resolved through Trustpower’s validation processes prior to the audit. Refer to section 3.6 .
7	Category 9 but Active with MEP and UML “N”	11	3	5	9	7	All were timing differences, and the ICPs were decommissioned, made ready for decommissioning or had meter details populated on the registry prior to the audit. Refer to section 3.4 .
8	ICPs with Distributor unmetered load populated but retailer unmetered load is blank	24	27	31	43	185	All of the ICPs have metered load and metering is installed. The distributor has been advised. Refer to section 3.7 .
9	ICPs with unmetered load	5	4	2	4	4	In all cases the zero value is correct. The unmetered load is very small

Item No.	Issue	2020	2018	2017	2016	2015	Comments
	flag Y but load is recorded as zero						and rounds to 0 kWh per day. Refer to section 3.7 .
10	ICPs with incorrect shared unmetered load	0	0	0	8	6	No ICPs with incorrect shared unmetered load were identified.
11	ICPs with Distributed Generation indicated but no DG profile	8	18	24	0	0	Three ICPs were confirmed not to have generation installed. For two of these ICPs the distributor later updated the installation type to L and removed the generation details from the registry. Five ICPs had generation installed, and the profile was updated on the registry prior to the audit. Refer to section 6.1 .

As discussed in **section 3.9**, I found one ICP where the ICP status was not corrected to “active” prior to switching out resulting in the vacant consumption being pushed to the gaining trader for the incorrect period. This is due to the switch out process either not estimating to the event date or the switch event meter reading not being sent for the event date but instead the last customers billed read is sent.

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

- ICP 0000519838BU421 has active status recorded from 25/03/19 but should have active status recorded from 21/03/19 as discussed in **section 3.5**.
- ICP 0007171910RN50C remains on a residential ANZSIC code (000000) but relates to a residential property operator supply and is expected to have ANZSIC code L671100 as discussed in **section 3.6**.
- ICP 0000960325TU251 has solar generation and EG1 profile is recorded, and ICP 0002211488TGB0D has wind generation and PV1 profile is recorded as discussed in **section 6.1**.
- Some read types for customer and switch event reads were incorrectly recorded in GTV as discussed in **section 9.1**.
- Some ICPs which had undergone read renegotiation did not have the correct switch event reading recorded in GTV as discussed in **sections 4.4** and **4.11**.
- ICP 0000001402RC5AE was recorded in GTV with a dedicated NSP flag of “Y” but this is recorded on the registry as “N”. This is also recorded as non-compliance in **section 12.7**.

Submission information accuracy:

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.

Defective meters

Trustpower 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.

Multiplier corrections

Two incorrect multipliers were identified during the audit period. In both instances, the errors were corrected, and consumption flowed through to revision files.

Bridged meter corrections

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.

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.

Trustpower provided a list of 65 ICPs with AMI metering where bridging had occurred during the audit period. A sample of 20 were checked. Consumption during the bridged period is 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. All were applied correctly with the exception of ICP 1002064518UN6BF where the calculation was incorrect resulting in under submission of 398 kWh over the period from 14/01/20 to 26/01/20. This has been corrected and will flow through to submission. Trustpower have updated their process to require a peer review of all corrections made.

Inactive ICPs with consumption

Inactive ICPs with consumption are identified through the NHH read validation process discussed in **section 9.5**.

Trustpower provided a list of ten ICPs with inactive consumption during the audit period. Vacant consumption was submitted for nine of the ten ICPs checked. ICP 0000113952UN10F switched out and the final read on the customer's account was sent in the CS file as the ICP was recorded at the disconnected status, so the vacant consumption was not submitted in this instance:

ICP	Switch date	CS file last read date	CS file read	AMI switch event meter read not used	kWh difference
0000113952UN10F	9/09/19	20/08/19	54980	55164	184

The GTV switching process has recently been updated to retrieve the most recent AMI reading when processing switch outs, as discussed in **section 4.3**.

Unmetered load corrections

I checked a sample of two ICPs where the daily unmetered kWh changed on the registry. The value changes flowed through to Gentrack and into submission files.

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.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 2.1</p> <p>With: Clause 11.2 & 15.2</p> <p>From: 19-Dec-19</p> <p>To: 26-Mar-20</p>	<p>Some inaccurate information is recorded on the registry and/or in GTV.</p> <p>Correction calculated incorrectly resulting in under submission of 398 kWh for ICP 1002064518UN6BF.</p> <p>ICP status not corrected resulting in vacant consumption being pushed to the gaining trader for the incorrect period in some instances e.g. vacant consumption not submitted for ICP 0000113952UN10F resulting in under submission of 184 kWh.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are moderate, as most data is recorded accurately and validation processes are in place.</p> <p>The impact on settlement is minor, therefore the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
This customer switched out in September 2019. We will ensure that our registry processes are reviewed and amended to ensure instances of recurrence are mitigated.		31 st May 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Update Revenue Team procedures to include the additional step to change the sites to CO upon logging the incremental SR.</p> <p>Additionally, we will create a report that picks up when there is a read after the VAD date – triggering WFA to override the VAD status. With should in theory completely replace the double VAD report we currently have.</p>		<p>Completed</p> <p>31st May 2020</p>	

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 Trustpower.

Audit commentary

NHH

NHH meter readings are transmitted by SFTP from FCLM and 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 MV090.

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 through of the processes.

Audit commentary

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, except for EDM I. EDM I's agent audit recorded that their audit trails did not record the operator identifier for the person who completed the activity; operator identifiers correspond to a user group not an individual. This non-compliance has been cleared; each user now has their own operator identifier.

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

Trustpower's contract terms and conditions were reviewed.

Audit commentary

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

Trustpower's contract terms and conditions were reviewed.

Audit commentary

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

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

Audit commentary

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

Trustpower's contract terms and conditions were reviewed.

Audit commentary

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 process was examined in detail to evaluate the strength of controls. The registry list file as at 19/12/19 and AC020 report for 01/01/19 to 18/12/19 were examined to confirm process compliance.

Audit commentary

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 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.

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.

If an MEP provides meter certification or 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.

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.

Audit commentary

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.

Temporary electrical connections occur rarely. Trustpower provided one example and I confirmed that the requirements of this clause were met.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

- *for a point of connection to the grid – the grid owner has approved the connection*

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

Audit observation

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

The AC020 trader compliance report for 01/01/19 to 18/12/19 was examined to confirm process compliance and that controls are functioning as expected.

Audit commentary

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 for 01/01/19 to 18/12/19 recorded 131 active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. 120 of these also had no MEP recorded. All were timing differences, and the ICPs were decommissioned, made ready for decommissioning or had meter details populated on the registry prior to the audit.

Meter certification for status changes to active

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

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. Trustpower recently found that some reconnections without certification were being excluded from the discrepancy report and ticket CA-2258 has been raised to investigate the reasons for this, and correct the report.

Review of the AC020 report found 101 late certifications for ICPs which moved from “inactive” to “active” status. A sample of 20 late certifications were checked:

- eight ICPs appeared on the discrepancy report, and an email was sent to the MEP,
- one ICP was on the MEPs deployment list and is expected to be recertified when the metering is replaced,
- three ICPs were not reconnected by Trustpower, and the status change to “active” was a correction when consumption was identified during an inactive period, and
- eight ICPs did not appear on the daily discrepancy report and no action was taken.

Review of the AC020 report found 143 late certifications for new connections of metered ICPs. A sample of 20 late certifications for new connections including all affected HHR new connections were checked:

- four ICPs had unmetered load details added on the registry after the AC020 report was run,

- ten ICPs had their meters certified on time, but the metering details were added on the registry after the AC020 report was run, and
- six ICPs had genuinely late meter certification, because the MEP certified the site late.

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 65 bridged meters during the audit period. 60 of the meters were unbridged, and 56 of those were certified within five business days of the date that they were unbridged.

The four meters with late certification were checked. The meters were not recertified on unbridging and the affected ICPs did not appear on the daily discrepancy report. This is under investigation as part of ticket CA-2258.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.11 With: Clause 10.33A From: 02-Nov-18 To: 18-Dec-19	101 reconnected ICPs were not certified within five business days of becoming active. 129 metered newly connected ICPs were not certified within five business days of becoming active. Four ICPs were not certified on becoming unbridged. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate. Reporting is in place to identify metering certification issues, but some ICPs are being excluded from the reports in error. 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
Trustpower continues to utilise exception reporting as part of our business as usual processes to identify and resolve liveness discrepancies. Existing reporting in place to identify reconnections and unbridging of metering will be corrected to ensure all ICP's are being included.		Completion by: 22/08/2020	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
<p>Although reporting is in place and MEP's are being alerted that recertification should take place this is not currently being actioned in the field.</p> <p>We will continue to engage with 3rd parties i.e. Traders, Distributors and customers to maintain and where possible, improve our performance in this area.</p> <p>We continue to engage with our HHR MEP to reach agreement on having the meters certified on the day of livening, even if there isn't appropriate load on site.</p>	Complete by: 22/08/2020	

2.12. Arrangements for line function services (Clause 11.16)

Code reference

Clause 11.16

Code related audit information

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

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

Audit observation

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

Audit commentary

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.

Audit outcome

Compliant

2.13. Arrangements for metering equipment provision (Clause 10.36)

Code reference

Clause 10.36

Code related audit information

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

Audit observation

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

Audit commentary

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.

Audit outcome

Compliant

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

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

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

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

The new connection process was examined in detail. This clause links directly to **section 3.5** below. The findings for the timeliness of updates is detailed there. The registry list file as at 19/12/19 and AC020 report for 01/01/19 to 18/12/19 were examined to confirm process compliance.

Audit commentary

The new connection process is detailed in **section 2.9**. The process in place ensures 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.

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

The AC020 report for 01/01/19 to 18/12/19 was reviewed. A sample of late status updates, trader updates and MEP nominations were checked as described in the audit commentary.

Audit commentary

Status updates

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

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
	2020	481	90.82%	2.93

62 of the late updates were made more than 30 business days after the event date, and the latest update was made 259 business days after the event date. I checked an extreme case sample of the ten latest updates, and ten updates between 20 and 100 business days late.

- Seven updates were delayed by late receipt of reconnection paperwork, or late confirmation that the ICP was connected.
- Six of the late updates related to status updates which failed to update the registry, because the current record on the registry recorded the same status effective from an earlier date. The status discrepancies were identified by the reconciliation team as part of their submission checks, and a recommendation is raised in **section 2.1** to identify and correct these discrepancies more quickly.
- Four updates were corrections following a backdated status update by the previous trader at the ICP which changed the status during Trustpower's period of supply.
- Three late updates were corrections to active status for ICPs with consumption during a period with inactive status.

The late updates were 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	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

A sample of 49 late status updates were checked as described in the table below. Overall, I found that the late updates were predominantly caused by late receipt of paperwork, corrections, and GTV requiring ICPs to move through statuses in a prescribed order, resulting in additional backdated updates which would not occur if the ICP could move directly to the required status.

1,4 Electrically disconnected vacant property	<p>194 of the late updates were to 1,4 status. 52 of these updates were made between 30 and 707 business days after the event date. I checked an extreme case sample of the five latest updates, and five updates between 20 and 100 business days late.</p> <p>Eight updates were delayed by late receipt of information confirming that the ICP was disconnected. Two of the ICPs were disconnected by The Lines Company for non-payment.</p> <p>Two backdated updates were required because GTV could not move the ICP directly to the required status.</p> <ul style="list-style-type: none"> One ICP was at 1,7 (electrically disconnected remotely by AMI meter) and needed to be moved to 1,4 (inactive vacant) before being moved to 1,6 (inactive ready for decommissioning). The other ICP had NPAY internal status the last time it was supplied, and needed to be moved to 1,4 (inactive vacant) on switch in before moving to 2,0 (active). <p>A system change was made so that ICPs can move directly from 1,7 to 1,6, and a ticket has been raised to cleanse data for switched ICPs with NPAY status records to prevent recurrence of this issue if they switch back in.</p>
1,5 Reconciled elsewhere	<p>Three of the late updates were to 1,5 status, and were delayed because they were among the first ICPs moved to Powerco's off grid energy supply (Basepower) and confirmation of the status change was delayed.</p>
1,6 Electrically disconnected ready for Decommissioning	<p>93 of the late updates were to 1,6 status. 40 of these updates were made between 30 and 4,286 business days after the event date. I checked an extreme case sample of the five latest updates, and five updates between 20 and 100 business days late.</p> <ul style="list-style-type: none"> Eight were delayed because the distributor decommissioned the ICP, and advised Trustpower later. One was delayed because the distributor reversed their decommissioned status record, which had replaced Trustpower's 1,6 record. Trustpower was asked to reinstate their record so that the ICP could be decommissioned again. One was a backdated decommissioning as part of an ICP deconsolidation project.
1,7 Electrically disconnected remotely by AMI meter	<p>Six of the late updates were to 1,7 status. All were corrections back to inactive status following the status automatically being updated to active on switch in, because the reconnection occurred after the switch in date. A recommendation is raised in section 2.1 to identify and correct these discrepancies more quickly.</p>
1,8 Electrically disconnected at pole fuse	<p>Ten of the late updates were to 1,8 status. Four of these updates were made between 30 and 150 business days after the event date.</p> <p>I checked an extreme case sample of the five latest updates, and found they were delayed by late confirmation of the disconnection.</p>
1,9 Electrically disconnected due to meter disconnected	<p>13 of the late updates were to "Electrically disconnected due to meter disconnected" status. Four of these updates were made between 30 and 313 business days after the event date.</p> <p>I checked an extreme case sample of the five latest updates and found they were delayed by late confirmation of the disconnection, or correction back to inactive status after the status was updated to active on switch in.</p>

1,12 Inactive new connection in progress	<p>594 of the late updates were to 1,12 status. Updates to 1,12 status are only considered to be late if they occur after the initial electrical connection date. 516 of the 594 late updates were made by the time of initial electrical connection, and 78 updates were genuinely late. The ten latest updates in relation to the event date were checked.</p> <p>GTV requires ICPs to move to 1,12 prior to being made active. This means that instead of being able to move an ICP straight to ready where a backdated new connection occurs, it must move through the new connection in progress status creating a late update.</p> <p>Other late updates were caused by backdated updates to “ready” status by the distributor, and corrections to the new connection in progress date.</p>
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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.

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

2,313 of the late trader updates were made between 30 and 1,583 business days after the event date, and 18 updates were made over 1,000 business days after the event date. I checked the ten latest updates and found they all related to ANZSIC code corrections.

A further 45 late trader updates were checked as described in the table below:

ANZSIC updates - changes	<p>In addition to the ten latest trader updates above, I checked a further ten late ANZSIC code updates made between 20 and 1,000 business days after the event date and found that they all related to ANZSIC code corrections. 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.</p> <p>In 2019 a new discrepancy report to identify BTS ICPs with high consumption was deployed. As part of the investigation and correction process, ANZSIC codes for the affected ICPs were updated.</p>
ANZSIC updates – new connections and switch ins	<p>There were 80 late ANZSIC code updates over 30 business days after the event date for new connections and switch ins. I checked the ten latest updates and found they were caused by</p> <ul style="list-style-type: none"> • Backdated switches in • Backdated new connections; and • ICPs corrected as part of the BTS ICPs with high consumption data cleansing.
Trader unmetered load details changes	<p>A sample of five late updates were checked, and found to be corrections. The updates were processed after receiving confirmation of the correct unmetered load details.</p>
Unmetered daily kWh changes	<p>A sample of five late updates were checked, and found to be corrections. The updates were processed after receiving confirmation of the correct unmetered load details.</p>

Profile updates	<p>GTV processes profile changes automatically when meter changes occur, and backdated meter certification details changes can result in backdated profile changes.</p> <p>A sample of ten late updates were checked, including the five latest updates identified and five other updates made over 100 business days after the event date. I found they were caused by backdated meter changes, and corrections where GTV had originally recorded an incorrect profile. Early in the audit period, GTV would assign profiles to registers which were not settled. The process has been corrected and only profiles for settled registers are now included.</p>
Submission type updates	A sample of five late updates were checked, and found to be caused by backdated switches in and late receipt of metering paperwork confirming that the submission type could be changed.

The late updates were accurately processed from the correct event date, apart from ICP 1002038681UNCFE which had its ANZSIC code changed to an incorrect code and was later updated.

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. I checked the 20 latest MEP nominations identified on the AC020 report, including all made over 58 business days after the event date and found:

- Nine nominations were backdated at the request of the MEP.
- Eight nominations were backdated because the nominations were held while negotiations took place over displacement of one MEPs meters with another's.
- Three were corrections to reinstate nominations which were removed when a profile update was processed.

In all cases the correct MEP was nominated and the correct dates were applied.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.3</p> <p>With: Clause 10 Schedule 11.1</p> <p>From: 01-Jan-19</p> <p>To: 18-Dec-19</p>	<p>7,896 ICPs did not have trader information updated on the registry within five business days of the event date.</p> <p>397 ICPs were not updated to inactive status on the registry within five business days of the event date.</p> <p>481 ICPs were not updated to active status on the registry within five business days of the event date.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>

Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.</p> <p>The impact on settlement and participants is minor; therefore, the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Trustpower continues to look for opportunities to refine our reporting and processes to improve our performance in updating registry information within 5 business days. We continue to work with our MEP's and contractors to ensure the timely and accurate return of metering paperwork.		Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Trustpower will continue its focus on identifying and resolving Registry discrepancies to ensure the integrity of our data. We will also continue to engage with 3rd parties i.e. Traders, Distributors and customers to maintain and where possible, improve our performance in this area.		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)):*
 - o *arrange for a final interrogation to take place prior to or upon meter removal (clause 11.18(3)(a)); and*
 - o *advise the MEP responsible for the metering installation of the decommissioning (clause 11.18(3)(b)).*

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

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

Audit observation

Retailers Responsibility to Nominate and Record MEP in the Registry

The AC020 report for 01/01/19 to 18/12/19 was examined to confirm whether all active ICPs have an MEP recorded, and MEP nominations were accepted.

ICP Decommissioning

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

Audit commentary

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.

The AC020 report for 01/01/19 to 18/12/19 recorded 131 active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. 120 of these also had no MEP recorded. All were timing differences, and the ICPs were decommissioned, made ready for decommissioning, or had meter details populated on the registry prior to the audit.

The AC020 report identified one new connection (ICP 0001090826TG113) which did not have an MEP nomination accepted within 14 business days of being connected. The acceptance was delayed because the MEP nominated could only provide a legacy meter, and the customer later confirmed that they required an AMI meter and a different MEP needed to be nominated. In addition to this, there was an error in the second nomination and the wrong MEP was selected, which was later corrected to NGCM.

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.

A sample of ten ICPs was examined and confirmed an attempt to read the meter was made at the time of removal. In one case the MEP was not contacted directly by Trustpower to advise that the ICP was to be decommissioned, but compliance is recorded because the MEP received notification that the ICP was to be decommissioned via the registry.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.4 With: Clause 11.18 From: 20-Dec-19 To: 21-Jan-20	An incorrect MEP nomination for SMCO was raised for 0001090826TG113, and later replaced with a correct nomination for NGCM, therefore there was no MEP as required by this clause. The incorrect nomination remained in place on the registry from 20/12/19 until 21/01/20. 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 strong, MEP nominations are usually accurate and on time. There is now no impact; the incorrect MEP nomination was replaced from the original event date.		
Actions taken to resolve the issue		Completion date	Remedial action status
Further training has been provided to the team and documentation has been corrected.		Completed	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
This occurred on just one occasion so we believe that the training provided will help prevent this from happening in the future.		Completed	

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 process was examined in detail. The AC020 report for 01/01/19 to 18/12/19 was reviewed, and a sample of late updates were examined.

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

Audit commentary

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. Late updates to “inactive new connection in progress” status and late MEP nominations are discussed in **section 3.3**.

As discussed in **section 3.4**, the AC020 report identified one new connection (ICP 0001090826TG113) which did not have an MEP nomination accepted within 14 business days of being connected. The delay was primarily caused by a different MEP being nominated part way through the process due to a change in the customer’s needs.

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

61 of the late updates were made more than 30 business days after the event date, and the latest update was made 298 business days after the event date. I checked an extreme case sample of the ten latest updates, and ten updates between 20 and 100 business days late:

- seven were delayed by late receipt of connection paperwork,
- two were corrections for ICPs which had previously been decommissioned, and were required by the distributor,
- four related to ICP deconsolidation, and were backdated as agreed with the customer, and
- seven were corrections to active status dates, following identification and investigation of status date discrepancies.

The late updates were accurately processed from the correct event date, except for 0000519838BU421 which has active status recorded from 25/03/19 but should have active status recorded from 21/03/19. This is recorded as non-compliance below, and in **sections 2.1** and **3.8**.

New connection information accuracy

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. 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.

HHR new connections follow the same general application process as 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.

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.
- **CO date mismatch** shows differences between GTV's connection date and the initial electrical connection date, which are investigated and resolved. Because this report compares the GTV date and not the registry date, connection date discrepancies between the registry and GTV may not be identified. I saw evidence that where status dates had been corrected in GTV, but failed to be updated on the registry because the status on the new event date was already active, a date discrepancy existed. A recommendation is raised in **section 2.1** to identify and correct these discrepancies more quickly.

The AC020 report identified 27 ICPs with an initial electrical connection date populated which had not been made active. 26 were timing differences, and the status was updated to active or the initial electrical connection date was removed prior to the audit. ICP 1000583119PCD21 remains at "new connection in progress" status and has an initial electrical connection date populated. It is an unmetered streetlight ICP and the contractor has advised that it has not been connected yet. Trustpower has asked the distributor to remove the initial electrical connection date.

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 2,846 ICPs with date discrepancies, and 2,739 were confirmed not to be genuine at the time of the audit:

- 2,554 ICPs had a meter certification date which matched the active status date, but the initial electrical connection date was not populated by the distributor,

- 140 ICPs were unmetered, or were metered but the MEP had not updated certification details on the registry, and the initial electrical connection date and active date matched, and
- 45 ICPs were timing differences, and the missing information causing the discrepancy was populated prior to the audit.

The 107 ICPs genuine discrepancies were checked, and in most cases there was an active date discrepancy between GTV and the registry, which had not been identified because:

1. rejected registry updates for status changes had not been identified, and/or
2. connection date discrepancies between GTV and the registry had not been identified.

Recommendations are raised in **section 2.1** to address these issues, and a summary of findings for the 107 discrepancies is below:

Exception type	Quantity	Commentary
Active, no initial electrical connection date and unmetered	9	All the affected ICPs were confirmed to be electrically connected, and Trustpower's status dates were correct.
Active, no initial electrical connection date Active date ≠ meter certification date	6	All exceptions were checked. One genuine exception was identified, which was corrected during the audit.
Active date ≠ initial electrical connection date Active date = meter certification date or ICP is unmetered	17	A sample of ten exceptions were checked. One genuine exception was identified, which was corrected during the audit.
Active date ≠ initial electrical connection date Active date ≠ meter certification date	7	All exceptions were checked. Five genuine exceptions were identified, which were corrected during the audit.
Active date = initial electrical connection date Active date ≠ meter certification date	68	A sample of ten exceptions were checked, and Trustpower's status dates were correct.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.5</p> <p>With: Clause 9 of schedule 11.1</p> <p>From: 12-Feb-19</p> <p>To: 26-Mar-20</p>	<p>487 late updates to active status for new connections.</p> <p>ICP 0000519838BU421 has active status recorded from 25/03/19 but should have active status recorded from 21/03/19.</p> <p>Seven new ICPs has incorrect active status dates, which were corrected during the audit.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>

Audit risk rating	Rationale for audit risk rating	
Low	<p>The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.</p> <p>The impact on settlement and participants is minor based on the number of genuine exceptions identified; therefore the audit risk rating is low.</p>	
Actions taken to resolve the issue		Completion date
<p>Trustpower continues to look for opportunities to refine our reporting and processes to improve our performance in updating New Connection registry information within 5 business days.</p> <p>We actively look for trends with status breaches and we are pleased to see results improving now at 92.60%.</p>		Ongoing
Preventative actions taken to ensure no further issues will occur		Completion date
<p>Status date correction process - An additional process step will be introduced when the New Connections Team are making these corrections where an escalation will be sent to WFA for registry reversals and corrections will be done to match GTV.</p> <p>New Reporting will be set up to identify anomalies should this step be overlooked.</p>		Complete by: 22/08/2020
		Identified

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 ANZSIC codes was examined.

The registry list file as at 19/12/19 and AC020 report for 01/01/19 to 18/12/19 were examined to check ANZSIC codes, including active ICPs with T99 series or blank ANZSIC codes.

To confirm the validity of the ANZSIC codes selected, I checked a diverse sample of 150 active ICPs across the 25 most frequently applied ANZSIC codes which were assigned to 0.1% or more of the active ICPs.

Audit commentary

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.

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

- One ICP with a T99 series ANZSIC code, which was corrected through Trustpower's validation processed prior to the audit.
- Two ICPs with meter category three and residential ANZSIC codes - the correct ANZSIC codes for both ICPs were confirmed and corrected during the audit.

- 16 ICPs with meter category two and residential ANZSIC codes. A sample of ten ICPs were checked and six ICPs had the correct ANZSIC code assigned and four did not. Three ICPs were corrected during the audit. ICP 0007171910RN50C remains on a residential ANZSIC code (000000) but relates to a residential property operator supply and is expected to have ANZSIC code L671100.

I checked a diverse sample of 150 active ICPs across the 25 most frequently applied ANZSIC codes which were assigned to over 0.1% or more of the active ICPs.

- 125 ICPs were confirmed to have the correct ANZSIC code applied.
- 25 ICPs did not have the correct ANZSIC code applied. ANZSIC codes for 24 of the ICPs were updated during the audit. ICP 0000010776NT35F remains on ANZSIC code M69 (Professional Scientific and Technical Services) but is expected to have ANZSIC code D281100 (Water Supply). The code has not been updated because the ICP has since switched out.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.6</p> <p>With: 9 (1(k) Schedule 11.1</p> <p>From: 19-Dec-19</p> <p>To: 03-Apr-20</p>	<p>ICP 0007171910RN50C has a residential ANZSIC code (000000) but relates to a residential property operator supply and is expected to have ANZSIC code L671100.</p> <p>ICP 0000010776NT35F had ANZSIC code M69 (Professional Scientific and Technical Services) but is expected to have ANZSIC code D281100 (Water Supply). The code has not been updated because the ICP has since switched out.</p> <p>Potential impact: None</p> <p>Actual impact: None</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are strong. There are preventative controls are in place to ensure that ANZSIC codes are initially recorded accurately, and monitoring controls to detect invalid ANZSIC codes and discrepancies.</p> <p>The audit risk rating is low this has no direct impact on submission accuracy.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
As has been indicated we have strong controls in place to ensure accurate ANZSIC codes are recorded however from time to time user errors will occur.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will continue to train and guide our staff to help eliminate user errors.		Ongoing	

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

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

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

Audit observation

The process to manage unmetered load was examined. The registry list file as at 19/12/19 and AC020 trader compliance report for 01/01/19 to 18/12/19 were examined to identify any ICPs where:

- unmetered load is identified by the distributor and none is recorded by Trustpower, and
- Trustpower's unmetered load figure does not match with the distributor's figure (where it is 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

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

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

Trustpower supplies 2,435 active ICPs with the unmetered flag set to "yes". 75 ICPs are indicated to have shared unmetered load, and 72 ICPs have distributed unmetered load. 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	2020 ICPs	2018 ICPs	2017 ICPs	2016 ICPs	Comments
Daily kWh difference more than 0.1 kWh per day	30	118	762	1,344	20 ICPs had the correct daily unmetered kWh recorded. ICPs 0007000608ENB95 and 0000150502TPEB7 are currently under investigation to confirm the correct daily unmetered kWh. Eight ICPs had incorrect daily unmetered kWh recorded on the registry and were corrected during the audit.
Daily kWh difference more than 1.0 kWh per day	19	37	189	122	As above. The eight ICPs with incorrect unmetered load all had a daily kWh difference of more than 1 kWh.

Issue	2020 ICPs	2018 ICPs	2017 ICPs	2016 ICPs	Comments
Distributor's unmetered field is populated but the retailer field is not populated	24	27	31	43	All of the ICPs have metered load and metering is installed. The distributor has been advised.
Unmetered flag = Y but daily unmetered kWh = 0	5	4	2	4	In all cases the zero value is correct. The unmetered load is very small and rounds to 0 kWh per day.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 19-Dec-19 To: 26-Mar-20	Eight ICPs had incorrect daily unmetered kWh recorded on the registry, and were corrected during the audit. Potential impact: Medium Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as strong because all discrepancies are identified, and processes are in place to investigate and resolve the discrepancies. The number of discrepancies is reducing over time. The impact on settlement and participants is minor. The net difference in unmetered load across all the affected ICPs was less than 2 kWh per day.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have incorporated new controls (reporting) following recommendation in the last audit. These new controls will address issues as they arise but given the nature of this non-compliance, we will not eliminate the issue, rather address them as they occur. The new controls have highlighted that there is a lack of original paperwork, and some networks will not update their data.		Completed March 2020	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
<p>We will continue to work through the new reporting and correct the unmetered load details currently in existence. This will be an ongoing process due to the lack of data around some sites.</p> <p>We have had a new staff member trained in this area we also discovered we were missing a step when updating the registry, so processes have been updated.</p>	Completed March 2020	

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

The registry list file as at 19/12/19 and AC020 trader compliance report for 01/01/19 to 18/12/19 were reviewed to determine compliance.

- 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.

Audit commentary

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. The 2018 audit identified that ICP 0004510035WM79C was active with unmetered flag set to “no” and a metering category of 9. Unmetered load details have since been populated.

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 27 ICPs with an initial electrical connection date populated which had not been made active. 26 were timing differences, and the status was updated to active or the initial electrical connection date was removed prior to the audit. ICP 1000583119PCD21 remains at “new connection in progress” status and the contractor confirmed that the ICP has not been connected yet.

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 described in detail in **section 3.5**, the AC020 report identified 2,846 ICPs with date discrepancies, and 2,739 were confirmed not to be genuine at the time of the audit. The 107 ICPs genuine discrepancies were reviewed, and a diverse sample of 42 ICPs were checked to confirm the correct active date. Seven of the ICPs had an incorrect active date recorded, and were corrected during the audit.

For most exceptions, there was an active date discrepancy between GTV and the registry, which had not been identified because:

1. rejected registry updates for status changes had not been identified, and/or
2. connection date discrepancies between GTV and the registry had not been identified.

Review of late updates in **section 3.5** identified an incorrect event date for ICP 0000519838BU421, which has active status recorded from 25/03/19 but should have active status recorded from 21/03/19.

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.

I found that when reconnections are processed, reads are only usually entered if reconnection coincides with a meter change. I recommend that disconnection and reconnection reads should be recorded to ensure that consumption is reported against the correct consumption period.

Description	Recommendation	Audited party comment	Remedial action
Enter reconnection reads into GTV	<p>Reconnection readings should be entered wherever possible to ensure that consumption is apportioned to the correct period by the historic estimate process.</p> <p>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.</p>	<p>We agree that using reconnection contractor reads would be advantageous. Therefore, we will investigate if it is possible for us to use these readings. Our concerns relate to being able to validate reads as contractors will not be able to undertake validation in the field and we will have to make system changes to be able to validate reads internally.</p>	Investigating

Two further instances of incorrect active dates were identified in **section 11.2**. One was due to an earlier active status not being reversed resulting in it being incorrectly recorded as active on the registry prior to electrical connection occurring. The other ICP was correctly recorded by Trustpower are being disconnected but the previous trader updated their time slice to active which overwrote Trustpower's inactive status.

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
<p>Audit Ref: 3.8</p> <p>With: Clause 17 of schedule 11.1</p> <p>From: 12-Feb-19</p> <p>To: 26-Mar-20</p>	<p>Eight new ICPs has incorrect active status dates, seven were corrected during the audit. The other ICP was identified when reviewing ICP Days (section 11.2) is expected to be corrected.</p> <p>ICP 0000519838BU421 which has active status recorded from 25/03/19 but should have active status recorded from 21/03/19.</p> <p>ICP 0003120630WF52D which has active status recorded from 4/10/19 but should have active status recorded from 31/10/19 on the registry.</p> <p>ICP 0002222260WF869 which has an active status recorded from 9/10/18 but was disconnected from 20/11/18-2/12/18 on the registry.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>

Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.</p> <p>The impact on settlement and participants is minor based on the number of genuine exceptions identified which had not been corrected through Trustpower's validation processes.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Agreement that current controls in place for status differences between GTV and the registry does not currently include date differences, which is required. We will action appropriately		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Current discrepancy reporting will be enhanced and monitored to include date differences between GTV and the registry for status updates.		22/8/2020	

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 registry list file as at 19/12/19 and AC020 trader compliance report for 01/01/19 to 18/12/19 were reviewed to determine compliance.

The “inactive - new connection in progress” status is used for all new connections. The list file was examined to identify any ICPs that had been at the “inactive new connection in progress” with an initial electrical connection date populated, and for any of these ICPs that had been at this status for greater than 24 months.

The process to manage ICPs at the other inactive statuses was examined. A diverse sample of 50 of these status updates to inactive, including at least five (or all) for each status reason code, were checked for accuracy.

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

Audit commentary

Inactive - new connection in progress

As recorded in **section 1.7** there were 1,029 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 55 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. 14 had been followed up with the customer, and one account managed ICP had not been followed up, as it was assumed that the Account Manager would be monitoring the ICP. I recommend that any account managed ICPs at “inactive new connection in progress” status for more than 24 months should be referred to the account manager for follow up.

Recommendation	Description	Audited party comment	Remedial action
Follow up of account managed ICPs at “inactive new connection in progress” status for more than 24 months	Refer account managed ICPs at “inactive new connection in progress” status for more than 24 months to the account manager for follow up.	A further step will be added into the New Connection process that if an ICP appears on current reporting and it is Account Managed then the ICP will be escalated to the Account Manager if < 24 months for it to be follow up on.	Identified

As discussed in **section 3.8**, the AC020 report identified 27 ICPs with an initial electrical connection date populated which had not been made active. 26 were timing differences, and the status was updated to active or the initial electrical connection date was removed prior to the audit. ICP 1000583119PCD21 remains at “new connection in progress” status and the contractor confirmed that the ICP has not been connected yet.

The 2018 audit found ICP 0007185876RN16B was incorrectly recorded as a new connection in progress. I found that the status was corrected to active from the initial electrical connection date prior to this audit.

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.

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, and the GTV switching process has recently been updated to retrieve the most recent AMI reading when processing switch outs, as discussed in **section 4.3**.

Description	Recommendation	Audited party comment	Remedial action
Enter disconnection reads into GTV	<p>Disconnection readings should be entered wherever possible to ensure that consumption is apportioned to the correct period by the historic estimate process.</p> <p>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.</p>	<p>We agree that using disconnection contractor reads would be advantageous. Therefore, we will investigate if it is possible for us to use these readings. Our concerns relate to being able to validate reads as contractors will not be able to undertake validation in the field and we will have to make system changes to be able to validate reads internally.</p>	Investigating

I reviewed a sample of 50 updates to inactive status, including at least five (or all) late status updates for each status reason code used during the audit period. I confirmed that the status reason codes and event dates were correctly applied.

Ten examples of inactive ICPs with consumption were checked in **section 8.1**. All but one were found to have been correctly processed. CP 0000113952UN10F switched out and the final read on the customer's account was sent in the CS file rather than the read gained post the disconnection, so the vacant consumption was not submitted in this instance. This is the same issue that is discussed in **section 6.7**.

The 2018 audit found ICP 1000011202BP7FC was recorded as "inactive – vacant" effective from 29/03/18, but should have been recorded as "inactive – remotely disconnected". The ICP switched out on 31/03/18 before the status could be corrected.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.9</p> <p>With: Clause 19 Schedule 11.1</p> <p>From: 20-Aug-19</p> <p>To: 09-Sep-19</p>	<p>Inactive ICP not corrected to active for the period with vacant consumption.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>

Audit risk rating	Rationale for audit risk rating	
Low	<p>The controls are recorded as moderate, because the affected files were generated prior to system changes to improve the accuracy of CS file content.</p> <p>The impact is assessed to be low as this affects only a small number of ICPs.</p>	
Actions taken to resolve the issue		Completion date
Out in place a new control to ensure that reoccurrence is mitigated – ensure training is updated		Completed
Preventative actions taken to ensure no further issues will occur		Completion date
<p>Update Revenue Team procedures to include the additional step to change the sites to CO upon logging the incremental SR.</p> <p>Additionally, we will create a report that picks up when there is a read after the VAD date – triggering WFA to override the VAS status. Which should in theory completely replace the double VAD report we currently have.</p>		<p>Completed</p> <p>31st May 2020</p>

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

Code reference

Clause 15 Schedule 11.1

Code related audit information

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

Audit observation

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

Audit commentary

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. One request from a distributor was received during the audit period, and was appropriately actioned.

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.

11 ICPs have been at “ready” status for more than two years. I checked the ten oldest and found they had all been decommissioned, or the distributor had been advised that they could be decommissioned and the service request was cancelled.

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.

21 ICPs have been at “new” status for more than 24 months. I checked the ten oldest ICPs at “new” status and found five had been decommissioned, two had moved to “inactive new connection in progress” status, and three remained at “new” but had not been followed up with the customer.

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 Trustpower deem all conditions to be met. A typical sample of five ICPs were checked to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

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.

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.

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 audit period:

Breach no	Breach of	Description	Outcome
1809TRUS2 4/12/18	2(2)(b) of Schedule 11.3, clause 11.2(1) and clause 11.2(2)	Trustpower uses incorrect switch codes when switching customers with a number of ICPs to correctly allocate one start date of the contract. Rules: 2(2)(b) of Schedule 11.3, clause 11.2(1) and clause 11.2(2).	Decline to pursue without warning.

Review of the event detail report found 12,045 transfer NTs were issued. Meter certification details were checked for the 4,351 ICPs with transfer NTs which were also included on the PR255 report. All the ICPs checked had a highest metering category of 1 or 2.

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

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.1</p> <p>With: Clause 2 Schedule 11.3</p> <p>From: 04-Dec-18</p> <p>To: 26-Mar-20</p>	<p>Trustpower issues switch move NTs for contract customers which are transferring between retailers at their existing address to ensure that the correct switch event date is applied.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>
Audit risk rating	Rationale for audit risk rating
Low	<p>The controls are rated as strong because most switches are requested with the correct switch event type, and the sample of transfer and switch move NTs checked during the audit were requested with the correct switch type.</p> <p>The audit risk rating is low, because there is no impact on settlement, and the practise helps to ensure ICPs are switched on the correct date which improves the outcome for the customer. There is some impact on market switching statistics.</p> <p>Alleged breach 1809TRUS2 was raised, and the Authority declined to pursue it and no warning was issued.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
<p>We agree that the controls for this section are strong - most switches are requested with the correct switch event type, and the sample of transfer and switch move NTs checked during the audit were requested with the correct switch type.</p> <p>We also acknowledge that after the breach 1809TRUS2 we looked at several gaps in our processes and implemented appropriate changes to our controls. The registration process in GTV was tweaked to include a wizard that ensures appropriate questions are asked to determine if a move in or transfer option is needed.</p> <p>We will continue to maintain these strong control measures by reviewing our established reports on a regular monthly basis.</p>	Completed Feb 2020	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
We will continue to maintain these strong control measures by reviewing our established reports on a regular monthly basis.	Ongoing	

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 for 01/01/19 to 18/12/19 was reviewed to:

- identify AN files issued by Trustpower during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- a sample of two (or all) ANs per response code were reviewed to determine whether the codes had been correctly applied.

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

Audit commentary

AN content

AN files are automatically generated by GTV. The logic for AN code selection was updated in October 2019. The changes were to ensure that the “AD” (advanced metering) code was applied to ICPs with AMI metering, and to refine the hierarchy for code selection. Prior to this, users would sometimes manually correct the AN codes prior to the files being sent to the registry. I reviewed a sample of eight transfer AN files and found that the correct response codes were applied.

After finding two switch move AN files with incorrectly applied AA and AD response codes, I checked the event detail report and identified:

- 222 transfer AN files where the AA response code was applied and the latest metering record indicated that an advanced meter was present, and
- nine transfer AN files where the AD response code was applied and the latest metering record indicated that an advanced meter was not present.

All of the affected files were generated in October 2019 or earlier, before the AN code logic was updated.

The event detail report was reviewed for 5,011 Trustpower transfer switches.

- 4,060 ANs (81.0%) had proposed event dates within five business days of NT receipt.
- 4,988 ANs (99.5%) had proposed event dates within ten business days of NT receipt. 23 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.
- The switch breach 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.

There were no late AN files during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.2</p> <p>With: Clauses 3 and 4 Schedule 11.3</p> <p>From: 03-Jan-19</p> <p>To: 30-Oct-19</p>	<p>231 AN files had the AA or AD response code incorrectly applied.</p> <p>One late CS file.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls over AN responses are strong. They are automated and following improvements during the audit period are sufficient to ensure that the correct codes are applied almost all the time.</p> <p>The impact is assessed as low. The metering information was able to be confirmed from other information on the registry.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>We concur that AN response controls are strong. Our AN responses are automated and following improvements after the last audit in 2018, we are confident that the correct codes are applied almost all of the time.</p> <p>To address the late CS file issues a fix was made to our CS error report in April 2020, to highlight more clearly pending breaches. Our monitoring of this new control gave us confidence that it is working as intended - no reported late files in May 2020.</p>		<p>Completed October 2019</p> <p>Completed April 2020</p>	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We will ensure ongoing training and understanding of CS rules and our processes.</p> <p>We will continue to maintain these strong control measures by reviewing our established reports on a regular monthly basis.</p>		Ongoing	

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

If the losing trader provides information to the registry manager in accordance with clause 3(a) of Schedule 11.3 with the required information, no later than 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 for 01/01/19 to 18/12/19 was reviewed to identify CS files issued by Trustpower during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of five 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 an average daily kWh that was negative, zero, or over 200 kWh were identified. A sample of ten 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

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 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 report recorded 26 late transfer CS files during the period reviewed. Most breaches were invalidly recorded, and the CS was sent on time and/or a withdrawal process was initiated prior to switch completion. The six genuinely late transfer CS files were all sent within four business days of their due date. The delays largely occurred during periods where staff were being cross trained so that tasks can be rotated between switching team members to manage workloads and cover absences.

CS content – average daily kWh

Average daily consumption is based on the consumption between the last two validated actual or permanent estimate readings recorded in GTV.

Some improvements were made to the average daily consumption calculation following the previous audit. Average daily consumption of zero was invalidly recorded where there were not at least two validated actual reads for the ICP, or a zero day final bill was automatically produced resulting in the last two reads being the same. Now, where 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 estimated daily kWh on the event detail report identified:

Estimated daily kWh	Count of transfer CS files	Comment
Negative	1	The validated final reading was less than the estimated gain reading for 0000023424EADB2 (02/05/19), resulting in negative average daily consumption. The negative reading was expected not to be validated.
Zero	53	A typical sample of five files were checked. Two were correct, and three should have had average daily consumption between 8 and 16 kWh per day but were recorded as zero because zero bills had been produced. The CS files were created prior to the process change.
More than 200 kWh	4	All were checked and confirmed to be correct.

CS content – other fields

CS files are expected to be issued with an actual or estimated reading as at 11.59.59pm on the losing trader's last day of responsibility (the switch event date – 1 day). The previous audit found that where Trustpower's last actual reading was taken on the event date – 2 days, this was applied as an actual reading in the CS file and consumption was not estimated up to the end of the losing trader's period of responsibility.

Trustpower implemented the following changes to their switch read selection process on 18/03/20 to improve compliance:

1. if an ICP has an AMI meter, GTV will create a "validate header" which will load the AMI read for Trustpower's last day of responsibility (the switch event date – 1 day) into GTV, where it will become the switch event read,
2. if an occupied ICP does not have an AMI meter, or an AMI reading cannot be obtained for Trustpower's last day of responsibility, GTV will create an "estimate final header", which will estimate a final reading as at 11.59.59pm on Trustpower's last day of responsibility, and
3. if a vacant ICP does not have an AMI meter, or an AMI reading cannot be obtained for Trustpower's last day of responsibility, GTV will apply the last read value as the switch event read and record and estimated read type (this is based on the assumption that the vacant ICP will have had no consumption since the previous read), and Trustpower attempts to read vacant ICPs monthly, and these readings are loaded into GTV.

I checked a sample of eight transfer CS files to determine whether the content was accurate, focussing on ICPs where there were discrepancies between the last actual read date and read type recorded in the CS file. I identified the following exceptions, and note all were in files created prior to the changes to the switch read selection process.

ICP	Event date	Update date	Non-compliance
0000054440TEFF8	21/10/2019	22/10/2019	The event read and read type are incorrect. The applied reading is an actual reading on 19/09/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 20/10/19.

	Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as moderate, because the affected files were generated prior to system changes to improve the accuracy of CS file content.</p> <p>The impact on settlement and participants is minor; therefore the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>We agree that controls that were in place at the time of this affected file were moderate. Subsequent changes to those controls to improve the accuracy of CS file content are working as intended.</p> <p>Similar issues were brought to our attention at the last audit. Our control fixes in March 2020 address this.</p> <p>Control changes include:</p> <ol style="list-style-type: none"> 1. EPIC CS File 2. Use Actual AMI reads for AMI sites for Switch Losses 3. CS file to display reads as an E if not the same date as the event date. <p>Our internal review of these fixes in April provides us with confidence that the fixes are working effectively and as intended.</p> <p>Negative CS average daily consumption was invalidly recorded for 0000023424EADB2 (02/05/19).</p> <p>We have confirmed with billing team that this occurred due to human error. We will look at the viability of allowing all Team Leaders and other leads the ability to override billing validations where applicable.</p> <p>Six transfer CS files were issued late. All the late files were issued within four business days of their due date.</p> <p>To address the late CS file issues a fix was made to our CS error report in April 2020, to highlight more clearly pending breaches. Our monitoring of this new control gave us confidence that it is working as intended - no reported late files in May 2020.</p>		Completed March 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We will ensure ongoing training and understanding of CS rules and our processes.</p> <p>We will continue to maintain these strong control measures by reviewing our established reports on a regular monthly basis.</p>		Ongoing	

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.

The event detail report for 01/01/19 to 18/12/19 was analysed to identify all read change requests and acknowledgements during the audit period. A sample of RR and AC files issued for transfer switches were checked to confirm that the content was correct and that Trustpower's systems reflected the outcome of the RR process.

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

The switch breach report for the audit period was reviewed.

Audit commentary

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, but Trustpower's process has allowed RRs to be supported by customer readings and customer photo readings. In cases where a customer reading is provided prior to billing, RRs are issued with one customer reading for support.

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 123 RR files for transfer switches. 93 were accepted and 30 were rejected. A sample of five rejected files and five accepted files were checked and I identified the following exceptions:

Issue	ICPs affected
<p>Incorrect agreed switch read value recorded in GTV</p> <p><i>Reads are not always corrected in the consumption history following receipt of the AC files. In some cases only billing for the customer is corrected.</i></p>	<p>0000938746TU314 (08/03/19) the CS read 20691 is recorded in GTV instead of the accepted RR read 19420. The agreed read was manually applied for billing. The difference is +1,271 kWh.</p> <p>0000001313UNA28 (03/10/19) the CS read 86805 is recorded in GTV instead of the accepted RR read 86875. The difference is -70 kWh.</p> <p>0340965883LCB03 (18/09/19) the CS read 136072 is recorded in GTV instead of the accepted RR read 135878. The difference is +194 kWh.</p> <p>0000902205TU718 (04/11/19) the CS reads 90867/2532 are recorded in GTV instead of the accepted RR reads 89873/2221. The difference is +1,305 kWh.</p>
<p>Incorrect agreed switch read type recorded in GTV</p> <p><i>Read types are not consistently updated when switch event reads are corrected following receipt of the AC files.</i></p>	<p>0001911095WA8C7 (22/10/19) A should be E</p> <p>0001600010TG1CA (27/08/19) A should be E</p> <p>0340965883LCB03 (18/09/19) E should be A</p> <p>0000924571TU040 (01/11/19) A should be E</p> <p>0000036841CP074 (13/05/19) A should be E for meter B7645/1. Meter CG20039/1 has the correct read type recorded.</p> <p>0007162419RN454 (24/07/19) A should be E</p>
<p>RR not supported by two validated actual reads</p> <p><i>Trustpower's policy does not ensure RRs are consistently supported by two validated actual reads.</i></p>	<p>0001911095WA8C7 (22/10/19) meter removal read only</p> <p>0001600010TG1CA (27/08/19) customer reads only</p> <p>0000001313UNA28 (03/10/19) one customer read, one meter reader read</p> <p>0000924571TU040 (01/11/19) one customer read, one meter reader read</p> <p>0000902205TU718 (04/11/19) customer reads only</p> <p>0000036841CP074 (13/05/19) customer read and customer photo read</p>

The switch breach report recorded 19 late RR files during the period reviewed. All nine genuinely late files were reviewed, and found to be delayed 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.

Trustpower issued 46 AC files for transfer switches. 39 were accepted and seven were rejected. A sample of five AC rejections and five acceptances were checked. All rejections were for valid reasons. All of the switches checked were later withdrawn by Trustpower or the other trader at the customer's request, or because the wrong switch type was selected.

The switch breach report recorded no late AC files during the period reviewed.

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		
<p>Audit Ref: 4.4</p> <p>With: Clause 6(1) and 6A Schedule 11.3</p> <p>From: 08-Apr-19</p> <p>To: 16-Oct-19</p>	<p>There were nine genuinely late RR files for transfer switches.</p> <p>Six RRs were issued without being supported by two validated actual readings.</p> <p>Four ICPs did not have the agreed switch reading recorded in GTV and six ICPs did not have the agreed switch reading type recorded in GTV.</p> <p>Potential impact: High</p> <p>Actual impact: Medium</p> <p>Audit history: Multiple times</p> <p>Controls: Weak</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
Medium	<p>The controls are rated as weak, because they do not ensure that RR files are supported by two validated actual readings or that GTV consistently reflects the outcome of the RR process.</p> <p>The potential impact is medium based on the kWh differences identified for the sample checked.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>After our 2018 audit, a fix was put into GTV where a wizard advises the user is attempting to send a late RR. The fix is working as intended, however we acknowledge that we are still sending late RRs after the 4-month period.</p> <p>Note: Attaining meter reads on some legacy metered sites can be difficult (H&S, customer access etc). Trustpower is currently deploying a plan to install AMI to most customer sites.</p> <p>These breaches have highlighted the need to work together to ensure everyone's end to end processes have better controls in place to fulfil compliance obligations</p> <p>Trustpower will:</p> <ol style="list-style-type: none"> 1.Focus on sites unread within a short time of switching to Trustpower 2.Prioritise sites not likely to be displaced by AMI deployment 3.Deploy AMI on 700 sites unread in 12 months hard to access/unsafe sites 4.Focus on NSP's rather than overall numbers as we have NSP's with small numbers of unread sites 5.A job has been logged for further analytics around customer reads and to investigate technology options. 		Completed	Identified
		Ongoing	

To address the wrong read type and incorrect data being manually added into consumption history, we will create a new control to track all manual changes to ensure they have the correct read and read type. We will monitor this reporting and ensure compliance where required.	31 May 2020	
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>These breaches have highlighted the need strengthen our processes across the areas of switching, billing and meter data management. We are creating a new governance group for these teams and others to corporately strengthen end to end process knowledge and practice. This group will ensure ongoing training and competency and will help gain better understanding of rules and processes that pertain to this code reference.</p> <p>Some of the specific steps we will be taking include:</p> <p>Data Management</p> <p>1 - Review customer reads process across teams and develop reports for visibility of the controls we have in place. Assess volume of customers that should be validated/non validated and investigate a long-term technology solution.</p> <p>2 - Implement a long-term technology solution.</p> <p>Switching and billing</p> <p>To address the wrong read type and incorrect data being manually added into consumption history, a ticket will be logged to track all manual changes have the correct read and read type. Switching and Billing will monitor this reporting.</p>	<p>Ongoing</p> <p>31 August 2020</p> <p>31 May 2021</p> <p>31 May 2020</p>	

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 process for the management of read requests was examined. The event detail report for 01/01/19 to 18/12/19 was analysed to identify read change requests issued and received under Clause 6(2) and (3) Schedule 11.3 and determine compliance.

Audit commentary

Review of the event detail report found 27 RR files were issued to Trustpower within five business days of switch completion, by traders using a half hour profile. Of those, 23 files were accepted. Four files were rejected because a withdrawal was to be processed instead.

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

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

Confirm with Trustpower whether any disputes have needed to be resolved in accordance with this clause.

Audit commentary

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

Audit commentary

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.

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.

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 audit period:

Breach no	Breach of	Description	Outcome
1809TRUS2 4/12/18	2(2)(b) of Schedule 11.3, clause 11.2(1) and clause 11.2(2)	Trustpower uses incorrect switch codes when switching customers with a number of ICPs to correctly allocate one start date of the contract. Rules: 2(2)(b) of Schedule 11.3, clause 11.2(1) and clause 11.2(2).	Decline to pursue without warning.

Review of the event detail report found 25,945 switch move NTs were issued. Meter certification details were checked for the 6,109 ICPs with switch move NTs which were also included on the PR255 report. All the ICPs checked had a highest metering category of 1 or 2.

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

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.7</p> <p>With: Clause 9 Schedule 11.3</p> <p>From: 04-Dec-18</p> <p>To: 26-Mar-20</p>	<p>Trustpower issues switch move NTs for contract customers which are transferring between retailers at their existing address to ensure that the correct switch event date is applied.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as strong because most switches are requested with the correct switch event type, and the sample of transfer and switch move NTs checked during the audit were requested with the correct switch type.</p> <p>The audit risk rating is low, because there is no impact on settlement, and the practise helps to ensure ICPs are switched on the correct date which improves the outcome for the customer. There is some impact on market switching statistics.</p> <p>Alleged breach 1809TRUS2 was raised, and the Authority declined to pursue it and no warning was issued.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>We agree that the controls that pertain to this section are strong because most switches are requested with the correct switch event type, and the sample of transfer and switch move NTs checked during the audit were requested with the correct switch type.</p> <p>After our alleged breach 1809TRUS2 was recorded, switching built a report that gets auto delivered to the switching help desk advising when bulk transfer switches have been uploaded.</p> <p>The registration process in GTV has been tweaked to include a wizard that ensures appropriate questions are asked to determine if a move in or transfer option is needed.</p> <p>Expectations have now been placed on account managers to advise switching prior to requesting contracted sites so that we can ensure the losing retailer can send transfers on the event date or if a NTMI is needed.</p>		<p>Completed Feb 2019</p> <p>Completed August 2018</p> <p>Ongoing</p>	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We believe our controls are efficient to prevent further issues in normal circumstances however ongoing training for new and existing staff is maintained to prevent further issues.</p>		Ongoing	

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:
 - o confirmation of the switch event date; and
 - o a valid switch response code; and
 - o 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—
 - o is not earlier than the gaining trader's proposed event date, and
 - o is no later than 10 business days after the date the losing trader receives notice; or
- 10(1)(c) request that the switch be withdrawn in accordance with clause 17.

Audit observation

The event detail report for 01/01/19 to 18/12/19 was reviewed to:

- identify AN files issued by Trustpower during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- a sample of two (or all) ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach report was examined for the audit period.

Audit commentary

File content

AN files are automatically generated by GTV. The logic for AN code selection was updated in October 2019. The changes were to ensure that the "AD" (advanced metering) code was applied to ICPs with AMI metering, and to refine the hierarchy for code selection. Prior to this, users would sometimes manually correct the AN codes prior to the files being sent to the registry. I reviewed a sample of eight switch move AN files and found the following exceptions:

ICP	Event date	Update date	Applied response code	Expected response code	Comment
0000043324WE48E	15/11/19	26/11/19	AA	AD	An advanced meter is present, and the file was generated after the AN response code changes.
1000578813PCCC5	15/04/19	15/04/19	AD	AA	No other codes apply, and the file was issued before the AN response code changes.

After finding the two incorrectly applied AA and AD response codes, I checked the event detail report and identified:

- a further seven switch move AN files where the AA response code was applied and the latest metering record indicated that an advanced meter was present, all of the files were generated in October 2019 or earlier, and
- no other switch move AN files where the AD response code was applied and the latest metering record indicated that an advanced meter was not present.

The event detail report was reviewed for all 503 switch move ANs to assess compliance with the setting of event dates requirements:

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

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 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 report recorded no late switch move AN files and 105 late switch move CS files during the period reviewed. Most breaches were invalidly recorded, and the CS was sent on time and/or a withdrawal process was initiated prior to switch completion. I checked the only late genuinely late switch move CS file and found it was delayed during a period when staff were in cross training, to allow better coverage during staff absences.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.8</p> <p>With: Clause 10(1) Schedule 11.3</p> <p>From: 03-Jan-19</p> <p>To: 26-Nov-19</p>	<p>Nine AN files had the AA or AD response code incorrectly applied.</p> <p>One late CS file.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>

Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls over AN responses are strong. They are automated and following improvements during the audit period are sufficient to ensure that the correct codes are applied almost all the time.</p> <p>The impact is assessed as low. The late CS file was one business day late, and metering information was able to be confirmed from other information on the registry where incorrect AN codes were applied.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Switching agrees that the controls around AN responses are strong. Our AN responses are automated and following improvements after the last audit in 2018 we are confident that the correct codes are applied almost all the time.</p> <p>To address the late CS file issues a fix was made to our CS error report in April 2020 to highlight more clearly pending breaches. With no reported late files in May 2020 indicates the reporting is doing as intended.</p>		<p>Completed June 2019</p> <p>Completed March 2020</p>	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We ensure ongoing training with our team members to gain better understanding of rules and processes that pertain to this code reference.</p> <p>We will continue to maintain these strong control measures by reviewing our established reports on a regular monthly basis.</p>		Ongoing	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report for 01/01/19 to 18/12/19 was reviewed to identify AN files issued by Trustpower during the audit period, and assess compliance with the requirement to meet the setting of event dates requirement.

Audit commentary

The event detail report was reviewed for all 503 switch move ANs. The ANs had a valid switch response code and compliant proposed event dates. No ANs had proposed event dates earlier than the gaining trader's proposed date.

Audit outcome

Compliant

4.10. Losing trader must provide final information - switch move (Clause 11 Schedule 11.3)

Code reference

Clause 11 Schedule 11.3

Code related audit information

The losing trader must provide final information to the registry manager for the purposes of clause 10(1)(a)(ii), including—

- *the event date (clause 11(a)); and*
- *a switch event meter reading as at the event date for each meter or data storage device that is recorded in the registry with an accumulator type of C and a settlement indicator of Y (clause 11(b)); and*
- *if the switch event meter reading is not a validated meter reading, the date of the last meter reading of the meter or storage device. (clause (11(c)).*

Audit observation

The event detail report for 01/01/19 to 18/12/19 was reviewed to identify CS files issued by Trustpower during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of eight 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 five of these CS files were checked to determine whether the average daily consumption was correct.

Audit commentary

CS content – average daily kWh

Average daily consumption is based on the consumption between the last two validated actual or permanent estimate readings recorded in GTV.

Some improvements were made to the average daily consumption calculation following the previous audit. Average daily consumption of zero was invalidly recorded where there were not at least two validated actual reads for the ICP, or a zero day final bill was automatically produced resulting in the last two reads being the same. Now, where 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 estimated daily kWh on the event detail report identified:

Estimated daily kWh	Count of switch move CS files	Comment
Negative	-	Compliant.

Estimated daily kWh	Count of switch move CS files	Comment
Zero	45	A typical sample of five files were checked. Four were correct, and ICP 1002047549LC3CB (26/06/19) should have had average daily consumption of 26 kWh.
More than 200 kWh	-	Compliant.

CS content – other fields

CS files are expected to be issued with an actual or estimated reading as at 11.59.59pm on the losing trader's last day of responsibility (the switch event date – 1 day). The previous audit found that where Trustpower's last actual reading was taken on the event date – 2 days, this was applied as an actual reading in the CS file and consumption was not estimated up to the end of the losing trader's period of responsibility.

Trustpower implemented the following changes to their switch read selection process on 18/03/20 to improve compliance:

1. if an ICP has an AMI meter, GTV will create a "validate header" which will retrieve the AMI read for Trustpower's last day of responsibility (the switch event date – 1 day) into GTV, where it will become the switch event read,
2. if an occupied ICP does not have an AMI meter, or an AMI reading cannot be obtained for Trustpower's last day of responsibility, GTV will create an "estimate final header", which will estimate a final reading as at 11.59.59pm on Trustpower's last day of responsibility, and
3. if a vacant ICP does not have an AMI or an AMI reading cannot be obtained for Trustpower's last day of responsibility, GTV will apply the last read value as the switch event read and record and estimated read type (based on the assumption that the vacant ICP will have had no consumption since the previous read) and Trustpower attempts to read vacant ICPs monthly, and these readings are loaded into GTV.

The previous audit also found one case where the last billed read had been provided in the CS file instead of the last validated read. I did not find any evidence that this issue was still occurring.

I checked a sample of eight switch move CS files to determine whether the content was accurate, focussing on ICPs where there were discrepancies between the last actual read date and read type recorded in the CS file. I identified the following exceptions, and note all were in files created prior to the changes to the switch read selection process.

ICP	Event date	Update date	Non-compliance
0000146325UN7C6	7/09/2019	9/09/2019	The event read and read type are incorrect. The applied reading is an actual reading on 28/08/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 06/09/19.
0001150370WMD0D	19/09/2019	20/09/2019	The event read and read type are incorrect. The applied reading is an actual reading from 12/09/19 which was the last reading for the vacant ICP. The read was expected to be an estimate up to 18/09/19.

ICP	Event date	Update date	Non-compliance
0030126474PCB2A	15/11/2019	15/11/2019	The event read and read type are incorrect. The applied reading is an actual reading on 01/11/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 14/11/19.
0000489012CE2E0	8/11/2019	8/11/2019	The event read and read type are incorrect. The applied reading is an actual reading on 06/11/19 which was the final reading on the customer account. The read was expected to be an estimate up to 07/11/19.
0000714936NVC6B	9/05/2019	11/06/2019	The event read and read type are incorrect. The applied reading is an actual reading on 07/05/19. The read was expected to be an estimate up to 08/05/19.
0000200599CTE33	19/07/2019	19/07/2019	The event read and read type are incorrect. The applied reading is an actual reading on 17/07/19 which was the final reading on the customer account. The read was expected to be an estimate up to 18/07/19.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.10</p> <p>With: Clause 11 Schedule 11.3</p> <p>From: 09-May-19 To: 15-Nov-19</p>	<p>The CS files for 0000146325UN7C6 (07/09/19), 0001150370WMD0D (19/09/19), 0030126474PCB2A (15/11/19), 0000489012CE2E0 (08/11/19), 0000714936NVC6B (09/05/19) and 0000200599CTE33 (19/07/19) contained last actual read dates and read types which did not reflect the reading on Trustpower's last day of responsibility.</p> <p>CS average daily consumption of zero was invalidly recorded for 1002047549LC3CB (26/06/19).</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>
Audit risk rating	Rationale for audit risk rating
Low	<p>The controls are recorded as moderate, because the affected files were generated prior to system changes to improve the accuracy of CS file content.</p> <p>The impact on settlement and participants is minor; therefore, the audit risk rating is low.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
<p>We agree with the findings that the controls that pertain to this section are moderate, because the affected files were generated prior to system changes to improve the accuracy of CS file content.</p> <p>The CS files contained last actual read dates and read types which did not reflect the reading on Trust power's last day of responsibility.</p> <p>Similar issues were brought to our attention at the last audit in 2018. We feel we have addressed this with fixes that were implemented in March 2020 to fulfil this gap with stronger controls.</p> <p>Fixes in place:</p> <ol style="list-style-type: none"> 1. EPIC CS File 2. Use Actual AMI reads for AMI sites for Switch Losses 3. CS file to display reads as an E if not the same date as the event date. <p>Evidence shows that these fixes are working effectively.</p>	Completed March 2020	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>We feel we have addressed these issues in March 2020 with preventative actions to build stronger controls.</p> <p>We ensure ongoing training with our team members to gain better understanding of rules and processes that pertain to this code reference.</p>	Ongoing	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

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

- *if the switch meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader (clause 12(2)(a)); or*
- *if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch meter reading. In this case, the gaining trader, within 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 process for the management of read change requests was examined.

The event detail report for 01/01/19 to 18/12/19 was analysed to identify all read change requests and acknowledgements during the audit period. A sample of RR and AC files issued for switch moves were checked to confirm that the content was correct and that Trustpower's systems reflected the outcome of the RR process.

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

The switch breach report for the audit period was reviewed.

Audit commentary

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, but Trustpower's process has allowed RRs to be supported by customer readings and customer photo readings. In cases where a customer reading is provided prior to billing, RRs are issued with one customer reading for support.

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 715 RR files for switch moves. 518 were accepted and 197 were rejected. A sample of five rejected files and five accepted files were checked and I identified the following exceptions:

Issue	ICPs affected
Incorrect agreed switch read value recorded in GTV <i>Reads are not always corrected in the consumption history following receipt of the AC files. In some cases only billing for the customer is corrected.</i>	0000661313WE556 (01/12/19) the CS read 45272 is recorded in GTV instead of the accepted RR read 45290. The difference is -18 kWh.

Issue	ICPs affected
<p>Incorrect agreed switch read type recorded in GTV</p> <p><i>Read types are not consistently updated when switch event reads are corrected following receipt of the AC files.</i></p>	<p>0000038853HR4A5 (16/08/19) A should be E</p> <p>0001112048WM337 (13/09/19) A should be E</p> <p>0191241784LCF28 (06/12/19) A should be E</p> <p>1002055266UNFF7 (19/07/19) A should be E</p>
<p>RR not supported by two validated actual reads</p> <p><i>Trustpower's policy does not ensure RRs are consistently supported by two validated actual reads.</i></p>	<p>0000915848TUC6D (25/11/19) one customer read, one meter reader read</p> <p>0000705400CA4F5 (16/08/19) one customer read, one meter reader read</p> <p>1002055266UNFF7 (19/07/19) one customer photo read, one meter reader read</p>
Invalidly issued RR	0000915848TUC6D (25/11/19) had an RR invalidly issued containing the same read as the CS.

The switch breach report recorded 35 late RR files during the period reviewed. 25 of the files were genuinely late. A sample of the ten latest genuinely late files were reviewed and found to be delayed 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.

Trustpower issued six AC files for switch moves. Three were accepted and three were rejected. All files were checked. All RRs were rejected for valid reasons and were subsequently withdrawn by the other trader at the customer's request, for date failure, or because the wrong premise was requested.

The switch breach report recorded no late AC files during the period reviewed.

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		
<p>Audit Ref: 4.11</p> <p>With: Clause 12 of Schedule 11.3</p> <p>From: 28-Mar-19</p> <p>To: 06-Jan-20</p>	<p>25 genuinely late RR files for switch moves.</p> <p>Three RRs were issued without being supported by two validated actual readings.</p> <p>One ICP did not have the agreed switch reading recorded in GTV and four ICPs did not have the agreed switch reading type recorded in GTV.</p> <p>One RR was issued in error with the same event reading as the original CS file.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Weak</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
<p>Medium</p>	<p>The controls are rated as weak, because they do not ensure that RR files are supported by two validated actual readings or that GTV consistently reflects the outcome of the RR process.</p> <p>The potential impact is medium based on the kWh differences identified for the sample checked. It is expected that more ICPs will be affected, because the sample was random.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>We agree that the controls that we have in place that relate to this section are weak, as we do not ensure that RR files are supported by two validated actual readings or that GTV consistently reflects the outcome of the RR process. There were 25 genuinely late RR files sent for switch moves.</p> <p>A job was logged after our 2018 audit findings for this same section to ensure the correct read type is sent in the RR. A fix was also put into place in GTV where a wizard advises the user is attempting to send a late RR. Both fixes are working as intended however we acknowledge that we are still sending late RRs after the 4-month period.</p> <p>Switching, Billing and Data management are aware of their obligations to use 2 actual meter reads when requesting a RR and to ensure it is completed within a 4-month time frame.</p> <p>Attaining meter reads on some legacy metered sites can be difficult (H&S, customer access issues etc). Trustpower is currently deploying AMI meters, as part of a project to serve most customers.</p> <p>Switching has no control over the processes that Data Management and Billing use to attain actual reads and complete the RR in set time frames. We recognise that there is a need to work together to ensure everyone's end to end processes have better controls in place to fulfil compliance obligations.</p> <p>Data Management have advised they will:</p>		<p>May 2021</p>	<p>Identified</p>

<ul style="list-style-type: none"> Focus on sites unread within a short time of switching to Trustpower Prioritise sites not likely to be displaced by AMI deployment Deploy AMI on 700 sites unread in 12 months hard to access/unsafe sites Focus on NSP's rather than overall numbers as we have NSP's with small numbers of unread sites A job has been logged for further analytics around customer reads and to investigate technology options. <p>Switching and billing</p> <p>To address the wrong read type and incorrect data being manually added into consumption history, we will strengthen out controls by tracking manual changes have the correct read and read type. Switching and Billing will monitor this reporting.</p>		
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>Data Management</p> <p>1 - Review customer reads process across teams and develop reports for visibility of the controls we have in place. Assess volume of customers that should be validated/non validated and investigate a long-term technology solution.</p> <p>2 - Implement a long-term technology solution.</p> <p>Switching and billing</p> <p>To address the wrong read type and incorrect data being manually added into consumption history, a ticket will be logged to track all manual changes have the correct read and read type. Switching and Billing will monitor this reporting.</p> <p>All teams:</p> <p>We ensure ongoing training with our team members to gain better understanding of rules and processes that pertain to this code reference.</p>	<p>August 2020</p> <p>May 2021</p> <p>May 2021</p> <p>Ongoing</p>	

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 Trustpower deem all conditions to be met. The event detail report for 01/01/19 to 18/12/19 was examined to identify all HH NTs.

A typical sample of five ICPs were checked to confirm that these were notified to the registry within three business days, and that the correct switch type was selected.

Audit commentary

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.

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

Meter certification details were checked for the 4,351 ICPs with transfer NTs and 6,109 ICPs with switch move NTs which were also included on the PR255 report. All the ICPs checked had a highest metering category of 1 or 2.

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

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

15(a) - provide to the registry manager a valid switch response code as approved by the Authority; or

15(b) - provide a request for withdrawal of the switch in accordance with clause 17.

Audit observation

The event detail report for The event detail report for 01/01/19 to 18/12/19 was reviewed to identify AN files issued by Trustpower during the audit period.

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

Audit commentary

The timeliness of HH switches is monitored daily using Trustpower'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 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. No HH ANs were issued by Trustpower, and no late AN files were recorded on the switch breach report.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

The gaining trader must complete the switch no later than 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. The event detail report for 01/01/19 to 18/12/19 was examined to identify all HH NTs.

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

Audit commentary

The timeliness of HH switches is monitored daily using Trustpower'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 report is also monitored three to four times per day to ensure that AN and CS files are issued by their due date. There were no late CS files.

The content of all 89 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)):*
 - o *the participant identifier of the trader making the withdrawal request (clause 18(c)(i)); and*
 - o *the withdrawal advisory code published by the Authority. (clause 18(c)(ii))*
- *within five business days after receiving notice from the registry manager of a switch, the trader receiving the withdrawal must advise the registry manager that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal (clause 18(d)).*
- *on receipt of a rejection notice from the registry manager, in accordance with clause 18(d), a trader may re-submit the switch withdrawal request for an ICP in accordance with clause 18(c). All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request (clause 18(e))*
- *if the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within two business days after receiving notice from the registry manager in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16 (clause 18(f)).*

Audit observation

An event detail report for 01/01/19 to 18/12/19 was reviewed to:

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

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

Audit commentary

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.

I reviewed the content of a sample of 14 NWs and confirmed that the files were validly issued, and the correct withdrawal reason codes were applied.

32 (0.5%) of the 6,546 NWs on the event detail report were issued more than 60 business days after the event date. 19 of those used the code for wrong premises, and I note that this issue often does not become apparent for an extended period after a switch completes. A sample of the ten latest files were checked, and I found they were delayed while investigation was carried out to determine whether a withdrawal was required.

The switch breach report recorded a late withdrawal cycle completion for ICP 0075220968WEEBC. The breach was not genuine, because the full withdrawal process was completed within ten business days.

The switch breach report recorded 222 late NWs. I confirmed that 23 were invalid, and checked the ten latest files and found eight were not genuine because Trustpower had not issued an NW, and two were genuine and had occurred due to a double 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.

322 (13.3%) of the 2,430 AWs issued by Trustpower were rejections. I reviewed a sample of 14 rejections by Trustpower, and confirmed they were rejected based the information available at the time the response was issued.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.15</p> <p>With: Clause 17&18 of schedule 11.3</p> <p>From: 04-Apr-19</p> <p>To: 27-Nov-19</p>	<p>32 late withdrawals on the event detail report.</p> <p>At least two genuine late withdrawals (NA breach type) on the switch breach report.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.</p> <p>The impact on settlement and participants is minor; therefore the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Switching accepts that the moderate control rating given here is a fair assessment of our processes addressing this section.</p> <p>After our last audit in 2018, a wizard was implemented into GTV that populates, advising the user if they are attempting to send a late NW.</p> <p>We acknowledge that sending a late NW is non-compliant however we act in the interest of our customer and if we find that they have been registered into the wrong site we will endeavour to correct that wrong.</p> <p>Switching ensure that all late NW's have a validated reason before sending.</p> <p>An email with our findings is sent to the alt retailer advising of our findings and asking for confirmation that the late NW will be accepted. Several retailers have advised that they will not prompt their own investigation until our NW has been received. Once sent, they often reject so that they have time to investigate, meaning we can often send 2 NW's for one ICP.</p> <p>We have a report that advises of all late NW's that have been sent. These are checked purely to ensure valid reasons for sending late NW and not as a pre-emptive measure.</p> <p>To address the reason why we are sending late NWs we have targeted the registration process. Ensuring the right property is requested at the time of sign up is the key. We spend time with our new CEA's training them on using the registry and confirming serial numbers to get the installation details right the first time every time.</p>		<p>Completed 2019</p> <p>Ongoing</p>	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Switching will continue to monitor that we have valid reasons for sending late NW's after a 2-month period.	Ongoing	

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

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

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

Audit observation

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

Audit commentary

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

In some cases, the switch event reading applied in the CS file was not the actual reading on the switch event date. As discussed in **sections 4.3** and **4.11**, Trustpower made changes to the switch read selection process in March 2020 which are expected to resolve this issue.

ICP	Switch type	Event date	Update date	Non-compliance
0000054440TEFF8	TR	21/10/2019	22/10/2019	The event read and read type are incorrect. The applied reading is an actual reading on 19/09/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 20/10/19.
0000474134WE8D7	TR	6/06/2019	7/06/2019	The event read and read type are incorrect. The applied reading is an actual reading on 04/06/19 which was the last scheduled reading for the ICP. The read was expected to be an estimate up to 05/06/19. This file was created manually after the file generated by GTV failed to be accepted by the registry, possibly due to timing as a meter change occurred around the time of the switch.

ICP	Switch type	Event date	Update date	Non-compliance
0000620699UN1FC	TR	3/07/2019	4/07/2019	The event read and read type are incorrect. The applied reading is an actual reading on 01/07/19 which was the last scheduled reading for the ICP. The read was expected to be an estimate up to 02/07/19.
0000027439EAEC4	TR	18/07/2019	19/07/2019	The event read and read type are incorrect. The applied reading is an actual reading on 16/07/19 which was the last scheduled reading for the ICP. The read was expected to be an estimate up to 17/07/19.
0000146325UN7C6	MI	7/09/2019	9/09/2019	The event read and read type are incorrect. The applied reading is an actual reading on 28/08/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 06/09/19.
0001150370WMD0D	MI	19/09/2019	20/09/2019	The event read and read type are incorrect. The applied reading is an actual reading from 12/09/19 which was the last reading for the vacant ICP. The read was expected to be an estimate up to 18/09/19.
0030126474PCB2A	MI	15/11/2019	15/11/2019	The event read and read type are incorrect. The applied reading is an actual reading on 01/11/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 14/11/19.
0000489012CE2E0	MI	8/11/2019	8/11/2019	The event read and read type are incorrect. The applied reading is an actual reading on 06/11/19 which was the final reading on the customer account. The read was expected to be an estimate up to 07/11/19.
0000714936NVC6B	MI	9/05/2019	11/06/2019	The event read and read type are incorrect. The applied reading is an actual reading on 07/05/19. The read was expected to be an estimate up to 08/05/19.
0000200599CTE33	MI	19/07/2019	19/07/2019	The event read and read type are incorrect. The applied reading is an actual reading on 17/07/19 which was the final reading on the customer account. The read was expected to be an estimate up to 18/07/19.

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

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.16</p> <p>With: Clause 21 Schedule 11.3</p> <p>From: 07-Jun-19</p> <p>To: 15-Nov-19</p>	<p>For ten CS files issued by Trustpower, switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date and the read type was incorrectly recorded.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as moderate, because the affected files were generated prior to system changes to improve the accuracy of CS file content.</p> <p>The impact on settlement and participants is minor; therefore, the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Switching accepts that the moderate control rating given here is a fair assessment of our processes addressing this section.</p> <p>The ten CS files issued by Trustpower, switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date and the read type was incorrectly recorded.</p> <p>These issues were brought to our attention at the last audit in 2018. We feel we have addressed this with fixes that were implemented in March 2020 to fulfil this gap with stronger controls.</p> <p>Fixes in place:</p> <ol style="list-style-type: none"> 1. EPIC CS File 2. Use Actual AMI reads for AMI sites for Switch Losses 3. CS file to display reads as an E if not the same date as the event date <p>Evidence shows that these fixes are working effectively.</p>		Completed 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Fixes are now in place to provide correct CS data in the files.</p> <p>We ensure ongoing training with our team members to gain better understanding of rules and processes that pertain to this code reference.</p>		<p>March 2020</p> <p>Ongoing</p>	

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

Code reference

Clause 11.15AA to 11.15AB

Code related audit information

A trader that buys electricity from the clearing manager may elect to have a switch saving protection by giving notice to the Authority in writing.

If a protected trader enters into an arrangement with a customer of another trader (the losing trader), or a trader enters into an arrangement with a customer of a protected trader, to commence trading electricity with the customer, the losing trader must not, by any means, initiate contact with the customer to attempt to persuade the customer to terminate the arrangement during the period from the receipt of the NT to the event date of the switch including by:

11.15AB(4)(a)- making a counter offer to the customer; or

11.15AB(4)(b)- offering an enticement to the customer.

Audit observation

The Electricity Registry switch save protected retailer list was examined. Trustpower ceased to be switch save protected from 25/10/17.

Win-back processes were discussed. The event detail report for 01/01/19 to 18/12/19 was analysed to identify all withdrawn switches with a CX code applied prior to the switch completion date for any switch save protected retailer.

Audit commentary

Up to 31/03/20, Trustpower excluded any switch save protected retailer files from their pre-switch completion save programme, and an automated SQL script created save opportunity tasks only where the gaining retailer was not on the current switch save protection list.

From 01/04/20, Trustpower have adjusted their process to ensure that no saves are attempted. 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.

Review of the event detail report identified four NWs issued with a CX withdrawal reason code prior to completion of the switch. None of the retailers were switch save protected at the time of the withdrawal.

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 process to identify and monitor unmetered load was discussed. The registry list file as at 19/12/19 and AC020 report for 01/01/19 to 18/12/19 were examined to identify any ICPs with shared unmetered load.

Audit commentary

Trustpower supplies 75 ICPs with shared unmetered load. All had the unmetered flag populated correctly, and 74 were found to match the distributor's details within 0.1 kWh. ICP 0000540598TU2BD had a difference of 0.238 kWh and I confirmed that the trader unmetered load details were correct, and the distributor had been advised of the correct unmetered load details.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

The AC020 report for 01/01/19 to 18/12/19 was examined to identify all unmetered load over 3,000 kWh per annum. Any ICPs with unmetered load greater than 3,000 kWh per annum were examined.

Audit commentary

There are 23 ICPs with standard unmetered load of between 3,000 and 6,000 kWh per annum. All were confirmed to have an approved load type or had metering installed prior to the audit.

There are 13 ICPs with standard unmetered load over 6,000 kWh per annum.

- Eight of the ICPs are included in exemption 268 which allows DUMML ICPs to be settled as standard unmetered load. As discussed in **section 1.1**, this exemption is due to expire on 30/04/2020. Trustpower have decommissioned 19 of these ICPs and one has switched away leaving eight still to be resolved. Trustpower intend to apply for another exemption to allow time for these to be resolved once the COVID-19 crisis has passed.
- Four of the ICPs are included in exemption 250 which allows DUMML ICPs to be settled as standard unmetered load.
- ICP 0900262060LC870 was decommissioned during the audit period after confirming that no unmetered load was connected.

The DUMML exemptions are discussed further in **section 5.4**.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

The process for the management of unmetered load thresholds is discussed in **section 5.2** above. The list file was examined to identify any ICPs that exceed the 6,000 kWh per annum threshold. All were examined to determine compliance.

Audit commentary

As mentioned in **section 5.2**, there are 13 ICPs with standard unmetered load over 6,000 kWh per annum.

- Eight of the ICPs are included in exemption 268 which allows DUML ICPs to be settled as standard unmetered load. As discussed in **section 1.1**, this exemption is due to expire on 30/04/2020. Trustpower have decommissioned 19 of these ICPs and one has switched away leaving eight still to be resolved. Trustpower intend to apply for another exemption to allow time for these to be resolved once the COVID-19 crisis has passed.
- Four of the ICPs are included in exemption 250 which allows DUML ICPs to be settled as standard unmetered load.
- ICP 0900262060LC870 was decommissioned during the audit period after confirming that no unmetered load was connected.

The DUML exemptions are discussed further in **section 5.4**.

Audit outcome

Compliant

5.4. Distributed unmetered load (Clause 11 Schedule 15.3, Clause 15.37B)

Code reference

Clause 11 Schedule 15.3, Clause 15.37B

Code related audit information

An up-to-date database must be maintained for each type of distributed unmetered load for which the retailer is responsible. The information in the database must be maintained in a manner that the resulting submission information meets the accuracy requirements of clause 15.2.

A separate audit is required for distributed unmetered load data bases.

The database must satisfy the requirements of Schedule 15.5 with regard to the methodology for deriving submission information.

Audit observation

Trustpower is responsible for 18 DUML databases. Five of these have either not been audited or the audit report is yet to be submitted.

Audit commentary

The table below shows the findings from the last audits. There are two databases that have not been audited (highlighted in blue) since the DUUML audit regime came into effect on 1 June 2017. These were discussed and found:

- The NZTA Steel lights relate to 20 lights in the Iron Sands mine village. Trustpower are working with the Distributor to determine if these can be metered or individual ICPs can be established.
- NZTA - Otagonet's load is still being investigated as it appears that at least some and possibly all of this unmetered load is recorded in local council databases. Once this has been resolved an audit will be undertaken if required.

There were three audits that are overdue:

- NZTA Taupo is awaiting funding from NZTA for a full field audit before the next audit is undertaken.
- NZTA West Waikato North and South audits have been completed and are with Trustpower to review and comment before these can be finalised.

			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	Under review recommended 24 mths	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Kingfisher Residents Association - Parawera	1/06/2021	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NZTA West Waikato South	1/12/2018	No- with TRUS to review	No	No	Yes	No	No	Yes	Yes	No	No
NZTA West Waikato North	1/12/2018	No- with TRUS to review	No	Yes	Yes	No	Yes	Yes	Yes	No	No
NZTA Taupo	1/05/2019	No	No	No	Yes	No	Yes	Yes	Yes	No	No
NZ Steel	1/06/2018	No	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
WBOP DC	Under review- recommended 6 mths	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No
Western Bay NZTA	20/09/2020	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
WBOP Parks & Reserves	30/05/2021	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Tauranga CC	1/12/2020	Yes	No	Yes	Yes	No	No	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)
Ruapehu DC	1/09/2020	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tauranga CC Parks & Reserves	Under review recommended 12 mths	Yes	No	Yes	No	No	No	Yes	Yes	No	No
Tauranga NZTA	1/12/2020	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No
Ocean Shores Village Ltd	30/5/2021	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Upper Hutt CC	Under review recommended 18 mths	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No
NZTA Central Otago- Aurora	Under review recommended 12 mths	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	Under review recommended 6 mths	Yes	No	Yes	Yes	No	No	Yes	Yes	No	No

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 5.4</p> <p>With: Clause 11 Schedule 15.3</p> <p>From: 01-Jun-18 To: 26-Mar-20</p>	<p>Errors found in 12 databases, two databases still to be audited and three audits are overdue.</p> <p>For those completed the specific findings are detailed in the DUMML database audit reports.</p> <p>Potential impact: High</p> <p>Actual impact: High</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
High	<p>The effectiveness of the controls is recorded as moderate as Trustpower actively works with its DUMML customers to provide complete and accurate information.</p> <p>The impact on settlement is major because the incorrect submission figures are major for some databases.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>In the last 6 months we have established a new governance group to oversee progress on DUMML issues for our business. This group includes senior business representatives with a mix of customer, industry, commercial and compliance experience.</p> <p>We have established a register of audit recommendations and areas of non-compliance – including our actions to remedy, providing greater transparency of progress and areas where attention is required. This is reviewed monthly by the governance group.</p> <p>We have escalated issues that commonly affect NZTA DUMML connections and databases from regions across the country. These issues were escalated to the EA with the intent that the EA would help progress ‘common industry issues’ with a senior representative from NZTA.</p> <p>In specific response to the audits that have been listed as late, or not completed:</p> <p><u>Databases without audit</u></p> <p>NZ Steel – this is incorrectly recorded as NZTA Steel Lights, these lights are not associated with NZTA</p> <p>The NZ Steel DUMML is 20 streetlights connected to The Lines Co network.</p> <p>There is a low risk of change for this small number of DUMML and a low risk of causing material impact on submission. We are currently communicating with TLC to investigate having the small</p>		See participant comments	Identified

<p>number of lights, converted to standard unmetered load, under the 3000kWh threshold.</p> <p>NZTA Otago - (this is incorrectly recorded as NZTA Central Otago – OtagoNet)</p> <p>3 x ICPS, 1 ICP has the majority of lights (~80 lights) and is managed by Waitaki District Council. There is a database of record and Waitaki DC has a good process in place for maintaining accuracy.</p> <p>There are approximately 39 lights spread across the other 2 ICPS (these have been audited previously by our account manager, and by Veritek. Furthermore, an independent field inspection was completed by a consultant on behalf of NZTA, in preparation for an LED roll out. This data has been cross referenced with our light information and gives us confidence that the 39 lights remain and accurate reflection of the DUML. Despite this, there is no official database and as such we have not completed a follow up audit.</p> <p>We intend to explore separating the 1 Waitaki ICP – which is accurate and well maintained, from the other two ICPS.</p> <p><u>Databases with overdue Audit</u></p> <p>NZTA Waikato North, and South and NZTA Taupo. In all cases we intend to have these audits finalised and submitted by 30 June.</p> <p>The main delay in processing NZTA Taupo is our attempt to address the recommendation for NZTA Taupo to complete a full field audit. We have been waiting confirmation from the customer when this will take place and have been advised that this is not in the operational budget for this financial year. We are currently considering our commercial avenues for completing this work on behalf of the customer or ensuring its inclusion in the FY budget starting 1 July 2020.</p> <p>For perspective, the NZTA Taupo database includes 46 lights on the Lines Company network which includes 1 or 2 lights that a field audit would help us confirm responsibility for. It also includes 23 lights on the Unison network which has previously been audited by Veritek and by Trustpower – and we consider to be accurate.</p> <p>NZTA Waikato (North and South)</p> <p>This DUML had a field audit completed by a contractor on behalf of the customer late 2019. The results of the field audit were shared as part of our DUML for this database, prior to confirming how they should be allocated to the multiple DUML ICPS in this region. These ICPS are retailed by multiple retailers.</p> <p>A desktop exercise has been completed to attempt to match the field audit results with our data – but as yet these results have not been confirmed by the customers and not allocated to the RAMM databases. We believe that lights that were deemed to belong to Trustpower DUML ICPS – do in fact belong to alternate retailer databases.</p>		
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As a final observation, we continue to work with both the auditors and the EA to align the naming conventions of the various DUMML databases. DUMML database names have been a source of considerable confusion – often leading to delays and oversights in audits (2 examples are highlighted as part of this audit)		
Preventative actions taken to ensure no further issues will occur	Completion date	
Continue with regular reviews of the consolidated register of recommendations, actions to address areas of non-compliance, and DUMML audit due dates is helping ensure we are able to act on obligations in a timely manner.	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

The registry list file as at 19/12/19, AC020 trader compliance report for 01/01/19 to 18/12/19, and meter event details reports were reviewed to determine compliance.

Processes for distributed generation were reviewed.

Audit commentary

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 for 01/01/19 to 18/12/19 recorded 131 active ICPs with metering category 9, null, or zero which did not have unmetered load indicated. 120 of these also had no MEP recorded. All were timing differences, and the ICPs were decommissioned, made ready for decommissioning, or had meter details populated on the registry 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 2,909 active ICPs with distributed generation recorded by the distributor. Review of the AC020 report confirmed that there were eight ICPs with generation recorded by the distributor where Trustpower did not record a generation profile.

- Three ICPs were confirmed not to have generation installed. For two of these ICPs the distributor later updated the installation type to L and removed the generation details from the registry.
- Five ICPs had generation installed, and the profile was updated on the registry prior to the audit.

Where generation profiles were recorded, they were consistent with the generation fuel type apart from 35 ICPs where the distributor had recorded a generation fuel type of wind or other.

- 26 ICPs had the correct profile recorded for the fuel type installed, the distributor's records appear to be incorrect.
- There was insufficient information to determine whether the fuel type or profile was correct for seven ICPs (0000621008TU713, 0000041449TREFE, 0000063096CEC22, 0000678256HB1B7, 0001395953UN9CE, 0007162577RN13B and 1000508043PCE79).
- Two ICPs had incorrectly recorded profiles. ICP 0000960325TU251 has solar generation and EG1 profile is recorded, and ICP 0002211488TGB0D has wind generation and PV1 profile is recorded.

To ensure that profiles are consistent, I recommend Trustpower validates the profiles applied against the distributor's fuel type.

Recommendation	Description	Audited party comment	Remedial action
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.	Current discrepancy reporting for distributed generation will be enhanced and monitored o include discrepancies between profiles and fuel types.	Identified

Bridged meters

Trustpower provided a list of 65 ICPs that had bridged meters during the audit period. 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		
<p>Audit Ref: 6.1</p> <p>With: Clause 10.13, Clause 10.24</p> <p>From: 19-Jul-18</p> <p>To: 06-Jan-20</p>	<p>ICP 0000960325TU251 has solar generation and EG1 profile is recorded, instead of PV1.</p> <p>ICP 0002211488TGB0D has wind generation and PV1 profile is recorded, instead of EG1.</p> <p>While meters were bridged, energy was not metered and quantified according to the code for 65 ICPs.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are strong with regard to identification of bridged meters. Trustpower only initiates bridging themselves in exceptional circumstances to ensure customers have electricity supply.</p> <p>Controls over distributed generation are generally strong, with only two profile discrepancies identified.</p> <p>Submission information is estimated for the bridged period so the impact on submission accuracy is considered low, and the inaccurate profiles for two distributed generation ICPs are expected to have little impact.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Agreement that current controls in place over distributed generation does not currently include discrepancies between the profiles and fuel type.</p> <p>Meters are bridged as we do not have the ability to accept prepay meters. When a customer moves into a property with one, but does not give us any lead time, we are acting in the customer's best interest to ensure that they have power the day they move in as opposed to choosing not to bridge and denying the customer power.</p> <p>After hours reconnection is due to AMI communication errors / issues. We continue to monitor the situation.</p>		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Current discrepancy reporting for distributed generation will be enhanced and monitored to include discrepancies between profiles and fuel types.</p> <p>Ongoing monitoring and reconnecting to act in the best interest of the customer and prevent loss of power.</p>		<p>Complete by 22/8/2020</p> <p>Ongoing</p>	

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 3 months for the grid owner to review and comment on the design
- respond within 3 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

Trustpower is responsible for the grid connected metering installations shown in the table below:

Responsible party	Description	NSP	MEP	Reconciliation Type	Certification expiry date as recorded on the NSP table
TRUS	ARGYLE	ARG1101TRUSGG	TPNZ	GG	8/04/2021
TRUS	BERWICK	BWK1101TRUSGG	TPNZ	GG	02/04/2022
TRUS	COLERIDGE	COL0661TRUSGG	TRUM	GG	01/11/2021
TRUS	HAWERA	HWA1101TRUSGG	TPNZ	GG	24/01/2021
TRUS	MATAHINA	MAT1101TRUSGG	TRUM	GG	24/03/2020
TRUS	ROTORUA	ROT1101TRUSGG	TPNZ	GG	06/06/2021

All metering installations have a current certification. Some certification details were updated during the audit period:

Responsible party	Description	NSP	Old certification date	New certification date
TRUS	BERWICK	BWK1101TRUSGG	20/06/2019	02/04/2022
TRUS	COLERIDGE	COL0661TRUSGG	25/11/2018	01/11/2021
TRUS	MATAHINA	MAT1101TRUSGG	29/09/2018	24/03/2020
TRUS	ROTORUA	ROT1101TRUSGG	14/12/2020	06/06/2021

All meter certifications were checked and found to be accurately recorded with the exception of Matahina where the date of inspection was incorrectly supplied and the correct meter certification date is 7/12/20. The Reconciliation Manager provided the update dates for all four notifications and this confirmed that all updates but one were provided late.

The incorrect meter certification and the late notification to the Reconciliation Manager is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.2 With: Clause 10.26 (7) From: 19-Jul-18 To: 06-Jan-20	One correct NSP meter certification not provided. Three NSP meter recertifications not provided within ten business days of recertification. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are moderate as it will mitigate errors most of the time. They are moving the updating of these details to the MEP to carry out this on Trustpower's behalf which should improve accuracy and timeliness. The audit risk rating is low as all GIPs are certified and it is the updating process that has caused this non-compliance.		
Actions taken to resolve the issue		Completion date	Remedial action status
Trustpower has sold its MEP business. We are going to switch all of Trustpower Generation Metering and Direct Grid Metering to the MEP, that is the Test house that certifies the metering. We will contractually get them to maintain the NSP table.		1/8/2020	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
<p>This error occurred when a person updating the NSP table incorrectly used the next inspection date rather than the certification expiry date .</p> <p>Trustpower has sold it MEP business. We are going to Switch all of Trustpower Generation Metering and Direct Grid Metering to the MEP, that is the Test house that certifies the metering. We will contractually get them to maintain the NSP table.</p>	1/8/2020	

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

Code reference

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

Code related audit information

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

The reconciliation participant must ensure the control device is certified prior to using it for reconciliation purposes.

Audit observation

The registry list file as at 19/12/19 and AC020 trader compliance report for 01/01/19 to 18/12/19 were reviewed to determine compliance.

Audit commentary

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.

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

Audit commentary

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 25 bridged meters were provided. The MEP was notified in all instances and the meter was replaced for faulty meters and unbridged for bridged meters. Corrections were appropriately processed in all instances, and are discussed further in **section 8.1**.

EMS and EDMI confirmed that no defective meters have been identified since their last agent audit.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

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. A sample of clock synchronisation events received by Trustpower were reviewed.

Trustpower collects generation data, using MV90. I walked through the clock synchronisation process.

Audit commentary

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

Non-compliance was recorded in EDM's agent audit relating to manual downloads for FCLM meters read using MV90, because meter event logs were not obtained and checks for time differences were not conducted. This non-compliance has been cleared. FCLM now provide meter event files for manual downloads, which include any time differences.

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

Data collected by Marlborough Lines and Powerco

Data is provided by way of photos for some substations in the Marlborough Lines and Powerco areas by personnel engaged by these distributors where meter readers are not allowed to enter such facilities due to the health and safety requirements. I consider these parties have been engaged by Trustpower as agents and Trustpower has deemed them to be competent to conduct meter readings, therefore these readings are in effect conducted by a "certified reconciliation participant".

Data collected by Trustpower

The collection of data carried out by Trustpower is carried out using MV090 for both generation and half hour sites read by Trustpower. MV090 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.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

- a) obtain the meter register*

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

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

Audit observation

The data collection process was examined.

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

Processes for customer and photo reads were reviewed.

Audit commentary

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.

Trustpower no longer employ their own meter readers. All meter reading is now undertaken by MRS or FCLM. 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.

FCLM has processes in place to identify and report on tampering, damage, broken and missing seals, phase failure and unsafe situations. The details are sent in the same file as the meter readings.

The meters read by Powerco and Marlborough Lines 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.

I checked a sample of 20 readings and confirmed that they are loaded into GTV as actual readings and are validated.

Customer and photo readings

The management of customer and photo readings was examined. These pass through the billing validation process and become validated reads, however if the two previous validated reads are estimates then these are effectively being validated against estimated reads which does not meet the requirements of the code. I reviewed four customer and four photo reads and found all but one have been validated against two previous actual reads. A customer read was received for ICP 0001308420WMCAB for March 2020. The reads have been estimated prior for the previous 12 months, therefore the customer read has been validated against two previous estimated reads. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.6 With: Clause 5(c) of schedule 15.2 From: 19-Jul-18 To: 06-Jan-20	Customer reads validated against estimated reads in some instances. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as weak as the validation process is validating customer reads against validated estimated reads. The audit risk rating is rated as low as the volume of customer reads is low as a percentage of overall reads.		
Actions taken to resolve the issue		Completion date	Remedial action status
We are currently exploring ways in which our controls can be strengthened – We have requested an internal enhancement that will provide us with a clear understanding of the likely outcome of a long-term technical solution.		Completed 12/5/2020	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
1. We will carry out a thorough review of the customer reads process, across Trustpower teams and develop reports for visibility of the controls we have in place. These controls will be regularly monitored and assessed for effectiveness. A 2 - Implement a long-term technology solution.		31 August 2020 31 May 2021	

6.7. NHH meter reading application (Clause 6 Schedule 15.2)

Code reference

Clause 6 Schedule 15.2

Code related audit information

For NHH switch event meter reads, for the gaining trader the reading applies from 0000 hours on the day of the relevant event date and for the losing trader at 2400 hours at the end of the day before the relevant event date.

In all other cases, All NHH readings apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation.

Audit observation

The process of the application of meter readings was examined.

Audit commentary

NHH readings apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation except in the case of a switch event meter reading which

applies to the end of the day prior to the event date for the losing trader and the start of the event date for the gaining trader as required by this clause.

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

The content of CS and RR files was examined in **sections 4.3, 4.4, 4.10 and 4.11**. In some cases, the switch event reading applied in the CS file was not the actual reading on the switch event date. As discussed in **sections 4.3 and 4.11**, Trustpower made changes to the switch read selection process in March 2020 which are expected to resolve this issue.

ICP	Switch type	Event date	Update date	Non-compliance
0000054440TEFF8	TR	21/10/2019	22/10/2019	The event read and read type are incorrect. The applied reading is an actual reading on 19/09/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 20/10/19.
0000474134WE8D7	TR	6/06/2019	7/06/2019	The event read and read type are incorrect. The applied reading is an actual reading on 04/06/19 which was the last scheduled reading for the ICP. The read was expected to be an estimate up to 05/06/19. This file was created manually after the file generated by GTV failed to be accepted by the registry, possibly due to timing as a meter change occurred around the time of the switch.
0000620699UN1FC	TR	3/07/2019	4/07/2019	The event read and read type are incorrect. The applied reading is an actual reading on 01/07/19 which was the last scheduled reading for the ICP. The read was expected to be an estimate up to 02/07/19.
0000027439EAEC4	TR	18/07/2019	19/07/2019	The event read and read type are incorrect. The applied reading is an actual reading on 16/07/19 which was the last scheduled reading for the ICP. The read was expected to be an estimate up to 17/07/19.
0000146325UN7C6	MI	7/09/2019	9/09/2019	The event read and read type are incorrect. The applied reading is an actual reading on 28/08/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 06/09/19.

ICP	Switch type	Event date	Update date	Non-compliance
0001150370WMD0D	MI	19/09/2019	20/09/2019	The event read and read type are incorrect. The applied reading is an actual reading from 12/09/19 which was the last reading for the vacant ICP. The read was expected to be an estimate up to 18/09/19.
0030126474PCB2A	MI	15/11/2019	15/11/2019	The event read and read type are incorrect. The applied reading is an actual reading on 01/11/19 which was the last scheduled reading for the vacant ICP. The read was expected to be an estimate up to 14/11/19.
0000489012CE2E0	MI	8/11/2019	8/11/2019	The event read and read type are incorrect. The applied reading is an actual reading on 06/11/19 which was the final reading on the customer account. The read was expected to be an estimate up to 07/11/19.
0000714936NVC6B	MI	9/05/2019	11/06/2019	The event read and read type are incorrect. The applied reading is an actual reading on 07/05/19. The read was expected to be an estimate up to 08/05/19.
0000200599CTE33	MI	19/07/2019	19/07/2019	The event read and read type are incorrect. The applied reading is an actual reading on 17/07/19 which was the final reading on the customer account. The read was expected to be an estimate up to 18/07/19.

I also found some ICPs which had undergone read renegotiation did not have the correct switch event reading recorded in the GTV consumption history. This is recorded as non-compliance in **sections 4.4 and 4.11**.

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, but compliance with this clause is not achieved.

- 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 a 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 is raised as non-compliance because the NHH read is not applied to 24.00 on the day of the read.

This matter is also relevant to decommissioned ICPs, where the day after the physical decommissioning is used to ensure the status aligns with the meter reading effective time (end of day).

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.7</p> <p>With: Clause 6 Schedule 15.2</p> <p>From: 01-Sep-18 To: 06-Jan-20</p>	<p>For ten CS files issued by Trustpower, switch event reads did not reflect the actual reading or best estimate of an actual reading on the event date.</p> <p>Meter readings not applied at the end of the day for NHH to HHR changes and decommissioning events.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating:2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as moderate, because the affected files were generated prior to system changes to improve the accuracy of CS file content.</p> <p>The impact on settlement and participants is minor; therefore, the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Switching acknowledges that the controls in place at the time the data was collected that address this section were moderate.</p> <p>Since March 2020 we have several CS file tickets that have addressed all of these non-compliance issues listed in the description above.</p> <p>Fixes in place</p> <p>1 EPIC CS File</p> <p>2 Use Actual AMI reads for AMI sites for Switch Losses (COPS Dev)</p> <p>3 CS file to display reads as an E if not the same date as the event date</p> <p>No breaches have occurred since the fixes have been implemented indicating we should have confidence that these can be minimised.</p>		Completed March 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We are confident that the fixes in place have strong preventative measures to ensure better results.</p> <p>We ensure ongoing training with our team members to gain better understanding of rules and processes that pertain to this code reference.</p>		<p>March 2020</p> <p>Ongoing</p>	

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was examined. Reporting on ICPs not read during the period of supply was examined, and all ICPs unread during the period of supply where that period was more than 90 days were examined.

Audit commentary

A validated meter reading must be obtained in respect of every meter register for every NHH metered ICP for which the participant is responsible, at least once during the period of supply to the ICP by the reconciliation participant, unless exceptional circumstances prevent this from occurring. This may be a validated meter reading at the time the ICP is switched to, or from, the reconciliation participant.

The NHH meter reading frequency guidelines published by the Electricity Authority define “Exceptional circumstances” as meaning “circumstances in which access to the relevant meter is not achieved despite the reconciliation participant's best endeavours”. “Best endeavours” is defined as:

“Where a reconciliation participant failed to interrogate an ICP as a result of access issues, the reconciliation participant had made a minimum of three attempts to contact the customer, by using at least two methods of communication”.

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 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 and FCLM. The process to obtain reads is described in their agent reports 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.

The provided reporting in relation to those ICPs that did not get a read during period of supply identified 197 ICPs:

Period of supply	Count of ICPs
Within 30 Days	157
30 to 90 Days	31
91 to 365 Days	8
365 Days +	1
Grand Total	197

I checked all nine ICPs supplied for over 90 days to determine whether exceptional circumstances existed. ICP 0001185497ML26D was incorrectly included. The last customer registered at this ICP was in 2001 and reads have been gained during the period of supply. The report is being reviewed to ensure that the long standing vacant ICPs are excluded. This is expected to be very small number of ICPs. Exceptional circumstances were proven for seven of the remaining eight ICPs. ICP 0002241925AL02E was not allocated to the correct meter reading round and the no read process was missed for this ICP so no attempts were made to read this ICP, therefore exceptional circumstances could not be proven.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 01-Sep-18 To: 06-Jan-20	Exceptional circumstances not proven for one ICP not read during the period of supply. 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 Trustpower have robust processes in place including attempting to get reads as customers switch away. The audit risk rating is low as the number of ICPs not read during the period of supply is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Additional training and guidance given to staff to ensure controls remain strong		31 March 2020	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
We will continue to focus on maintaining robust controls in this area.	Ongoing	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

The meter reading process was examined. Monthly reports for July to November 2019 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 November 2019 were reviewed to determine whether exceptional circumstances existed.

Audit commentary

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-19	239	79	260	99.88%
Jul-19	242	77	285	99.87%
Aug-19	244	91	923	99.59%
Sep-19	274	91	932	99.58%
Oct-19	273	96	927	99.59%
Nov-19	272	99	953	99.57%

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

The overall meter reading attainment level has declined since the last audit. Meter reading attainment is still high overall. This is due to a combination of moving all meter reading to be outsourced which resulted in a loss of established meter readers, combined with one of the providers having difficulty in recruiting new meter readers to fill these vacancies.

The sample of ten ICPs checked from the November 2019 report found:

- five ICPs were all new connections and have not been electrically connected for 12 months; Trustpower are reviewing the reporting to ensure that only ICPs not read at 12 months are reported,
- exceptional circumstances were proven for four ICPs, and
- exceptional circumstances could not be proven for ICP 0000300580WP6DB.

I reviewed meter reading reports for July to November 2019 and confirmed that they met the meter reading frequency report requirements and were submitted in the required timeframe.

Audit outcome

Non-compliant

Non-compliance	Description	
Audit Ref: 6.9 With: Clause 8(1) and (2) Schedule 15.2 From: 01-Sep-18 To: 06-Jan-20	Exceptional circumstances not proven for one ICP not read annually. 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 Trustpower have robust processes in place including attempting to get reads as customers switch away. The audit risk rating is low as the percentage of ICPs not read at 12 months is low.	
Actions taken to resolve the issue		Completion date
Additional training and guidance given to staff to ensure controls remain strong		31 March 2020
Preventative actions taken to ensure no further issues will occur		Completion date
We will continue to focus on maintaining robust controls in this area.		Ongoing
		Remedial action status
		Identified

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

The meter reading process was examined. Monthly reports for July to November 2019 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 90% read attainment was achieved for November 2019 were reviewed to determine whether exceptional circumstances existed.

Audit commentary

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-19	273	17	8,291	96.67%
Jul-19	277	33	14,031	94.37%
Aug-19	278	46	13,138	94.71%
Sep-19	283	39	10,015	95.96%
Oct-19	280	31	8,101	96.73%
Nov-19	281	27	6,568	97.34%

A sample of ten unread ICPs on the NSPs where less than 90% read attainment was achieved for November 2019 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 five of the ten ICPs. The five ICPs where exceptional circumstances could not be proven found two ICPs (0000008059KP90B & 0003550140AC809) were account managed but the records of contacts to arrange access made by the account manager are not recorded in Gentrack so proof was not provided. Three attempts using two different forms of communication could not be proven for the remaining three ICPs.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.10 With: Clause 8(1) and (2) Schedule 15.2 From: 01-Sep-18 To: 06-Jan-20	Exceptional circumstances not proven for four NSPs not meeting the 90% read threshold. All NSPs had either one or two ICPs per NSP. 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 Trustpower have robust processes in place including attempting to get reads as customers switch away. The audit risk rating is low as the NSPs affected contained one or two ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
Additional training and guidance given to staff to ensure controls remain strong		31 March 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will continue to focus on maintaining robust controls in this area.		Ongoing	

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

- 10(a) - the means to establish the identity of the individual meter reader*
- 10(b) - the ICP identifier of the ICP, and the meter and register identification*
- 10(c) - the method being used for the interrogation and the device ID of equipment being used for interrogation of the meter.*
- 10(d) - the date and time of the meter interrogation.*

Audit observation

NHH data is collected by

- MEPS
- MRS
- FCLM
- Powerco and
- Marlborough Lines

The data interrogation log requirements were reviewed as part of the agent audits for MRS and FCLM, and the MEP audits.

NHH data interrogation was reviewed for MRS, FCLM, Powerco and Marlborough Lines.

Audit commentary

Data collected by MEPs and agents

Compliance with this clause has been demonstrated by MRS, FCLM and MEPs as part of their own audits.

I confirmed with MRS and FCLM 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 and Marlborough lines for the substations read by them were 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

HHR data is collected by AMS, EMS, and EDM. The data collection requirements were reviewed as part of their agent audits.

HHR data for generation sites and some HHR sites is collected by Trustpower using MV090. A walkthrough of the HHR data collection function was performed to confirm compliance.

Audit commentary

Data collected by agents

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

Trustpower 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 Trustpower

Trustpower interrogates half hour interval meters at approximately 2,000 ICPs with their MV90 system. This includes all Generation meters. Remotely collected data is also provided by EDM and AMS. No data is 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

HHR data is collected by AMS, EMS, and EDM. 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.

Audit commentary

Data collected by agents

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

Data collected by Trustpower

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 Trustpower 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

HHR data is collected by AMS, EMS, and EDM I. 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.

Audit commentary

Data collected by agents

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

Data collected by Trustpower

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 $\pm 0.1\%$ (± 2 seconds).

Audit observation

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

Trustpower uses MV090 to retrieve HHR and generation data, and evidence of trading period duration checks was reviewed.

Audit commentary

Compliance with this clause has been demonstrated by Trustpower's agents as part of their agent audits.

MV090 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. Trustpower's agents retain a copy of the raw meter data, and their compliance with the archiving and storage requirements were reviewed as part of their agent audits.

Trustpower's own audit trails were reviewed in **section 2.4**.

Audit commentary

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 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 from January 2016, 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.

There are no paper reads any longer. All historic reads were scanned and archived.

Data collected by Trustpower

The SevenX system data ceased to be used in May 2019. This has been archived in accordance with clause 10.7 of part 10. Unauthorised personnel cannot access this data.

All data collected in MV90 is archived as required by this clause. I sighted data prior to January 2016 to confirm this.

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

Examples of streetlight on/off time files were observed to confirm compliance.

Audit commentary

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. 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

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.

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

Processes for the correction of HHR meter readings were reviewed. Ten examples of HHR corrections were reviewed.

Audit commentary

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.

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.

Audit commentary

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

Raw meter data cannot be accessed or over written 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

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

All estimated readings, permanent estimates and actual readings are clearly identified as required by this clause.

Some switch event readings were recorded with incorrect read types in CS files. This occurred because the old system process recorded AMI readings prior to Trustpower's last day of responsibility as actual in CS files, instead of providing an estimate up to the end of Trustpower's last day of responsibility. The process was corrected to be compliant from 18/03/20.

Switch type	ICPs affected
Transfer switch CS (discussed in section 4.3)	0000054440TEFF8 (21/10/19) A should be E 0000474134WE8D7 (06/06/19) A should be E 0000620699UN1FC (03/07/19) A should be E 0000027439EAEC4 (18/07/19) A should be E
Switch move CS (discussed in section 4.10)	0000146325UN7C6 (07/09/19) A should be E 0001150370WMD0D (19/09/19) A should be E 0030126474PCB2A (15/11/19) A should be E 0000489012CE2E0 (08/11/19) A should be E 0000714936NVC6B (09/05/19) A should be E 0000200599CTE33 (19/07/19) A should be E

Some switch event readings were recorded with incorrect read types in GTV. This tends to occur when manually updating GTV to reflect the outcome of the RR process; the read type is not consistently updated.

Switch type	ICPs affected
Transfer switch ICPs with RRs (discussed in section 4.4)	0001911095WA8C7 (22/10/19) A should be E 0001600010TG1CA (27/08/19) A should be E 0340965883LCB03 (18/09/19) E should be A 0000924571TU040 (01/11/19) A should be E 0000036841CP074 (13/05/19) A should be E for meter B7645/1. Meter CG20039/1 has the correct read type recorded. 0007162419RN454 (24/07/19) A should be E
Switch move ICPs with RRs (discussed in section 4.11)	0000038853HR4A5 (16/08/19) A should be E 0001112048WM337 (13/09/19) A should be E 0191241784LCF28 (06/12/19) A should be E 1002055266UNFF7 (19/07/19) A should be E

Customer reads are manually entered into GTV. I found one customer read for 1002055266UNFF7 on 05/12/19 had been entered into GTV as an actual read, instead of as a customer read.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 9.1</p> <p>With: Clause 3(3) Schedule 15.2</p> <p>From: 09-May-19</p> <p>To: 15-Nov-19</p>	<p>Four transfer switch and six switch move CS files contained incorrect read types.</p> <p>Six transfer switch and four switch move ICPs which had RRs issued had incorrect switch event read types recorded in GTV.</p> <p>One customer read was incorrectly recorded as an actual read in GTV.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>

Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are rated as weak overall.</p> <ul style="list-style-type: none">• The affected CS files were generated prior to system changes to improve the accuracy of CS file content.• The controls over ensuring that GTV accurately reflects the outcome of the RR process are weak. The process is manual and review of a manual sample of ICPs found a significant proportion of errors.• Customer reads are entered manually, and the incorrect read type appears to be an isolated manual data processing error. <p>The audit risk rating is low. All the switch event reads are treated as actual or permanent estimate readings in GTV, so there is no impact on submission. The incorrectly classified customer reading could have a minor impact on submission if it was found to be incorrect.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>We acknowledge that the overall controls are weak for this section.</p> <p>As addressed in the description above, two fixes were implemented in March 2020 to help address process inefficiencies with regards to CS file content.</p> <p>1 Use actual AMI reads for AMI sites for switch losses</p> <p>2 CS file to display reads as an E if not the same date as the event date</p> <p>The results have shown no errors and we feel confident that these fixes will address the issues highlighted.</p> <p>We agree that the controls around RR processes are weak and we will ensure all teams -Switching, Billing and Data Management are focused on making them stronger.</p> <p>To address the wrong read type and incorrect data being manually added into consumption history, we will add a report to identify manual changes have the correct read and read type. Switching and Billing will monitor this reporting.</p>		<p>Completed March 2020</p> <p>31 May 2020</p>	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Ongoing monitoring and correction of manual changes.		31 May 2020	

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.

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

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, FCLM and Powerco and Marlborough Lines authorised staff.

HHR data is collected by AMS, EMS, EDMI, FCLM and Trustpower using MV90.

Generation data was checked during the audit.

Audit commentary

Manual meter readings do not record decimal places and are not rounded or truncated on import into GTV.

HHR data collected via MV090 is not truncated on import. AMI data is rounded to one decimal place upon being uploaded to Gentrack. This is recorded as non-compliance.

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 From: 01-Sep-18 To: 06-Jan-20	Raw meter data is rounded upon receipt and not when volume information is created. Potential impact: Low Actual impact: Low Audit history: None Controls: None Breach risk rating: 5		
Audit risk rating	Rationale for audit risk rating		
Low	There are no controls to prevent rounding of raw meter data, the system is designed to round as soon as the data arrives. There is very little impact because no metered consumption information is “missing”, therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
We acknowledge that this is a gap in our current practices. We have initiated an internal technology enhancement to the current system design, in order to prevent rounding of raw meter data.		Completed 13/5/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Our planned Meter Data Management initiatives will ensure that controls of raw meter data is rounded up when volume information is created.		31 May 2021	

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

Processes for the estimation of HHR meter readings were reviewed. Ten examples of HHR estimates were reviewed.

Audit commentary

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 ten examples where estimates for missing data had occurred. 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.

Audit outcome

Compliant

9.5. NHH metering information data validation (Clause 16 Schedule 15.2)

Code reference

Clause 16 Schedule 15.2

Code related audit information

Each validity check of non half hour meter readings and estimated readings must include the following:

16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register

16(2)(b) - checks for invalid dates and times

16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend

16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected 0 values.

Audit observation

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

Audit commentary

Meter reader validation

For meters manually interrogated by MRS or FCLM, 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 and FCLM 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 and has grown during the audit period due to one field contractor provider disconnecting customers by switching off the mains switch which allows a new occupier to reconnect very easily, Trustpower are working with the contractor to stop this practice (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**.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

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.

Audit commentary

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” won’t occur if data is missing),
2. checks for invalid dates and times (an export to “trading” won’t 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.

Non-compliance was recorded in EDM I’s agent audit relating to manual downloads for FCLM meters read using MV90, because meter event logs were not obtained and checks for time differences were not conducted. This non-compliance has been cleared. FCLM now provide meter event files for manual downloads, which include any time differences. The files are manually reviewed by EDM I agents.

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 HHR validation process.

The Code requires *“...a review of meter and data storage device event log. Any event that could have affected the integrity of metering data must be investigated.”*

The MEPs must check the event log for evidence of malfunctioning or tampering and they must pass relevant event log entries to the reconciliation participant for the metering installation for review and action.

Each of the MEPs providing AMI data provide meter event information via email or SFTP. The MEPs usually provide any issues that require action, and I saw evidence that these emailed events are reviewed and actioned. Full meter event information is reviewed where it is provided, except for AMS meters. AMS have advised Trustpower that they will separately advise them of any meters which require action.

Separate internal reporting is available on TRUM and IHUB meter tampering events, and these are reviewed and actioned.

Audit outcome

Compliant

10. PROVISION OF METERING INFORMATION TO THE GRID OWNER IN ACCORDANCE WITH SUBPART 4 OF PART 13 (CLAUSE 15.38(1)(F))

10.1. Generators to provide HHR metering information (Clause 13.136)

Code reference

Clause 13.136

Code related audit information

The generator (and/or embedded generator) must provide to the grid owner connected to the local network in which the embedded generator is located, half hour metering information in accordance with clause 13.138 in relation to generating plant that is subject to a dispatch instruction:

- *that injects electricity directly into a local network; or*
- *if the meter configuration is such that the electricity flows into a local network without first passing through a grid injection point or grid exit point metering installation.*

Audit observation

This process is managed by EMS on behalf of Trustpower.

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 is managed by EMS on behalf of Trustpower.

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 is managed by EMS on behalf of Trustpower.

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 is managed by EMS on behalf of Trustpower.

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

The registry list for 01/01/19 to 18/12/19 was reviewed to confirm the profiles used. I checked examples of notifications provided and whether any breach allegations had been made.

Audit commentary

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

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

I reviewed the GR100 ICP days comparison reports for the audit period, and investigated a sample of variances.

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

Audit commentary

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

The process for the calculation of ICP days was examined by checking NHH ICP days for 30 NSPs with a small number of ICPs each, and HHR ICP days for 15 NSPs with a small number of ICPs each. The ICP days calculation was confirmed to be correct for the NSPs checked.

The following table shows the ICP days difference between 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	R14
Sep 2018	-	-	-	0.00%	0.00%
Oct 2018	-	-	0.00%	0.00%	0.00%
Nov 2018	-	-	0.00%	0.01%	0.01%
Dec 2018	0.00%	0.00%	0.00%	0.00%	0.00%
Jan 2019	0.01%	0.01%	0.00%	0.01%	0.01%
Feb 2019	0.01%	0.00%	0.00%	0.00%	0.00%
Mar 2019	0.02%	0.00%	0.01%	0.00%	0.00%
Apr 2019	0.01%	0.01%	-0.01%	0.01%	0.01%
May 2019	0.00%	0.01%	0.00%	0.00%	0.00%
Jun 2019	0.02%	0.00%	0.00%	-	-
Jul 2019	0.01%	0.01%	0.00%	-	-
Aug 2019	0.01%	0.00%	0.01%	-	-
Sep 2019	0.01%	0.01%	0.00%	-	-
Oct 2019	0.00%	0.01%	-	-	-
Nov 2019	0.01%	0.00%	-	-	-

I checked a sample of five HHR differences and five NHH differences present at r7 or later and found that the ICP differences checked for eight related to backdated switches, status updates and one profile change. Late status updates are discussed in **sections 3.3** and **3.5**, and backdated switches are discussed

in **sections 4.3 and 4.7**. Two were found to be due to status mismatches between Gentrack and the registry:

- ICP 0003120630WF52D was originally recorded as electrically connected on 4/10/19 but was later corrected in Gentrack to 30/10/19 but as the earlier status to active date wasn't reversed on the registry, the incorrect active time slice remained causing an ICP day mismatch. Volumes were submitted correctly. This is recorded as non-compliance in **section 3.8**.
- ICP 0002222260WF869 was disconnected from 20/11/18 to 2/12/18 but the previous trader input an active status update for the 9/10/18 which overwrote Trustpower's inactive period causing an ICP day mismatch. This issue is also discussed in **section 3.3**.

Most of the HHR ICP days discrepancies relate to backdated registry events or incorrect registry information for a period of time by Trustpower or the Distributor.

Audit outcome

Compliant

11.3. Electricity supplied information provision to the reconciliation manager (Clause 15.7)

Code reference

Clause 15.7

Code related audit information

A retailer must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each NSP, aggregated by invoice month, for which it has provided submission information to the reconciliation manager, including revised submission information for that period as non-loss adjusted values in respect of:

15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

Audit observation

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

GR130 reports for January 2017 to November 2019 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

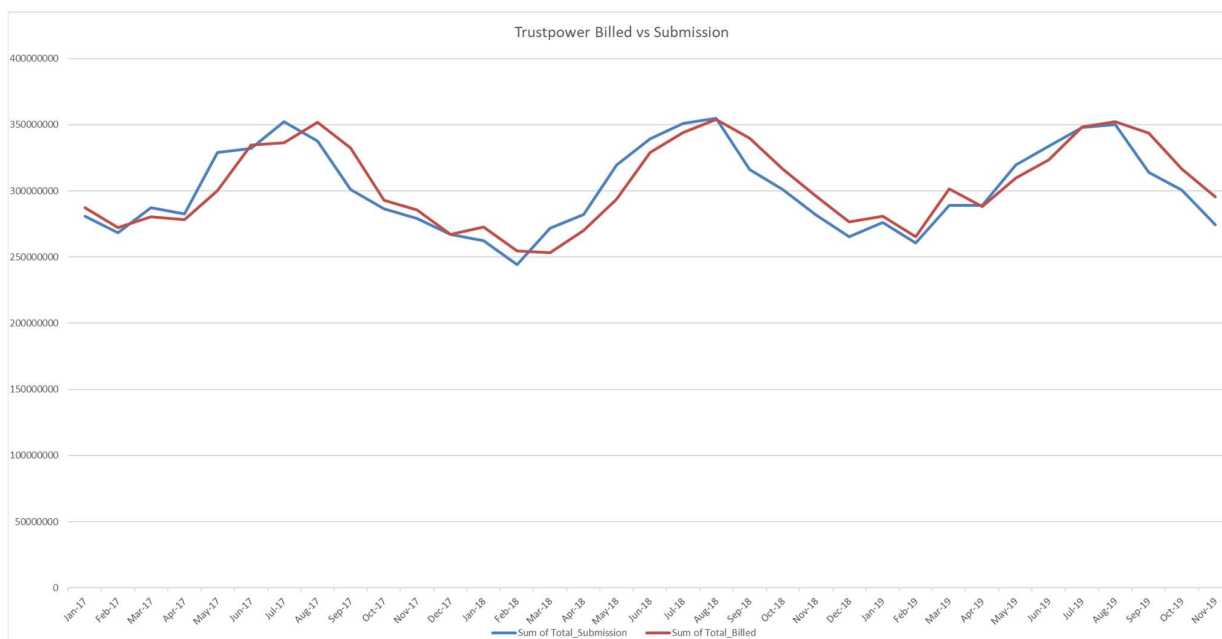
Audit commentary

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 2019.

Trustpower has robust monitoring and controls in place to identify any possible errors in files.

I also checked the difference between submission and electricity supplied information for a 24 month period, and the results are shown in the chart below. The total difference is 2.2% for the year ended November 2019 (billed higher than submission), and 1.1% for the two years ended November 2019 (billed higher than submission). This is an increase from the last audit when the variance between billed vs submitted as 0.27%. This is due to a number of factors:

- In October 2018, Trustpower altered the way they applied their pre-scaled profile shapes for the initial submission. This took a couple of months to be bedded in but the variances between the initial submission and R1 submission is now much closer.
- The move of all manual meter reading to MRS from Trustpower caused a drop in the meter reading attainment level as is discussed in **section 6.9**. This has had a flow on effect to billed vs submitted volumes as a larger number of ICPs were estimated resulting in lower billed vs submitted volumes then reversed to be higher billed vs submitted volumes when actual reads were gained.



Audit outcome

Compliant

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

Code reference

Clause 15.8

Code related audit information

A retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each half hourly metered ICP for which it has provided submission information to the reconciliation manager, including:

15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

Audit observation

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 ten submissions.

The GR090 ICP Missing files were examined for September 2018 to November 2019. An extreme case sample of the 25 ICPs missing from the most revisions were checked.

I checked the raw data in MV90 through to the data in the aggregates file for five ICPs.

Audit commentary

Non-compliance was found because the HHR aggregates report contains submission information, not electricity supplied information as specified under clause 15.8. Although the reports Trustpower produces are consistent with the Reconciliation Manager Functional Specification, this is recorded as technical non-compliance below.

I checked the process for aggregation of HHR data is correct, by matching HHR aggregates information to the volumes for ten submissions. The volumes and aggregates matched exactly to three 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 all revisions for September 2018 to November 2019. I checked an extreme case sample of the 25 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

Non-compliant

Non-compliance	Description		
Audit Ref: 11.4 With: Clause 15.8 From: 01-Oct-18 To: 26-Mar-20	HHR aggregates file does not contain electricity supplied information. Potential impact: None Actual impact: None Audit history: Twice Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong as the issue relating to content of the aggregates file is an error in the code, Trustpower are providing submission information as expected. The HHR aggregates file cannot contain electricity supplied information, or other reports relying on the aggregates file will not be accurate, therefore I consider this matter does not have a risk rating.		
Actions taken to resolve the issue		Completion date	Remedial action status
Due to code contradictions we are unable to comply. This is known to our auditors and has been a regular non-compliance in our previous audits and will be until the code is amended.		n/a	Disputed

Preventative actions taken to ensure no further issues will occur	Completion date	
We were under the impression that this contradiction is being investigated by the EA as per code Review Programme number 4 -September 2019	n/a	

12. SUBMISSION COMPUTATION

12.1. Daylight saving adjustment (Clause 15.36)

Code reference

Clause 15.36

Code related audit information

The reconciliation participant must provide submission information to the reconciliation manager that is adjusted for NZDT using one of the techniques set out in clause 15.36(3) specified by the Authority.

Audit observation

HHR data is collected by AMS, 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.

Audit commentary

Compliance with this clause has been demonstrated by Trustpower's agents as part of their agent audits.

Trustpower 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. A list of breaches was obtained from the Electricity Authority.

Audit commentary

No breaches had been recorded for late provision of submission information.

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**.

NHH

Trustpower prepares NHH submissions using GTV.

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

- five ICPs with injection/export registers were checked and found that generation consumption was correctly submitted,
- five ICPs with vacant consumption were checked and found that vacant consumption was correctly submitted,
- any consumption while disconnected will be reported, and this was confirmed by checking the historic estimate scenario in **section 12.11**, and
- ten ICPs with unmetered volumes were reviewed, including five ICPs with standard and five ICPs with shared unmetered and found that the correct consumption was submitted.

A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **section 2.1**, all were correct with two exceptions. One bridged meter correction was calculated incorrectly and the last available read was not used for an ICP which had consumption while disconnected. This is recorded as non-compliance below and in **sections 2.1** and **12.7**.

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

GR170 and AV080 files for nine revisions were compared. The AV080 files matched the GR170 files for all files. Trustpower has robust monitoring and controls in place to ensure data looks reasonable at an aggregated level. There was no evidence of the zeroing out issue identified in the last audit occurring.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.2 With: Clause 15.4 From: 19-Dec-19 To: 26-Mar-20	Correction calculated incorrectly resulting in under submission of 398 kWh for ICP 1002064518UN6BF, which had a bridged meter. Vacant consumption not submitted for ICP 0000113952UN10F resulting in under submission of 184 kWh. 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 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
As per 2.1 the non-compliance has been corrected Regarding non-compliance regarding ICP 0000113952UN10F please refer to solution provided under clause 3.9	Refer 2.1 Refer 3.9	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
As per 2.1 additional peer review for bridged meters has been enacted Regarding non-compliance regarding ICP 0000113952UN10F please refer to solution provided under clause 3.9	Refer 2.1 Refer 3.9	

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.

The process for aggregating the AV080 was examined by checking five NSPs with a small number of ICPs.

Audit commentary

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.

I checked the process for NHH to HHR upgrades, and HHR to NHH downgrades, to ensure all consumption information was accounted for. I walked through five downgrades and five upgrades to confirm the process.

- for upgrades, the process is to end the NHH meter the day before and consider the ICP HHR all day, with the trading periods prior to the meter change populated with zeros, and
- for downgrades the process is to end the HHR meter on the day of the change and begin the NHH meter from the installation read the following day.

The processes in place ensures all consumption is accounted for.

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. The check of the AV080 confirmed the correct aggregation factors were present with the exception of the incorrect dedicated NSP flag for NSP TRC0011. This had been changed by the network in 2013 to “N” but this has not flowed through to Gentrack which still had it recorded as “Y”. This affected ICP 0000001402RC5AE and was corrected during the audit. This is recorded as non-compliance in **sections 2.1, 12.7 and 13.1**.

As detailed in **sections 3.9 and 8.1**, one example of vacant consumption not being submitted was found allocated across the incorrect period. This is recorded as non-compliance in **section 12.7**.

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 was a grid owner to determine whether this clause applied.

Audit commentary

Trustpower 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 is responsible for the NSP vols submission for the Waipori Village embedded network. 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

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.

Audit outcome

Compliant

12.7. Accuracy of submission information (Clause 15.12)

Code reference

Clause 15.12

Code related audit information

If the reconciliation participant has submitted information and then subsequently obtained more accurate information, the participant must provide the most accurate information available to the reconciliation manager or participant, as the case may be, at the next available opportunity for submission (in accordance with clauses 15.20A, 15.27, and 15.28).

Audit observation

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **sections 8.1** and **8.2**.

Audit commentary

Review of alleged breaches confirmed there were no late revision submissions.

I checked the revision process for ten examples of stopped meters, two multiplier errors, ten examples of bridged meters, ten disconnected ICPs with consumption. Two inaccuracies were found:

- one correction calculated incorrectly resulting in under submission of 398 kWh as detailed in **section 2.1**, and
- vacant consumption was not submitted for one ICP resulting in under submission of 184 kWh as detailed in **section 2.1**.

I checked the aggregation of submission information and found one ICP with an incorrect Dedicated NSP flag of “Y”. This is recorded as non-compliance in below and in **sections 2.1** and **13.1**.

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.

As detailed in **sections 4.4** & **4.11**, corrections made from RR read amendments are not always being applied to the consumption history resulting in the incorrect volume being reconciled.

ICP	Switch date	CS file read	RR amended read	kWh difference
0000938746TU314	8/03/19	20691	19420	+1,271
0000001313UNA28	03/10/19	86805	86875	-70
0340965883LCB03	18/09/19	136072	135878	+194
0000902205TU718	04/11/19	90867 2532	89873 2221	+1,305
0000661313WE556	1/12/19	45272	45290	-18

There were a combined total of 611 RR requests accepted. 60% of the sample checked found that the customer billing had been amended but not the consumption history which is used for reconciliation resulting in incorrect submission for these ICPs. This is recorded as non-compliance

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 12.7</p> <p>With: Clause 15.12</p> <p>From: 28-Mar-19</p> <p>To: 26-Jan-20</p>	<p>One correction calculated incorrectly resulting in under submission of 398 kWh.</p> <p>One ICP with vacant consumption not submitted resulting in under submission of 184 kWh.</p> <p>One ICP with the incorrect NSP dedication flag recorded.</p> <p>Five out of ten ICPs with accepted RR reads did not have the agreed switch reading recorded in GTV resulting in incorrect submission for these ICPs.</p> <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Once</p> <p>Controls: Moderate</p> <p>Breach risk rating: 4</p>		
Audit risk rating	Rationale for audit risk rating		
Medium	<p>The controls are rated as moderate overall. While the controls over ensuring that GTV reflects the correct outcome of the RR process are weaker, the validation controls to ensure that submission data is accurate are moderate and will ensure that most exceptions are identified and resolved.</p> <p>The potential impact is medium based on the kWh differences identified for the sample checked. It is expected that more ICPs will be affected by the RR issues, because the sample was random.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>As per 2.1 the non-compliance regarding the incorrect calculation this was to do with a bridged meter and has been corrected</p> <p>Regarding non-compliance regarding vacant consumption please refer to solution provided under clause 3.9</p> <p>With regards to incorrect NSP dedication flag recorded in GTV we will enhance current discrepancy reporting to include NSP dedication flag discrepancies.</p> <p>Please refer to 4.4 & 4.11 for the accepted RR noncompliance</p>		<p>Refer 2.1</p> <p>Refer 3.9</p> <p>22/8/2020</p> <p>Refer 4.4/4.11</p>	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Regarding the incorrect calculation, as per 2.1 additional peer review for bridged meters has been enacted</p> <p>Regarding non-compliance regarding vacant consumption please refer to solution provided under clause 3.9</p> <p>Incorrect NSP flag – we will monitor for future discrepancies and correct any discrepancies identified through enhanced reporting.</p> <p>Please refer to 4.4 & 4.11 for the accepted RR noncompliance</p>		<p>Refer 2.1</p> <p>Refer 3.9</p> <p>22/8/2020</p> <p>Refer 4.4/4.11</p>	

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

Code reference

Clause 4 Schedule 15.2

Code related audit information

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

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

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

Audit observation

NHH volumes 14-month revisions were reviewed for July to September 2018 to identify any forward estimate still existing.

Audit commentary

Review of the 14-month revisions for July to September 2018 showed that not all estimated meter readings had been replaced with validated meter readings. This is recorded as non-compliance below.

Month	Forward estimate
Jul-18	0
Aug-18	0
Sep-18	1044
Total	1044

To determine the reasons that forward estimate remained, I checked all NSPs with forward estimate remaining, and found that this was due to a report issue which looks for forward estimates remaining prior to the R14 revision. In all three ICPs affected the submit flag was set to Null and therefore the report didn't identify them. The reporting has since been corrected.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.8 With: Clause 4 of Schedule 15.2 From: Sep-18 r14	Three forward estimates were not replaced by revision 14 for September 2018. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong as the reporting has since been modified to capture all ICPs with FE remaining. The impact is low. Total forward estimate for the three months reviewed was 1,044 kWh.		
Actions taken to resolve the issue		Completion date	Remedial action status
Investigations were made in the process for identifying sites requiring permanent estimates. 3 ICP's were identified as having an anomaly due to a previous system change. A coding adjustment was identified as needed to the reports		Completed 30/4/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Coding adjustment has been made to the report & tested successfully – no further action required		Completed 30/4/2020	

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

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

Compliance with this clause was assessed:

- HHR volume is reported for all ICPs with a meter category 3 or higher,
- 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 with the exception of ICP 0000001402RC5AE which was recorded in GTV with a dedicated NSP flag of “Y” but this is recorded on the registry as “N”. This is recorded as non-compliance in **section 12.7**.

This area has robust management and controls in place. As detailed in **section 12.7** six out of ten ICPs with accepted RR reads did not have the agreed switch reading recorded in GTV resulting in incorrect submission for these ICPs.

Audit outcome

Compliant

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

Code reference

Clause 3 Schedule 15.3

Code related audit information

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

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

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

Audit observation

AV080 submissions were reviewed, to confirm that historic estimates are included and identified.

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

Audit commentary

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 historic estimates of volume information for each ICP when the relevant seasonal adjustment shape is available.

If a seasonal adjustment shape is not available, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities kWh_{Px} must be prorated as determined by the reconciliation participant using its own methodology or on a flat shape basis using the relevant number of days that are within the consumption period and within the period covered by kWh_{Px} .

Audit observation

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

Audit commentary

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

Test	Scenario	Test expectation	Result
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Has not occurred
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 validated against a set of validated readings from another source	Non-compliant-customer reads are validated against the two prior reads regardless of whether they are estimates or actuals
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	Non-compliant-photo reads are validated against the two prior reads regardless of whether they are estimates or actuals
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.11 With: Clause 4 and 5 Schedule 15.3 From: 19-Jul-18 To: 08-Apr-20	Customer reads and photo reads are used to calculate historic estimates if they are validated against two previous reads regardless of whether they are estimates or actuals. 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 the validation process is validating customer and photo reads against validated estimated reads resulting in these being used in the HE calculations. The audit risk rating is rated as low as the volume of customer and photo reads is low as a percentage of overall reads.		
Actions taken to resolve the issue		Completion date	Remedial action status
We acknowledge that there is opportunity to strengthen our current controls in respect of this obligation. We have commenced work to establish how we might address this issue with technology enhancements.		Completed 12/5/2020	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
1. Undertake a thorough review of the customer reads process across teams and develop reports for visibility of the controls we have in place. These reports will be monitored to ensure effectiveness. We will be assessing the volume of customers that should be validated/non validated and investigate a long-term technology solution 2. Implement a long-term technology solution		31 August 2020 31 May 2021	

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

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

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
Jun 2018	1	5	5	5	180
Jul 2018	1	1	1	1	181
Aug 2018	0	0	0	0	206
Sep 2018	0	1	1	1	208
Oct 2018	0	0	0		207
Nov 2018	0	5	4		205
Dec 2018	1	3	1		206
Jan 2019	1	6	6		204
Feb 2019	0	2	2		204
Mar 2019	0	1	1		199
April 2019	1	2	2		196
May 2019	1	1			198
June 2019	0	1			198

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total
July 2019	2	3			196
August 2019	0	0			198

Trustpower has monitoring in place for variations between revisions and in all cases, could explain the reasons for the differences. This monitoring occurs at NSP and at ICP level and includes checks of any ICPs with a change of more than 20,000 kWh plus ICPs with credits of more than 500 kWh. The reasons mostly relate to the following issues:

- movement of volume following the application of seasonal shape files,
- replacement of estimates with actual data, and/or
- seasonal loads.

The revised process used to calculate the initial submission has improved the variance between the initial revision and R1 revision.

The table below shows the total variation between revisions, compared to the initial submission.

Month	Revision 1	Revision 3	Revision 7	Revision 14
Jun 2018	-3.43%	-6.61%	-7.03%	-7.14%
Jul 2018	4.26%	2.01%	1.94%	2.10%
Aug 2018	1.05%	0.34%	0.15%	0.45%
Sep 2018	4.39%	4.92%	4.95%	4.98%
Oct 2018	0.36%	0.02%	0.05%	
Nov 2018	0.51%	0.16%	0.35%	
Dec 2018	0.57%	0.40%	0.42%	
Jan 2019	-1.29%	-1.21%	-1.28%	
Feb 2019	-1.09%	-2.00%	-2.26%	
Mar 2019	0.43%	-0.81%	-0.89%	
April 2019	1.78%	-0.12%	-0.29%	
May 2019	0.62%	-2.16%		
June 2019	-0.74%	-3.84%		

Month	Revision 1	Revision 3	Revision 7	Revision 14
July 2019	-6.22%	-7.35%		
August 2019	-2.19%	-3.00%		

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.12 With: Clause 6 Schedule 15.3 From: 01-Jul-18 To: 31-Dec-19	Inaccurate FE caused the thresholds not to be 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
The majority (5 out of 7) of non-compliances were a result of the acquisition of a large customer base (KCE) which coincided with a meter reset program in the same area. As a result, the estimations in these area were not as accurate as we would expect. As read percentages increased the submissions accuracy increased. This also improved our future months submissions.		Completed 30/04/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
A recommendation has been passed on to the Strategy team that any future acquisitions should be scheduled outside of any material changes to customer metering situations.		Completed 30/04/2020	

12.13. Compulsory meter reading after profile change (Clause 7 Schedule 15.3)

Code reference

Clause 7 Schedule 15.3

Code related audit information

If the reconciliation participant changes the profile associated with a meter, it must, when determining the volume information for that meter and its respective ICP, use a validated meter reading or permanent estimate on the day on which the profile change is to take effect.

The reconciliation participant must use the volume information from that validated meter reading or permanent estimate in calculating the relevant historical estimates of each profile for that meter.

Audit observation

The registry list as at 19/12/19 and event detail report for 01/01/19 to 18/12/19 were reviewed to identify any ICPs which have had profile changes. A diverse sample of 15 profile changes were checked to determine whether there was an actual or permanent estimate read on the profile change date.

Audit commentary

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 19 profile changes were checked. 14 of these had a meter change at the time of the profile change and a meter read was gained. Five changes were as a result of a profile correction but no meter read was gained for the date of change as is required by this clause. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.13 With: Clause 7 of schedule 15.3 From: 19-Jul-18 To: 06-Jan-20	Meter reading not gained for the date of the profile change for five profile changes. 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 as most profile changes occur with a meter change. There is an opportunity to improve the process by making sure a meter read is gained when making profile corrections. The audit risk rating is rated as low as the volume of profile corrections without a meter reading is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
We endeavour to gain reads before making a profile change however at times estimates have been used.		22/8/2020	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
This will be actively monitored to prevent estimates being used in the future.	22/8/2020	

13. SUBMISSION FORMAT AND TIMING

13.1. Provision of submission information to the RM (Clause 8 Schedule 15.3)

Code reference

Clause 8 Schedule 15.3

Code related audit information

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

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

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

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

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

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

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

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

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

Audit observation

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

Aggregation of NHH volumes is discussed in **section 12.3**, aggregation of HHR volumes is discussed in **section 11.4** and NSP volumes are discussed in **section 12.6**.

Audit commentary

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.

Aggregation of NHH volumes was checked and found one discrepancy. NSP TRC0011 had the incorrect dedicated NSP flag. This had been changed by the network in 2013 to “N” but this has not flowed through to Gentrack which still had it recorded as “Y”. This affected ICP 0000001402RC5AE and was corrected during the audit. This is recorded as non-compliance below and in **sections 2.1** and **12.7**

The submitted data was also compared to billed data in **section 11.3**, and appeared reasonable.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 13.1 With: Clause 8 schedule 15.3 From: 28-Mar-13 To: 26-Mar-20	One ICP with the incorrect NSP dedication flag recorded. Potential impact: None 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 the validation processes in place check for that the GTV matches the registry. This appears to be a one-off error. The potential impact is low/none as only one ICP has been affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
With regards to incorrect NSP dedication flag recorded in GTV we will enhance current discrepancy reporting to include NSP dedication flag discrepancies.		Complete by: 22/08/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Will monitor for future discrepancies and correct any discrepancies identified through enhanced reporting.		Complete by: 22/08/2020	

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

When reporting submission information, the number of decimal places must be rounded to not more than two decimal places.

If the unrounded digit to the right of the second decimal place is greater than or equal to five, the second digit is rounded up, and

If the digit to the right of the second decimal place is less than five, the second digit is unchanged.

Audit observation

I reviewed the rounding of data on the AV090, AV140 and AV080 reports as part of the aggregation checks. AV130 submissions were reviewed in **section 12.6**.

Audit commentary

Submission information is appropriately rounded to no more than two decimal places.

Audit outcome

Compliant

13.3. Historical estimate reporting to RM (Clause 10 Schedule 15.3)

Code reference

Clause 10 Schedule 15.3

Code related audit information

By 1600 hours on the 13th business day of each reconciliation period the reconciliation participant must report to the reconciliation manager the proportion of historical estimates per NSP contained within its non half hour submission information.

The proportion of submission information per NSP that is comprised of historical estimates must (unless exceptional circumstances exist) be:

- *at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))*
- *at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))*
- *100% for revised data provided at the month 14 revision. (clause 10(3)(c))*

Audit observation

The timeliness of submissions of historic estimate was reviewed in **section 12.2**.

I reviewed nine months of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

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 2018			268	268
Aug 2018			292	292
Sep 2018			292	295
Feb 2019		283		291
Mar 2019		276		285
Apr 2019		270		281
Jun 2019	266			285
Jul 2019	269			284
Aug 2019	275			286

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 at or just below the target for revision 14. I checked the three NSPs with forward estimate remaining at revision 14 and found it was caused by the reporting in place not picking up all ICPs. The reporting has since been corrected.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met
Jul 2018	-	-	100.000%
Aug 2018	-	-	100.000%
Sep 2018	-	-	99.999%
Feb 2019	-	99.179%	-
Mar 2019	-	98.941%	-
Apr 2019	-	98.604%	-
Jun 2019	95.076%	-	-
Jul 2019	96.300%	-	-

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met
Aug 2019	96.942%	-	-

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 13.3</p> <p>With: Clause 10 of Schedule 15.3</p> <p>From: Sep-18 r14, Feb-Apr-19 r7, Jun-Aug-19 r3</p>	<p>Historic estimate thresholds were not met for some revisions.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as moderate as the move from inhouse meter reading has resulted in a drop in meter reading attainment resulting in more FE and lower HE attainment.</p> <p>The audit risk rating is low as overall the meter reading attainment levels are high but not as high as they have been previously.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Re: R14 noncompliance: Investigations were made in the process for identifying sites requiring permanent estimates. A coding adjustment was identified as needed to the reports</p> <p>Re R7 & R3 noncompliance: We have been monitoring the NSP-level read percentage of our R3 & R7 revisions since the previous audit. We noted that when these percentages were not met they were always on embedded networks with low ICP counts & low consumption levels. These have been passed to our Metering Services team to prioritise read acquisition</p>		Completed 30/4/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Re R14 noncompliance: Coding adjustment to the report has been made & tested successfully</p> <p>Re R7 & R3 noncompliance: We would like to propose a change to this measure and to include a materiality aspect with similar logic to the Ri-R14 comparison done in section 12.12. Instead of reviewing the percentage of HE we propose measuring the percentage of FE & add a materiality of 10,000 kWh (ie R7: FE to be no more than 10% and 10,000 kWh).</p>		<p>30/4/2020</p> <p>31/12/2020</p>	

CONCLUSION

Trustpower has made some progress in resolving non-compliance issues during the audit period. Key improvements are:

NHH switching	<p>CS average daily kWh is calculated in accordance with the code.</p> <p>The switch event read selection process has recently been improved and is now compliant.</p> <p>The AN response code logic has been refined, and there has been an improvement in the accuracy of the codes assigned.</p>
Registry data management	<p>Improvements have been made to the profile update process, to ensure only settled registers are included.</p> <p>Review of BTS ICPs with high consumption has resulted in improvements to data accuracy.</p>
Unmetered load	<p>Good progress has been made with resolving unmetered load discrepancies, and the number of discrepancies has continued to decline significantly.</p>
New connections	<p>The HH new connections process has been improved, and the consumption start date is now considered when determining the active date.</p> <p>There are strong monitoring controls in place to identify date discrepancies and ICPs which are connected that Trustpower has not received connection paperwork for. Further enhancement to identify differences between GTV and registry active dates for new connections would improve the effectiveness of this process.</p>

Registry validation, and HH switching processes continue to be strong.

The audit found 38 non-compliances and makes six recommendations. This is an increase from 25 non-compliances and two recommendations in the previous audit. A small proportion of the increase can be attributed to:

1. some minor non-compliances affecting small number of ICPs were captured in several report sections, inflating the total score, and
2. clarified interpretations on some clauses resulted in new non-compliances being recorded although processes have not changed, such as rounding of meter readings on import.

Key areas requiring improvement are:

NHH switching	<p>RR files are not consistently supported by two actual reads.</p> <p>GTV consumption history is not consistently updated to reflect the outcome of the RR process once an AC file is received.</p>
Registry data management	<p>Expansion of the registry discrepancy reporting to identify rejected status updates, particularly following automated status updates on switch in will increase data accuracy and reduce the need for backdated corrections.</p>
Unmetered load	<p>DUML - Two databases have yet to be audited since the new DUML audit regime came into effect and three DUML audits are overdue.</p>
Validation of customer and photo reads	<p>The validation process in some instances results in customer and photo reads being validated against previous validated estimates.</p>

Manual meter reading	The move to outsource all meter reading has resulted in a decline in meter reading attainment which has affected the variations between submissions and the billed vs submitted volumes. Trustpower are aware of this issue and working with their meter reading provider to resolve it.
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In addition to these, some minor or technical non-compliances were identified, which did not indicate systemic issues.

The next audit frequency indicator recommends that the next audit be conducted in three months. I have considered this in conjunction with Trustpower's responses, which indicate that process improvements have or will be made to resolve the issues, apart from a technical non-compliance relating to the HHR aggregates submission. I recommend the next audit be conducted in 14 months.

PARTICIPANT RESPONSE

We thank the auditors, Veritek, and our teams for their flexible and thorough approach to this audit, which occurred as New Zealand entered national Level 4 lockdown as a result of the COVID 19 virus.

The 3 months indicative audit frequency rating noted in this report does not recognise the **low risk, low impact nature** of most of the findings outlined. Given Trustpower's commitment to strengthening controls, our history of continual improvement and clearing both recommendations raised in the 2018 audit, we believe that a minimum 14 month re-audit period is a truer reflection of the relativity of findings and risk to settlement outcomes, on market participants and/or on end customers.

Our rationale for the above commentary includes the following:

Trustpower's approach to addressing EA compliance obligations is to continually improve our risk management practices by maintaining already strong controls and strengthening those handful that have been identified as moderate or weak.



38 non-compliances identified in this report, most (89.47% or 34 of the 38) are **LOW risk** and would have a **MINOR impact** if not addressed within 12-24 months.

7.89% (3 of the 38) are rated medium risk indicating that the impact, if not addressed within the next 6-12 months would have a moderate impact, and **only 1** of the non-compliances (2.63%) relates to a High-risk impact. This high-risk impact is in relation to DUMML. Additional controls were introduced in late 2019 including the formation of a new governance group to oversee progress on DUMML issues.

16 of the risk rating points in this audit relate directly the move to outsource manual meter reading. Trustpower has worked successfully with both meter reading providers by implementing strong control measures in recent months. These measures have led to a **64% improvement** in meter reading attainment at 4 months (data period July 2019 to Feb 2020). We are confident that this improvement trajectory will continue.

We are prioritising the following:

- Focus on sites unread within a short time of switching to Trustpower
- Prioritise sites not likely to be displaced by AMI deployment
- Deploy AMI on 700 sites unread in 12 months hard to access/unsafe sites
- Focus on NSP's rather than overall numbers as we have NSP's with small numbers of unread sites

All 16 of these risk rating points relating to the move to outsource manual meter reading are LOW risk and would have a MINOR impact if not addressed within 12-24 months.