ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

PULSE ENERGY ALLIANCE LP
NZBN: 9429043300020

Prepared by: Rebecca Elliot and Steve Woods

Date audit commenced: 12 March 2024

Date audit report completed: 1 August 2024

Audit report due date: 1 August 2024

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EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Pulse Energy Alliance LP (Pulse),** to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted at Pulse's Auckland office on the 18th and 19th June 2024 in accordance with the Guideline for Reconciliation Participant Audits V7.2.

Pulse operates the PUNZ participant code only and acts as an agent for submission for Pioneer Energy's NSP ANI0331BOPDNP.

At the time of the audit PUNZ supplied 81,063 "active" ICPs. 21 had metering categories of 3 or higher, and the remainder had metering categories 1 or 2. PUNZ uses the PRADA data warehouse to manage readings, Gentrack for customer and ICP information management, Cobra for NHH reconciliation and Scorpion for HHR reconciliation. They are still in the process of moving reconciliation to Gentrack and retiring the Cobra system as part of the Gentrack upgrade project. This has been delayed due to unforeseen circumstances.

Registry and Switching

Examination of the registry and switching areas found that the monitoring of registry discrepancies has improved, and staffing levels have stabilised. However other issues have affected performance during the audit period.

There was a Gentrack patch upgrade in November 2023 which was not expected to affect production, so no testing was carried out. Once deployed it stopped some updates getting to the registry and manual interventions had to be put in place. This affected new connections, MEP nominations, CS files and RR files. It has been resolved but has affected the timeliness of updates to registry during the audit period as detailed in the relevant sections.

I found that estimated gain reads are not being applied in Cobra resulting in incorrect submission volumes for all ten ICPs sampled of a possible 790 files received with estimated readings. Cobra is ignoring the start read and using an actual read if available. Pulse is investigating this issue.

The Gentrack upgrade is expected to automate some manual processes which should improve accuracy and timeliness of updates.

Reading and Reconciliation

Some improvements have been made during the audit period. Corrections for "inactive" consumption, defective and bridged metering are now being conducted, and it is expected that revisions will occur for examples identified in the last audit.

The main issues requiring attention are as follows:

- Cobra's estimation logic only includes forward default estimates, based on average consumption, and does not estimate based on historical consumption for specific ICPs,
- manual adjustments are sometimes required to correct inaccurate submission data produced in Cobra,
- HHR C&I estimation uses the same average kWh per interval based on last month's consumption; previous flow patterns are not catered for,
- the electricity supplied file had an error leading to double submission in some scenarios,
- whilst improvements have been made with management of distributed generation, further improvement is required to improve the timeliness of the resolution of discrepancies, and
- some meter change scenarios result in missing data for part of the day of the meter change.

The implementation of Gentrack for submission activities is expected to improve the controls and submission accuracy.

The audit found 38 non-compliances, which is similar to the last audit. 23 recommendations are made. The audit risk rating is 93, which is similar to the previous audit. This is due to the impact rating of the CS files with estimated readings to the overall score and does not reflect the progress made during the audit period.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and recommends an indicative audit frequency of three months. I have considered this in conjunction with Pulse's responses, and I recommend the next audit is conducted in 13 months.

The matters identified are shown in the tables below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	15.2	Some registry and submission information incorrect and not updated as soon as practicable.	Moderate	Medium	4	Investigating
Electrical Connection of Point of Connection	0	10.33A	22 were not certified within five days, five of a sample of five were not notified to the MEP.	Weak	Low	3	Identified
Meter bridging	2.17	2A of Schedule 15.2	14 ICPs from the previous audit with bridged meters had no correction processed.	Moderate	Medium	4	Identified
Provision of information on dispute resolution scheme	2.19	11.30A	Information on Utilities Disputes is not provided in the chat channel.	Strong	Low	1	Cleared
Provision of information on electricity plan comparison site	2.20	11.30B	Information on Powerswitch not provided on some price change letters.	Moderate	Low	2	Identified
Changes to registry information	3.3	10 Schedule 11.1	86 late updates to "active" status. 23 late updates to "inactive" status. 447 late trader updates. 31 ANZSIC code updates more than 20 business days after initial electrical connection or switch in.	Moderate	Low	2	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	43 (53.76%) late updates to "active" status for new connections. Three ICPs (1000028767BPDCA, 1002184581UNE18 and 0001116801BUBEE) with the incorrect first "active" date. 29 late MEP nominations for new connections.	Moderate	Low	2	Identified
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	24 (30%) of a sample of 80 ICPs with the incorrect ANZSIC codes applied.	Moderate	Low	2	Identified
Changes to unmetered load	3.7	9 (1)(f) Schedule 11.1	One ICP with the incorrect shared unmetered load recorded.	Strong	Low	1	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Management of "active" status	0	17 Schedule 11.1	Three ICPs (1000028767BPDCA, 1002184581UNE18 and 0001116801BUBEE) with the incorrect first "active" date.	Moderate	Low	2	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	Two ICPs (0000009424NTC90 and 000093476WWFE4) of a sample of 20 reconnected ICPs checked incorrectly recorded as disconnected.	Moderate	Low	2	Identified
Inform registry of switch request for ICPs - standard switch	4.1	2 of schedule 11.3	Incorrect profile sent for all ICPs with distributed generation present.	Moderate	Low	2	Identified
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	Nine of the 3,366 transfer ANs checked had an incorrect AN response code.	Moderate	Low	2	Investigating
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	Two of a sample of five ICPs sent with an incorrect average daily consumption of zero. One CS file sent with a last actual read outside of the period of supply. Three E2 breaches 54 CS breaches	Moderate	Low	2	Identified
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	Reads for the sample of six RRs checked of a possible 15 RR files sent were not correct in Gentrack. All agreed estimated switch reads were recorded with an actual read type in Cobra. Reads in Cobra did not match the AC file for three of a sample of ten ICPs checked. One RR breach. Estimated reads not used in Cobra for all five CS files sampled received with estimated start reads of a possible 355 CS files received with estimated readings.	Weak	Medium	6	Investigating
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	Incorrect profile sent for all ICPs with distributed generation present.	Moderate	Low	2	Investigating
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	Four of the 39 switch move ANs checked had an incorrect AN response code. One AN breach. 107 E2 breaches.	Moderate	Low	2	Investigating
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	One CS file with an incorrect average daily kWh. Five ICPs sent with the incorrect last read and read date.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	Reads for the sample of eight RRs checked of a possible 21 RR files sent were not correct in Gentrack. All agreed estimated switch reads were recorded with an actual read type in Cobra. Three RR breaches. One AC breach Estimated reads not used in Cobra for all five CS files sampled received with estimated start reads of a possible 435 CS files received with estimated readings.	Weak	Medium	6	Investigating
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	Two of the three date failed NWs sampled were sent with the incorrect withdrawal reason. Nine SR breaches. 54 NA breaches.	Moderate	Low	2	Identified
Metering information	4.16	21 Schedule 11.3	Six CS files sent with the incorrect last read. Reads for the sample of 14 RRs checked of a possible 36 RR files sent were not correct in Gentrack.	Weak	Low	3	Investigating
Switch saving protection	4.17	11.15AA to 11.15AB	Attempt was made to win-back one customer.	Strong	Low	1	Cleared
Maintaining shared unmetered load	5.1	11.14	One ICP with the incorrect shared unmetered load recorded.	Strong	Low	1	Cleared
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	36 ICPs with distributed generation have RPS profile recorded on the registry but should have RPS PV1. 18 were resolved during the audit. Nine HHR ICPs did not have a "EG" metering channel, therefore quantification was not occurring. Seven are still outstanding. Volumes were not quantified in accordance with the code for one ICP with a bridged meter.	Moderate	Low	2	Investigating
NHH meter reading application	6.7	6 of Schedule 15.2	Six CS files sent with the incorrect last read. Reads for the sample of 14 RRs checked of a possible 36 RR files sent were not correct in Gentrack.	Weak	Low	3	Investigating
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Exceptional circumstances were not proven for three of nine ICPs not read during period of supply.	Moderate	Low	2	Identified
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	Exceptional circumstances were not proven for eight of 20 ICPs sampled.	Moderate	Low	2	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	Exceptional circumstances were not confirmed for two of three ICPs where the NSPs did not meet the 90% read rate within four months.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Identification of readings	9.1	3(3) Schedule 15.2	Estimated switch event reads are incorrectly classified as actual reads in Cobra.	Moderate	Low	2	Investigating
Meter data used to derive volume information	9.3	3(5) Schedule 15.2	NHH readings are truncated when imported into Gentrack.	Moderate	Low	2	Investigating
Half hour estimates	9.4	15 Schedule 15.2	Estimations for C&I ICPs are conducted using the "flat line" methodology based on total kWh from the previous month. This does not meet the "reasonable endeavours" threshold.	Moderate	Low	2	Investigating
Electricity supplied information provision to the reconciliation manager	11.3	15.7	Incorrect electricity supplied information.	Moderate	Low	2	Identified
Creation of submission information	12.2	15.4	A revision was not conducted for a bridged meter, despite having obtained revised submission information, by way of knowledge that the ICP was bridged, and correction was required. 14 ICPs with bridged meters during the previous audit period had no correction processed. Submission did not occur for ICP 0005504181ML99B for the period 26 March 2021 to 8 May 2024.	Moderate	Medium	4	Identified
Allocation of submission information	12.3	15.5	Some estimates of consumption using previous months consumption volumes are manually applied as Historic Estimate volumes to the aggregated AV-080 file. These should be labelled as FE.	Moderate	Low	2	Investigating
Accuracy of submission information	12.7	15.12	Some submission data was inaccurate and was not corrected at the next available opportunity.	Weak	Medium	6	Investigating
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Permanent estimates applied when reasonable endeavours were not used to obtain an actual reading for a sample of eight ICPs.	Moderate	Low	2	Identified
Forward estimate process	12.12	6 Schedule 15.3	Some balancing area differences between revisions were over the ± 15% threshold because of inaccurate forward estimates.	Moderate	Low	2	Investigating
Historical estimate reporting to RM	13.3	10 Schedule 15.3	The historic estimate attainment requirements were not met for some revisions.	Moderate	Low	2	Identified
Future Risk Rating						93	

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

RECOMMENDATIONS

Subject	Section	Recommendation
Gentrack time slice maintenance	2.1	Updates should be able to be made from Gentrack up to the latest event date for that event type, e.g., status event. Review Gentrack's controls over status and trader updates as part of the upgrade project. Consider how Pulse will reverse or replace records for earlier time slices for that event type without requiring events entered by other parties to be reversed or replaced. In most cases it is unnecessary for other participants to be involved in historic corrections unless it affects initial network records, or status changes which can only be processed by distributors.
New connections	2.9	Remove the reliance on the MEP to load their metering to the registry.
Certification within five business days of reconnection	2.11	Review process and ensure that MEPs are notified of all ICPs reconnected with expired metering.
Promotion of the Utilities Disputes service	2.19	Include reference to the Utilities Disputes service in the Chat channel.
Status events	3.3	Reverse incorrect status events rather than add a new status event.
New connection report	3.5	Use the new connection report or the audit compliance report to monitor data accuracy for new connections.
ANZSIC code at switch in	3.6	Review the switch in process to ensure the ANZSIC code determined at sign up is not overwritten by the registry. This is in progress but is repeated to maintain visibility.
Management of residential building construction code	3.6	Include an update to the ANZSIC code to residential when the BTS to permanent supply change is made.
Disconnection location	3.9	• Ensure disconnection service requests set expectation that disconnection should be attempted in the first instance at the network fuse point. • Request regular updates from the field service providers informing Pulse of the number of suitably trained and authorised personnel available to undertake disconnections at the network fuse for each network region/distributor.
Review use of status reason code 4 – electrically disconnected vacant property	3.9	Pulse to apply status reason codes that describe the method of disconnection to support monitoring that the most suitable disconnection methodology by the relevant FSP.
ICPs at ready created as part of network deconsolidation projects	3.10	Liaise with the relevant distributor to progress the five ICPs that have been created to comply with the code requirement to have an ICP per connection point.
Update of Gentrack's ICP technical details	4.2	Update the Gentrack ICP technical details where this information changes on the registry. This will help to ensure that AN codes are correctly applied.
AN code	4.2	Investigate if AN files can be sent after credit disconnections are processed each day so that AN codes can be more accurate.
CS content accuracy	4.3	Review use of reads post period of supply in CS files.
Profile and metering discrepancies	6.1	Check the relevant audit compliance reports weekly to identify profile and metering discrepancies.
Application of generation profiles for switches in	6.1	Develop a process to ensure that generation profiles are corrected as soon as possible after switch in. The weekly monitoring of profiles recommended above will help to identify any missed updates. Consider allowing profiles to be specified in NT files rather than defaulting to RPS.
Clock synchronisation events	6.5	Develop a process to deal with clock errors greater than one trading period for HHR reconciled ICPs.
Phase failure	6.6	Include phase failure identification in the internal audit of Wells to ensure competency is assessed and confirmed. Require Wells to provide photos of all the category 2 meters. Check the photos to confirm phase failure is not present.

Subject	Section	Recommendation
Half hour estimates	9.4	For estimation of full days consider using same day of the week from the previous week to estimate, instead of the previous calendar day's consumption.
Using zero kWh as an estimation value when no consumption information is available	9.4	Whilst no examples were identified, ensure zero consumption values are not able to be used where no AMI data is available to base and estimation from.
Review effectiveness of volume information validations	9.5	Review the effectiveness of volume information validations and also the thresholds used as part of the Gentrack upgrade project to ensure the thresholds and default values applied are consistent with the code requirements and reduce the volume of false positive exceptions identified.
Identification and escalation of missing AMI interval data to MEPs	9.6	Develop and implement reporting of missing/estimated interval data used in submission, and a process to escalate these instances to the relevant AMI MEP for resolution.

ISSUES

Subject	Section	Clause	Description
Clarification at which point can HHR volume information be rounded when creating submission information.	13.2	9 Schedule 15.3	AV-090 (HHRVOLS – aggregated submission information) and AV-140 (HHRAGGS – ICP submission information) are sourced from the same volume information. Where a trader creates the ICP level submission information to create the AV-140 (HHRAGGS) file prior to aggregation to create the AV-090 (HHRVOLS) file, clarification is required to confirm that this approach is compliant with clause 8 & 9 of schedule 15.3.

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

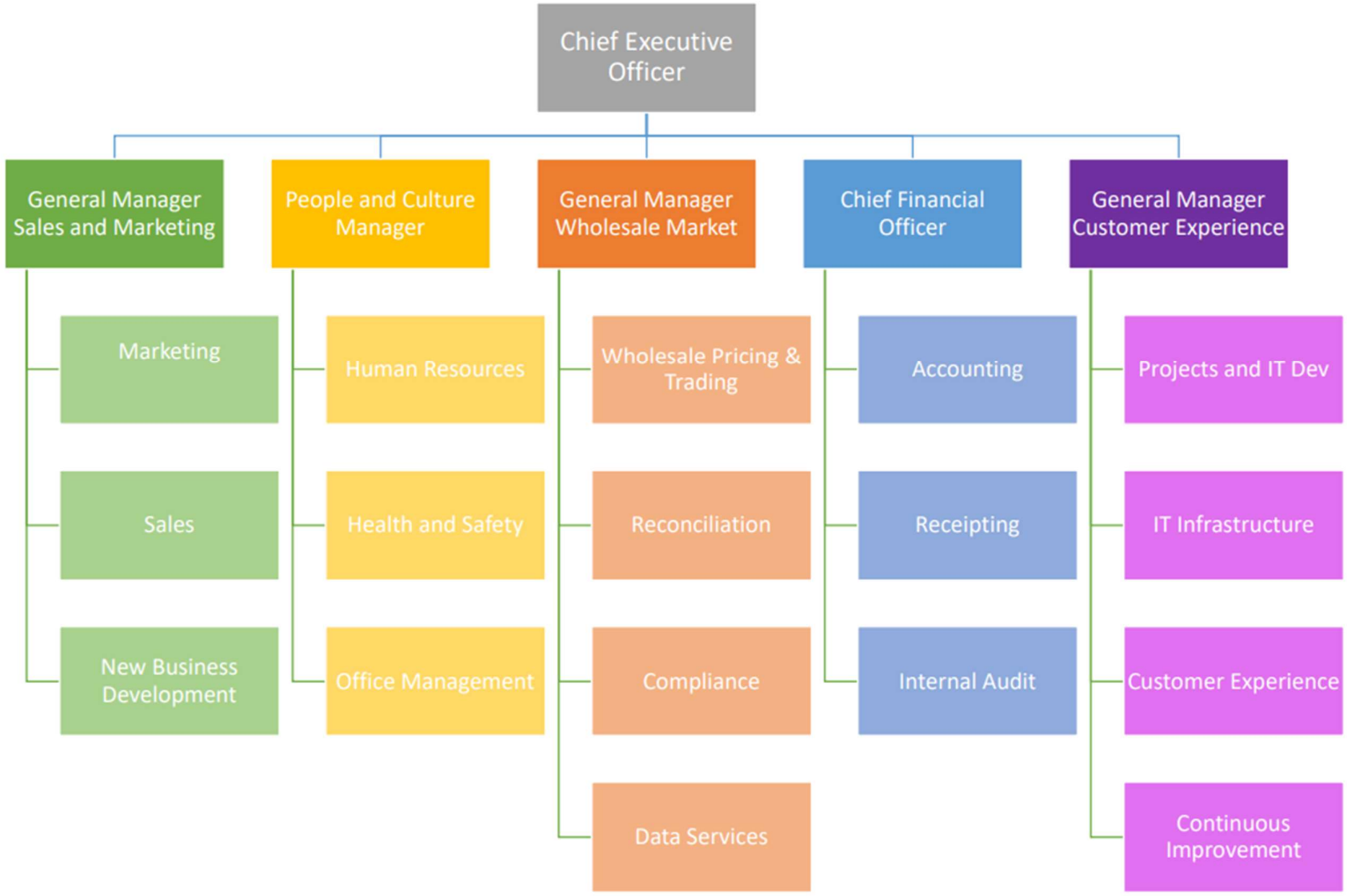
The Electricity Authority website was checked to identify any exemptions currently in place for Pulse.

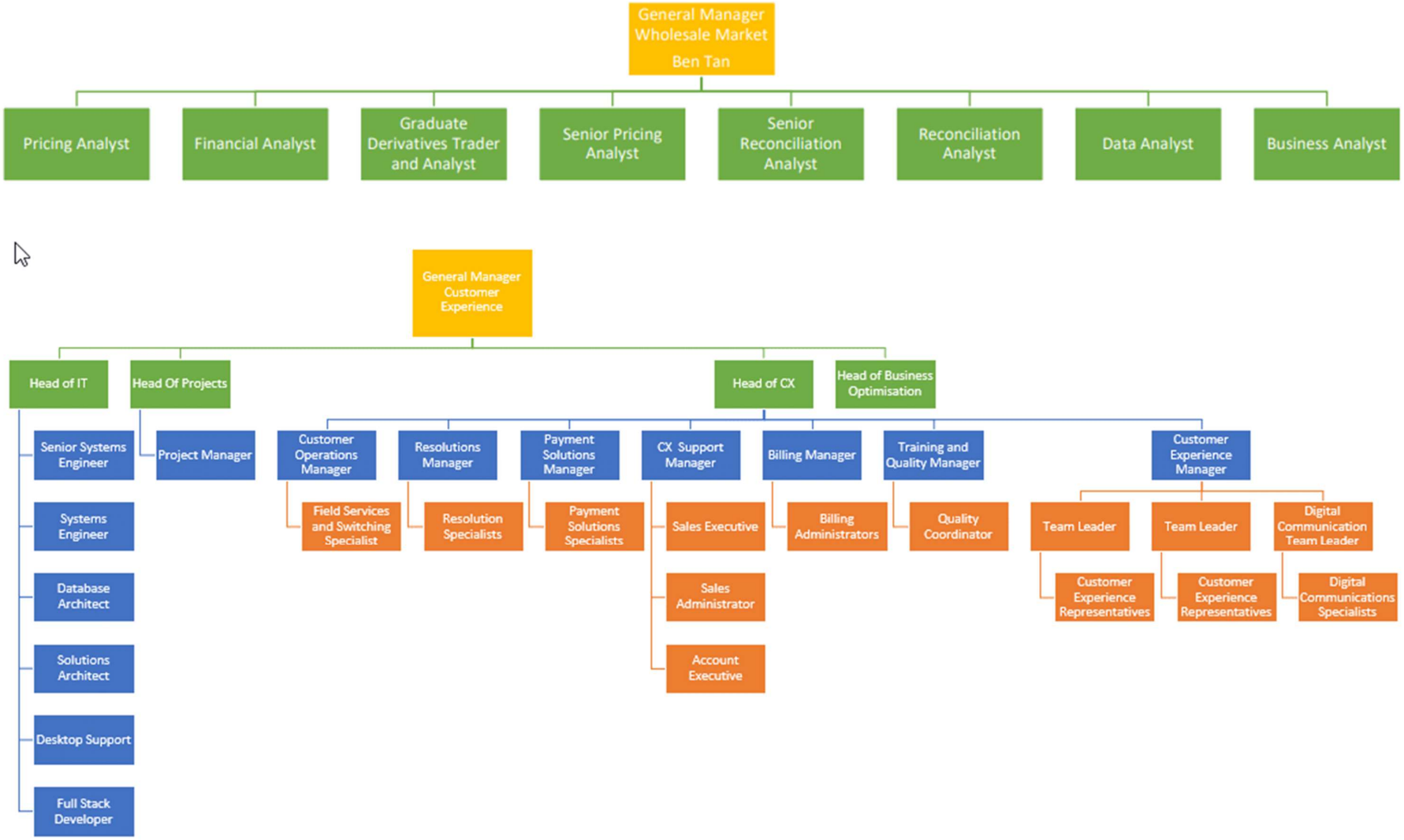
Audit commentary

Pulse has no exemptions recorded on the Electricity Authority website.

1.2. Structure of Organisation

Pulse provided a copy of their organisation structure.




General Manager Wholesale Market
Ben Tan
Pricing Analyst
Financial Analyst
Graduate Derivatives Trader and Analyst
Senior Pricing Analyst
Senior Reconciliation Analyst
Reconciliation Analyst
Data Analyst
Business Analyst
General Manager Customer Experience
Head of IT
Head Of Projects
Head of CX
Head of Business Optimisation
Senior Systems Engineer
Systems Engineer
Database Architect
Solutions Architect
Desktop Support
Full Stack Developer
Project Manager
Customer Operations Manager
Resolutions Manager
Payment Solutions Manager
CX Support Manager
Billing Manager
Training and Quality Manager
Customer Experience Manager
Field Services and Switching Specialist
Resolution Specialists
Payment Solutions Specialists
Sales Executive
Sales Administrator
Account Executive
Billing Administrators
Quality Coordinator
Team Leader
Team Leader
Digital Communication Team Leader
Customer Experience Representatives
Customer Experience Representatives
Digital Communications Specialists


General Manager
Sales and Marketing
Marketing Manager
Outbound Sales Manager
Marketing Executive
Sales Specialists
Web Developer
Brand and Aquisition Specialist

1.3. Persons involved in this audit

Auditors:

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

Pulse personnel assisting with this audit:

Title
GM Wholesale Market
Field Services & Switching Manager
Senior Reconciliation Analyst
Reconciliation Analyst
Customer Experience Manager
Switching Team Lead

1.4. Use of Agents (Clause 15.34)

Code reference

Clause 15.34

Code related audit information

A reconciliation participant who uses an agent

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

Audit observation

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

Audit commentary

PUNZ

PUNZ uses the following agents:

- Wells as an agent for NHH data collection,
- Bluecurrent as a HHR agent for four ICPs,
- John Candy Consulting as a NHH agent performing completeness and accuracy validation of ICP level NHH volume information which is used to create submission information.

HHR data is received from Accucal, EDMI and Bluecurrent as MEPs.

NHH data is also received from Arc, Bluecurrent, Influx, IHUB, Metrix and Smartco as MEPs.

Pioneer (NSP ANI0331BOPDNP)

AccuCal provides data as an MEP for generation data for ANI0331.

Agent's audits

Wells and Bluecurrent have been audited in accordance with the Guidelines for Reconciliation Participant Audits within the last seven months. John Candy Consulting does not have an agent audit conducted; however, the processes were reviewed as part of this audit.

The agent audit reports are expected to be submitted along with this report.

1.5. Hardware and Software

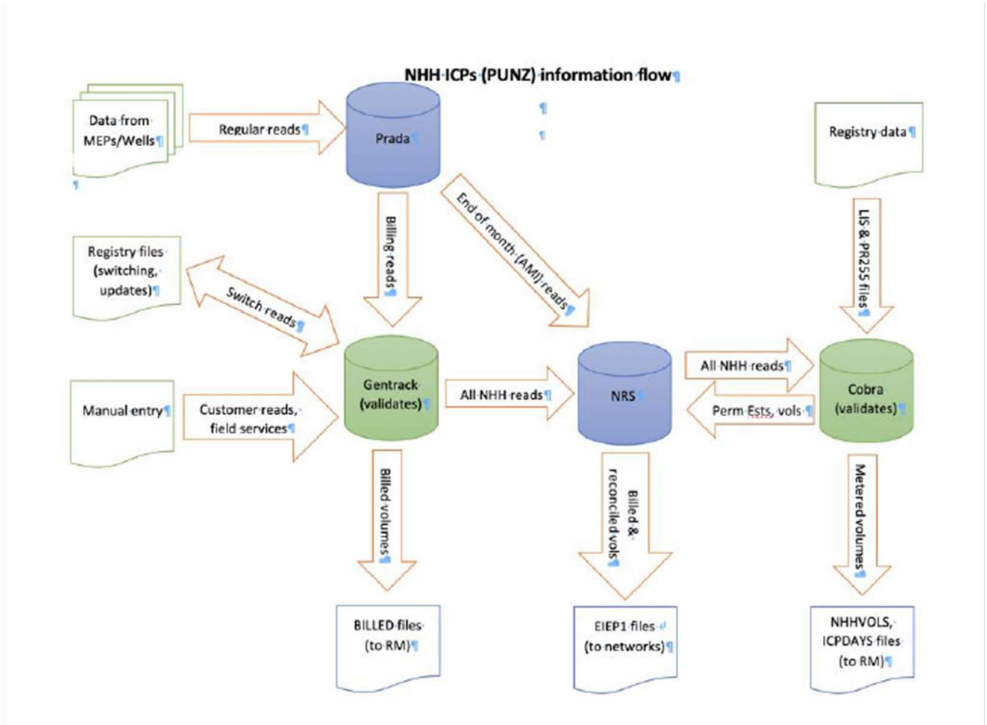
Systems are backed up, and access to systems is restricted through logins and passwords. The backup schedule/rotation consists of four daily backups (Monday to Thursday), four weekly backups (Friday), two monthly backups (last business day) and a quarterly backup, a new tape is always used. The daily backups are incremental, with all other backups being full. Validation and integrity checks are performed on all backups.

PUNZ

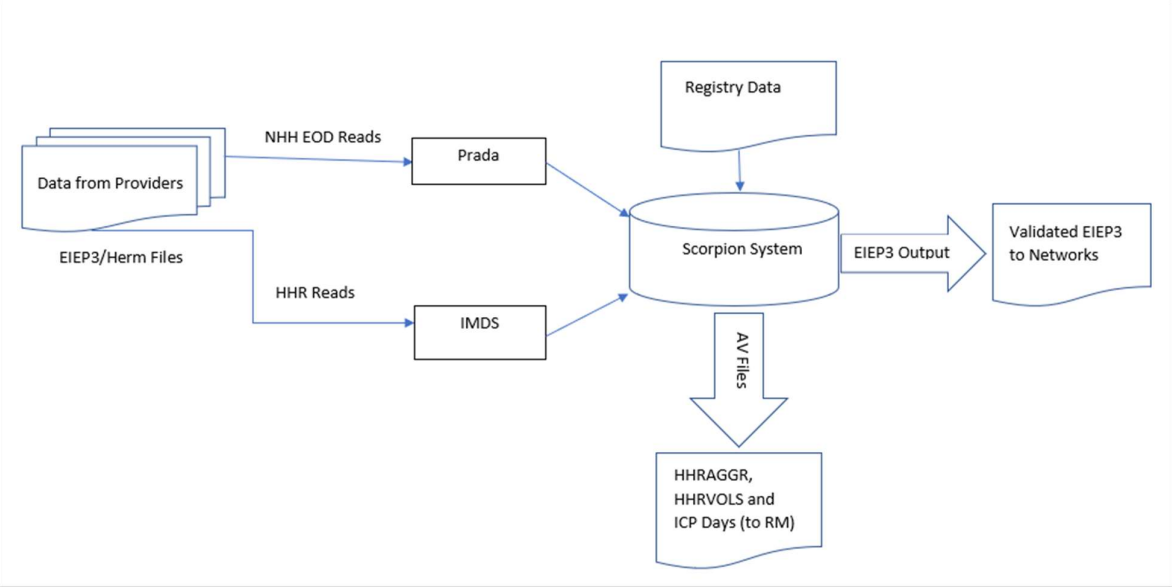
The following systems are used:

- Gentrack for switching, registry management, and billing,
- Cobra for NHH reconciliation,
- Scorpion (formerly known as NZX_TOU) for HHR reconciliation, and
- PRADA data warehouse for data storage and reporting.

<u>Cobra</u>



Scorpion



Pioneer (NSP ANI0331BOPDNP)

The following systems are used:

- Python data warehouse for metering data storage, and
- Scorpion (formerly known as NZX_TOU) for HHR reconciliation.

Agent systems

Agent systems are discussed in their agent audit reports.

1.6. Breaches or Breach Allegations

The Authority has not recorded any alleged breaches for Pulse relevant to the scope of the audit during the audit period.

1.7. ICP Data

The quantity of ICPs by status is shown below as of 15 March 2024.

Status	2024	2023	Oct 2022	Mar 2022	2021	Oct 2020	Oct 2019
Active (2,0)	81,063	81,784	81,111	84,174	82,971	78,437	75,536
Inactive – new connection in progress (1,12)	4	2	1	1	1	6	-
Inactive – electrically disconnected vacant property (1,4)	848	785	754	710	597	602	544
Inactive – electrically disconnected remotely by AMI meter (1,7)	58	55	31	36	48	27	25
Inactive – electrically disconnected at pole fuse (1,8)	84	83	81	76	50	40	34
Inactive – electrically disconnected due to meter disconnected (1,9)	30	17	25	17	18	12	8
Inactive – electrically disconnected at meter box fuse (1,10)	17	20	9	8	7	4	2
Inactive – electrically disconnected at meter box switch (1,11)	23	22	21	19	9	9	10
Inactive – electrically disconnected ready for decommissioning (1,6)	22	21	25	24	20	17	25
Inactive – reconciled elsewhere (1,5)	2	2	2	3	2	2	1
Decommissioned (3)	1,312	1,241	1,115	1,021	910	796	714

The “active” ICPs on the list file were summarised by meter category in the table below. ICPs which are “active” but have no metering details or unmetered load recorded on the registry and are discussed in **section 2.9**.

Metering Category	2024	2023	Oct 2022	Mar 2022	2021	Oct 2020	Oct 2019
1	80,799	81,551	80,863	83,927	83,330	79,445	75,973
2	228	209	223	225	183	180	162
3	14	9	8	7	7	7	7
4	6	5	4	4	4	4	4
5	1	1	1	1	1	3	2
9	7	6	6	6	13	3	6
Blank	8	3	6	4			

1.8. Authorisation Received

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

1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Pulse, 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 at Pulse's Auckland office on the 18th and 19th June 2024.

For PUNZ a registry list, event detail report, and audit compliance report for 10 October 2023 to 15 March 2024 and a registry list snapshot for 15 March 2024 were reviewed.

No PPPP registry list was provided as there have been no "active" ICPs since 2021.

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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks		MEPs providing data
	HHR	NHH	
(a) Maintaining registry information and performing switching			
(b) Gathering and storing raw meter data	Bluecurrent	Wells	Bluecurrent Accucal EDMI on behalf of several MEPs Arc IntelliHUB Bluecurrent Influx SMCO
(c)(iii) Creation and management of HHR & NHH volume information		John Candy Consulting	
(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			

PUNZ uses the following agents:

- Wells as an agent for NHH data collection,
- Bluecurrent as a HHR agent for four ICPs,
- John Candy Consulting as a NHH agent performing completeness and accuracy validation of ICP level NHH volume information which is used to create submission information.

HHR data is received from Accucal, EDMI and Bluecurrent as MEPs.

NHH data is also received from Arc, Bluecurrent, Influx, IHUB, Metrix and Smartco as MEPs.

Pioneer (NSP ANI0331BOPDNP)

AccuCal provides data as an MEP for generation data for ANI0331.

Agent's audits

Wells and Bluecurrent have been audited in accordance with the Guidelines for Reconciliation Participant Audits within the last seven months. John Candy Consulting does not have an agent audit conducted; however, the processes were reviewed as part of this audit.

The agent audit reports are expected to be submitted along with this report.

1.10. Summary of previous audit

A copy of the report from the previous audit completed in December 2023 by Steve Woods (lead auditor) was checked. The current status of the non-compliances and recommendations is recorded in the table below. The status "still existing" is noted if non-compliance with the clause has been found in this audit and does not refer to the specific ICPs where these are detailed. Further comment is made in the relevant sections of this report.

Table of non-compliances

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	15.2	Some registry and submission information incorrect and not updated as soon as practicable.	Still existing
Electrical Connection of Point of Connection	0	10.33A	One new connection not certified within five business days of electrical connection. All ten ICPs sampled of a possible 43 reconnections were not certified within five business days of electrical connection. Certification did not occur within five business days for ten of 17 ICPs where meters were bridged.	Still existing
Meter bridging	2.17	2A of Schedule 15.2	17 of 17 ICPs with bridged meters had no correction processed. Ten of 12 ICPs sampled did not have notification to the MEP within one business day that the bridge must be removed. 15 bridged meters not corrected from prior audits.	Still existing
Provision of information on dispute resolution scheme	2.19	11.30A	Information on Utilities Disputes is not provided on some addressed customer communications including vacant letters, overdue balance letters and planned outage letters, or in the chat channel.	Still existing

Subject	Section	Clause	Non-compliance	Status
Changes to registry information	3.3	10 Schedule 11.1	204 late updates to "active" status. 59 late updates to "inactive" status. 1,142 late trader updates. 70 ANZSIC code updates more than 20 business days after initial electrical connection or switch in.	Still existing
Provision of information to the registry manager	3.5	9 Schedule 11.1	107 late updates to "active" status for new connections. Two ICPs (1100000534WMF5A and 0110013560EL6D9) with the incorrect first "active" date. 107 late MEP nominations for new connections.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	14 ICPs with an incorrect unknown ANZSIC code applied. Two incorrect residential ANZSIC codes applied to ICPs with category 2 meters. 23 (28%) of a sample of 80 ICPs with the incorrect ANZSIC codes applied.	Still existing
Changes to unmetered load	3.7	9 (1)(f) Schedule 11.1	Four ICPs with missing unmetered load. One ICP with the incorrect shared unmetered load recorded.	Still existing
Management of "active" status	0	17 Schedule 11.1	Two ICPs (1100000534WMF5A and 0110013560EL6D9) with the incorrect first "active" date. ICP 0000966986TU944, was reconnected on 18 August 2023 but was requested as a move switch for 21 August 2023 so the first "active" date with Pulse is incorrect	Still existing
Management of "inactive" status	3.9	19 Schedule 11.1	ICP 0040882000WRF09 was incorrectly updated to disconnected vacant in error. Two ICPs with the incorrect disconnection reason applied. Incorrect status for three ICPs with consumption while "inactive".	Still existing
Inform registry of switch request for ICPs - standard switch	4.1	2 of schedule 11.3	ICP 0000038995HB364 incorrectly sent as transfer switch.	Still existing
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	Seven of the 689 transfer ANs checked had incorrect AN response codes.	Still existing
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	Gentrack is configured to calculate the average daily consumption from the last two readings, rather than the last two actual validated readings. One CS file had an incorrect average daily kWh. Two CS files had incorrect last actual read dates.	Still existing

Subject	Section	Clause	Non-compliance	Status
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	All agreed estimated switch reads were recorded with an actual read type in Cobra.	Still existing
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	One switch move NT was issued more than two business days after pre-conditions were cleared.	Still existing
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	Five of the 433 switch move ANs checked had incorrect AN response code. One ET breach.	Still existing
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	Gentrack is configured to calculate the average daily consumption from the last two readings, rather than the last two actual validated readings. Four CS files had an incorrect average daily kWh.	Still existing
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	All agreed estimated switch reads were recorded with an actual read type in Cobra. Five RR breaches.	Still existing
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	All three date failed NWs sampled were sent with the incorrect withdrawal reason. Four SR breaches. 54 NA breaches.	Still existing
Maintaining shared unmetered load	5.1	11.14	Three ICPs with missing unmetered load. One ICP with the incorrect shared unmetered load recorded.	Cleared
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	ICP 0005504181ML99B does not have metering recorded in the registry, there is no MEP nomination for a different MEP and billing and settlement is not occurring. 41 ICPs with distributed generation have RPS profile recorded on the registry but should have RPS PV1. 15 were corrected during the audit. Volumes were not quantified in accordance with the code for 17 ICPs with bridged meters.	Still existing
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	Exceptional circumstances were not proven for three of six ICPs not read during period of supply.	Still existing

Subject	Section	Clause	Non-compliance	Status
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	Exceptional circumstances were not proven for ten of 15 ICPs sampled.	Still existing
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	Exceptional circumstances were not confirmed for two of three ICPs where the NSPs did not meet the 90% read rate within four months.	Still existing
Identification of readings	9.1	3(3) Schedule 15.2	Estimated switch event reads are incorrectly classified as actual reads in Cobra.	Still existing
Meter data used to derive volume information	9.3	3(5) Schedule 15.2	NHH readings are truncated when imported into Gentrack.	Still existing
Half hour estimates	9.4	15 Schedule 15.2	Estimations for C&I ICPs are conducted using the "flat line" methodology based on total kWh from the previous month. This does not meet the "reasonable endeavours" threshold.	Still existing
NHH metering information data validation	9.5	15 Schedule 15.2	Zero consumption is not being monitored.	Cleared
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	Zero consumption is not being monitored.	Cleared
Electricity supplied information provision to the reconciliation manager	11.3	15.7	Incorrect electricity supplied information for two scenarios.	Still existing
Creation of submission information	12.2	15.4	Two ICPs without shared unmetered load submission. 17 of 17 ICPs with bridged meters had no correction processed. Correction and submission are not occurring for defective metering. Incorrect submission for three of ten ICPs on the disconnected consumption report.	Still existing
Allocation of submission information	12.3	15.5	Some estimates of consumption using previous months consumption volumes are manually applied as Historic Estimate volumes to the aggregated AV-080 file.	Still existing

Subject	Section	Clause	Non-compliance	Status
Accuracy of submission information	12.7	15.12	Some submission data was inaccurate and was not corrected at the next available opportunity.	Still existing
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Some estimates were not replaced with permanent estimates by revision 14. Permanent estimates applied when reasonable endeavours were not used to obtain an actual reading for a sample of ten ICPs.	Still existing
Forward estimate process	12.12	6 Schedule 15.3	Some balancing area differences between revisions were over the ± 15% threshold because of inaccurate forward estimates.	Still existing
Compulsory meter reading after profile change	12.13	7 Schedule 15.3	One profile change occurred without a validated reading.	Cleared
Historical estimate reporting to RM	13.3	10 Schedule 15.3	The historic estimate attainment requirements were not met for some revisions.	Still existing

Table of Recommendations

Subject	Section	Description	Status
Gentrack time slice maintenance	2.1	Updates should be able to be made from Gentrack up to the latest event date for that event type, e.g., status event. Review Gentrack's controls over status and trader updates as part of the upgrade project. Consider how Pulse will reverse or replace records for earlier time slices for that event type without requiring events entered by other parties to be reversed or replaced. In most cases it is unnecessary for other participants to be involved in historic corrections unless it affects initial network records, or status changes which can only be processed by distributors.	Still existing
Corrections	2.1	Recommend processing all corrections not just those 200kWh and above.	Cleared
"Active" ICP with no metering	2.9	Continue the investigation for ICP 0005504181ML99B to determine if the ICP should be decommissioned or the meters added back to the registry and the volumes for the missing period be submitted.	Cleared
First "active" date	2.11	Request livening paperwork for ICP 0110013434EL6DF to confirm when this was electrically connected and correct dates if required.	Cleared
Certification within five business days of reconnection	2.11	Review process and ensure that MEPs are notified of all ICPs reconnected with expired metering.	Still existing

Subject	Section	Description	Status
Confirm bridged meter processes and responsibilities	2.17	Confirm processes and responsibilities for bridged meters to ensure that: • bridged meters are identified and unbridged promptly, and • corrections to estimate consumption during the bridged period are processed promptly and accurately in Gentrack and Cobra.	Cleared
Bridged meter corrections	2.17	Review ICPs which are known to have been bridged to check that they have been un-bridged, and corrections have been processed.	Cleared
ICP identifiers	2.18	If any price changes are to be sent without an invoice that the letter include the relevant ICP/s.	Cleared
Promotion of the Utilities Disputes service	2.19	Include reference to the Utilities Disputes service in the Chat channel.	Still existing
Trader events	3.3	Check that backdated trader events are not changing any other trader fields.	Cleared
MEP nomination	3.5	Consider a process change to nominate the MEP before metering is installed for new connections by using the 1,12 “inactive - new connection in progress” status. In the meantime, if an MEP nomination is required before initial electrical connection the ICP should be claimed manually on the registry using the 1,12 “inactive - new connection in progress” status.	Cleared
New connection report	3.5	Use the new connection report or the audit compliance report to monitor data accuracy for new connections.	Still existing
ANZSIC code at switch in	3.6	Review the switch in process to ensure the ANZSIC code determined at sign up is not overwritten by the registry.	Still existing
ANZSIC code validation	3.6	Refine the ANZSIC comparison report to include ICPs with an unknown code or where the Gentrack and registry charge classes are consistent, but the ANZSIC code applied is inconsistent with one or both charge classes.	Cleared
Management of residential building construction code	3.6	Include an update to the ANZSIC code to residential when the BTS to permanent supply change is made.	Still existing
ICP 0007201256RN325	3.8	Confirm if ICP status is still correct.	Cleared
“Inactive” consumption reporting	3.9	Pulse constructs a suitable management report to effectively monitor “inactive” consumption as part of the Gentrack upgrade project.	Cleared

Subject	Section	Description	Status
Disconnection location	3.9	• Ensure disconnection service requests set expectation that disconnection should be attempted in the first instance at the network fuse point. • Request regular updates from the field service providers informing Pulse of the number of suitably trained and authorised personnel available to undertake disconnections at the network fuse for each network region/distributor.	Still existing
Review use of status reason code 4 – electrically disconnected vacant property	3.9	Pulse to apply status reason codes that describe the method of disconnection to support monitoring that the most suitable disconnection methodology by the relevant FSP.	Still existing
ICPs at ready created as part of network deconsolidation projects	3.10	Liaise with the relevant distributor to progress the six ICPs that have been created to comply with the code requirement to have an ICP per connection point.	Still existing
Update of Gentrack's ICP technical details	4.2	Update the Gentrack ICP technical details where this information changes on the registry. This will help to ensure that AN codes are correctly applied.	Still existing
CS content accuracy	4.3	Improve the accuracy of CS content, including: • the average daily kWh, which should be the average daily consumption between the last two actual validated reads up to the last day of responsibility; if there are less than two actual readings available, the incoming CS value is expected to be applied, and • last actual read dates, which should be the date of the last validated actual reading during the period of supply; currently if a read is rejected on import but later validated it is ignored when determining the last actual read date.	Still existing
Credit disconnection on a current account	4.8	Review the AN code hierarchy to ensure that the PD code is sent in all instances.	Cleared
Switch Save Protection	4.17	Recommend customers calling to give notice are explicitly asked if they are switching away and if so, no retention activity is undertaken.	Cleared
Management of distributed generation profiles on the registry	6.1	Increase the frequency of monitoring for ICPs with incorrect distributed generation profiles from monthly to weekly. Ensure that metering is installed where necessary and exceptions are resolved on the registry as soon as practicable.	Still existing

Subject	Section	Description	Status
Application of generation profiles for switches in	6.1	Develop a process to ensure that generation profiles are corrected as soon as possible after switch in. The weekly monitoring of profiles recommended above will help to identify any missed updates. Consider allowing profiles to be specified in NT files rather than defaulting to RPS.	Still existing
Clock synchronisation events	6.5	Develop a process to deal with clock errors greater than one trading period for HHR reconciled ICPs.	Still existing
Half hour estimates	9.4	For estimation of full days consider using the same day of the week from the previous week to estimate, instead of the previous calendar day's consumption.	Still existing
Using zero kWh as an estimation value when no consumption information is available	9.4	Review the use of zero consumption values where no AMI data is available to base and estimation from.	Still existing
Zero consumption report monitoring	9.5	Reinstate monitoring of the zero-consumption report to ensure potential meter faults are identified and resolved in a timely manner.	Cleared
Review effectiveness of volume information validations	9.5	Review the effectiveness of volume information validations and also the thresholds used as part of the Gentrack upgrade project to ensure the thresholds and default values applied are consistent with the code requirements and reduce the volume of false positive exceptions identified.	Still existing
Identification and escalation of missing AMI interval data to MEPs	9.6	Develop and implement reporting of missing/estimated interval data used in submission, and a process to escalate these instances to the relevant AMI MEP for resolution.	Still existing

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

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

Audit observation

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

Audit commentary

Registry data synchronisation

Trader maintained registry information is updated in Gentrack and then transferred to the registry. As reported in the last two audits, Gentrack will only allow users to change records up to the event date of the most recent registry record of any type (e.g., a trader update cannot be entered if there is a later status, address, pricing, network, or metering record), which makes it difficult to process updates from dates prior to the latest update without records being reversed on the registry. Pulse is in the process of upgrading Gentrack. They have raised this with Gentrack and been advised that they don't believe there is an issue. I have repeated the last audit's recommendation as it is affecting operational efficiency and accuracy.

Recommendation	Description	Audited party comment	Remedial action
Gentrack time slice maintenance	Updates should be able to be made from Gentrack up to the latest event date for that event type, e.g., status event. Review Gentrack's controls over status and trader updates as part of the upgrade project. Consider how Pulse will reverse or replace records for earlier time slices for that event type without requiring events entered by other parties to be reversed or replaced. In most cases it is unnecessary for other participants to be involved in historic corrections unless it affects initial network records, or status changes which can only be processed by distributors.	This is being worked on by GT. A jira has been raised, the reference is GSD-2196	Investigating

There was a Gentrack patch upgrade in November 2023 which was not expected to affect production, so no testing was carried out. Once deployed it stopped some updates getting to the registry and manual interventions had to be put in place. This affected new connections, MEP nominations, CS files and RR files. It has been resolved but has affected the timeliness of updates to registry during the audit period as detailed in the relevant sections.

Registry data validation

Data accuracy is being managed as part of BAU. There are some further opportunities for improvement identified. The planned Gentrack upgrade is still in progress and accuracy is expected to improve when only one system is used for both registry and reconciliation.

The following reports are used for data validation:

Report name	Frequency	Description
ICP data		
UML audit	Monthly	The billing team receives a notification from Gentrack if there is a discrepancy between the unmetered load details recorded in Gentrack and on the registry. Any discrepancies are investigated.
Distributed generation	Monthly	Gentrack updates the profile to RPS PV1 when it detects the addition of an EG channel with a settlement flag Y. The reconciliation team monitor and manage any exceptions detected.
ANZSIC comparison	Monthly	Identifies the ANZSIC codes for ICPs with different charge classes in Gentrack and the registry. This now includes ICPs where the ANZSIC code is missing or unknown.
Meter data		
Multiplier check	Monthly	Compares meter multiplier details in Gentrack and the registry. Differences are investigated and updated as necessary.
Meter certification expiry	Not being monitored	Identifies ICPs with expired meter certification. Due to a loss of trained staff this process isn't being actioned. Pulse is reviewing this process and plan to provide training to the team to reinstate this process. I have raised this as a recommendation in **section 2.11**.
DUNE IN16 and IN24 error report	Every 1-3 days	Identifies ICPs on the Aurora network where the tariff is IN16 or IN24 that have switched in. Gentrack is changed to UN24 to ensure billing can occur.

Report name	Frequency	Description
Status data		
Field Services compliance raw data	As resource allows	Compares status details in Gentrack and the registry. Differences are investigated and updated as necessary.
Reconnection before switch	As resource allows	Identifies ICPs which were reconnected before the switch event date. A withdrawal will be issued so that the switch can be re-requested from the date of reconnection.

Report name	Frequency	Description
Daily remote disco report	Daily Monday to Thursday	Identifies ICPs that have been final billed with smart meters, so that a remote disconnection can be requested.
Consumption on de-energised ICPs	Monthly	Identifies ICPs where the status is "inactive", but where consumption is present. Investigations occur and the status is changed to "active" as required.
New connections		
New connection report	Not being reviewed	Compares new connection ICP details in Gentrack and the registry, and also records the consumer and service order status. It was used to monitor new connection progress and follow up any actions that need to occur before the connection can be completed. I have repeated the last audit's recommendation in **section 3.5**, that this report be reintroduced.
Volumes		
ADL Zero	Weekly	Identifies ICPs which have switched in with an average daily consumption of zero, and provides an estimated daily consumption based on the meter configuration and customer type. The estimated daily consumption values are manually entered into Gentrack to ensure that billing and settlement is not zero if actual readings are not obtained.
Weekly zero consumption report	Weekly	Identifies ICPs where there has been zero consumption for four or more months. Pulse attempts to contact the customer to determine whether the zero is genuine (in which case it is not checked again for four months) or conducts further investigation to determine whether there is a potential meter fault.

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

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

Item No.	Issue	2024	2023	Oct 2022 Qty	Comments
1	Status mismatch between Gentrack and Registry			-	Compliant
2	ICP at status "inactive - new connection in progress" (1,12) or "ready" (000) with an initial electrical connection date populated by the distributor	18	13	7	These are discussed in **section 3.5**.
3	"Active" date variance with Initial Electrical connection Date	18	28	33	14 were timing differences and the initial electrical connection date and/or meter certification date were later

Item No.	Issue	2024	2023	Oct 2022 Qty	Comments
					updated to be consistent with PUNZ's "active" status update. The other four differences were checked, and I found three ICPs had incorrect first "active" dates. See **sections 2.11, 3.5** and **3.8**.
4	Incorrect submission flag	1	-	4	ICP 0000163398UN4C2 now corrected.
5	Incorrect profiles	1	7	15	As detailed in **section 3.3**, ICP 0001418644BU71C was incorrectly updated with HHR PV1 profile when a meter change was processed.
6	Distributor indicates embedded generation present with RPS profile	36	34	20	36 ICPs with distributed generation have RPS profile recorded on the registry but should have RPS PV1. See **section 6.1**.
7	"Active" ICP with cat 9 and UML="N"	1	1	3	ICP 0005504181ML99B has since been confirmed to have had metering and is being corrected. See **section 3.4** for details.
8	"Active" ICP with no MEP recorded and UML="N"	-	-	2	Compliant.
9	"Active" with blank ANZSIC codes	-	-	-	Compliant.
10	Meter cat 3 with residential ANZSIC code	-	-	-	Compliant.
11	"Active" with ANZSIC "T999" not stated	-	-	-	Compliant.
12	"Active" with ANZSIC "T994" don't know	3	13	3	See **section 3.6**.
13	Incorrect ANZSIC code applied	24	-	-	See **section 3.6**
14	ICPs with Distributor unmetered load populated but retail unmetered load is blank	-	1	-	Compliant.
15	ICPs with standard unmetered load flag Y but load is recorded as zero	-	-	-	Compliant.
16	ICPs with incorrect shared unmetered load	1	1	1	ICP 0000030682WE042 had the total shared unmetered load recorded rather than the quarter share.

Item No.	Issue	2024	2023	Oct 2022 Qty	Comments
					See **section 3.7**.
17	ICPs have UML flag N and no shared unmetered load but distributor field shows shared unmetered load.	-	3	-	Compliant.
18	Arc category 2 meters submitted as HHR	-	-	-	Compliant, no ICPs with ARC meters have a HHR submission type.
19	Incorrect "active" event date	3	1	4	See **section 3.8.**
20	Incorrect "inactive" event date	2	-	1	See **section 3.9.**
21	Incorrect "inactive" status	2	3	2	See **section 3.9.**

I found that all but two corrections identified in the last audit have been corrected. These are identified in **section 3.9**. This is recorded as non-compliance below.

Read and volume data accuracy

Read and volume accuracy issues are identified in the validation processes described in detail in **sections 9.5** and **9.6**. I checked a sample of NHH corrections as described in the table below:

Subject	Section	Comments	All practicable steps taken?
Defective meters	2.1, 12.2	Defective meters are typically identified from information provided by the meter reader, agent, the MEP, or the customer. As discussed in **section 9.6**, zero-consumption monitoring is now in place, and defective meters are being identified and managed. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect, and a consumption correction is processed. The previous audit report recorded that correction only occurred if the volume difference was 200 kWh or more. Correction now occurs in all cases. Pulse provided their process documentation which steps through how consumption is to be calculated. Corrections are processed using the removal reads calculator. This calculates the volume for the missing period by using two actual reads no less than seven days apart from the new meter to estimate an average daily consumption. If applicable there is a 20% seasonal adjustment made. If the missing period is over summer and the reads used to estimate the period are from the winter period, then a 20% adjustment is made in favour of the customer. If the reads are taken from the summer period but the missing period occurred during winter, then a 20% loading is applied.	Yes

Subject	Section	Comments	All practicable steps taken?
Incorrect multipliers	2.1, 12.2, 12.7	Compensation factor mismatches are checked as part of the weekly BAU processes. Any discrepancies identified are investigated and corrected as soon as practicable. No incorrect compensation factors were identified.	Yes
Bridged meters	2.1, 2.17, 6.4	Bridged meters are usually identified through returned work completion paperwork or NHH read validation processes. The process is that once a bridged meter is identified, a field services job is raised for the MEP to un-bridge the meter as soon as possible. Consumption during the bridged period is estimated based on the period before the meter was bridged, or after the meter is un-bridged by entering an estimated final reading into Gentrack. If the meter is not replaced as part of the un-bridging process the correction will be handled as a false meter change, with a new version of the meter reopening with the actual read recorded on un-bridging. The readings are transferred from Gentrack to Cobra. If the meter is bridged for less than two months, the customer operations team will estimate consumption during the bridged period and process a correction. If the meter is bridged for more than two months, the customer operations team will advise the revenue assurance team via email that a correction is required. I found that corrections were not conducted for 14 bridged meters from the previous audit. I found there are less bridged meters than previously, largely due to the contractors now having the ability to reconnect on-site using a handheld device, rather than bridging. ICP 0000220411UN51A was unbridged during the audit period on 14 November 2023, after being bridged since 9 October 2019. Consumption was correctly calculated for the required 14-month revision period, but there was approx. 3,500 kWh not submitted for the period prior to September 2022.	No
Vacant consumption	2.1, 12.2 & 12.7	A sample of five ICPs with vacant consumption were checked and found that vacant consumption was submitted for the correct period in all instances.	Yes
Consumption while “inactive”	2.1, 3.9, 12.2 & 12.7	A check of ten ICPs with consumption while disconnected found that in all cases the status had been changed back to “active” and correction had occurred.	Yes
Unmetered load corrections	2.1, 3.7	Pulse has checks in place to ensure that unmetered load is calculated and submitted correctly. One ICP was identified where the unmetered load daily kWh was incorrect at the time of switch in. The ICP is 0006801650RNBBB. This ICP appeared in the audit compliance reporting and these types of issues will be identified when this report is checked more frequently. The error was raised during the audit and is yet to be corrected.	No

Subject	Section	Comments	All practicable steps taken?
Meter changes	2.1, 8.2	During the previous audit it was recorded that ICP 0330297023LCFB9 had a meter change from NHH to HHR on 17 July 2023. The last NHH reading was midnight on 16 July 2023, then the HHR data started at the time the meter was changed on 17 July 2023. Data was not corrected for the first part of 17 July 2023 to ensure continuous consumption for the day of the meter change. This correction has still not been made. During the previous audit it was recorded that ICP 1002064533LCF2A had a meter change from NHH to HHR on 23 January 2023. The last NHH reading was midnight on 22 January 2023, then the HHR data started from 24 January 2023. Data was not corrected for 23 January 2023, therefore there was no submission at all for the day of the meter change. This correction has not been conducted and is now outside the 14-month window. I checked a further 15 HHR to HHR meter changes to ensure consumption was correctly apportioned to the day of the meter change. Two of the examples were recertification without a meter change. Three examples had consumption for the removed and installed meters on the meter change date. One example had consumption for the removed meter on the day of the meter change but no consumption for the new meter. Nine examples did not have any consumption on the day of the meter change for either the old or the new meter.	No
C&I HHR estimates	9.4	Estimations for C&I ICPs conducted using the "flat line" methodology based on total kWh from the previous month. This does not meet the "reasonable endeavours" threshold.	No
Active with no metering	6.1	The previous audit report recorded one ICP was "active" with a metering category of nine. ICP 0005504181ML99B, which is the cookhouse on Molesworth Station, was reported in the last two audits. Pulse have received pictures from 7 August 2023 showing the meters are still installed, despite the MEP removing them in the registry. The installation was recertified on 8 May 2024 and the registry is now populated. I checked the Gentrack and Cobra records, which still showed the original meter being removed on 26 March 2021, because the MEP has not corrected the registry which meant that no consumption was being calculated for the period 26 March 2021 to 8 May 2024. The old meter has now been reinstated in Cobra and consumption is being calculated for the entire period. However, revisions will only go back to May 2023 and submission will not occur for the 26-month period prior to that date, which is approximately 30,000 kWh. It's confirmed that this ICP was always metered, therefore non-compliance is recorded in **sections 2.1, 12.2** and **12.7**.	No

Pioneer (NSP ANI0331BOPDNP)

As detailed in **section 12.1**, data received from AccuCal is in standard time and each interval is recorded with a trading period ending time. Accucal provides the correct number of intervals for each daylight-saving month. For the transition months Accucal provides 1442 lines of data during April and 1438 lines of data during September. Pulse applies specific scripts (one for each daylight-saving transition) to the data provided by Accucal to adjust the data from the transition date and time and ensures the transition

days have the correct number of intervals (46 intervals for the September transition and 50 intervals for the April transition). The approach Pulse applies is consistent with the trading period run on method to adjust interval data.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.6, 11.2, 15.2 From: 01-Oct-23 To: 23-Jun-24	Some registry and submission information incorrect and not updated as soon as practicable. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	Controls are rated as moderate overall but there is room for improvement, specifically in relation to the management of historic corrections. The audit risk rating is assessed to be medium based on the kWh of under submission detailed above.

Actions taken to resolve the issue	Completion date	Remedial action status
We have resolved what we can during the Audit and we have gone through in more detail the actions we have taken in the specific sections. Incorrect profiles have been corrected but this is a work in progress, we are working with the MEP's and Networks and are improving our processes and reports. We are doing the same for ICps with distributed generation where this is incorrect in the registry. ICP 0001418644BU71C has been corrected. ICP 0005504181ML99B has been corrected. We will make sure all T99, including T994 ANSIC codes are monitored and corrected. ICP: 0000030682WE042 has been corrected.	1/8/24	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will kick off the monthly Internal Audit meeting and go through the area's where we are falling short. We will use the audit compliance report more thoroughly.	Ongoing	

2.2. Provision of information (Clause 15.35)

Code reference

Clause 15.35

Code related audit information

If an obligation exists to provide information in accordance with Part 15, a participant must deliver that information to the required person within the timeframe specified in the Code, or, in the absence of any such timeframe, within any timeframe notified by the Authority. Such information must be delivered in the format determined from time to time by the Authority.

Audit observation

Processes to provide information were reviewed and observed throughout the audit.

Audit commentary

This area is discussed in a number of sections in this report.

Audit outcome

Compliant

2.3. Data transmission (Clause 20 Schedule 15.2)

Code reference

Clause 20 Schedule 15.2

Code related audit information

Transmissions and transfers of data related to metering information between reconciliation participants or their agents, for the purposes of the Code, must be carried out electronically using systems that ensure the security and integrity of the data transmitted and received.

Audit observation

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

Audit commentary

NHH

NHH information is received via SFTP from Wells and the MEPs. The data is imported into the PRADA data warehouse, then exported as an REA file which is imported into Gentrack. For AMI meters, a monthly read is recorded in Gentrack on a scheduled read date.

Reads imported from PRADA into Gentrack are validated as part of the billing process and are then exported to Cobra. Cobra also receives end of month AMI reads which are imported directly from PRADA. RR readings are extracted from the accepted RR files and imported into Cobra, as part of the daily import. Both the end of month AMI reads imported from PRADA and the RR readings pass through the Cobra validation process.

To confirm the NHH data transmission process, I traced data for two ICPs from the manual meter reading source files supplied by Wells to Gentrack and Cobra and found they matched.

AMI meter reads were also reviewed from all of the AMI MEPs to ensure the readings are processed into Gentrack/Cobra correctly. One read from each provider was checked and these reads were confirmed as being the same in Cobra. Decimal places for AMI register reads are not loaded and non-compliance is recorded in **section 9.3**.

HHR

HHR information is received via SFTP from Bluecurrent and Accucal, and in password protected emails from EDMI. The data is imported into the IMDS reading database, then exported into Scorpion for the calculation of submission.

To confirm the HHR data transmission process, I traced data for a diverse sample of two ICPs from the source files to Scorpion and the HHR aggregates submissions for May 2024. The volumes matched the source data.

AccuCal collects data for two ICPs for the Mangaotaki generation in addition to the Aniwhenua data collection function detailed below. To confirm the HHR data transmission process, I traced data for one ICP from the source files to submissions for May 2024. The volumes matched the source data.

Pioneer (NSP ANI0331BOPDNP)

AccuCal provides files of monthly readings for this NSP which are downloaded from AccuCal's SFTP server.

To confirm the HHR data transmission process, I traced data for this NSP from the source files to submissions for May 2024. The volumes matched the source data.

Audit outcome

Compliant

2.4. Audit trails (Clause 21 Schedule 15.2)

Code reference

Clause 21 Schedule 15.2

Code related audit information

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

The audit trail must include details of information:

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

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

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

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

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

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

Audit observation

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

Audit commentary

Audit trails exist for NHH and HHR data gathering, validation, and processing functions:

System	Used for	Comments
Gentrack	Switching Registry Billing	Compliant audit trails exist.
Cobra	NHH submission	Data is imported into Cobra but is not modified, apart from to invalidate it or add permanent estimate readings. As reported in the last audit, it is possible for an operator to go directly to the database and change the date of a reading without leaving an audit trail. This is done rarely and is only used when some changes are unable to be resolved through the application, so the reconciliation team make the corrections in the database. The changes can range from filling up blank dates, fixing install/removal date, or just manually imported meter reads which were sometimes missed by the automated system. If this occurs, they paste all the data to be updated in an Excel sheet, then write a simple SQL code beside the data indicating what is to be changed. As the database that Cobra sits in has transactional logging activated from a database recovery perspective there is an event log of sorts available for these manual updates directly into the database tables. There is nothing to prevent an operator from making changes and not recording them on the spreadsheet. This is a known issue and is expected to be resolved with the move to the new Gentrack platform. I found no evidence of audit trails not being created so have recorded compliance.
Scorpion (formerly called NZX_TOU)	HHR submission	Compliant audit trails exist.
PRADA	Data warehouse	NHH and AMI data is imported into the PRADA database and then exported to Gentrack. Data cannot be changed.

Pioneer (NSP ANI0331BOPDNP)

Audit trails exist for HHR data gathering, validation, and processing functions:

System	Used for	Comments
Python	Metering data	Compliant audit trails exist.
Scorpion	HHR submission	Compliant audit trails exist.

Audit outcome

Compliant

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

Code reference

Clause 10.4

Code related audit information

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

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

Audit observation

I reviewed the current terms and conditions.

Audit commentary

The current terms and conditions with their customers include consent to access for authorised parties for the duration of the contract.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

The trader must use its best endeavours to provide access:

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

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

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

Audit observation

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

Audit commentary

The current terms and conditions with their customers include consent to access for authorised parties for the duration of the contract. Pulse confirmed that they have used best endeavours to arrange access for other parties when requested, which typically involves trying to contact the customer to arrange access.

Audit outcome

Compliant

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

Code reference

Clause 10.35(1)&(2)

Code related audit information

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

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

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

Audit observation

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

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

Audit commentary

Pulse supplies 21 ICPs with metering category 3 or higher. No error or loss compensation factors were required.

Audit outcome

Compliant

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

Code reference

Clause 11.15B

Code related audit information

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

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

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

Audit observation

I reviewed the current terms and conditions.

Audit commentary

The terms and conditions include this requirement.

Audit outcome

Compliant

2.9. Connection of an ICP (Clause 10.32)

Code reference

Clause 10.32

Code related audit information

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

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

Audit observation

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

Audit commentary

The new connection process varies by network. For most networks the customer or their agent arranges the connection directly with the network, and for the Buller and Electra networks the customer arranges the connection with the retailer who requests a connection from the network.

Once to twice per week registry notification files are monitored in Gentrack to identify any new ICPs where PUNZ has been recorded as the proposed trader. Pulse contacts the customer to complete a customer application and then the ICP is created in Gentrack. Pulse have adopted the last audit's recommendation that the "inactive - new connection in progress" status be used. The ICP is now claimed in the registry as a "inactive - new connection in progress" and an MEP nomination is sent to the registry at the same time. A service order for a meter installation is issued to NGCM (the preferred MEP for new connections). Once Pulse receives confirmation that the ICP is electrically connected and the metering has been loaded to the registry by the MEP, the ICP is moved to "active" in Gentrack which then updates the registry. As the MEP has ten days to update the registry, this is delaying the updating of new connections to "active" as is evident in **section 3.5**. I recommend that this process is reviewed to remove the reliance on the MEP updating the registry before updating an ICP to "active".

Recommendation	Description	Audited party comment	Remedial action
New connections	Remove the reliance on the MEP to load their metering to the registry.	Our current process involves the MEP updating the registry regarding new connections. We are open to working with Gentrack and amending the the process. We also believe kicking off the no reads process and zero consumption reporting should improve this process as well. We find the five day turnaround for new connections a little tight. There is a lot of information we have to receive from multiple parties and if there is any delay this can hold up our processes. We have raised this with the EA.	Investigating

As discussed in **section 2.1**, there was a Gentrack patch upgrade in November 2023 which was not expected to affect the production but stopped new connections flowing to the registry. This has been resolved but has affected the timeliness of updates to new connections during the audit period.

The AC020 report recorded eight ICPs that are "active" with a metering category of nine or blank. All were checked and found:

- seven were due to timing and the metering has since been loaded to the registry by the MEP, and
- as reported in the last two audit's, ICP 0005504181ML99B, is the cookhouse on Molesworth Station:
    - Pulse have received pictures from 7 August 2023 showing the meters are still installed, despite the MEP removing them in the registry,
    - I checked the Gentrack and Cobra records, which still showed the original meter being removed on 26 March 2021, because the MEP had not corrected the registry which meant that no consumption was being calculated for the period 26 March 2021 to 8 May 2024,
    - the installation was recertified on 8 May 2024, the registry is now populated, and the old meter has now been reinstated in Cobra, and

- consumption is being calculated for the entire period however, revisions will only go back to May 2023 and submission will not occur for the 26-month period prior to that date, which is approximately 30,000 kWh - it has been confirmed that this ICP was always metered, therefore non-compliance is recorded in **sections 2.1, 12.2** and **12.7**.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

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

Audit observation

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

Audit commentary

No temporary electrical connections were requested by Pulse, and the audit compliance report did not record any instances where the meter certification date was prior to initial electrical connection.

Audit outcome

Compliant

2.11. Electrical Connection of Point of Connection for an ICP that is not an NSP (Clause 10.33A)

Code reference

Clause 10.33A(1)

Code related audit information

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

- *for a point of connection to the grid – the grid owner has approved the connection,*
- *for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection,*
- *for a point of connection that is an ICP, but is not as NSP:*
    - *the trader is recorded in the registry as the trader responsible for the ICP or has an arrangement with the customer and initiates a switch within two business days of electrical connection,*
    - *if the ICP has metered load, one or more certified metering installations are in place,*
    - *if the ICP has not previously been electrically connected, the relevant distributor has given written approval of the electrical connection.*

Audit observation

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

Audit commentary

Metering information for "active" ICPs

The AC020 report recorded eight ICPs that are "active" with a metering category of nine or blank. All were checked and found:

- seven were due to timing and the metering has since been loaded to the registry by the MEP, and
- as reported in the last two audit's, ICP 0005504181ML99B, is the cookhouse on Molesworth Station:
    - Pulse have received pictures from 7 August 2023 showing the meters are still installed, despite the MEP removing them in the registry,
    - I checked the Gentrack and Cobra records, which still showed the original meter being removed on 26 March 2021, because the MEP had not corrected the registry which meant that no consumption was being calculated for the period 26 March 2021 to 8 May 2024,
    - the installation was recertified on 8 May 2024, the registry is now populated, and the old meter has now been reinstated in Cobra, and
    - consumption is being calculated for the entire period however, revisions will only go back to May 2023 and submission will not occur for the 26-month period prior to that date, which is approximately 30,000 kWh - it has been confirmed that this ICP was always metered, therefore non-compliance is recorded in **sections 2.1, 12.2** and **12.7**.

New Connections

The AC020 report recorded three ICPs which did not have full certification within five business days of initial electrical connection. These are the same three ICPs where the "active" date didn't match the initial electrical connection and meter certification date as detailed in **section 3.5**. These were examined and found all had the incorrect first "active" date:

ICP	Metering Installation Certification Date	Initial Electrically Connected Date	Status Event Date	Comments
1000028767BPDCA	14 December 2023	14 December 2023	3 October 2023	Has been corrected
1002184581UNE18	8 December /2023	8 December 2023	11 October 2023	Still to be corrected
0001116801BUBEE	27 September 2023	1 November 2023	15 September 2023	Has been corrected

I rechecked the ICPs recorded as being incorrect in the last audit and found all have been corrected but for ICP 0110013434EL6DF the correction has been made outside of the 14-month revision period.

Reconnections

MEPs complete remote reconnections. Delta completes manual reconnections in the South Island and Wells completes manual reconnections in the North Island. As reported in the last audit notifications are not being sent to MEPs for reconnections with expired meters. I have repeated the recommendation made in the last audit to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Certification within five business days of reconnection	Review process and ensure that MEPs are notified of all ICPs reconnected with expired metering.	Training updated to Customer Care and Sales	Identified

The AC020 report recorded 22 ICPs which did not have full certification within five business days of reconnection. I checked a typical sample of five ICPs and found the MEP had not been notified. This recorded as non-compliance below.

Meter recertification for unbridged meters

As recorded in **section 2.17**, I checked one meter which was unbridged during the audit period and found that it was recertified within five business days of being electrically connected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: Clause 10.33A From: 10-Oct-23 To:15-Mar-24	22 were not certified within five days, five of a sample of five were not notified to the MEP. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak as no notifications are being sent to MEPs when ICPs are reconnected with expired metering. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Training issue identified and new refresher training has been supplied to our Customer facing teams that sign up new customers and lodge Reconnections	18/07/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continue refresher training with Care and Sales teams.	Ongoing	

2.12. Arrangements for line function services (Clause 11.16)

Code reference

Clause 11.16

Code related audit information

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

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

Audit observation

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

Audit commentary

Previous audits confirmed that arrangements are in place for existing networks. Review of the registry list with history confirmed that Pulse has not begun trading on any new networks within the audit period.

Audit outcome

Compliant

2.13. Arrangements for metering equipment provision (Clause 10.36)

Code reference

Clause 10.36

Code related audit information

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

Audit observation

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

Audit commentary

Previous audits confirmed that arrangements are in place for existing MEPs. Review of the registry list with history confirmed that Pulse did not begin using any new MEPs within the audit period.

Audit outcome

Compliant

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

Code reference

Clause 10.33B

Code related audit information

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

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

Audit observation

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

Audit commentary

Pulse monitors reconnections for incoming switches. If the customer subsequently cancelled the switch, Pulse would restore the disconnect unless the customer has already engaged with another trader to request the ICP.

No examples were identified of withdrawn switches where a disconnection was not restored, or the customer signed up with another trader for the same date.

Audit outcome

Compliant

2.15. Electrical disconnection of ICPs (Clause 10.33B)

Code reference

Clause 10.33B

Code related audit information

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

Audit observation

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

Audit commentary

Pulse does not request disconnection of any ICP for which is not responsible. No examples were identified.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

Audit observation

Policies and processes for removal and breakage of seals were reviewed. A sample of disconnections, reconnections, additions of export metering, and bridged meters were checked for compliance.

Audit commentary

Pulse issues field services jobs for activities which could result in seals being removed or broken to the MEP, Wells or Delta. MEPs and agents are required to ensure that only qualified personnel perform work and manage and trace seals. The MEPs and agents do not usually provide details of seals in their job completion paperwork.

Pulse receives work completion paperwork from the MEPs and agents and uses this information to confirm the correct ICP attributes including status and profile, and update Gentrack and the registry.

Where Pulse finds that seals have been removed or broken by someone other than the MEP, they raise a job for the MEP to check and reseal the meter. Pulse provided three examples where meters had been tampered with or the customer's electrician had broken the meter seals, and a job was raised for the MEP to check and reseal the meter.

Disconnections and reconnections are completed remotely where possible. Addition of distributed generation, fault work, and un-bridging of meters is completed by MEPs.

A sample of disconnections, reconnections, and additions of distributed generation were checked. I found that the MEP had completed the work where the seals were removed or broken.

Audit outcome

Compliant

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

Code reference

Clause 10.33C and 2A of Schedule 15.2

Code related audit information

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

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

If the trader bridges a meter, the trader must:

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

The trader must determine meter readings as follows:

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

Audit observation

The process for bridging meters was examined and one bridged meter from the current audit period was examined along with all of the bridged meters from the last audit.

Audit commentary

Pulse only allows meters to be bridged where an urgent reconnection is required, and it is not possible to reconnect without bridging the meter. Bridging is only completed by contractors authorised by MEPs.

Bridged meters are usually identified through returned work completion paperwork or NHH read validation processes. The previous audit report recorded that zero consumption was not being actively monitored and a recommendation was made to recommence this monitoring. The zero-consumption reporting is now being monitored regularly.

The intended process is as follows: Once a bridged meter is identified, a field services job is raised for the MEP to un-bridge the meter as soon as possible. Consumption during the bridged period is estimated based on the period before the meter was bridged, or after the meter is un-bridged by entering an estimated final reading into Gentrack. If the meter is not replaced as part of the un-bridging process, the correction will be treated as a false meter change, with the old version removed on an estimated reading including consumption during the bridged period and the new version opening on the physical read on un-bridging. The readings are transferred from Gentrack to Cobra.

If the meter is bridged for less than two months, the customer operations team will estimate consumption during the bridged period and process a correction. If the meter is bridged for more than two months, the customer operations team will advise the revenue assurance team via email that a correction is required.

I found there are less bridged meters than previously, largely due to the contractors now having the ability to reconnect on-site using a handheld device, rather than bridging. ICP 0000220411UN51A was unbridged during the audit period on 14 November 2023, after being bridged since 9 October 2019. Consumption was correctly calculated for the required 14-month revision period, but there was approx. 3,500 kWh not submitted for the period prior to September 2022. Compliance is recorded in this section, because the "best estimate" was used to calculate consumption. However, non-compliance is recorded in **sections 2.1, 12.2** and **12.7**, because correction was not conducted as soon as practicable.

I checked the bridged meters recorded in the previous audit and found that corrections were not conducted for 14 ICPs. Non-compliance was recorded in the previous audit report in this section, and I have repeated the non-compliance, and I've recorded non-compliance again in **sections 2.1, 12.2** and **12.7** because revisions have not been conducted. The table below shows the relevant ICPs.

ICP	Recertified?	MEP notified within one business day?	Recertified within five business days?	Consumption corrected?	Bridge start	Bridge end	Comments
0000546699NR464	Yes	No	No	No	13 March 2023	31 March 2023	Not corrected, now outside the 14-month window
0000703329HB305	Yes	No	No	No	29 March 2023	4 December 2023	Not corrected, part of the period now outside the 14-month window
0000712186NVB14	Yes	No	Yes	No	3 April 2023	14 April 2023	Not corrected, now outside the 14-month window
0145001784LCA7E	No	No	No	N/A	26 April 2023	16 February 2024	Switched out 16 February 2024, site visits confirmed the site was vacant and undergoing renovations.
0000532548WT806	Yes	No	Yes	No	5 May 2023	12 May 2023	Not corrected. Revision can be conducted in July 2024
0258003499LCAFB	Yes	No	No	No	6 June 2023	1 September 2023	Not corrected. Revisions can be conducted.
0354747687LCCF9	Yes	Yes	Yes	No	8 June 2023	14 June 2023	Not corrected. Revisions can be conducted.
0407792031LC7B1	Yes	No	Yes	No	2 June 2023	16 June 2023	Not corrected. Revisions can be conducted.
0000029954DE98F	Yes	No	No	No	15 May 2023	29 June 2023	Not corrected. Revisions can be conducted.
0000951141TU620	Yes	No	Yes	No	21 July 2023	29 July 2023	Not corrected. Revisions can be conducted.

ICP	Recertified?	MEP notified within one business day?	Recertified within five business days?	Consumption corrected?	Bridge start	Bridge end	Comments
0000174575UNBA4	Yes	NO	Yes	No	22 July 2023	30 July 2023	Not corrected. Revisions can be conducted.
0000701141TUF42	Yes	No	No	No	18 August 2023	11 September 2023	Not corrected. Revisions can be conducted.
0000183001TP9C3	No	No	No	No	24 August 2023	11 September 2023	Certification is cancelled. Not corrected. Revisions can be conducted.
0454755090LC057	No	No	No	No	25 August 2023	Unknown	Switched out 26 August 2023 still bridged, not corrected for the one day of ownership. Revisions can be conducted.
0000150140UN25F	Yes	No	Yes	No	2 October 2023	6 October 2023	Not corrected. Revisions can be conducted.

The previous audit report recommended that the bridged meter processes be reviewed and improved. The process is now being well managed and controlled. I checked some recent bridged meter corrections during the site audit and the appropriate actions were taken.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.17 With: Clause 2A of Schedule 15.2 From: 13-Mar-23 To: 22-Jun-24	14 ICPs from the previous audit with bridged meters had no correction processed. Potential impact: Medium Actual impact: Medium Audit history: Twice Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as moderate because the process is now well managed, but there are still some corrections to be conducted from the previous audit. The impact on settlement is expected to be medium based on the total number of bridged days of 500 across the 14 ICPs. At 25 kWh per day this is 12,500 kWh

Actions taken to resolve the issue	Completion date	Remedial action status
We have calculated the consumption of bridged time periods and PUNZ have begun the internal processes to have these consumption values reflected in Gentrack. We have also begun the customer engagement.	21/07/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Additional training has been added around the use of the consumption calculator. Training has also been given on asking MEPs/Networks to have contractors clarify whether an unbridging of a meter or a relay has occurred.	21/07/2024	

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

Code reference

Clause 11.30

Code related audit information

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

Audit observation

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

Audit commentary

ICP identifiers are included on invoices and price change notifications.

Audit outcome

Compliant

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

Code reference

Clause 11.30A

Code related audit information

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

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

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

Audit observation

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

Audit commentary

Clear and prominent information on Utilities Disputes is provided:

- on invoices for Pulse customers,
- in Pulse's terms and conditions,
- on Pulse's website under https://www.pulseenergy.co.nz/feedback-or-complaints/,
- as part of the interactive voice recording message for inbound calls,
- as part of the email footer for all outbound emails, and
- all addressed customer communications including planned outages, vacant and overdue letters.

As reported in the last audit, the web chat channel does not include any reference to Utilities Disputes. I have repeated the recommendation to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Promotion of the Utilities Disputes service	Include reference to the Utilities Disputes service in the Chat channel.	We have placed the utilities Disputes Information in additional forms of communication.	Adopted

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.19 With: Clause 11.30A From: 10-Oct-23 To:15-Mar-24	Information on Utilities Disputes is not provided in the chat channel. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as the messaging has been added to the chat channel. The audit risk rating is assessed to be low as it is being provided with the exception of the web chat channel.

Actions taken to resolve the issue	Completion date	Remedial action status
We have placed the Utilities Disputes Information in additional forms of communication.	23/7/24	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Our Marketing and disputes team will update future forms of communication with the Utilities Disputes information.	Ongoing	

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

Code reference

Clause 11.30B

Code related audit information

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

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

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

Audit observation

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

Audit commentary

Clear and prominent information on Powerswitch is provided:

- on the website under https://www.pulseenergy.co.nz/feedback-or-complaints/, and
- on invoices for Pulse customers

Examination of the price change information found that Powerswitch was not provided on the letter but was on the accompanying invoice. This information should be provided on all communications as stand-alone documents. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.20 With: Clause 11.30B From: 10-Oct-23 To:15-Mar-24	Information on Powerswitch not provided on some price change letters. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate as the information is provided on all but one letter type. The audit risk rating is assessed to be low as it is being provided with the customer's invoice and is available on the website.

Actions taken to resolve the issue	Completion date	Remedial action status
We have placed the Powerswitch Information in additional forms of communication.	23/7/24	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Our Marketing and disputes team will update future forms of communication with the Utilities Disputes information.	Ongoing	

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

The requirements of this clause are understood and managed by Pulse, and there were no examples identified where points of connection did not have ICPs.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

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

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

Audit commentary

Status updates

Pulse updates the ICP status once they receive confirmation that the ICP has been disconnected or reconnected from the MEP or contractor. A spreadsheet of service order records is maintained and used to monitor progress of disconnection and reconnection jobs twice weekly, to ensure that they are completed, and paperwork is received.

Status updates to the registry are made via Gentrack. The status update process is multi-step and the operations team update the status sheet (used to bill customers), memo the account, and then process the status update in Gentrack which is transferred to the registry. The timeliness of updates to the registry is improving with revenue assurance cases being worked on a daily basis and a fully trained team in place.

Reconnections

Status	Review period end	ICPs notified greater than five days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	Jan 2019	173	62%	15
	Oct 2019	375	78%	10
	2020	156	90%	3.3
	2021	122	90.02%	3.05
	Mar 2022	47	94.19%	2.25
	Oct 2022	42	95.29%	2.15
	2023	204	83.96%	7.89
	2024	**86**	**87.84%**	**7.08**

The 86 late updates were reviewed:

Late updates	Within ten business days	Within 30 business days	Within 90 business days	Within 365 business days	Within 495 business days
86	26	59	75	85	86

An extreme sample of the ten latest updates were reviewed and found that all were identified by reviewing the consumption of disconnected ICPs. The incorrect "active" date was applied to two ICPs due to human error. These should have been recorded with a continuous supply:

ICP	Disconnection date	Next "active" date	Days with incorrect status
0000009424NTC90	11 April 2023	15 April 2023	3
000093476WWFE4	1 August 2023	4 August 2023	2

I recommend that if the site has never been disconnected that the disconnection event is reversed rather than adding a subsequent "active" update. This is recorded as non-compliance in **sections 2.1** and **3.9**.

Recommendation	Description	Audited party comment	Remedial action
Status events	Reverse incorrect status events rather than add a new status event.	Gentrack system currently does not having a function to reverse Registry event We are working with Gentrack to improve this.	Investigating

A typical sample of ten updates most recently completed were reviewed and found that:

- four were due to the late return of paperwork,
- five were due to human error in processing so that the status event wasn't sent to the registry at the same time as the account was made current in Gentrack, and
- ICP 0075382429WE490 was a revenue assurance case that was corrected back to the date consumption was detected.

Disconnections

Status	Review period end	ICPs notified greater than five days	Percentage on time[1]	Average Business Days between Status Event and Status Input Dates
Inactive	Jan 2019	60	88%	20
	Oct 2019	93	98.2%	2
	2020	635	99%	1
	2021	25	98.87%	1.22
	Mar 2022	29	98.00%	1.05
	Oct 2022	15	98.92%	0.69
	2023	59	97.15%	4.34
	2024	**23**	**98.14%**	**1.93**

The 23 late updates were reviewed:

Late updates	Within ten business days	Within 30 business days	Within 90 business days	Within 365 business days
23	5	10	16	23

Timeliness of disconnections has been consistent for the last seven audits. I checked the three latest (or all late) status updates to each disconnection status reason code:

- seven were delayed by late notification that the disconnection had been completed,
- two were initially missed due to human error, and
- ICP 0009921058WWC10 was not late but the disconnection reason was changed from "disconnected at pole fuse" to "vacant disconnected"; Pulse records the method of disconnection wherever possible, and this was updated in error but has no effect on reconciliation as the ICP was already disconnected.

All of the late updates sampled were processed for the correct date. The accuracy of the disconnection reasons applied is discussed in **section 3.9**.

Trader updates

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

Review period end	ICPs notified greater than five days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Oct 2019	261	75.1	23
2020	212	88%	2.75
2021	352	95.89%	2.69
Mar 2022	499	97.48%	0.91
Oct 2022	1,107	85.13%	3.89
2023	1,142	81.82%	6.26
2024	**447**	**82.54%**	**9.56**

The 447 late updates were reviewed:

Late updates	Within ten business days	Within 30 business days	Within 90 business days	Within 365 business days
447	129	386	417	433

I checked an extreme sample of late updates as described in the table below:

ANZSIC updates - changes	I checked the five latest ANZSIC code changes of the 20 late ANZSIC updates and found: • three were due to the change from a BTS to permanent connection, and • two were corrections.
MEP nominations	I checked the ten latest MEP nominations of the 125 late MEP nominations and found: • four were due to late notification from the MEP, • three were due to the Gentrack patch update that stopped MEP nominations being sent, • two were profile changes to backdate the profile to where smart reads were being received and this picked up an earlier MEP nomination and resent it to the registry, and • one was due to human error.
Profile updates	I checked the five latest profile changes of the 43 late profile updates and found: • four were due to the late addition of the distributed generation which were identified as exceptions from the automated DG update process, and • ICP 0001418644BU71C had a meter change which caused Gentrack to update the profile to HHR PV1; this was identified as an exception and corrected and has been raised as an issue with Gentrack to investigate. •

Submission type changes	I checked the ten latest submission type changes of the 246 late submission type updates and found: • eight were due to ANZSIC corrections; these were backdated to align with an earlier profile change, and • two were due to a profile change from RPS to HHR back to when AMI reads stopped being received.
Unmetered load changes	I checked all five late unmetered load changes and found they were corrections to unmetered load values as a result of the last audit.

I checked the accuracy of a sample of 35 trader updates and identified all were correctly recorded but one ICP (0001418644BU71C) as detailed above. This is recorded as non-compliance in **section 2.1**.

The AC020 report recorded 31 ANZSIC code updates more than 20 business days after initial electrical connection or switch in. I checked an extreme sample of five ICPs and found that four were due to the new connection issue (detailed in **section 3.5**) that delayed the updating of new connections to the registry, and this included the ANZSIC code and ICP 0005329558RN26F was late due to a backdated switch.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 Schedule 11.1 From: 10-Oct-23 To:15-Mar-24	86 late updates to “active” status. 23 late updates to “inactive” status. 447 late trader updates. 31 ANZSIC code updates more than 20 business days after initial electrical connection or switch in. 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 recorded as moderate. Pulse has made improvements with controls but there are still some improvement opportunities. The audit risk rating is assessed to be low as the overall volume of late updates has decreased since the last audit.

Actions taken to resolve the issue	Completion date	Remedial action status
ANZSIC - Sometimes Gentrack request was not send/acknowledged to Registry. Sometimes the issue is being overlooked until later, but PUNZ have been improving our processes to better monitor them.	1/8/24	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Have taken auditor’s advice after each audit and improved PUNZ’s ANZSIC report. The number of mismatches has been decreasing.	Ongoing	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

The new connection, MEP nomination and decommissioning processes were reviewed, and the registry list and audit compliance reports were examined to confirm process compliance. A sample of MEP nomination rejections and decommissioned ICPs were examined.

Audit commentary

Retailers responsibility to nominate and record MEP in the Registry

The new connection process is discussed in detail in **sections 2.9**. Pulse have adopted the last audit's recommendation that the "inactive - new connection in progress" status be used. The ICP is now claimed in the registry as a "inactive - new connection in progress" and an MEP nomination is sent to the registry at the same time. Rejected nominations appear in the MEP nominations work queue. Queue items are closed if the MEP nomination was issued in error and is not required, or the nomination is checked and reissued. All new connections had an MEP nominated.

The AC020 report recorded eight ICPs that are "active" with a metering category of nine or blank. All were checked and found:

- seven were due to timing and the metering has since been loaded to the registry by the MEP, and
- as reported in the last two audit's ICP 0005504181ML99B is the cookhouse on Molesworth Station:
    - Pulse have received pictures from 7 August 2023 showing the meters are still installed, despite the MEP removing them in the registry,
    - I checked the Gentrack and Cobra records, which still showed the original meter being removed on 26 March 2021, because the MEP had not corrected the registry which meant that no consumption was being calculated for the period 26 March 2021 to 8 May 2024,

- the installation was recertified on 8 May 2024, the registry is now populated, and the old meter has now been reinstated in Cobra, and
- consumption is being calculated for the entire period however, revisions will only go back to May 2023 and submission will not occur for the 26-month period prior to that date, which is approximately 30,000 kWh - it has been confirmed that this ICP was always metered, therefore non-compliance is recorded in **sections 2.1, 12.2** and **12.7**.

ICP Decommissioning

Pulse continues with their obligations under this clause. ICPs that are vacant and either "active" or "inactive" are still maintained in their systems. When an ICP is decommissioned, an attempt is made to read the meter at the time of removal and if this is not possible then the last actual meter reading is used. This last actual reading is normally the one taken at the time of disconnection. Pulse also advises the MEP responsible that the site is to be decommissioned, or has been decommissioned, dependent on the distributor's process.

A sample of ten ICPs were examined and confirmed that an attempt to read the meter was made at the time of removal, and the MEP was notified. The accuracy of the disconnection dates applied is discussed in **section 3.9**.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

New connection information timeliness

The new connection process is described in detail in **section 2.9**. The timeliness of status updates to "active" (for new connections) is set out in the table below.

Review period end	ICPs notified greater than five days	Percentage on time	Average Business Days between Status Event and Status Input Dates
2021	216	86.06%	4.83
Mar 2022	19	89.27%	3.63
Oct 2022	27	82.58%	4.81
2023	107	57.03%	15.67
2024	**43**	**53.76%**	**17.56**

The 43 late updates were reviewed:

Late updates	Within ten business days	Within 30 business days	Within 60 business days	Within 90 business days	Within 100 business days
43	8	18	38	42	43

I examined a sample of the five latest updates (extreme sample) and the five most recent late updates (typical sample) and found that these were updated late due to two issues:

- six were late due to a Gentrack patch upgrade in November 2023 which was not expected to affect the production but stopped new connections flowing to the registry as discussed in **section 2.1**, and
- internal delays either waiting for the MEP to load metering to the registry or late paperwork.

Pulse have adopted the last audit's recommendation that the "inactive - new connection in progress status be used. The ICP is now claimed in the registry as a "inactive - new connection in progress and an MEP nomination is sent to the registry at the same time. 29 of the 43 late updates also had a late MEP nomination as these occurred before the process was changed. The AC020 report recorded that all ICPs had an MEP nomination accepted within 14 business days.

New connection information accuracy

As reported in the last audit, Pulse had a new connection report which was monitored monthly. It compared new connection ICP details in Gentrack and the registry and recorded the consumer and service order status. It was used to monitor new connection progress, but this is now done by monitoring the open status jobs which are queued. I recommended that the report be reintroduced as it identified discrepancies between Gentrack and the registry. Alternatively, the audit compliance report could be used as this identifies any differences between the first "active" date, the initial electrical connection date, and the meter certification date. This recommendation has not been adopted so I have repeated it:

Recommendation	Description	Audited party comment	Remedial action
New connection report	Use the new connection report or the audit compliance report to monitor data accuracy for new connections.	We will use the new connection report and monitor new connections in our monthly Audit meetings.	Identified

There were no new connections with unmetered load, or metering categories higher than 1.

The AC020 report recorded 18 ICPs which had an initial electrical connection date populated and which remained at "ready" status. These were examined and found:

- five have since been updated to "active" as part of BAU,
- 11 of these were delayed due to the Gentrack patch upgrade in November 2023 which was not expected to affect the production but stopped new connections flowing to the registry as discussed in **section 2.1** - they have been made "active",
- as reported in the last audit, the initial electrical connection date was populated in error by the distributor for ICP 0003442907BU630,
- as reported in the last audit, ICP 0000010622EA5F6 has been created as part of Electricity Ashburton's ICP deconsolidation project:
    - Pulse hold the existing ICP's for this customer,
    - the distributor was required to create an ICP for each point of connection to the network,
    - this is an historic issue and I have repeated the last audit's recommendation in **section 3.10**, that Pulse work with the network and the customer to resolve this and five others in the same category.

"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 18 ICPs with date discrepancies. 14 were timing differences and the initial electrical connection date and/or meter certification date were later updated to be consistent with Pulse's "active" status update. The other four differences were checked:

Exception type	Quantity	Quantity incorrect	Commentary
"Active" date = MCD and no IECD	1	0	Pulse's "active" date was confirmed correct.
Active date ≠ MCD or IECD	3	3	Pulse's "active" date was incorrect for all three ICPs. The dates have been corrected for two of the three ICPs. These are detailed in **section 2.11**.
Total	**4**		

I rechecked the ICPs recorded as being incorrect in the last audit and found all have been corrected. The delay in correcting ICP 0110013434EL6DF has caused this to outside of the 14-month revision period so submission will not be corrected. This is recorded as non-compliance in **sections 2.1** and **12.7**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 of schedule 11.1 From: 10-Oct-23 To:15-Mar-24	43 (53.76%) late updates to "active" status for new connections. Three ICPs (1000028767BPDCA, 1002184581UNE18 and 0001116801BUBEE) with the incorrect first "active" date. 29 late MEP nominations for new connections. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate with room for improvement. The audit risk rating is assessed to be low as the number of ICPs affected is small.

Actions taken to resolve the issue	Completion date	Remedial action status
Issues with sign up process identified and training corrected for Sales and Care agents	18/07/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refresher training will continue ongoing and Process documents have been corrected.	Ongoing	

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

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

Audit commentary

On switch in or new connection Pulse's customer care team check ANZSIC codes and update them as necessary. A monthly ANZSIC comparison report is reviewed, which shows the ANZSIC codes for ICPs with different charge classes in Gentrack and the registry. This check now includes ICPs where the ANZSIC code is missing or unknown and ANZSIC code discrepancies between the Gentrack and the registry.

The AC020 recorded:

- three ICPs with T99/T994 unknown ANZSIC codes; all have since been updated to as part of BAU,
- four ICPs with metering category two had residential ANZSIC codes; all have previously been confirmed to be correct, and
- no ICPs with metering category three or above had residential ANZSIC codes.

To confirm the validity of the ANZSIC codes selected I checked a diverse sample of 80 "active" ICPs across the ten most popular ANZSIC codes. 56 were confirmed to be correct. 24 (30%) were found to be incorrect. This included 14 ICPs recorded as residential construction that are now residential.

I checked the last audit's recommendations and have repeated two of these to maintain visibility as they are in progress:

Description	Recommendation	Audited party comment	Remedial action
ANZSIC code at switch in	Review the switch in process to ensure the ANZSIC code determined at sign up is not overwritten by the registry. This is in progress but is repeated to maintain visibility.	Set reminder in training for agents to briefly check that ANZSIC code in Registry matches the property during sign up process.	Identified
Management of residential building construction code	Include an update to the ANZSIC code to residential when the BTS to permanent supply change is made.	**P**rocess is in place to monitor BTS to PERM. These are reviewed on a case-by-case basis so progress might seem slow, but it is definitely improving.	Identified

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: 9 (1(k) Schedule 11.1 From: 10-Oct-23 To:15-Mar-24	24 (30%) of a sample of 80 ICPs with the incorrect ANZSIC codes applied. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded to be moderate overall but there is room for improvement. The audit risk rating is assessed to be low as this has no direct impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
ANZSIC updated in Gentrack for most ICPs, some requires further confirmation with customer but will be updated eventually.	13/06/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Added BTS to PERM checks to ANZSIC process.	30/06/2024	

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

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

Audit observation

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

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

Audit commentary

Unmetered load submissions are calculated in Cobra from the registry daily unmetered kWh x the "active" ICP days during the reconciliation period. The billing team receives a notification from Gentrack if there is a discrepancy between the unmetered load details recorded in Gentrack and on the registry. Any discrepancies are investigated.

Pulse supplies 24 ICPs with unmetered load indicated. Eight have shared unmetered load and 16 have standard unmetered load. No distributed unmetered load or unmetered builder's temporary supplies are supplied.

The registry list and AC020 reports was reviewed to check the accuracy of unmetered load details:

- no ICPs had the unmetered flag set to yes but the daily kWh was blank or zero,
- the load matched the distributors load for the 20 ICPs where the distributor's load could be calculated, and
- ICP 0000030682WE042 has more than ± 0.1 kWh difference to the distributor value; I checked the calculations and found all the shared unmetered load has been recorded by Pulse when only a quarter should be, resulting in a very minor over submission of 59 kWh per annum; this is recorded as non-compliance below and in **sections 2.1** and **5.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9 (1)(f) Schedule 11.1 From: 10-Oct-23 To:15-Mar-24	One ICP with the incorrect shared unmetered load recorded. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong as the process is robust to manage discrepancies. The audit risk rating is assessed to be low as only one ICP was identified with the incorrect unmetered load, and this was corrected during the audit.

Actions taken to resolve the issue	Completion date	Remedial action status
This has been corrected now.	1/7/24	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
This will be monitored at monthly meetings and these will be monitored in the non compliance report.	1/8/24	

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

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

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

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

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

Audit commentary

The connection and reconnection processes were examined. The status of an ICP is only changed to "active" once confirmation has been received. Submission information is provided for all "active" ICPs, including "active" vacant ICPs.

Requirements for "active" ICPs

Before being given an "active" status the trader is required to ensure that the ICP has only one customer, embedded generator, or direct purchaser and that the electricity consumed is quantified by a metering installation or other Authority approved method of calculation. Gentrack does not allow more than one party per ICP, nor will it allow an ICP to become "active" without either a meter or a dummy meter (for unmetered load).

Reconnections

The accuracy of updates for reconnections were checked by reviewing a sample of 20 updates to confirm that the correct status and dates were applied. The updates were accurately processed apart from two ICPs. These should have been recorded with a continuous supply:

ICP	Disconnection date	Next "active" date	Days with incorrect status
0000009424NTC90	11 April 2023	15 April 2023	3
000093476WWFE4	1 August 2023	4 August 2023	2

This was due to human error, and I recommend in **section 3.3**, that if the site has never been disconnected that the disconnection event is reversed rather than adding a subsequent "active" update. This is recorded as non-compliance in **section 3.9** as the ICPs were incorrectly recorded as disconnected.

New connections

The AC020 report recorded 18 ICPs which had an initial electrical connection date populated and which remained at "ready" status. These were examined and found:

- five have since been updated to "active" as part of BAU,
- 11 of these were delayed due to the Gentrack patch upgrade in November 2023 which was not expected to affect the production but stopped new connections flowing to the registry as discussed in **section 2.1**; they have been made "active",
- as reported in the last audit, the initial electrical connection date was populated in error by the distributor for ICP 0003442907BU630, and
- as reported in the last audit, ICP 0000010622EA5F6 has been created as part of Electricity Ashburton's ICP deconsolidation project:
    - Pulse hold the existing ICP's for this customer,
    - the distributor was required to create an ICP for each point of connection to the network,
    - this is an historic issue and I have repeated the last audit's recommendation in **section 3.10**, that Pulse work with the network and the customer to resolve this and five others in the same category.

"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 18 ICPs with date discrepancies. 14 were timing differences and the initial electrical connection date and/or meter certification date were later updated to be consistent with Pulse's "active" status update. The other four differences were checked:

Exception type	Quantity	Quantity incorrect	Commentary
"Active" date = MCD and no IECD	1	0	Pulse's "active" date was confirmed correct.
Active date ≠ MCD or IECD	3	3	Pulse's "active" date was incorrect for all three ICPs. The dates have been corrected for two of the three ICPs. These are detailed in **section 2.11**.
Total	**4**		

I rechecked ICP 0007201256RN325 (393 Linwood Ave) identified in the last audit. Pulse have confirmed there is a supply and are resolving access issues to get it disconnected.

I rechecked the ICPs recorded as being incorrect in the last audit and found all have been corrected. The delay in correcting ICP 0110013434EL6DF has caused this to outside of the 14-month revision period so submission will not be corrected. This is recorded as non-compliance in **sections 2.1** and **12.7**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 Schedule 11.1 From: 10-Oct-23 To:15-Mar-24	Three ICPs (1000028767BPDCA, 1002184581UNE18 and 0001116801BUBEE) with the incorrect first "active" date. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate but there is room for improvement. The audit risk rating is assessed to be low as the number of incorrect "active" dates was small.

Actions taken to resolve the issue	Completion date	Remedial action status
Internal training has been completed to make sure that correct Active dates are being used	18/07/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continue refresher training ongoing	ongoing	

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

Code reference

Clause 19 Schedule 11.1

Code related audit information

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

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

Audit observation

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

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

Audit commentary

Inactive - new connection in progress

Pulse have adopted the last audit's recommendation that the "inactive - new connection in progress status be used. The ICP is now claimed in the registry as a "inactive - new connection in progress". Four ICPs are at the "inactive - new connection in progress" status. All are awaiting electrical connection.

Inactive Status (excluding new connection in progress)

The status of an ICP is only changed to "inactive" once confirmation has been received from the agent or MEP. If an ICP needs to be disconnected a service order is sent to the MEP for remote disconnections, to Wells for North Island disconnections or to Delta for South Island disconnections. Once confirmation is received that the disconnection has occurred, Gentrack is updated, which then updates the registry. A comparison between Gentrack and registry statuses is completed as resource allows as discussed in **section 2.1**.

The AC020 report recorded seven ICPs with a status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. These were checked and found:

- for six ICPs the status reason was correct at the time of disconnection and the MEP updated the AMI flag to "N" after disconnection, and
- ICP 0000531539NR1A1 has never been recorded on the registry with an AMI communicating meter; the MEP advised that this was disconnected remotely so the flag is recorded incorrectly on the registry by the MEP.

A diverse sample of ten updates to disconnected statuses were checked, and I confirmed that the updates had the correct status event date and reason code recorded.

As detailed in **sections 3.3** and **3.8**, two ICPs were incorrectly recorded as disconnected due to the incorrect "active" date being applied. These should have been recorded with a continuous supply:

ICP	Disconnection date	Next "active" date	Days with incorrect status
0000009424NTC90	11 April 2023	15 April 2023	3
000093476WWFE4	1 August 2023	4 August 2023	2

This was due to human error, and I recommend in **section 3.3**, that if the site has never been disconnected that the disconnection event is reversed rather than adding a subsequent "active" update. This is recorded as non-compliance below as the ICPs were incorrectly recorded as disconnected.

I rechecked the two incorrect "inactive" status dates found in the last audit and found that neither have been corrected. This is recorded as non-compliance in **section 2.1**.

Inactive ICPs with consumption

Pulse applies disconnection and reconnection reads in Gentrack where these are available. Where a suitable boundary reading is not available, and the read-to-read period is split between "active" and "inactive" periods then the SASV for "inactive" days are excluded from the numerator and denominator which effectively forces all of the consumption into the "active" portion of the read-to-read period. If an entire read-to-read period is "inactive", the numerator and denominator will be zero and no volumes will be calculated.

Pulse applies a daily process described as "Validations on sites with no consumer" which monitors vacant consumption including where this may occur on an "inactive" ICP. This is an operation for a list of sites where a schedule read is retrieved for a vacant ICP and is not automatically validated in Gentrack due to no consumer being present at the ICP. An ICP will drop off the daily list where it switches away or a new customer is identified. The primary function of this process is to manually validate (release) these reads to enable these to be transferred to Cobra and initiate the vacant disconnection process.

There is a step in the process where the user is required to check to see if the ICP is disconnected and if so, has the meter advanced since the previous scheduled meter read was uploaded. The user is required to investigate whether this consumption is genuine and if so then the issuer is required to email the field services & switching team to update the registry status to "active" and reinitiate the vacant disconnection process.

During previous audits, there was an issue with changing the status to "active" for the period where consumption was identified. I checked ten ICPs with "inactive" consumption, and in all cases, the status had been correctly changed to "active" to ensure submission occurred.

One issue identified in the previous audits was the increase in manual disconnections being performed at the meter rather than at the pole fuse or pillar box fuse. This has increased from 8% of disconnections to 17% in this audit. This is likely due to the decreased use of the "disconnected - vacant" status and a truer number of ICPs disconnected at the meter being recorded.

As noted in the last audit, disconnection at the meter makes it much easier for the customer or other party to reconnect without Pulse knowing and results in seals being broken to complete the disconnection task. The quantities of "inactive" status updates by reason description during the audit period are shown in the table below:

Reason code	Count of ICP	%	Reason description
4	595	66%	Electrically disconnected vacant property
6	34	4%	Electrically disconnected ready for decommissioning
7	41	5%	Electrically disconnected remotely by AMI meter
8	76	8%	Electrically disconnected at pole fuse
9	96	11%	Electrically disconnected due to meter disconnected
10	21	2%	Electrically disconnected at meter box fuse
11	33	4%	Electrically disconnected at meter box switch
Grand Total	896	100%	

Pulse had engaged with both field service providers to identify the reasons for these disconnections not being completed at the network fuse point. The underlying issue is with having suitably trained and authorised personnel available in each region to conduct the disconnection at the network fuse point.

There are some networks where the count of meter disconnections exceeds that of network fuse disconnections for these respective network areas. Wells and Delta conduct disconnections for Pulse and I repeat the recommendation from the previous two audits that Pulse takes the following actions to assist with compliance:

- ensure disconnection service requests set expectation that disconnection should be attempted in the first instance at the network fuse point unless it has been verified on site that the ICP shares a network fuse with another ICP or no network fuse point can be identified; this will enable the field service provider to notify Pulse at the time of the request if there are no suitably trained personnel available and allow Pulse to select an alternative agent to perform the task, and

- request regular updates from the respective contracted field service providers informing Pulse of the number of suitably trained and authorised personnel available to undertake disconnections at the network fuse for each network region/distributor; this will enable Pulse to determine the suitability/selection criteria of field service providers for each function and network region.

Recommendation	Description	Audited party comment	Remedial action
Disconnection location	• Ensure disconnection service requests set expectation that disconnection should be attempted in the first instance at the network fuse point. • Request regular updates from the field service providers informing Pulse of the number of suitably trained and authorised personnel available to undertake disconnections at the network fuse for each network region/distributor.	We have discussed this with the MEP's and they are hesitant to disconnect at the fuse point because of health and safety reasons. These are escalated to the correct teams to implement the necessary changes. We will work on improving these processes.	Investigating

Whilst the use of status reason code 4 (electrically disconnected vacant property) has reduced, I have repeated the last audit's recommendation to stop using this status and recorded the method of disconnection. This will enable Pulse to effectively monitor the method of disconnection from an SLA perspective and it will also assist gaining traders to assign the correct field service providers (FSP) where a reconnection is required as part of the switching activity.

Recommendation	Description	Audited party comment	Remedial action
Review use of status reason code 4 – electrically disconnected vacant property	Pulse to apply status reason codes that describe the method of disconnection to support monitoring that the most suitable disconnection methodology by the relevant FSP.	We will work with the MEP's and customers to improve this information.	Investigating

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 10-Oct-23 To:15-Mar-24	Two ICPs (0000009424NTC90 and 000093476WWFE4) of a sample of 20 reconnected ICPs checked incorrectly recorded as disconnected. Potential impact: Low Actual impact: Low Audit history: multiple times previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Errors identified caused by human error, reiterated to team requirement for data accuracy at all times	18/07/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continued team refresher training sessions	ongoing	

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

Code reference

Clause 15 Schedule 11.1

Code related audit information

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

Audit observation

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

Audit commentary

When Pulse is notified of a new connection where they have been nominated, they wait for a customer application before progressing the connection. Pulse have adopted the last audit's recommendation that the "inactive - new connection in progress" status be used. The ICP is now claimed in the registry as a "inactive - new connection in progress" and an MEP nomination is sent to the registry at the same time. 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.

New status

No ICPs are currently at "new" status, with PUNZ indicated as the proposed trader.

Ready status

86 ICPs were recorded at the "ready" status and ten have been at the status for more than 24 months. These were started prior to the change of process where "inactive - new connection in progress" step was implemented. These were examined and found five relate to distributor deconsolidation projects. As detailed in the last audit, these ICPs have been created as the distributor is required to create an ICP for each point of connection to the network. This is an historic issue and I repeat the last audit's recommendation that Pulse work with the relevant network and customers to resolve these.

Recommendation	Description	Audited party comment	Remedial action
ICPs at ready created as part of network deconsolidation projects	Liaise with the relevant distributor to progress the five ICPs that have been created to comply with the code requirement to have an ICP per connection point.	We will work with the relevant distributors to move the ICPs at ready status. We will work with Gentrack and create reports to monitor and improve this.	Investigating

The remaining four have been confirmed as not required as part of BAU and are with the networks to progress.

Audit outcome

Compliant

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

4.1. Inform registry of switch request for ICPs - standard switch (Clause 2 Schedule 11.3)

Code reference

Clause 2 Schedule 11.3

Code related audit information

The standard switch process applies where a trader and a customer or embedded generator enters into an arrangement in which the trader commences trading electricity with the customer or embedded generator at a non-half hour or unmetered ICP at which another trader supplies electricity, or the trader assumes responsibility for such an ICP.

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

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

Audit observation

The switch gain process was examined to determine when Pulse deem all conditions to be met. A typical sample of NTs 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

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

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

I checked the metering category for the 3,360-transfer switch ICPs where this information was available on the PR255 report and found none had metering categories of three or above.

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

All transfer switches are sent with the RPS profile. If distributed generation is present, then the profile should be RPS PV1. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: Clause 2 of schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Incorrect profile sent for all ICPs with distributed generation present. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate but there is room for improvement. The impact is low as the majority of NT files are sent with the correct profile code.

Actions taken to resolve the issue	Completion date	Remedial action status
Query raised with GT team to check on the issue as we are unaware why this is getting created	10/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Query raised with GT team to check on the issue as we are unaware why this is getting created	10/07/2024	

4.2. Losing trader response to switch request and event dates - standard switch (Clauses 3 and 4 Schedule 11.3)

Code reference

Clauses 3 and 4 Schedule 11.3

Code related audit information

Within three business days after receiving notice of a switch from the registry manager, the losing trader must establish a proposed event date. The event date must be no more than 10 business days after the date of receipt of such notification, and in any 12-month period, at least 50% of the event dates must be no more than five business days after the date of notification. The losing trader must then:

- *provide acknowledgement of the switch request by (clause 3(a) of Schedule 11.3):*
- *providing the proposed event date to the registry manager and a valid switch response code (clause 3(a)(i) and (ii) of schedule 11.3); or*
- *providing a request for withdrawal of the switch in accordance with clause 17 (clause 3(c) of schedule 11.3).*

When establishing an event date for clause 4, the losing trader may disregard every event date established by the losing trader for an ICP for which when the losing trader received notice from the registry manager under clause 22(a) the losing trader had been responsible for less than 2 months.

Audit observation

The event detail report was reviewed to:

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

The switch breach history report was examined.

Audit commentary

AN timeliness

AN files are generated by Gentrack. If the file is unable to be issued, or the registry issues an acknowledgement indicating the file was rejected the ICP will be directed to an error queue in Gentrack for resolution.

The switch breach history report is monitored twice daily to ensure that AN and CS files are issued on time. The switch breach history report for the audit period recorded no breaches.

AN content

AN response codes are determined from Gentrack's ICP status and technical details (including the unmetered flag, and advanced metering flag). The codes are applied according to a hierarchy which ensures that the AA (acknowledge and accept) code is only applied where none of the other codes apply. Users can manually change the AN response codes and event dates in Gentrack before the AN file is issued where necessary. AN proposed event dates are set to the NT requested date unless that date will cause non-compliance, and then a NW file is issued.

As reported in the last two audits, Gentrack's technical details are not updated after the ICP is connected or switches in, and this resulted in some incorrect AN codes being applied where the technical details had changed. I have repeated the recommendation to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Update of Gentrack's ICP technical details	Update the Gentrack ICP technical details where this information changes on the registry. This will help to ensure that AN codes are correctly applied.	GT background processes are checked to be correct. Communication between GT and registry looks ok for the AMI flag information to flow through correctly.	Identified

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

Response code	Quantity of ANs	Possible incorrect	Sample	Quantity incorrect	Findings
AA (acknowledge and accept)	94	10	All	7	87 had the correct AN code applied. Seven had the incorrect code due to the AMI flag not being updated in Gentrack to Y and AD should have been sent.
AD (advanced metering)	3,186	25	11	0	All 11 ICPs sampled had the correct AN code applied at the time the AN file was sent. Six were credit disconnected shortly after the AN file was sent. I recommend below to investigate if AN files can be sent after credit disconnections are processed each day so that AN codes can be more accurate.
MU (unmetered supply)	2	0	0	0	Both had the correct AN code applied.
PD (premises electrically disconnected)	21	6	All	2	Four were sent with the correct AN code applied. ICPs 1099568974CN490 and 0149289022LC12C were sent with the incorrect code as Gentrack incorrectly picked up an earlier status.
Total	**3,366**	**41**	**27**	**9**	

Description	Recommendation	Audited party comment	Remedial action
AN code	Investigate if AN files can be sent after credit disconnections are processed each day so that AN codes can be more accurate.	AN files cannot be delayed just to wait for disconnection status to be updated as this based on time we receive paperwork from contractor. AN files are mostly sent automatic from GT.	Not adopted

The event detail was reviewed for all 3,366 transfer ANs to assess compliance with the setting of event dates requirements. 3,320 ANs (98.6%) had proposed event dates within five business days of the NT receipt date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: Clauses 3 and 4 of schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Nine of the 3,366 transfer ANs checked had an incorrect AN response code. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because correct codes are applied unless the ICP technical details have changed and not been updated in Gentrack, or a user has manually entered an incorrect AN response code. The impact is low because there is no impact on settlement, and information on ICP status, unmetered load and metering is available to the other trader on the registry.

Actions taken to resolve the issue	Completion date	Remedial action status
Communications between GT and registry checked to be ok and also as far as we are aware priorities are set correctly in GT. Training provided to team to select correct AN code when sending manually.	10/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Query has been raised with Gentrack team to check further what is causing this issues and re-check AN hierarchy too.	10/07/2024	

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report was reviewed to identify CS files issued by Pulse during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records. The content checked included:

- correct identification of meter readings and correct date of last meter reading,
- accuracy of meter readings, and
- accuracy of average daily consumption.

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

The process to manage the sending of the CS file within five business days of the event date was examined, and the switch breach history reports for the audit period were reviewed to identify late CS files.

Audit commentary

CS timeliness

CS files are generated by Gentrack. If the CS is due but has not been released within three business days of NT receipt, the file is not acknowledged by the registry, or the registry issues an acknowledgement indicating the file was rejected, the ICP will be directed to an error queue in Gentrack for resolution.

The switch breach history report is monitored twice daily to ensure that CS files are issued on time. The switch breach history report for the audit period found:

- three E2 breaches of which one was subsequently withdrawn and the other two were examined and found all were due to a resource constraint. The team is fully staffed and there have been no late files since October 2023.
    - 54 CS breaches which were all sent six days after the CS event date and all in October 2023; a sample of six were examined and found all were due to a resource constraint. The team is fully staffed and there have been no late files since October 2023……

CS content

The registry functional specification requires average daily kWh to be based on the average daily consumption for the last validated read-to-read period. Gentrack now calculates the average daily consumption from the last two actual validated readings.

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

Average daily kWh	Quantity of TR CS	Sample checked	Quantity incorrect	Comment
Negative	-	-	-	Compliant.
Zero	31	5	2	Two were calculated using final estimates rather than actual reads. These occurred before Gentrack was fixed.
More than 200 kWh	6	All	0	Compliant.
Total	**8**	**8**	**2**	

I checked the 3,229 transfer switch CS files for inconsistencies between last actual read dates and switch event read types, and checked the one exception:

- one CS file (ICP 0000048803HR614) had an estimated switch event read where the last actual read date was on the switch event date.

A further three examples were identified in **section 4.10** where the last read date is either on the event date or after the event date. I recommend below that this scenario is reviewed so only reads during the period of supply are used.

Description	Recommendation	Audited party comment	Remedial action
CS content accuracy	Review use of reads post the period of supply in CS files.	This is currently being looked into the GSD-2185 and i am sure our team is well aware that only read during the period of supply can be used and not the ones outside of our timeframe.	Investigating

The accuracy of the content of a further five CS files was checked and found no errors.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 Schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Two of a sample of five ICPs sent with an incorrect average daily consumption of zero. One CS file sent with a last actual read outside of the period of supply. Three E2 breaches 54 CS breaches Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate as they mitigate risk most of the time but one area for improvement was identified. The audit risk rating is assessed to be low as the impact on settlement and participants is estimated to be minor.

Actions taken to resolve the issue	Completion date	Remedial action status
GSD-2185 has been raised with Gentrack to investigate on the CS file picking up incorrect last actual read and last actual read date.	16/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are still investigating and working on the root cause of this issue to prevent this from happening. Training has been provided to team to use correct reads and date when finalising sites manually and within complaint timeframe.	16/07/2024	

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

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

6A Gaining trader disputes reading.

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

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

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

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

Audit observation

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

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

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

The switch breach history 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 triggered in Gentrack. The user enters the required readings into Gentrack's "switch read dispute" screen. Users select the read type.

AC files are reviewed on receipt. If they are rejected, no action is required unless Pulse decides to reissue the RR. If accepted, the billing team is notified, and they manually enter the reading into Gentrack and rebill the customer as necessary. The reads are then transferred from Gentrack to Cobra. Switch event reads which are automatically transferred from Gentrack to Cobra default to actual read type.

Pulse issued 15 RR files for transfer switches. 14 were accepted and one was rejected. The rejected file and a typical sample of five accepted files were checked to determine whether there was a valid reason for the RR, the RR content was correct, and that Gentrack and Cobra reflected the outcome of the RR process. This found that the reads for all six RRs checked (ICPs 0005507300ML873, 0000022788EA410, 0000187573CT1E9, 0000363087MPAC0, 0000575268NR7FB and 0000056799CP275) were not correctly recorded in Gentrack. The reads were correct in Cobra, but all estimated reads were recorded as actual reads. The read label is expected to be corrected when Gentrack is upgraded.

As discussed in **section 2.1**, the Gentrack patch update affected the sending of RR files to the registry, so these were sent manually until the issue was corrected. The switch breach history report recorded one RR breach. This was sent late due to access difficulties which delayed getting reads.

AC

All RR requests received from other traders are evaluated against meter reading information. If the request is within validation requirements these are accepted. If an RR is accepted the switching team will add the reads to Gentrack and rebill the customer if the ICP is not vacant. The reads are then transferred from Gentrack to Cobra, and default to actual read type.

Pulse issued 60 AC files for transfer switches. 50 were accepted and ten were rejected. A sample of ten RRs, including five accepted and five rejected files, were checked to determine whether there was a valid reason for the RR, the RR content was correct, and that Gentrack reflected the outcome of the RR process. The reads recorded in Cobra did not match the RR content for three ICPs (0383544610LC93C, 0237665891LC1D0 and 0000047395NTE30). This is due to Cobra ignoring the start read and using an actual read if available. Pulse is investigating this issue.

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

Application of incoming CS reads

Review of five transfer CS files with estimated reads where no RR was issued confirmed that the correct readings was recorded in Gentrack but not in Cobra. This is due to the same issue identified detailed above. Cobra is ignoring the start read and using an actual read if available. Pulse is investigating this issue. There were 355 CS files received with estimated readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: 6(1) and 6A Schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Reads for the sample of six RRs checked of a possible 15 RR files sent were not correct in Gentrack. All agreed estimated switch reads were recorded with an actual read type in Cobra. Reads in Cobra did not match the AC file for three of a sample of ten ICPs checked. One RR breach. Estimated reads not used in Cobra for all five CS files sampled received with estimated start reads of a possible 355 CS files received with estimated readings. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as weak as the process in place is not ensuring the reads are being correctly recorded in Gentrack or Cobra. The audit risk rating is assessed to be medium due to the number of potential ICPs affected.

Actions taken to resolve the issue	Completion date	Remedial action status
Training for RR breach has been completed as non compliance was due to human error. We are investigating with our billing team and Gentrack to understand why the incorrect reading is displayed even though the correct reading is being sent to the registry and is on the customer invoice. Cobra - PUNZ has a script for Cobra to check for missing read date in Cobra and it will attempt to import actual reads from Prada instead. Then, when Gentrack reads are being validated in Cobra, Cobra prioritises the existing actual read from Prada over the estimate reads in Gentrack.	16/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
RR reads are correctly sent and customers have been billed correctly- all information checked. We have raised this issue with our billing team who will work with Gentrack to resolve this issue.	16/07/2024	

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

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

Audit commentary

Pulse did not issue any RR files under clause 6(2) and (3) schedule 11.3.

30 RR files were issued by gaining traders within five business days of CS receipt, where the gaining trader had listed a HHR profile in their NT file and the transfer switch CS event read was estimated. 28 were accepted by Pulse, and two were rejected so that the customer cancellation withdrawals could be processed.

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

I confirmed with Pulse whether any disputes have needed to be resolved in accordance with this clause.

Audit commentary

No disputes were raised 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 Pulse deem all conditions to be met. A typical sample of NTs 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

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

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

I checked the metering category for the 3,660 switch move ICPs where this information was available on the PR255 report and found none had metering categories of three or above.

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

All transfer switches are sent with the RPS profile. If distributed generation is present, then the profile should be RPS PV1. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.7 With: Clause 9 of schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Incorrect profile sent for all ICPs with distributed generation present. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate but there is room for improvement. The impact is low as the majority of NT files are sent with the correct profile code.

Actions taken to resolve the issue	Completion date	Remedial action status
We have raised this with the Gentrack team to review and update logic in the system.	10/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have raised this with the Gentrack team to review and update logic in the system. - GSD-2186	10/07/2024	

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report was reviewed to:

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

The switch breach history report was examined.

Audit commentary

AN and CS timeliness

AN and CS files are generated by Gentrack. If an AN file is unable to be issued, or the registry issues an acknowledgement indicating the file was rejected, the ICP will be directed to an error queue in Gentrack for resolution.

If a CS is due but has not been released within three business days of NT receipt, the file is not acknowledged by the registry, or the registry issues an acknowledgement indicating the file was rejected, the ICP will be directed to an error queue in Gentrack for resolution.

The switch breach history report is monitored twice daily to ensure that AN and CS files are issued on time.

AN content

AN response codes are determined from Gentrack's ICP status and technical details (including the prepaid metering flag, unmetered flag, and advanced metering flag). The codes are applied according to a hierarchy which ensures that the AA (acknowledge and accept) code is only applied where none of the other codes apply. Users can manually change the AN response codes and event dates in Gentrack before the AN file is issued where necessary. AN proposed event dates are set to the NT requested date unless that date will cause non-compliance, and then a NW file is issued.

I recommend in **section 4.1**, that Gentrack ICP technical details are updated where this information changes on the registry. This will help to ensure that AN codes are correctly applied.

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

Response code	Quantity of ANs	Possible incorrect	Sample	Quantity incorrect	Findings
AA (acknowledge and accept)	94	7	All	2	92 had the correct AN code applied. Two had the incorrect code due to the AMI flag not being updated in Gentrack to Y and AD should have been sent.
AD (advanced metering)	3,186	27	11	1	Ten of the sample of 11 checked had the correct AN code applied. ICP 0000190392UN12F should have been sent with a PD code but was missed due to human error.
MU (unmetered supply)	2	1	All	1	ICP 0007103284RN116 should have been sent with a PD code but Gentrack sent the MU code.
OC (occupied premises)	2,550	62	10	0	All ten ICPs sampled had the correct AN code applied at the time the AN file was sent. All were credit disconnected shortly after the AN file was sent. I recommend in **section 4.2** to investigate if AN files can be sent after credit disconnections are processed each day so that AN codes can be more accurate.
PD (Premises electrically disconnected)	841	121	10	0	All ten sampled were sent with the correct AN code applied.
Total	**4,405**	**218**	**39**	**4**	

The switch breach report recorded:

- one AN breach where the AN for ICP 0000018931DEBBC was sent late.
- 107 E2 breaches where the CS was sent more than five days after the NT arrived. All occurred in October 2023. A sample of ten files were examined and found all were due to a resource constraint. The team is fully staffed and there have been no late files since October 2023.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) Schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Four of the 39 switch move ANs checked had an incorrect AN response code. One AN breach. 107 E2 breaches. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate as they mitigate risk most of the time but one area for improvement was identified. The audit risk rating is assessed to be low as the number of ICPs sent with the incorrect AN code was small, but this is useful information for the gaining trader to have.

Actions taken to resolve the issue	Completion date	Remedial action status
Communications between GT and registry checked to be ok and also as far as we are aware priorities are set correctly in GT. Training provided to team to select correct AN code when sending manually. Team training provided for E2 breaches and there should be no delays in files.	10/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Query has been raised with Gentrack team to check further what is causing this issues and re-check AN hierarchy too. Continues refreshes and catch ups with team has made lot of improvements. Better report handling capacity in place to prevent breaches in future.	10/07/2024	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

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

Audit observation

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

Audit commentary

Analysis found all switch move ANs had a valid switch response code, and switches were completed as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report was reviewed to identify CS files issued by Pulse during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records. The content checked included:

- correct identification of meter readings and correct date of last meter reading,
- accuracy of meter readings, and
- accuracy of average daily consumption.

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

Audit commentary

CS files are automatically generated by Gentrack. The registry functional specification requires average daily kWh to be based on the average daily consumption for the last validated read-to-read period. Gentrack now calculates the average daily consumption from the last two actual validated readings.

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

Average daily kWh	Count of CS files	Sample checked	Quantity incorrect	Comment
Negative	0	-	-	Compliant.
Zero	393	5	1	One was calculated using final estimates rather than actual reads. This occurred before Gentrack was fixed.
More than 200 kWh	5	All	0	Compliant.
Total	**433**	**8**	**1**	

I checked all 4,310 switch move CS files for inconsistencies between last actual read dates and switch event read types and found:

- one CS file (ICP 0000575327NR384) sent with an estimated read and a last actual read after the event date; I recommend in **section 4.3**, that this scenario is reviewed,
- two CS files (ICPs 0000211762UNF08 and 0000003051DEA44) where the CS files had an estimated switch event read where the last actual read date was on the switch event date; I recommend in **section 4.3**, that this scenario is reviewed,
- one CS file sent where the last actual read date is the day before the switch event read and only estimated reads are contained within the CS file,
- one CS file sent with an actual read date but last read date was more than one day before the event date; Gentrack sent the read incorrectly as an estimate, and
- one CS file with missing CSMETERINSTALL, CSMETERCOMP or CSMETERCHANNEL rows; this ICP was disconnected at the pole fuse and had no metering recorded on the registry and is compliant.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 Schedule 11.3 From: 10-Oct-23 To:15-Mar-24	One CS file with an incorrect average daily kWh. Five ICPs sent with the incorrect last read and read date. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate as they mitigate risk most of the time but one area for improvement was identified. The audit risk rating is assessed to be low as the impact on settlement and participants is estimated to be minor.

Actions taken to resolve the issue	Completion date	Remedial action status
Average daily consumption report has been fixed in April and ICPs now should have correct ADL value from GT during switch outs. Incorrect previous date and read issue is identified and being looked into.	10/07/2024	identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Query raised with Gentrack team to check on Incorrect previous date and read issue. GSD- 2185	10/07/2024	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

(1) The gaining trader may use the switch event meter reading supplied by the losing trader or may, at its own cost, obtain its own switch event meter reading.

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

(a) if the switch event meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader, or

(b) if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch event meter reading.

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

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

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

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

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

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

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

(3) If the gaining trader disputes a switch event meter reading under subclause (2)(b), the gaining trader must, no later than four months after the actual event date, provide to the losing trader a changed validated meter reading or a permanent estimate supported by two validated meter readings, and the losing trader must either—

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

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

Audit observation

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

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

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

The switch breach history 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 triggered in Gentrack. The user enters the required readings into Gentrack's "switch read dispute" screen. Users select the read type.

AC files are reviewed on receipt. If they are rejected, no action is required unless Pulse decides to reissue the RR. If accepted, the billing team is notified, and they manually enter the reading into Gentrack and rebill the customer as necessary. The reads are then transferred from Gentrack to Cobra. Switch event reads which are automatically transferred from Gentrack to Cobra default to actual read type.

Pulse issued 21 RR files for switch moves. 18 were accepted and three were rejected. All three rejected files and a typical sample of five accepted files were checked to determine whether there was a valid reason for the RR, the RR content was correct, and that Gentrack and Cobra reflected the outcome of the RR process. This found that the reads for all eight RRs checked (ICPs 2x 0005500575RN46B, 1001111479LC424, 0000284181MPF3A, 0000204041TE410, 0001423841UN420, 0000815638HB3B3, 0010303344EL2C5) were not correctly recorded in Gentrack. The reads were correct in Cobra, but all estimated reads were recorded as actual reads. The read label is expected to be corrected when Gentrack is upgraded.

As discussed in **section 2.1**, the Gentrack patch update affected the sending of RR files to the registry, so these were sent manually until the issue was corrected. The switch breach history report recorded three RR breaches for move switches. Two were sent late due to the system issue and one was due to the delay in getting two actual reads.

AC

All RR requests received from other traders are evaluated against meter reading information. If the request is within validation requirements these are accepted. If an RR is accepted the switching team will add the reads to Gentrack and rebill the customer if the ICP is not vacant.

Pulse issued 216 AC files for transfer switches. 206 were accepted and ten were rejected. A sample of ten RRs, including five accepted and five rejected files, were checked and confirmed that the rejection was valid, and Gentrack and Cobra reflected the outcome of the RR process.

The switch breach history report recorded one AC breach for ICP 0248139142LC5E3. This was sent one day late due to the resource constraints in October 2023.

Application of incoming CS reads

Review of five transfer CS files with estimated reads where no RR was issued confirmed that the correct readings was recorded in Gentrack but not in Cobra. This is due to the same issue identified in **section 4.4**. Cobra is ignoring the start read and using an actual read if available. Pulse is investigating this issue. There were 435 CS files received with estimated readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 12 Schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Reads for the sample of eight RRs checked of a possible 21 RR files sent were not correct in Gentrack. All agreed estimated switch reads were recorded with an actual read type in Cobra. Three RR breaches. One AC breach Estimated reads not used in Cobra for all five CS files sampled received with estimated start reads of a possible 435 CS files received with estimated readings. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as weak as the process in place is not ensuring the start reads are being correctly recorded in Gentrack or Cobra. The audit risk rating is assessed to be medium due to the number of potential ICPs affected.

Actions taken to resolve the issue	Completion date	Remedial action status
Incorrect/No RR reads in GT – All the sites are billed on correct RR start reads but it is just not showing up on consumption. I have emailed internal team to check of any issues. We have to send RR sometimes at later stage due to: Late actual reads gained Negotiating for long with retailers. AC breach was caused due to training/staff issues in October 2023.	10/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Investigating on our end to ensure no future mis-matches occur. Ongoing training for team for RR/AC where required has been undertaken.	10/07/2024	

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

Code reference

Clause 13 Schedule 11.3

Code related audit information

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

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

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

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

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

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

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

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

> *14(4)(a) – the proposed event date is in the same month as the date on which the gaining trader advised the registry manager; or*
>
> *14(4)(b) – the proposed event date is no more than 90 days before the date on which the gaining trader advises the registry manager, and this date is agreed between the losing and gaining traders.*

Audit observation

The event detail report was reviewed to identify NT files issued by Pulse during the audit period.

Audit commentary

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

Pulse issued five HH NTs during the audit period. The files were issued within the required time frame.

I checked the metering category for the 2,561 switch move and 3,360 transfer switch NTs where this information was available on the PR255 report and found none had metering categories of three or above.

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 was reviewed to identify AN files issued by Pulse during the audit period, and the switch breach history report was examined.

Audit commentary

HH AN files are issued manually using the registry user interface. Pulse did not issue any HH AN files and the switch breach history report did not record any HH AN breaches.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The event detail reports were reviewed to identify CS files issued by Pulse during the audit period, and the switch breach history reports were examined for the audit period.

Audit commentary

HH AN files are issued manually using the registry user interface.

Pulse issued five HH NTs during the audit period, all were on time and contained the correct information. The switch breach history report did not record any late HH CS files.

Audit outcome

Compliant

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

Code reference

Clauses 17 and 18 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The event detail reports were reviewed to:

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

The switch breach history report was checked for any late switch withdrawal requests or acknowledgements.

Audit commentary

NW

106 (9.6%) of the 1,101 NWs issued by Pulse were rejected. I checked a diverse sample of 21 NWs including at least three for each advisory code. Two of the sample of three NWs sampled were sent with the DF (date failed) code due to human error.

The switch breach history report recorded:

- nine SR breaches where the withdrawal process was not completed within ten business days; I checked five most backdated of these and found the files were delayed while investigation was carried out, and Pulse negotiated with the customer and other trader, and
- 54 NA breaches where the NW was issued more than two calendar months after the transfer date; I checked the ten latest files, which were delayed while investigation was carried out to confirm the NW was required, or Pulse received late notice from the customer that a withdrawal was required (six of the files were wrong premises withdrawals which typically take an extended period to identify and investigate).

AW

Incoming NW files are directed to a work queue, where a user reviews the file and manually accepts or rejects the file and closes the queue item. The account is either re-opened or closed manually according to the outcome of the withdrawal process**.** The switch breach history report is monitored twice daily to ensure that AW files are issued on time.

Pulse rejected 120 of 833 withdrawal requests received (14.4%). I checked a sample of 11 rejections and confirmed that they were rejected for valid reasons.

The switch breach history report recorded no AW breaches.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clauses 17 and 18 Schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Two of the three date failed NWs sampled were sent with the incorrect withdrawal reason. Nine SR breaches. 54 NA breaches. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate as they mitigate risk to an acceptable level. The audit risk rating is assessed to be low as the impact on settlement and participants is estimated to be minor.

Actions taken to resolve the issue	Completion date	Remedial action status
NWDF withdrawal – Training and information has been shared with team to use this code correctly. Nine SR breaches. - i think this could be for October 2023 month where we had staff/training issues. 54 NA breaches. - sometimes we have to send NW at later stage when incorrect ICP/metering issue figured out to correct billing for our customer.	10/07/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
NWDF withdrawal – Training and information has been shared with team to use this code correctly. Staff/training issues sorted so all the NWs should be actioned on time.	10/07/2024	

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 meter readings used in the switching process are validated meter readings or permanent estimates. The reads applied in switching files were examined in **section 4.3** for standard switches, **section 4.10** for switch moves, and **sections 4.4** and **4.11** for read changes and found:

- one CS file (ICP 0000048803HR614) had an estimated switch event read where the last actual read date was on the switch event date as detailed in **section 4.3**,
- one CS file (ICP 0000575327NR384) sent with an estimated read and a last actual read after the event date as detailed in **section 4.10**,
- two CS files (ICPs 0000211762UNF08 and 0000003051DEA44) where the CS files had an estimated switch event read where the last actual read date was on the switch event date as detailed in **section 4.10**,
- one CS file sent where the last actual read date is the day before the switch event read and only estimated reads are contained within the CS file as detailed in **section 4.10**,
- one CS file sent with an actual read date but last read date was more than one day before the event date; Gentrack sent the read incorrectly as an estimate as detailed in **section 4.10**,
- reads for the sample of six RRs checked of a possible 15 RR files sent were not correct in Gentrack, as detailed in **section 4.4**, and
- reads for the sample of eight RRs checked of a possible 21 RR files sent were not correct in Gentrack, as detailed in **section 4.11**

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.16 With: Clause 21 Schedule 11.3 From: 10-Oct-23 To:15-Mar-24	Six CS files sent with the incorrect last read. Reads for the sample of 14 RRs checked of a possible 36 RR files sent were not correct in Gentrack. 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 rated as weak as the process in place is not ensuring the reads are being correctly recorded in Gentrack or Cobra. The audit risk rating is assessed to be low due to the small number of ICPs affected.

Actions taken to resolve the issue	Completion date	Remedial action status
We have raised a request with our Gentrack team GSD-2185 to investigate and correct what is causing this issue.	16/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have raised a request with our Gentrack team GSD-2185 to investigate and correct what is causing this issue.	16/07/2024	

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

Code reference

Clause 11.15AA to 11.15AC

Code related audit information

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

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

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

Audit observation

Win-back processes were discussed. The event detail report was analysed to identify all withdrawn switches with a CX code applied within 180 days of switch completion.

Audit commentary

Pulse does not initiate any win-back activity with lost customers during or after the switch. They have changed their retention process since the last audit. Outbound contact is only made with departing customers where a switch request has been received to discuss outstanding accounts if required and advise a customer if any clawback charge is to be applied if the customer is leaving within their contract. They have removed the 30-day notice period and never ask why a customer is leaving.

Review of the event detail report identified 105 NWs issued with a CX withdrawal reason code issued within 180 days of switch completion where Pulse was the losing trader. Three were rejected. All three rejected and a random sample of the seven most recently accepted CX NWs were reviewed and found for ICP 1001283861UN2B5, the customer was asked why they were leaving. This call was made prior to the process change and is recorded as non-compliance below. As this practice has changed, I am confident that this approach is no longer used, and I found no evidence of this in the other nine calls reviewed.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.17 With: Clauses 11.15AA to 11.15AB From: 05-Oct-23 To:13-Dec-23	Attempt was made to win-back one customer. 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 process has been changed to be compliant. The audit risk rating is assessed to be low as this activity has ceased.

Actions taken to resolve the issue	Completion date	Remedial action status
This was from October 2023; our process has since changed, and we have removed the requirement for 30 day's notice. In terms of the highlighted account, customer had contacted to give 30 days' notice to avoid the Early Termination fees but at the same time we had already received the switch request from the other retailer. Before we changed the process, we used to ask customer to understand why they are leaving to collect the feedback but after Rebecca's suggestion from earlier this year, it's been stopped completely.	10/23	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have changed our process as per your recommendation.	10/23	

5. MAINTENANCE OF UNMETERED LOAD

5.1. Maintaining shared unmetered load (Clause 11.14)

Code reference

Clause 11.14

Code related audit information

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

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

Audit observation

I reviewed the processes to identify shared unmetered load. The registry list and AC020 reports were examined to determine compliance.

Audit commentary

Unmetered load submissions are calculated in Cobra from the registry daily unmetered kWh x the "active" ICP days during the reconciliation period. The billing team receives a notification from Gentrack if there is a discrepancy between the unmetered load details recorded in Gentrack and on the registry. Any discrepancies are expected to be investigated.

Pulse supplies eight ICPs with shared unmetered load. The registry list and AC020 reports were reviewed to check the accuracy of unmetered load details:

- the load matched for seven ICPs, and
- ICP 0000030682WE042 has more than ± 0.1 kWh different to the distributor value; I checked the calculations and found all the shared unmetered load has been recorded by Pulse when only quarter should be, which will be resulting in a very minor over submission of 59 kWh per annum.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: Clause 11.14 From: 26-Sep-23 To:15-Mar-24	One ICP with the incorrect shared unmetered load recorded. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong and will mitigate risk to an acceptable level. The audit risk rating is assessed to be low as over submission is very minor.

Actions taken to resolve the issue	Completion date	Remedial action status
This ICP has been resolved, will monitor UML in the monthly meeting and monitor UML in the non-compliance report.	1/7/24	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will monitor UML in the monthly meeting and monitor UML in the non-compliance report	Going forward	

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 was examined to determine compliance.

Audit commentary

ICP 0000678614UN599 has unmetered load of 3,642 kWh per annum. The load is predictable and of an approved load type. No other ICPs have annual loads over 3,000 kWh.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

The AC020 reports was examined to determine compliance.

Audit commentary

ICP 0000678614UN599 has unmetered load of 3,642 kWh per annum. The load is predictable and of an approved load type. No other ICPs have annual loads over 3,000 kWh.

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

Pulse does not wish to trade on DUML ICPs and will not switch any of these ICPs in. The registry list and AC020 reports were examined to determine compliance.

Audit commentary

No DUML ICPs are supplied, and Pulse does not intend to supply DUML.

Audit outcome

Compliant

6. GATHERING RAW METER DATA

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

Code reference

Clause 10.13, Clause 10.24 and 15.13

Code related audit information

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

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

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

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

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

Audit observation

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

Audit commentary

Metering installations installed

Pulse's new connection process includes a check that metering is installed before electrical connection occurs, and that any unmetered load is quantified. No ICPs are settled using subtraction, and the AC020 report recorded that all ICPs had an MEP nomination accepted within 14 business days.

The previous audit report recorded one ICP was "active" with a metering category of nine. ICP 0005504181ML99B, which is the cookhouse on Molesworth Station, was reported in the last two audits. Pulse have received pictures from 7 August 2023 showing the meters are still installed, despite the MEP removing them in the registry. The installation was recertified on 8 May 2024 and the registry is now populated. I checked the Gentrack and Cobra records, which still showed the original meter being removed on 26 March 2021, because the MEP had not corrected the registry which meant that no consumption was being calculated for the period 26 March 2021 to 8 May 2024. The old meter has now been reinstated in Cobra and consumption is being calculated for the entire period. However, revisions will only go back to May 2023 and submission will not occur for the 26-month period prior to that date, which is approximately 30,000 kWh. It has been confirmed that this ICP was always metered, therefore non-compliance is recorded in **sections 2.1, 12.2** and **12.7**.

Distributed generation

Monthly, the reconciliation team compares registry and Gentrack to identify ICPs with settled I flow meter registers with RPS profile on the registry so that they can be updated. There is now a process to identify ICPs with generation details recorded by the distributor but no I flow meter installed. The process is to review the AC020 report monthly to identify discrepancies. I recommend this check is conducted more frequently, with weekly being a more suitable frequency. This process should also check other profile and metering related discrepancies in the following reports:

- trader 13 - "active" with blank MEP,
- trader 16 - over Category 2 with NHH submission flag,
- trader 17 - "active" ICPs category 9, null or zero not unmetered,
- trader 18 - HHR submission flag without HHR profile or NHH submission flag with HHR profile,
- trader 19 - HHR submission and NHH submission flag both Y, and
- trader 20 - distributed generation discrepancies

Description	Recommendation	Audited party comment	Remedial action
Profile and metering discrepancies	Check the relevant audit compliance reports weekly to identify profile and metering discrepancies.	We will monitor the Audit compliance reports weekly to identify metering discrepancies.	Identified

The registry may not reflect the correct profile for generating ICPs or previously generating ICPs because:

- exceptions identified through the monthly validation process are not consistently corrected each month, and
- all NT files issued from Gentrack have the RPS profile recorded, and when the switch completes this automatically updates the ICP's registry profile to RPS; it is necessary for Pulse to update the registry to the correct profile following switch in, and this sometimes does not occur promptly - there were 30 late updates to PV1 with an average of 16 business days.

I checked the consistency and accuracy of distributed generation information:

Exception type	Quantity	Findings
Distributor has recorded generation without I flow metering	36	PUNZ's registry list showed 2,799 "active" ICPs with an installation type of "both" listed by the distributor, and 36 of these did not have settled I flow metering installed. • 16 ICPs had settled I flow registers added after the report was run; all now have the PV1 profile, however ten of the 16 had compatible metering installed after the date of DG installation, by an average of 67 days, • two ICPs have switched away, and • 18 ICPs did not have I flow registers added on the registry by 19 June 2024.
Distributor has recorded generation with I flow metering and no generation profile	2	The AC020 report recorded two "active" ICPs with generation recorded by the distributor and I flow metering where Pulse did not record a generation compatible profile. Both have had their profiles corrected to RPS PV1 during the audit and for the correct dates.
Distributor has not recorded generation and generation profiles are assigned.	68	68 "active" ICPs have a generation profile but no generation recorded by the distributor. I checked a sample of ten. Four ICPs did not have settled I flow metering and were confirmed not to be generating. Three had the profile changed back to RPS after the report was run. The other six ICPs had I flow metering present: • three ICPs were confirmed to be generating, and for one of those the distributor updated their registry information to reflect distributed generation after the report was run, and • three ICPs are being investigated to confirm whether generation is present; all three of the ICPs were confirmed to have zero consumption on the I flow registers. Compliance is recorded for these ICPs because I could not confirm that any of the ICPs did not have distributed generation.
Consistency of fuel type and generation profile	89	Where a generation profile was recorded, I checked that the profile was consistent with the fuel type listed by the distributor and identified 89 ICPs with fuel type other than solar with PV1 profile. All were confirmed to have solar installed.
HHR profile without "I" flow metering	9	There are nine ICPs with a HHR profile where solar is present. Two have been resolved after the report was run, but seven do not have submission due to the lack of appropriate metering.

Description	Recommendation	Audited party comment	Remedial action
Application of generation profiles for switches in	Develop a process to ensure that generation profiles are corrected as soon as possible after switch in. The weekly monitoring of profiles recommended above will help to identify any missed updates. Consider allowing profiles to be specified in NT files rather than defaulting to RPS.	We will work with Gentrack to improve this process and look into monitoring and running our reports more frequently.	Identified

Bridged meters

Pulse provided details of one bridged meter. The existence of a bridged meter is recorded as non-compliance below. There is a process to estimate consumption during the bridged period for reconciliation and this is now being followed.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13 From: 10-Oct-23 To: 23-Jun-24	36 ICPs with distributed generation have RPS profile recorded on the registry but should have RPS PV1. 18 were resolved during the audit. Nine HHR ICPs did not have a "EG" metering channel, therefore quantification was not occurring. Seven are still outstanding. Volumes were not quantified in accordance with the code for one ICP with a bridged meter. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The controls have been strengthened during the audit period and reporting is now in place. The impact on settlement and participants is minor because most of the ICPs are residential; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We have raised these with the MEPs and the Network and are working to improve our processes and reports and make the process more streamline.	1/8/24	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will work more closely with the MEPs and Networks and improve our reporting in these areas. Weill will run our discrepancy reports more frequently.	Ongoing monitoring.	

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

Code reference

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

Code related audit information

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

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

The participant responsible for the metering installation must:

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

Audit observation

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

Audit commentary

Pulse is not responsible for any GIPs.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

Audit observation

The registry lists were reviewed to determine which profiles were used by each participant code, and the AC020 reports were reviewed to identify exceptions.

Audit commentary

PUNZ

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

Audit outcome

Compliant

6.4. Reporting of defective metering installations (Clause 10.43(2) and (3))

Code reference

Clause 10.43(2) and (3)

Code related audit information

If a participant becomes aware of an event or circumstance that leads it to believe a metering installation could be inaccurate, defective, or not fit for purpose they must:

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

Audit observation

Processes relating to defective metering were examined.

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

Audit commentary

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

PUNZ

A sample of eight potentially defective meters were provided by Pulse:

- one turned out to be a meter reading issue which was corrected, and
- seven were defective meters, which were all notified to the MEP and corrected.

The faults are generally identified directly by AMI MEPs or through meter condition information provided by meter readers, or the network notifying Pulse that there was no volume on a UN register. The MEP was notified in all instances and the meters were replaced.

One meter was identified as being bridged during the audit period and this was identified on receipt of reconnection paperwork from the field contractor. The MEP was notified.

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

Pioneer (NSP ANI0331BOPDNP)

AccuCal provides meter event reporting each month and no defective meters were identified during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

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

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

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

2(6) – The interrogation systems must record:

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

Audit observation

The data collection and clock synchronisation processes were examined.

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

There are only four ICPs where data collection is the responsibility of Pulse and not the responsibility of the MEP. This is where Ventia is the MEP and Bluecurrent is the data collection agent on behalf of Pulse.

Audit commentary

MEPs monitor clock synchronisation, and this is covered as part of their audits. Each of the MEPs advise Pulse of clock synchronisation events, and no action is usually required. Emailed events are reviewed and actioned as required.

I checked the time difference reports for all MEPs and confirmed all errors were minor for NHH meters and data did not need to be corrected.

There was one clock error of 3,293 seconds (55 minutes) for a HHR meter. I checked the consumption, and it appears continuous and correct, however I still recommend Pulse develop a process to evaluate data where a clock synchronisation event affects more than one trading period.

Description	Recommendation	Audited party comment	Remedial action
Clock synchronisation events	Develop a process to deal with clock errors greater than one trading period for HHR reconciled ICPs.	We will work on developing a process to deal with clock errors greater than one trading period.	Investigating

Pioneer (NSP ANI0331BOPDNP)

AccuCal monitors clock synchronisation as an MEP. They advise Pulse of clock synchronisation events, and no action is usually required. Emailed events are reviewed and actioned as required.

Maximum Interrogation cycle

I checked whether all data was collected within the maximum interrogation cycle. No ICPs were identified as having the HHR submission type flag set to Y where HHR data was not received within the maximum interrogation cycle.

Pulse performs a monthly check identifying ICPS with the HHR submission type set to 'Y' but the AMI flag has been updated to 'N' indicating the meter is no longer communicating reliably. Prior to the expiration of the maximum interrogation cycle value for the ICP, Pulse transitions the ICP back to NHH submission and uses the latest validated actual read date as the effective date for the change in submission type and profile.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined.

Processes to provide meter condition information were reviewed as part of Wells' agent audit. Pulse's processes to manage meter condition information were reviewed.

Processes for customer and photo reads were reviewed.

Audit commentary

PUNZ

Manual readings

During manual interrogation, the meter register value is collected and entered into a hand-held device by Wells. This reading enters Pulse's systems and is labelled as a reading, which denotes that it is a meter reading collected and validated by a meter reader.

Wells perform meter condition checks 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.

Meter condition issues can also be identified through Pulse's meter read validation process or customer enquiries.

These are reviewed by the field services team and a service request issued as required.

It was observed that no phase failure incidents have been reported via the manual meter reading process. Wells provided correspondence indicating that phase failure information had been provided to meter readers on a regular basis. However, I still recommend additional steps are taken to be sure that phase failure is identified and remedied, given the high impact on submission accuracy:

1. Include phase failure identification in the internal audit of Wells to ensure competency is assessed and confirmed.
2. Require Wells to provide photos of all the category 2 meters.
3. Check the photos to confirm phase failure is not present.

Description	Recommendation	Audited party comment	Remedial action
Phase failure	Include phase failure identification in the internal audit of Wells to ensure competency is assessed and confirmed. Require Wells to provide photos of all the category 2 meters. Check the photos to confirm phase failure is not present.	We will speak to Wells about this and look into developing our own internal process of monitoring photo's and confirming phase failure is not present.	Investigating

Customer and photo readings

Pulse accepts customer reads provided by phone, email, or photo. These readings will only pass validation if they can be validated against two actual reads from another source. A record of customer reads is attached to the account in Gentrack.

A sample of two customer and photo readings were reviewed, and I found both had been validated against two previous actual reads. No customer readings from Wells were identified.

Audit outcome

Compliant

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

Code reference

Clause 6 Schedule 15.2

Code related audit information

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

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

Audit observation

The process of the application of meter readings was examined. The event detail reports were examined to identify ICPs which had undergone upgrades or downgrades, and the upgrade and downgrade process was reviewed.

Audit commentary

NHH readings apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation except in the case of a switch event meter reading which applies to the end of the day prior to the event date for the losing trader and the start of the event date for the gaining trader as required by this clause.

All AMI systems have a clock synchronisation function, which ensures correct time stamping. Manual readings taken by Wells are applied correctly.

Application of reads was reviewed as part of the historic estimate checks in **section 12.11** and found to be compliant. The content of CS and RR files was examined in **sections 4.3**, **4.4**, **4.10** and **4.11** and found:

- one CS file (ICP 0000048803HR614) had an estimated switch event read where the last actual read date was on the switch event date as detailed in **section 4.3**,
- one CS file (ICP 0000575327NR384) sent with an estimated read and a last actual read after the event date as detailed in **section 4.10**,
- two CS files (ICPs 0000211762UNF08 and 0000003051DEA44) where the CS files had an estimated switch event read where the last actual read date was on the switch event date as detailed in **section 4.10**,
- one CS file sent where the last actual read date is the day before the switch event read and only estimated reads are contained within the CS file as detailed in **section 4.10**,
- one CS file sent with an actual read date but last read date was more than one day before the event date; Gentrack sent the read incorrectly as an estimate as detailed in **section 4.10,**

- reads for the sample of six RRs checked of a possible 15 RR files sent were not correct in Gentrack, as detailed in **section 4.4**, and
- reads for the sample of eight RRs checked of a possible 21 RR files sent were not correct in Gentrack, as detailed in **section 4.11**

I walked through the process and checked 26 examples for NHH to NHH, NHH to HHR and RPS to RPS PV1 meter and profile changes. In the event of a profile change, Pulse uses a validated meter reading or permanent estimate read on the day that the change is effective.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.7 With: Clause 6 of Schedule 15.2 From: 10-Oct-23 To:15-Mar-24	Six CS files sent with the incorrect last read. Reads for the sample of 14 RRs checked of a possible 36 RR files sent were not correct in Gentrack. 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 rated as weak as the process in place is not ensuring the reads are being correctly recorded in Gentrack or Cobra. The audit risk rating is assessed to be low due to the small number of ICPs affected.

Actions taken to resolve the issue	Completion date	Remedial action status
We have raised a request with our Gentrack team GSD-2185 to investigate and correct what is causing this issue. Incorrect RR read recorded on consumption history is being looked into with our Billing and Gentrack teams.	16/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are investigating this internally and have raised a request with Gentrack to investigate and resolve this issue.	16/07/2024	

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was examined.

Reporting on ICPs not read during the period of supply was examined, and a sample of ICPs were checked.

Audit commentary

The process to manage missed reads was examined.

Reporting on ICPs not read during the period of supply was examined, and a sample of ICPs were checked.

Audit commentary

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

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

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

AMI meters continue to be deployed where possible. Pulse used to monitor unread ICPs but due to resource constraints this activity was paused in November 2021 and recommenced in October 2023. This includes the monitoring of no read codes and zero consumption.

The process is to review all ICPs which haven't had an actual read and to communicate as follows:

- 5 months - Email & SMS
- 9 months – Email & SMS
- 10 months – Phone call
- 12 months – Email & phone call
- 15 months - Email & phone call

The process meets the requirements of the Code to make three attempts using two forms of communication but has not been applied to all ICPs during the audit period.

Pulse provided a list of nine ICPs not read during the period of supply. Four of the ICPs had switch in reads labelled as actuals, which are considered compliant. One ICP did have readings during the period of supply, and one ICP did have an exceptional circumstance, which was a blank screen due to the power being off. Exceptional circumstances could not be proven for three ICPs. This is recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 10-Oct-23 To:15-Mar-24	Exceptional circumstances were not proven for three of nine ICPs not read during period of supply. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate, because reporting and processes are now in place for meter reading attainment. The audit risk rating is assessed to be low as the overall percentage read is high.

Actions taken to resolve the issue	Completion date	Remedial action status
No reads Report is generated weekly and an automated contact process is now set up and soon to be running.	01/08/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Ongoing review of processes and continued team refresher training sessions	ongoing	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

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

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

Audit commentary

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
November 2023	208	36	61	99.93%
December 2023	211	50	81	99.90%
January 2024	211	52	77	99.91%

As discussed in **section 6.8**, the process in place monitor read attainment, and attempt to resolve issues preventing read attainment has only recently been re-established.

Pulse provided a list of 77 ICPs unread for 12 months as of 29 February 2024. I reviewed 20 ICPs not read in the previous 12 months determine whether exceptional circumstances exist, and if Pulse had used their best endeavours to obtain readings. The best endeavours requirements were not met for eight of the 20 ICPs. This is recorded as non-compliance.

Pulse provides monthly reports on meter reading frequency to the Electricity Authority. I reviewed the reports for the three most recent months and confirmed that the content of the reports met the requirements of clauses 8 and 9 of schedule 15.2 and were submitted on time.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: Clause 8(1) and (2) Schedule 15.2 From: 10-Oct-23 To:15-Mar-24	Exceptional circumstances were not proven for eight of 20 ICPs sampled. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate, because reporting and processes are now in place for meter reading attainment. The audit risk rating is assessed to be low as the overall percentage read is high.

Actions taken to resolve the issue	Completion date	Remedial action status
No reads Report is generated weekly and an automated contact process is now set up and soon to be running.	01/08/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Ongoing review of processes and continued team refresher training sessions	ongoing	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

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

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

Audit commentary

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > four months	NSPs <90% read	ICPs unread for four months	Overall percentage read
November 2023	208	1	899	99.01%
December 2023	211	2	1,009	98.80%
January 2024	211	2	973	98.84%

As discussed in **section 6.8**, the process in place monitor read attainment, and attempt to resolve issues preventing read attainment has recently been re-established. One NSP had two of 15 ICPs unread and the other NSP had one of two ICPs unread. Exceptional circumstances were not present for two of the three ICPs.

The content and accuracy of meter reading frequency reports to the Electricity Authority was assessed in **section 6.9** and found to be accurate. The reports were submitted on time.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.10 With: Clause 9(1) and (2) Schedule 15.2 From: 10-Oct-23 To:15-Mar-24	Exceptional circumstances were not confirmed for two of three ICPs where the NSPs did not meet the 90% read rate within four months. Potential impact: Medium Actual impact: Low Audit history: Three times previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate, because reporting and processes are now in place for meter reading attainment. The audit risk rating is assessed to be low as the overall percentage read is high.

Actions taken to resolve the issue	Completion date	Remedial action status
No reads Report is generated weekly and an automated contact process is now set up and soon to be running.	01/08/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Ongoing review of processes and continued team refresher training sessions	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 provided by Wells and MEPs. The data interrogation log requirements were reviewed as part of their agent and MEP audits.

Audit commentary

Interrogation logs were confirmed as compliant.

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 Bluecurrent for Pulse, and AccuCal for Pioneer (NSP ANI0331BOPDNP) and a number of other HHR ICPs.

Audit commentary

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

Compliance was confirmed with AccuCal as part of this audit.

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

There are only four ICPs where data collection is the responsibility of Pulse and not the responsibility of the MEP. This is where Ventia is the MEP and Bluecurrent is the data collection agent on behalf of Pulse. EDMI acts as an agent to MEPs for data collection and Accucal collects data as an MEP. I checked the Bluecurrent agent report to confirm compliance.

Audit commentary

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

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

There are only four ICPs where data collection is the responsibility of Pulse and not the responsibility of the MEP. This is where Ventia is the MEP and Bluecurrent is the data collection agent on behalf of Pulse. EDMI acts as an agent to MEPs for data collection and Accucal collects data as an MEP. I checked the Bluecurrent agent report to confirm compliance.

Audit commentary

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

Audit outcome

Compliant

7. STORING RAW METER DATA

7.1. Trading period duration (Clause 13 Schedule 15.2)

Code reference

Clause 13 Schedule 15.2

Code related audit information

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

Audit observation

Trading period duration was reviewed as part of the MEP and agent audits.

Audit commentary

Compliance with this clause has been demonstrated by the agents and MEPs and is discussed in their audit reports.

The clock synchronisation process for generation meters is discussed in **section 6.5**. There were no clock errors during the audit period which led to corrections being required.

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.

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

Audit commentary

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

PUNZ

I reviewed raw NHH and HHR meter read data from 2018 during the audit. Data is archived for more than 48 months as required by the code.

In **section 2.3**, I traced data for two ICPs from the manual meter reading source files supplied by Wells to Gentrack and Cobra and found they matched.

AMI meter reads were also reviewed from each of the AMI MEPs to ensure the readings are processed into Gentrack/Cobra correctly. One read from each provider was checked and these reads were confirmed as being the same in Cobra. Decimal places for AMI register reads are not loaded and non-compliance is recorded in **section 9.3**.

I traced volumes for a sample of two ICPs from the source files to IMDS and Scorpion for HHR meters. The volumes were the same for all ICPs, confirming the security of the process.

Review of audit trails in **section 2.4** confirmed that reads cannot be modified without an audit trail being created.

Pioneer (NSP ANI0331BOPDNP)

I reviewed raw HHR meter read data from May 2024 during the audit. Data is archived for more than 48 months as required by the code. I traced data for one ICP from the source files to Python and Scorpion. The readings were the same, confirming the security of the process.

Audit outcome

Compliant

7.3. Non-metering information collected/archived (Clause 21(5) Schedule 15.2)

Code reference

Clause 21(5) Schedule 15.2

Code related audit information

All relevant non-metering information, such as external control equipment operation logs, used in the determination of profile data must be collected, and archived in accordance with clause 18.

Audit observation

Processes to record and archive non-metering information were reviewed.

Audit commentary

Pulse does not deal with any non-metering information.

Audit outcome

Compliant

8. CREATING AND MANAGING (INCLUDING VALIDATING, ESTIMATING, STORING, CORRECTING AND ARCHIVING) VOLUME INFORMATION

8.1. Correction of NHH meter readings (Clause 19(1) & (1A) Schedule 15.2)

Code reference

Clause 19(1) & (1A) Schedule 15.2

Code related audit information

Code related audit information

If a reconciliation participant detects errors while validating non-half hour meter readings, the reconciliation participant must:

> *19(1)(a) - confirm the original meter reading by carrying out another meter reading,*
>
> *19(1)(b) – replace the original meter reading with the second meter reading (even if the second meter reading is at a different date),*
>
> *19(1A) if a reconciliation participant detects errors while validating non half hour meter readings, but the reconciliation participant cannot confirm the original meter reading or replace it with a meter reading from another interrogation, the reconciliation participant must:*

- *substitute the original meter reading with an estimated reading that is marked as an estimate; and*
- *subsequently replace the estimated reading in accordance with clause 4(2)*

Audit observation

Processes for correction of NHH meter readings were reviewed. Corrections to volumes where meter readings match the value recorded by the meter, such as where a multiplier is incorrect, a meter is defective or bridged, or "inactive" consumption is identified were reviewed in **section 2.1**.

Audit commentary

Where errors are detected during validation of non-half hour meter readings a check reading will be performed for manually read meters, or AMI readings for surrounding days will be checked. If an original meter reading cannot be confirmed from review of other actual readings, an estimated reading is used and is appropriately labelled. If readings are replaced, the original reading is labelled as a "misread" and the new reading is then entered as either an estimate or actual reading.

I reviewed examples of corrections to determine whether they had been processed correctly and flowed through to revision submissions. The findings are listed in **section 2.1**.

If transposed meters are identified through the validation process, they are corrected by moving the readings to the correct registers or using the read renegotiation process if switch reads are affected. One example was identified during the audit period, and it was conducted correctly.

Audit outcome

Compliant

8.2. Correction of HHR metering information (Clause 19(2) Schedule 15.2)

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

If a reconciliation participant detects errors while validating half hour meter readings, the reconciliation participant must correct the meter readings as follows:

19(2)(a) - if the relevant metering installation has a check meter or data storage device, substitute the original meter reading with data from the check meter or data storage device; or

19(2)(b) - if the relevant metering installation does not have a check meter or data storage device, substitute the original meter reading with data from another period provided:

1) *The total of all substituted intervals matches the total consumption recorded on a meter, if available; and*
2) *The reconciliation participant considers the pattern of consumption to be materially similar to the period in error.*

Audit observation

Processes for correction of HHR meter readings were reviewed. Examples of HHR corrections were provided for review.

Audit commentary

PUNZ

Where errors or missing data are detected during validation of half-hour metering information, and check metering data is not available, data from a period with a quantity and profile similar to the estimated period is expected to be used.

The process is the same for HHR and AMI meters.

I checked the following scenarios to identify HHR corrections:

Bridged HHR meters.

During the previous audit it was recorded that ICP 0000546699NR464 had a bridged meter and it was replaced on 31 March 2023. Correction was not conducted for the bridged period. This correction has now been conducted. No additional HHR bridged meters were identified.

HHR meter changes.

During the previous audit it was recorded that ICP 0330297023LCFB9 had a meter change from NHH to HHR on 17 July 2023. The last NHH reading was midnight on 16 July 2023, then the HHR data started at the time the meter was changed on 17 July 2023. Data was not corrected for the first part of 17 July 2023 to ensure continuous consumption for the day of the meter change. This correction has still not been made.

During the previous audit it was recorded that ICP 1002064533LCF2A had a meter change from NHH to HHR on 23 January 2023. The last NHH reading was midnight on 22 January 2023, then the HHR data started from 24 January 2023. Data was not corrected for 23 January 2023, therefore there was no submission at all for the day of the meter change. This correction has not been conducted and is now outside the 14-month window.

I checked a further 15 HHR to HHR meter changes to ensure consumption was correctly apportioned to the day of the meter change. Two of the examples were recertification without a meter change. Three examples had consumption for the removed and installed meters on the meter change date. One example had consumption for the removed meter on the day of the meter change but no consumption for the new meter. Nine examples did not have any consumption on the day of the meter change for either the old or the new meter.

Faulty HHR meters.

No faulty HHR meters were identified.

Differences between HHR revisions.

I checked five examples where there were differences between revisions in the HHR aggregates files for HHR ICPs. All of the examples were corrections to cater for backdated switching events and were all accurate.

This clause is specific and relates to corrections as a result of HHR validation. No examples of HHR data corrections resulting from the validation process were identified. The lack of corrections noted above are recorded as non-compliance in **sections 2.1** and **12.7**.

Pioneer (NSP ANI0331BOPDNP)

The same process is used for any HHR corrections required for Aniwhenua as described above. No examples were identified.

Audit outcome

Compliant

8.3. Error and loss compensation arrangements (Clause 19(3) Schedule 15.2)

Code reference

Clause 19(3) Schedule 15.2

Code related audit information

A reconciliation participant may use error compensation and loss compensation as part of the process of determining accurate data. Whichever methodology is used, the reconciliation participant must document the compensation process and comply with audit trail requirements set out in the Code.

Audit observation

Error and loss compensation arrangements were discussed.

Audit commentary

There are currently no error or loss compensation arrangements in place for Pulse.

Audit outcome

Compliant

8.4. Correction of HHR and NHH raw meter data (Clause 19(4) and (5) Schedule 15.2)

Code reference

Clause 19(4) and (5) Schedule 15.2

Code related audit information

In correcting a meter reading in accordance with clause 19, the raw meter data must not be overwritten. If the raw meter data and the meter readings are the same, an automatic secure backup of the affected data must be made and archived by the processing or data correction application.

If data is corrected or altered, a journal must be generated and archived with the raw meter data file. The journal must contain the following:

19(5)(a)- the date of the correction or alteration,
19(5)(b)- the time of the correction or alteration,
19(5)(c)- the operator identifier for the person within the reconciliation participant who made the correction or alteration,
19(5)(d)- the half-hour metering data or the non-half hour metering data corrected or altered, and the total difference in volume of such corrected or altered data,
19(5)(e)- the technique used to arrive at the corrected data,
19(5)(f)- the reason for the correction or alteration.

Audit observation

Corrections are discussed in **sections 2.1**, **8.1** and **8.2.** Audit trails are discussed in **section 2.4**.

Audit commentary

PUNZ

Compliance with this clause has been demonstrated by Pulse's MEPs and agents.

Raw meter data is held by AccuCal as an MEP for the two ICPs for Mangaotaki generation.

I reviewed journals for NHH and HHR data corrections and noted that they were compliant with the requirements of this clause.

Pioneer (NSP ANI0331BOPDNP)

Raw meter data is held by AccuCal as an MEP.

The same process is used for Pulse HHR data corrections where a journal is created. No corrections have occurred during the audit period.

Audit outcome

Compliant

9. ESTIMATING AND VALIDATING VOLUME INFORMATION

9.1. Identification of readings (Clause 3(3) Schedule 15.2)

Code reference

Clause 3(3) Schedule 15.2

Code related audit information

All estimated readings and permanent estimates must be clearly identified as an estimate at source and in any exchange of metering data or volume information between participants.

Audit observation

A sample of reads and volumes were traced from the source files to Pulse's systems in **section 2.3**.

Provision of estimated reads to other participants during switching was reviewed in **sections 4.3**, **4.4**, **4.10** and **4.11**.

Correct identification of estimated reads, and review of the estimation process was completed in **sections 2.1, 8.1** and **8.2**.

Audit commentary

Estimated and actual readings are clearly identified as required by this clause.

Switch event reads are transferred from Gentrack to Cobra for use in the historic estimate calculations. All of these readings transferred to Cobra are recorded as A (actual) in the files produced from Gentrack. This means that permanent estimate switch reads are transferred as actuals, but the correct read type can be confirmed in Gentrack. There is no impact on submission, because the switch estimates are treated as validated by the historic estimate process.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.1 With: Clause 3(3) Schedule 15.2 From: 10-Oct-23 To:15-Mar-24	Estimated switch event reads are incorrectly classified as actual reads in Cobra. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because most switch file content is correct. Pulse is in the process of upgrading Gentrack which should help to resolve the CS content issues. The audit risk rating is assessed to be low as the impact on settlement and participants is estimated to be minor.

Actions taken to resolve the issue	Completion date	Remedial action status
Estimate switch reads are disregarded in Cobra, so we also add an actual read flag in Cobra, so they don't get ignored. We will look into ways to improve this. We have tested this in the Gentrack system, and this works correctly in Gentrack.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will continue to monitor and look into ways to improve this. We will do further testing in Gentrack for this.	Ongoing	

9.2. Derivation of volume information (Clause 3(4) Schedule 15.2)

Audit commentary Code reference

Clause 3(4) Schedule 15.2

Code related audit information

Volume information must be directly derived, in accordance with Schedule 15.2, from:

3(4)(a) - validated meter readings,

3(4)(b) - estimated readings,

3(4)(c) - permanent estimates.

Audit observation

A sample of submission data was reviewed in **section 12**, to confirm that volume was based on readings as required.

Audit commentary

Volume information is directly derived from validated meter readings, estimated readings, or permanent estimates.

Audit outcome

Compliant

9.3. Meter data used to derive volume information (Clause 3(5) Schedule 15.2)

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

All meter data that is used 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 volumes were based on readings as required.

NHH data is collected by Wells and MEPs for Pulse. HHR data is collected by Bluecurrent and EDMI for Pulse and AccuCal for Pioneer (NSP ANI0331BOPDNP) and two HHR ICPs for Mangaotaki generation.

Audit commentary

PUNZ

The MEP or agent retains raw, unrounded data. Compliance with this clause has been demonstrated as part of their own audits.

The HHR meter reading information received from the AMI MEPs is not rounded or truncated. The data is imported into the IMDS database, then exported to Scorpion. All decimal places are used, and rounding does not occur until the creation of submission files.

The NHH meter reading information received from the MEPs is not rounded or truncated by the AMI MEPs. Where AMI Readings are provided with decimal places these are being truncated as part of the upload into PRADA prior to being transferred to Gentrack/Cobra. As these readings have been truncated, non-compliance has been recorded below.

Pioneer (NSP ANI0331BOPDNP)

AccuCal retains raw, unrounded data. Data is provided in an unrounded format and imported into Cobra with all decimals and only rounded when submission files are created in Scorpion.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.3 With: Clause 3(5) Schedule 15.2 From: 01-Oct-23 To:23-Jun-24	NHH readings are truncated when imported into Gentrack. Potential impact: Low Actual impact: None Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as the NHH reads are truncated when imported into Gentrack. The audit risk rating is low, because only NHH meter readings provided with decimal places are affected.

Actions taken to resolve the issue	Completion date	Remedial action status
We receive the readings with decimal places, but they are truncated when they go into Gentrack. We are working with Gentrack to improve this.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are working with Gentrack, we have raised a jira, reference: GSD-2198	Ongoing	

9.4. Half hour estimates (Clause 15 Schedule 15.2)

Code reference

Clause 15 Schedule 15.2

Code related audit information

If a reconciliation participant is unable to interrogate an electronically interrogated metering installation before the deadline for providing submission information, the submission to the reconciliation manager must be the reconciliation participant's best estimate of the quantity of electricity that was purchased or sold in each trading period during any applicable consumption period for that metering installation.

The reconciliation participant must use reasonable endeavours to ensure that estimated submission information is within the percentage specified by the Authority.

Audit observation

The HHR data estimate processes were examined, and a sample of estimates were reviewed.

Audit commentary

PUNZ

Scorpion is used to process data and create reconciliation files. Information on missing data for each ICP is stored in the table called "E_Controller". The table contains detailed information on what number of intervals are missing, register reads, data source, and kWh that need to be estimated (profiled).

HHR estimations for AMI meters are created using:

- end of day reads for the day before and after to get start and end reads if possible, and then an estimate is generated for the missing periods,
- only periods with missing data are estimated,
- if there is no consumption profile, then then consumption pattern is created using three weeks of actual reads to get the HHR consumption of each half hour period,
- if there is no data for a full day then the last full day of data is replicated (I repeat the recommendation from the last audit below that rather than using the previous day that the same day of the previous week would be likely to produce a closer estimate),
- if no reads or interval history then Scorpion looks at a default profile table for something to use; default consumption profiles are stored for most combinations of network and register content code and where these can be matched for the affected ICP then a default consumption profile will be applied, and
- if there is no earlier data, and no default consumption profile can be identified, then zeros are populated until such time as data is available to use for estimates; ICPs are only converted to HHR once there is three months of reliable data, therefore there are unlikely to be any examples of the use of zero consumption, which does not meet the reasonable endeavours definition where:
    - an ICP daily average is available in the received CS file,
    - no re-estimation is performed for a data gap once interval data provision restarts for the affected ICP, and
    - missing data is not actively escalated to the AMI MEP in an attempt to have this outstanding data provided.

There are checks in place for the reconciliation team to identify any ICPs with continuous zero consumption.

Description	Recommendation	Audited party comment	Remedial action
Half hour estimates	For estimation of full days consider using same day of the week from the previous week to estimate, instead of the previous calendar day's consumption.	We are working with our DBA on this. We will test this before moving to Gentrack.	Investigating
Using zero kWh as an estimation value when no consumption information is available	Whilst no examples were identified, ensure zero consumption values are not able to be used where no AMI data is available to base and estimation from.	We will monitor this and make sure zero consumption is not used for estimates.	Identified

There is a requirement to use "reasonable endeavours" to ensure this data is accurate to within 10%. I compared the temporary estimates with the replacement actual values for six temporary estimates for AMI meters, and they met the reasonable endeavours requirement for all the estimates reviewed.

C&I estimates are conducted differently. If data is not available in time for submission, the total kWh from the previous month for that ICP is used and this is spread evenly across all trading periods. ICPs estimated in this manner will not meet the "reasonable endeavours" threshold to ensure this data is accurate to within 10%.

The previous audit report recorded issues with meter changes. These issues still remain, but are recorded in **section 8.2**, because the estimates are permanent and are therefore considered corrections.

Pioneer (NSP ANI0331BOPDNP)

HHR estimates would be created using the same methodology as described for Pulse above. No estimations have been required during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.4 With: Clause 15 Schedule 15.2 From: 01-Oct-23 To:23-Jun-24	Estimations for C&I ICPs are conducted using the "flat line" methodology based on total kWh from the previous month. This does not meet the "reasonable endeavours" threshold. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because while estimates are created, they are not always as accurate as they could be. The impact is assessed to be low due to the small number of affected ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status
PUNZ reasoning for using flat line methodology was so that it is easier for PUNZ to monitor which GXPs contain estimation data. PUNZ always aim to use actual HHR data for C&I TOU submission and will work with MEPs to ensure actual data is obtained as soon as possible so volumes are corrected in the next washup.	No changes until after Gentrack upgrade	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Currently has no plan to change the methodology until Gentrack upgrade.	After Gentrack upgrade	

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

> *16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register,*
>
> *16(2)(b) - checks for invalid dates and times,*
>
> *16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend,*
>
> *16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected zero values.*

Audit observation

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

Audit commentary

Meter reader validation

For meters read by Wells, a localised validation occurs at the hand-held device to ensure the reading is within expected high/low parameters. Readings which fail this validation are required to be re-entered, and if the two readings are the same the second reading will be accepted. If the second reading is different, (potentially indicating the first reading was incorrect) then the second reading is required to be re-entered. Wells also provide meter condition information, as discussed in **section 6.6.** Compliance is confirmed for all agents regarding data validation.

Gentrack validation

Manual NHH reads and AMI reads are imported into the PRADA data warehouse, then exported as an REA file which is imported into Gentrack. For AMI meters, a monthly read is recorded in Gentrack on a scheduled read date.

On import into Gentrack, validation occurs to ensure there is a matching ICP, meter and register number, and that dates and times are valid. Readings are checked to confirm that they are within an expected range, identify negative consumption between actual reads. Some reads are not fully processed into Gentrack where billing has been performed past the scheduled read date using an estimated read for purposes such as a final read/move out.

Additional reports are available to identify readings of vacant installations, "inactive" or "decommissioned", negative consumption, too low or too high daily consumption or zero consumption.

The zero-consumption report identifies ICPs where there has been zero consumption for four or more months. Pulse attempts to contact the customer to determine whether the zero is genuine (in which case it is not checked again for four months) or conducts further investigation to determine whether there is a potential meter fault. This report is reviewed weekly.

Billing validations identify unbilled ICPs, which could be caused by incorrect reads which were not identified during data upload.

Cobra validation

Validated reads in Gentrack are exported to Cobra, as well as end of month AMI reads which are received directly from PRADA.

Cobra validates data on upload, and any reads which fail validation are excluded from submission calculations. The following parameters are used:

Threshold Parameters

Code	Value	Starts On	Description	+ New Parameter
BATCH_PROCESS_SIZE	2000.0	2019-07-08	Amount of channels to process in one batch	
BREACH_PERCENT	0.15	2014-01-01	The percentage point change in units after which a balancing area will breach (where BREACH_UNITS is also exceeded)	
BREACH_UNITS	100000.0	2014-01-01	The number of units after which a balancing area will breach (where BREACH_PERCENT is also exceeded)	
CLOCKED_METER_PER	0.5	2014-01-01	The percentage increase used to detect if the meter has rolled over	
DEFAULT_DEFAULT_ESTIMATE	12.5	2015-01-01	Default value used when no default estimation is found for a content code and availability period	
ICP_ACTIVE_MAX_MONTHS	15.0	2015-01-01	The maximum number of months (integer) an ICP end date can expire before it is considered inactive	
MAT_UPD_KWH	20.0	2019-06-06	Material Units Per Day Change (kWh)	
MAT_UPD_PER	2.0	2019-07-06	Material Units per Day Change (%)	
MAX_DEENRG_CONSUMP	500.0	2014-01-01	The maximum volume allowed for a period where an ICP is de-energised	
MAX_ZERO_DAYS	100000.0	2014-01-01	The maximum number of days that an active ICP should have zero consumption	
NEG_READ_THRESHOLD	0.0	2015-01-01	Threshold in kWh before a negative reading error is tripped.	
ON_HOLD_CHECK_COUNT	100.0	2015-01-01	Number of channels to process before checking if the batch is on hold	

A review of the threshold parameters during the previous audit identified the following:

- the BREACH_UNITS threshold related to an old compliance tolerance which has not applied since 2014 and when used in conjunction with BREACH_PERCENT tolerance will only provide a subset of balancing areas where the volume potentially exceeds the revision accuracy requirements,
- the DEFAULT_DEFAULT_ESTIMATE value of 12.5 kWh per day is lower than the code described default value of 25 kWh per ICP per day,
- the MAT_UPD_KWH value of 20 kWh per day change is a static threshold that does not consider metering installation category code, register content code, or flow direction which is likely to result in an elevated volume of false positive exceptions being flagged for investigation,
- the MAT_UPD_PER value of 2% change in material units per day is a static threshold that does not consider metering installation category code, register content code, or flow direction which is likely to result in an elevated volume of false positive exceptions being flagged for investigation, and
- the MAX_DEENERG_CONSUMP value of 500 kWh is inconsistent with the code requirement for monitoring “inactive” consumption where the expected threshold is 1 kWh requiring a retailer to investigate potential “inactive” consumption and resolve where this consumption is confirmed as being genuine.

Cobra imports month end AMI midnight reads directly from PRADA for use in the submission process and these reads have not undergone the Gentrack meter reading validation. The above Cobra validations are the only meter reading/volume information validations performed for these reads.

As recorded in the previous audit, I recommend that Pulse reviews the effectiveness of these validations and also the thresholds used as part of the Gentrack upgrade project to ensure the thresholds and default values applied are consistent with the code requirements and reduces the volume of false positive exceptions to enable users to focus on the genuine exceptions for investigation and resolution.

Description	Recommendation	Audited party comment	Remedial action
Review effectiveness of volume information validations	Review the effectiveness of volume information validations and also the thresholds used as part of the Gentrack upgrade project to ensure the thresholds and default values applied are consistent with the code requirements and reduce the volume of false positive exceptions identified.	We will have a meeting to discuss this and make a plan and timeline. Then monitor this annually.	Investigating

Processes to review reconciliation submission information are discussed in **section 12.3.**

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

17(4)(f) - a review of the meter and data storage device event log for any event that could have affected the integrity of metering data must be investigated,

17(4)(g) – a review of the relevant metering data where there is an event that could have affected the integrity of the metering data,

If there is an event that could affect the integrity of the metering data (including events reported by MEPs but excluding where the MEP is responsible for investigating and remediating the event) the reconciliation must investigate and remediate any events.

If the event may affect the integrity or operation of the metering installation the reconciliation participant must notify the metering equipment provider.

Audit observation

Review of electronic read validation processes and meter event logs, including checking examples of validations.

Audit commentary

PUNZ

HHR and AMI data is validated as follows:

- Pulse receives actual data from all AMI MEPs and also estimated data from Intellihub which is also validated and loaded into Scorpion and flagged as estimate,
- Pulse checks for missing trading period data and if the data cannot be obtained, estimates are created according to the procedure in **section 9.4**, and
- Gentrack validates data against historic consumption patterns and identifies invalid dates and times.

AMI data also goes through the NHH validation process described in **section 9.5**.

Zero consumption was being examined and actioned.

Event logs are being received from all AMI MEPs. MEPs also provide separate emails into a generic inbox where critical events require specific action.

A sample of five-meter events were reviewed to confirm they were checked, and appropriate action taken. In all cases, they were time synchronisations, and no further action was required.

Scorpion performs a number of HHR data checks:

- incoming interval data file format checks to ensure the data is able to be uploaded,
- check for duplicate data in case the intervals values (part or full day) have been supplied multiple times by the AMI MEP; duplicate values are removed,
- interval data that has been flagged as failing the AMI ME check sum validation is rejected and replaced with estimates; no investigation is undertaken to check if the issue is related to the interval data or midnight reads,
- a monthly check is performed against the PR255 and Event Detail Analysis (EDA) reports to ensure all ICPs and meters are captured in Scorpion,
- any gaps in interval data are recorded in a list to perform estimations,
- Scorpion uses the available midnight reads to scale a historical consumption profile for the respective ICP/meter/register,
- missing trading period and/or midnight readings are identified, and estimation is conducted as described in **section 9.4**, and
- Scorpion provides exception lists for zero consuming sites and for ICP where no interval data has been received for an extended period of time; these reports are provided to the respective teams to follow up and action.

An assessment of the count of AMI HHR intervals estimated for use in the AV-090 HHRVOLS submission for the August 2023 R7 submission was performed. Pulse performed estimations for 317,184 intervals out of a total number of intervals submitted of 41 million intervals (0.77% of all intervals estimated).

While the percentage of intervals estimated by Scorpion is relatively low as a proportion of total intervals used for HHR submission, the number of individual ICPs impacted is a higher percentage. Pulse's estimation routine ensures the overall consumption volume has been included in its estimations by using the available midnight reads for reference.

I recommend that Pulse implements regular reporting of missing interval data by each AMI MEP and provide these to the MEPs on a timely basis to ensure all missing data has been investigated and confirmed unrecoverable by each MEP, rather than just undelivered. This additional step will also assist Pulse to ensure the best endeavours have been met in HHR data collection for reconciliation purposes.

Description	Recommendation	Audited party comment	Remedial action
Identification and escalation of missing AMI interval data to MEPs	Develop and implement reporting of missing/ estimated interval data used in submission, and a process to escalate these instances to the relevant AMI MEP for resolution.	We currently have a report called e_controller that shows where we have missing data and data that has to be estimated. We will use this to create a process and work with the MEP's to improve missing and estimated readings.	Identified

Pioneer (NSP ANI0331BOPDNP)

HHR data is validated using the same processes described above for Pulse.

AccuCal provide an event log each month to Pulse who review these. I checked two recent logs and there was no action required by Pulse.

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

Pulse is not required to provide information to the grid owner.

Audit Commentary

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

Pulse is not required to provide information to the grid owner.

Audit Commentary

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

Pulse is not required to provide information to the grid owner.

Audit Commentary

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

Pulse is not required to provide information to the grid owner.

Audit Commentary

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

11.1. Buying and selling notifications (Clause 15.3)

Code reference

Clause 15.3

Code related audit information

Unless an embedded generator has given a notification in respect of the point of connection under clause 15.3, a trader must notify the reconciliation manager if it is to commence or cease trading electricity at a point of connection using a profile with a profile code other than HHR, RPS, UML, EG1, or PV1 at least five business days before commencing or ceasing trader.

The notification must comply with any procedures or requirements specified by the reconciliation manager.

Audit observation

The registry lists were reviewed to confirm the profiles used.

Audit commentary

PUNZ

Review of the registry list confirmed that Pulse has only applied the HHR, RPS, EG1 and PV1 profiles during the audit period. Trading notifications are not required for these profiles.

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

No alleged breaches were recorded for late provision of ICP days information.

Pulse calculates ICP days using Scorpion and Cobra as part of the submission process. HHR and NHH ICP days are included on a single report. Before each reconciliation run Pulse imports the LIS file to Cobra and compares the two sets of data. Any discrepancies are analysed and addressed.

Where the JCC comparison and mismatch reports identify missing ICPs that have then been manually added to the aggregate AV-080 submission file then manual adjustments are made to the NHH ICP Days aggregate values for the respective NSP.

The process for the calculation of ICP days was confirmed as accurate during the HE scenarios checks.

The following table shows the ICP days difference between Pulse files and the RM return file (GR100) for all available revisions for 19 months and found the differences were very small.

Month	Ri	R1	R3	R7	R14
1 August 2022	0.00%	0.00%	0.00%	0.00%	-0.01%
1 September 2022	0.00%	0.00%	0.00%	0.00%	0.00%
1 October 2022	0.01%	0.00%	0.00%	-0.02%	0.00%
1 November 2022	0.00%	0.00%	0.00%	0.03%	0.00%
1 December 2022	0.00%	0.01%	0.00%	0.00%	0.00%
1 January 2023	0.01%	0.00%	0.00%	0.00%	-
1 February 2023	0.01%	0.00%	-0.03%	0.00%	-
1 March 2023	0.00%	0.00%	0.00%	-0.08%	-
1 April 2023	0.01%	-0.01%	0.00%	0.00%	-
1 May 2023	0.00%	0.00%	0.00%	0.00%	-
1 June 2023	0.00%	0.00%	0.00%	0.00%	-
1 July 2023	0.02%	0.00%	-0.02%	0.00%	-
1 August 2023	0.00%	0.00%	-0.01%	-	-
1 September 2023	-0.01%	0.00%	0.00%	-	-
1 October 2023	0.00%	0.00%	0.00%	-	-

Month	Ri	R1	R3	R7	R14
1 November 2023	0.01%	0.00%	0.00%	-	-
1 December 2023	0.00%	0.00%	-	-	-
1 January 2024	0.00%	0.00%	-	-	-
1 February 2024	0.00%	-	-	-	-

I reviewed six NSPs where differences were present at R1, R3 or R7 and found these were due to:

- late registry updates for a change from NHH to HHR, and
- backdated switches out.

I walked through the process for NHH to NHH, NHH to HHR and HHR to HHR meter changes. In all cases, ICP days were continuous.

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 a sample of NSPs with a small number of ICPs to confirm the AV120 calculation was correct.

GR130 reports were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

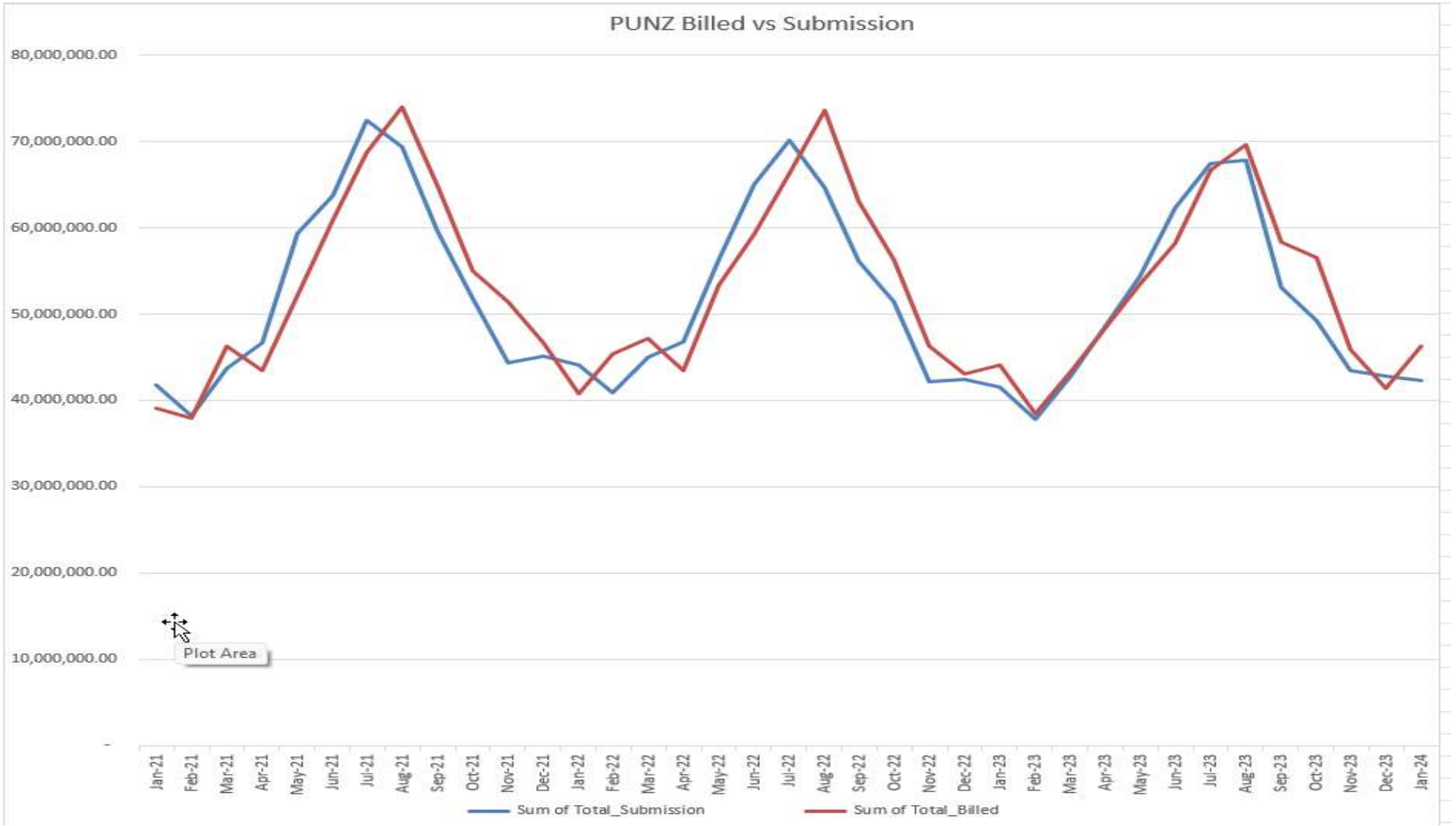
Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late.

Audit commentary

PUNZ

The process for the calculation of as billed volumes was examined by checking six NSPs with a small number of ICPs against invoice information for October 2023. The AV120 billed consumption calculation was accurate.

I compared the electricity supplied totals per month to the submission totals per month for a three-year period ending January 2024, and I found a difference of 2.1%, which seemed high. Pulse checked the reason for this and found that some ICPs had the electricity supplied volumes reported twice, because the query had not excluded one of the network charge descriptions. This is a similar but not identical issue to that found in the previous audit. The matter is now resolved, and the revision process will correct the electricity supplied files.


PUNZ Billed vs Submission
80,000,000.00
70,000,000.00
60,000,000.00
50,000,000.00
40,000,000.00
30,000,000.00
20,000,000.00
10,000,000.00
-
Plot Area
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21
Jan-22
Feb-22
Mar-22
Apr-22
May-22
Jun-22
Jul-22
Aug-22
Sep-22
Oct-22
Nov-22
Dec-22
Jan-23
Feb-23
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Sum of Total_Submission
Sum of Total_Billed

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.3 With: Clause 15.7 From: 01-Aug-23 To: 23-Jun-24	Incorrect electricity supplied information. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
PUNZ identified some ICPs have incorrectly included both Network and Energy charges (resulting in twice the volume submitted), thus the BILLED volume is over-submitted. Further investigation showed that there is an error in one of the automated scripts which needs to be corrected.	10/06/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Changes are made to code/scripts so BILLED report will be correct moving forward.	11/06/2024	

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

Code reference

Clause 15.8

Code related audit information

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

> *15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period,*
>
> *15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data for a sample of submissions.

The GR090 ICP Missing files were examined. An extreme case sample of ICPs missing were checked.

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

Audit commentary

HHR aggregates and volumes files are created by Pulse in Scorpion. I checked the process for aggregation of HHR data is correct, by:

- matching HHR aggregates information to the volumes for three submissions; the totals matched, and
- tracing a sample of raw HHR data through to the aggregate's submission for five ICPs.

The GR090 ICP Missing files were examined for all revisions for the previous 12 months. I checked 16 individual ICPs across all revisions and found the following:

- seven backdated changes from HHR to NHH,
- two backdated NSP changes by Unison, and
- seven backdated switches.

Audit outcome

Compliant

12. SUBMISSION COMPUTATION

12.1. Daylight saving adjustment (Clause 15.36)

Code reference

Clause 15.36

Code related audit information

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

Audit observation

HHR data is collected by EDMI and Bluecurrent for Pulse, and AccuCal for four ICPs including Aniwhenua (Pioneer) and Mangaotaki generation. AMI data is provided by MEPs.

Audit commentary

Compliance with this clause has been demonstrated by all MEPs and agents.

Data received from AccuCal is in standard time and each interval is recorded with a trading period end time. Accucal provides the correct number of intervals for each daylight-saving month. For the transition months Accucal provides 1442 lines of data during April and 1438 lines of data during September. Pulse applies specific scripts (one for each daylight-saving transition) to the data provided by Accucal to adjust the data from the transition date and time and ensures the transition days have the correct number of intervals (46 intervals for the September transition and 50 intervals for the April transition).

For the full months of daylight saving Accucal provides a complete month of data but starts at the last hour of the last day of the prior month and ends an hour prior to the end of the current month. Pulse maps this data into the full month of daylight-saving trading periods.

The approach Pulse applies is consistent with the trading period run on method to adjust interval data.

Pioneer (NSP ANI0331BOPDNP)

Pulse completes the daylight savings adjustments for ANI0331 using the same process as detailed above.

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

PUNZ

NHH

Cobra is used to create NHH submissions. A sample of NHH ICPs were checked to make sure they are handled correctly, including:

- five ICPs with injection/export registers which found that generation consumption was correctly submitted,
- a sample of five ICPs with vacant consumption were checked; this found that vacant consumption was submitted for the correct period, and
- ten ICPs with unmetered volumes and NHH submission type were reviewed, including five ICPs with standard and five ICPs with shared unmetered and found they were all accurate.

I found there are less bridged meters than previously, largely due to the contractors now having the ability to reconnect on-site using a handheld device, rather than bridging. ICP 0000220411UN51A was unbridged during the audit period on 14 November 2023, after being bridged since 9 October 2019. Consumption was correctly calculated for the required 14-month revision period, but there was approx. 3,500 kWh not submitted for the period prior to September 2022. Non-compliance is recorded because a revision was not conducted despite having obtained revised submission information, by way of knowledge that the ICP was bridged, and correction was required.

I checked the bridged meters recorded in the previous audit and found that corrections were not conducted for 14 ICPs. Non-compliance was recorded in the previous audit report in this section, and I have repeated the non-compliance because revisions have not been conducted.

The previous audit report recorded one ICP was "active" with a metering category of nine. ICP 0005504181ML99B, which is the cookhouse on Molesworth Station, was reported in the last two audits. Pulse have received pictures from 7 August 2023 showing the meters are still installed, despite the MEP removing them in the registry. The installation was recertified on 8 May 2024 and the registry is now populated. I checked the Gentrack and Cobra records, which still showed the original meter being removed on 26 March 2021, because the MEP had not corrected the registry which meant that no consumption was being calculated for the period 26 March 2021 to 8 May 2024. The old meter has now been reinstated in Cobra and consumption is being calculated for the entire period. However, revisions will only go back to May 2023 and submission will not occur for the 26-month period prior to that date, which is approximately 30,000 kWh. It has been confirmed that this ICP was always metered, therefore non-compliance is recorded in **sections 2.1, 12.2** and **12.7**.

Zero consumption monitoring is now occurring, and defective meters are now being actively monitored. When defective meters are found, correction is occurring. I checked eight examples, and the revisions were all accurate.

A check of ten ICPs with consumption while disconnected found the status had been correctly changed to "active" and submission had occurred, including revisions.

HHR

Scorpion is used to create HHR submissions. HHR submissions were checked in **section 11.4** and found to be compliant.

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

I checked:

- Pulse did not supply any ICPs with unmetered load which also had HHR submission type during the audit period (unmetered volumes are not able to be submitted whilst they are HHR reconciled within Pulse's systems), and
- the two ICPs with "inactive - reconciled elsewhere" status are associated with Aniwhenua and are confirmed to be correct.

Pioneer (NSP ANI0331BOPDNP)

No alleged breaches were recorded for late provision of submission information for ANI0331BOPDNP.

Submissions were checked in **section 12.5** and found to be compliant. There have been no corrections made during the audit period.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.2 With: Clause 15.4 From: 26-Mar-21 To: 23-Jun-24	A revision was not conducted for a bridged meter, despite having obtained revised submission information, by way of knowledge that the ICP was bridged, and correction was required. 14 ICPs with bridged meters during the previous audit period had no correction processed. Submission did not occur for ICP 0005504181ML99B for the period 26 March 2021 to 8 May 2024. Potential impact: Medium Actual impact: Medium Audit history: Three times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls were recorded as weak during the previous audit; however, they have improved in recent months and are now considered moderate for newly identified issues. The issues recorded are all historic and are in the process of being resolved. The audit risk rating is assessed to be medium based on the kWh detailed above.

Actions taken to resolve the issue	Completion date	Remedial action status
We have resolved the missing readings for ICP 0005504181ML99B so going forward from the current R14 washup, volumes will be accounted for. Bridged meter training and processes have been improved.	1/7/24	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have improved processes and training for bridged meters and are currently working on historic incorrect bridged meter information. The readings will be fed into cobra so our submission information will be improved. We believe the unread and zero consumption reports will improve this going forward as well.	In progress.	

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

In preparing and submitting submission information, the reconciliation participant must allocate volume information for each ICP to the NSP indicated by the data held by the registry for the relevant consumption period at the time the reconciliation participant assembles the submission information. Volume information must be derived in accordance with Schedule 15.2.

However, if, in relation to a point of connection at which the reconciliation participant trades electricity, a notification given by an embedded generator under clause 15.13 for an embedded generating station is in force, the reconciliation participant is not required to comply with the above in relation to electricity generated by the embedded generating station.

Audit observation

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

Processes to ensure that HHR, NHH, and generation submissions are accurate were reviewed. A sample of GR170 and AV080 files were compared, to confirm zeroing occurs.

Audit commentary

PUNZ

NHH submissions

The process for aggregating the AV080 was examined by conducting a walkthrough and checking validations.

ICP information from the registry is refreshed in Cobra prior to each reconciliation submission to ensure that aggregation factors and statuses are consistent with the registry. Discrepancies between Gentrack and the registry are identified through the registry validation process.

NHH volumes and ICP days submissions are validated using queries. The queries compare the volumes and ICP days to previous months (for initial submissions) and previous revision (for revision submissions). Differences are generally reviewed at total and balancing area level, including a check for differences to the previous revision, or previous initial submission of more than ±100,000 kWh and ±15%. If anomalies are found, NSP level and ICP level data are reviewed.

Cobra's design is easy to follow for all meter readings and to see what volumes were submitted for each month. It also allows operators to mark a reading as a permanent estimate when entering estimated readings.

As detailed in previous audits, there are a small number of data anomalies within Cobra where some meters or channels (registers) can get left out of later revisions. Before NHHVOLS are submitted on day four and day 13 (including revisions), the Reconciliation Team sends Cobra's output data to John Candy Consulting. This is independently verified using his system and he provides the files shown below.

- Comparison_yyyymm – shows which ICPs are missing, missing channels etc.
  - Pulse manually adds last month's consumption value as HE for each affected ICP to the aggregate AV-080 file for the respective ICP attributes for the initial, R1, R3 and R7 revisions, and for the R14 revision Pulse runs the Gentrack Recon tool and applies this value to the AV-080 file as HE volume and an audit trail is maintained within the working version of the exception report.

    - The main issue Cobra experiences with regards to missing volume in R0 is usually due to a recent reversal event in the Registry. Currently the reason for this behaviour is unknown but Pulse does have a SQL script which is run before every reconciliation process which can help to remedy this issue to an extent. Any ICPs that are still missing will then have a temporary HE volume based on their last month consumption applied. The application of this temporary estimated volume being labelled as HE is recorded as a non-compliance below.
- Mismatch_ yyyymm. Meter channel mismatch to identify phantom channels.
    - Cobra continues to record channels (registers) that are no longer available due to meter reprogramming or reconfigured.
    - Pulse manually strips the volume from the Aggregate AV-080 for the respective ICP attributes for all ICPs recorded in this list.
- ICP_POC_mismatch_yyyymm - mismatch between POC in the registry and Cobra. In some cases, Cobra still "remembers" POCs which were decommissioned.
- Nearmatch year_yyyymm – usually this shows that the meter serial number is incorrect by one character. This report feeds into a comparison check but is not actively monitored.
    - Meter reads are not loading into Cobra and FE volumes are calculated as a consequence.

The first two files are used extensively by the Reconciliation Team to correct errors. PUNZ reviews the return files from the Reconciliation Manager and any anomalies are investigated, and corrections are processed as required. The missing channels issue is expected to be resolved with the move to the new Gentrack platform where reconciliation volumes will be derived within Gentrack.

GR170 and AV080 files were compared for nine months and revisions, and found to contain the same NSPs, confirming that zeroing is occurring as required.

HHR Submissions

HHR processes are automated to ensure that volumes are submitted for every NSP with "active" ICPs, regardless of whether any consumption has been recorded. Scorpion creates files for ICPs reconciled as HHR.

HHR volumes and ICP days submissions are validated using queries. The queries compare the volumes and ICP days to previous months (for initial submissions) and previous revision (for revision submissions). Differences are generally reviewed at total and balancing area level, including a check for differences to the previous revision, or previous initial submission of more than ±100,000 kWh and ±15%. If anomalies are found, NSP level and ICP level data are reviewed.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.3 With: Clause 15.5 From: 01-Dec-22 To:23-Jun-24	Some estimates of consumption using previous months consumption volumes are manually applied as Historic Estimate volumes to the aggregated AV-080 file. These should be labelled as FE. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	The controls are moderate as some final corrections are not applied at the earliest opportunity. The impact is low based on the volume differences identified.

Actions taken to resolve the issue	Completion date	Remedial action status
This happens to ICPs which had reversal events in Registry during the Reconciliation Month. There are scripts to help mitigate the issue.	After Gentrack upgrade	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are working to resolve in the current system but will be addressed when PUNZ migrate to Gentrack system after the upgrade.	After Gentrack upgrade	

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

The participant (if a grid owner) must deliver to the reconciliation manager for each point of connection for all of its GXPs, the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.9(a)),*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period (clause 15.9(b)).*

Audit observation

Review of the NSP table confirmed that Pulse is not a grid owner.

Audit commentary

Pulse is not a grid owner.

Audit outcome

Not applicable

12.5. Provision of NSP submission information (Clause 15.10)

Code reference

Clause 15.10

Code related audit information

The participant (if a local or embedded network owner) must provide to the reconciliation manager for each NSP for which the participant has given a notification under clause 25(1) schedule 11.1 (which relates to the creation, decommissioning, and transfer of NSPs) the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.10(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period (clause 15.10(b)).*

Audit observation

The registry list and NSP table were reviewed.

Pulse is not an embedded network owner, but it provides NSPVOLS files on behalf of Pioneer Energy for NSP ANI0331BOPDNP as their agent.

Audit commentary

PUNZ

Pulse does not own any local or embedded networks and is not required to provide NSP submission information.

Pioneer (NSP ANI0331BOPDNP)

Metering data is provided by AccuCal. Once the data is downloaded from the SFTP server, it is imported into a folder from which a special script is written in Python which creates submission files. No late file submissions were recorded for ANI0331BOPDNP.

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

Review of the NSP table confirmed that Pulse is not a grid connected generator.

Audit commentary

Pulse is not a grid connected generator.

Audit outcome

Compliant

12.7. Accuracy of submission information (Clause 15.12)

Code reference

Clause 15.12

Code related audit information

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

Audit observation

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **sections 2.1**, **8.1** and **8.2**.

Audit commentary

PUNZ

No ARCS meters are settled as HHR.

As detailed in **section 2.1**:

I found there are less bridged meters than previously, largely due to the contractors now having the ability to reconnect on-site using a handheld device, rather than bridging. ICP 0000220411UN51A was unbridged during the audit period on 14 November 2023, after being bridged since 9 October 2019. Consumption was correctly calculated for the required 14-month revision period, but there was approx. 3,500 kWh not submitted for the period prior to September 2022. Non-compliance is recorded because correction was not conducted as soon as practicable.

The previous audit report recorded one ICP was "active" with a metering category of nine. ICP 0005504181ML99B, which is the cookhouse on Molesworth Station, was reported in the last two audits. Pulse have received pictures from 7 August 2023 showing the meters are still installed, despite the MEP removing them in the registry. The installation was recertified on 8 May 2024 and the registry is now populated. I checked the Gentrack and Cobra records, which still showed the original meter being removed on 26 March 2021, because the MEP had not corrected the registry which meant that no consumption was being calculated for the period 26 March 2021 to 8 May 2024. The old meter has now been reinstated in Cobra and consumption is being calculated for the entire period. However, revisions will only go back to May 2023 and submission will not occur for the 26-month period prior to that date, which is approximately 30,000 kWh. It has been confirmed that this ICP was always metered.

During the previous audit it was recorded that ICP 0330297023LCFB9 had a meter change from NHH to HHR on 17 July 2023. The last NHH reading was midnight on 16 July 2023, then the HHR data started at the time the meter was changed on 17 July 2023. Data was not corrected for the first part of 17 July 2023 to ensure continuous consumption for the day of the meter change. This correction has still not been made.

During the previous audit it was recorded that ICP 1002064533LCF2A had a meter change from NHH to HHR on 23 January 2023. The last NHH reading was midnight on 22 January 2023, then the HHR data started from 24 January 2023. Data was not corrected for 23 January 2023, therefore there was no submission at all for the day of the meter change. This correction has not been conducted and is now outside the 14-month window.

I checked a further 15 HHR to HHR meter changes to ensure consumption was correctly apportioned to the day of the meter change. Two of the examples were recertification without a meter change. Three examples had consumption for the removed and installed meters on the meter change date. One example had consumption for the removed meter on the day of the meter change but no consumption for the new meter. Nine examples did not have any consumption on the day of the meter change for either the old or the new meter.

As detailed in **section 3.5**, the correction for ICP 0110013434EL6DF was not made at the next available opportunity and is now outside of the 14-month revision period so submission will not be corrected.

As detailed in **sections 4.4** and **4.11**, review of five transfer CS files with estimated reads where no RR was issued confirmed that the correct readings was recorded in Gentrack but not in Cobra. This is due to the same issue identified detailed in **section 4.4**. Cobra is ignoring the start read and using an actual read if available. Pulse is investigating this issue. There were 790 (355 TR and 435) CS files received with estimated readings where the first read submitted could be different to that on the CS file.

Pioneer (NSP ANI0331BOPDNP)

No breaches were recorded for late provision of submission information for ANI0331BOPDNP, and no inaccurate submission information was identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 01-Oct-23 To:23-Jun-24	Some submission data was inaccurate and was not corrected at the next available opportunity. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	Controls are rated as weak as not all corrections are being processed. The impact is assessed to be medium based on the identified kWh identified.

Actions taken to resolve the issue	Completion date	Remedial action status
0005504181ML99B - Will be correct from May 2023 onwards. 0330297023LCFB9 - Corrected on NHH end in Cobra. PUNZ has a script for Cobra to check for missing read date in Cobra and it will attempt to import actual reads from Prada instead. When Gentrack reads are being validated in Cobra, Cobra prioritises the existing actual read from Prada over the estimate reads in Gentrack.	12/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Cobra uses actual reads over estimate reads from Gentrack. PUNZ relies on a script to extract reads from Prada where there are missing read date. After weighting the pros and cons, PUNZ will keep the script to ensure more actual reads are loaded into Cobra for accurate submission. We have added this to the Gentrack reconciliation migration project.	12/07/2024	

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

Code reference

Clause 4 Schedule 15.2

Code related audit information

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

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

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

Audit observation

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

Audit commentary

PUNZ

Pulse has been moving as many ICPs as possible to be HHR reconciled using AMI meters. This has improved the number of actual reads gained and reduced the volume of FE.

Pulse runs a process to make as many estimates permanent as possible as part of the reconciliation BAU processes each month. This process identifies FE recorded in the 14-month revision and the estimated reading relating to this revision period within Cobra is updated to a permanent estimate. Clause 4 of schedule 15.2 requires Pulse to replace estimates with actual validated readings or permanent estimates by revision 14 at the latest, but also requires Pulse to only add permanent estimates where they have been unable to obtain a validated actual reading despite reasonable endeavours.

In **section 6.9**, it is recorded that the reasonable endeavours threshold has not been met to obtain meter readings at the 12-month point for eight of a sample of 20 ICPs making it likely that actual readings were unable to be obtained to validate the permanent estimates by revision 14.

The level of forward estimate volumes remaining at R7 is still in the region of 400,000 kWh. The majority of this volume has been calculated by Cobra using the default value of 12.5 kwh per day. While these default estimates have been applied in Cobra and are now treated as permanent estimates for the R14 revision, it is unknown how accurate these are in relation to the expected consumption patterns for these ICPs, or what impact these permanent estimates in Cobra will have once an actual read is finally obtained which may be more or less than the monthly permanent estimate reads.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 Schedule 15.2 From: 01-Oct-23 To: 23-Jun-24	Permanent estimates applied when reasonable endeavours were not used to obtain an actual reading for a sample of eight ICPs. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are recorded as moderate as they will mitigate risk to an acceptable level. The audit risk rating is low as the volume of forward estimate volume being converted to historic estimate volumes using permanent estimate reads is low, but where reasonable endeavours was not shown, the permanent estimates may not be accurate.

Actions taken to resolve the issue	Completion date	Remedial action status
Before applying permanent estimate in R14, PUNZ also monitor for any CS/RR reads, as well as checking Prada and Gentrack for any meter reads which might have failed to import to Cobra to ensure the volume is as accurate as possible. PUNZ only treat an estimate read as permanent estimate if there are no other feasible method.	12/07/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
PUNZ will continue with the logic above when needing to apply permanent estimate in the future.	12/07/2024	

12.9. Reconciliation participants to prepare information (Clause 2 Schedule 15.3)

Code reference

Clause 2 Schedule 15.3

Code related audit information

If a reconciliation participant prepares submission information for each NSP for the relevant consumption periods in accordance with the Code, such submission information for each ICP must comprise the following:

- *half hour volume information for the total metered quantity of electricity for each ICP notified in accordance with clause 11.7(2) for which there is a category 3 or higher metering installation (clause 2(1)(a)) for each ICP about which information is provided under clause 11.7(2) for which there is a category 1 or category 2 metering installation (clause 2(1)(b)):*
  a) any half hour volume information for the ICP; or
  b) any non-half hour volumes information calculated under clauses 4 to 6 (as applicable).

c) *unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information (clause 2(1)(c)),*

- *to create non half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):*
  a) *the certification of the control device is recorded in the registry; or*
  b) *the metering installation in which the control device is location has interim certification.*
- *to create submission information for a point of connection the reconciliation participant must apply to the raw meter data (clause 2(3):*
  a) *for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))*
  b) *for each NSP the compensation factor that is recorded in the metering installations most recent certification report (clause 2(3)(b)).*

Audit observation

Aggregation and content of reconciliation submissions was reviewed, and the registry list and AC020 reports were reviewed.

Audit commentary

Compliance with this clause was assessed:

- HHR volume is reported for all ICPs with a meter category 3 or higher,
- unmetered load submissions were checked in **section 12.2**,
- no profiles requiring a certified control device are used,
- no loss or compensation arrangements are required, and
- aggregation of the AV080, AV090 and AV140 reports is compliant.

Audit outcome

Compliant

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

Code reference

Clause 3 Schedule 15.3

Code related audit information

For each ICP that has a non-half hour metering installation, volume information derived from validated meter readings, estimated readings, or permanent estimates must be allocated to consumption periods using the techniques described in clauses 4 to 7 to create historical estimates and forward estimates.

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

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

Audit observation

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

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

Audit commentary

PUNZ

I reviewed nine AV080 submissions for a diverse sample of months and revisions and confirmed that forward and historic estimates are included and identified as such.

Audit outcome

Compliant

12.11. Historical estimate process (Clauses 4 and 5 Schedule 15.3)

Code reference

Clauses 4 and 5 Schedule 15.3

Code related audit information

The methodology outlined in clause 4 of schedule 15.3 must be used when preparing historical estimates of volume information for each ICP when the relevant seasonal adjustment shape is available, and the reconciliation participant is not using an approved profile in accordance with clause 4A.

If the Authority has approved a profile for the purpose of apportioning volume information (in kWh) to part or full consumption periods, a reconciliation participant may use the profile despite the relevant seasonal adjustment shape being available; and if it uses the profile, must otherwise prepare the historical estimate in accordance with the methodology in clause 4.

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

Audit observation

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

Audit commentary

PUNZ

The process for managing SASV (seasonal adjusted shape values) is automated in Cobra and ensures that the most recent SASV values are applied.

The table below shows that all scenarios are calculating as expected and correct SASV are applied.

Where an ICP is “inactive” for part of a read-to-read period, SASV for “inactive” days are excluded from the numerator and denominator which effectively forces all of the consumption into the “active” portion of the read-to-read period.

Test	Scenario	Test expectation	Result
a	ICP becomes “active” part way through a month	Consumption is only calculated for the “active” portion of the month.	Compliant
b	ICP becomes “inactive” part way through a month.	Consumption is only calculated for the “active” portion of the month.	Compliant
c	ICP become “inactive” then “active” again within a month.	Consumption is only calculated for the “active” portion of the month.	Compliant
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for “active” days of the month.	Compliant
l	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Compliant
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Compliant
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant

Audit outcome

Compliant

12.12. Forward estimate process (Clause 6 Schedule 15.3)

Code reference

Clause 6 Schedule 15.3

Code related audit information

Forward estimates may be used only in respect of any period for which an historical estimate cannot be calculated.

The methodology used for calculating a forward estimate may be determined by the reconciliation participant, only if it ensures that the accuracy is within the percentage of error specified by the Authority.

Audit observation

The process to create forward estimates was reviewed.

Forward estimates were checked for accuracy by analysing the GR170 file for variances between revisions over the audit period.

Audit commentary

The average daily consumption provided by a losing retailer is not used by PUNZ. Estimates are calculated using historic information or type of customer and pricing applied by networks. If two validated readings are available during the read period, Cobra applies the daily average for the period between two register reads otherwise a default estimation value of 12.5 kWh per day is applied.

Count of balancing areas differences over 15%.

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Oct-22	5	7	8	8	-	-	-	-	97
Nov-22	2	6	7	8	-	1	1	-	98
Dec-22	3	7	13	13	-	1	3	2	99
Jan-23	3	6	12	6	2	2	3	1	99
Feb-23	1	6	7		-	1	1		99
Mar-23	-	5	7		-	1	1		99
Apr-23	1	7	8		-	-	-		99
May-23	2	6	5		-	-	-		99
Jun-23	3	6	5		-	-	-		99
Jul-23	3	6	7		-	-	-		99
Aug-23	1	3			-	-			100
Sep-23	1	4			-	-			100

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Oct-23	-	3			-	3			99
Nov-23	1	5			-	-			102
Dec-23	1				-				102

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

Month	Percentage difference				Volume difference			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Oct-22	0.19%	1.02%	0.86%	0.91%	-76,715	-398,780	-336,993	-356,358
Nov-22	0.24%	1.21%	1.22%	1.55%	-79,764	-393,098	-393,932	-499,375
Dec-22	0.76%	1.17%	1.04%	1.72%	-248,804	-383,306	-342,174	-559,954
Jan-23	-1.40%	-0.85%	-0.68%		439,905	266,286	213,457	
Feb-23	0.27%	1.58%	1.60%		-76,912	-449,460	-454,201	
Mar-23	0.63%	1.51%	1.40%		-206,887	-489,808	-455,137	

Month	Percentage difference				Volume difference			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Apr-23	-0.05%	0.42%	0.58%		18,667	-146,826	-200,755	
May-23	-0.35%	-1.45%	-1.54%		143,927	603,893	641,837	
Jun-23	-1.66%	-2.63%	-2.86%		782,594	1,252,347	1,362,899	
Jul-23	-1.06%	-1.99%	-2.21%		544,507	1,030,661	1,147,419	
Aug-23	-0.57%	-1.21%			296,219	630,680		
Sep-23	-0.07%	0.35%			27,846	-144,681		
Oct-23	0.62%	1.83%			-238,964	-693,294		
Nov-23	0.70%	1.19%			-237,561	-400,286		
Dec-23	0.57%				-191,163			

I checked a sample of eight differences over ± 15% for submission months between September 2022 to March 2023 and found:

- three examples were due to Cobra's limitations, where all forward estimate is "forward default" and "forward standard" estimates using historical consumption are not calculated,
- three examples were where actual readings replaced estimates,
- one example was where there was incomplete shape file information loaded, and Cobra only submits where shape file information is complete, and
- one example was where the R3 submission was using the incorrect R0 figure, despite the R1 and R7 figures being correct.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.12 With: Clause 6 Schedule 15.3 From: 01-Sep-22 To: 31-Mar-24	Some balancing area differences between revisions were over the ± 15% threshold because of inaccurate forward estimates. Potential impact: Medium Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate, as Pulse has forward estimate processes in place, however the default estimate value applied when reads are not available within the consumption month is lower than the average daily consumption across all of Pulse's ICPs. Cobra has some other limitations with calculating revisions. The audit risk rating is low because revised submission data will be washed up.

Actions taken to resolve the issue	Completion date	Remedial action status
Cobra lacks the capability to estimate volume on an ICP-by-ICP basis. Instead, it uses a flat daily estimate value for each meter type. This value is calculated by using the average consumption of all meters under that meter type. This method means that the forward estimate process will balance out for GXPs with large number of ICPs, but it will perform poorly for GXPs with small number of ICPs. We will test this thoroughly with the migration to Gentrack.	12/07/2024	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
ICP with forward estimates are monitored closely during R14 and PUNZ will load actual/more accurate reads into Cobra, and permanent estimate is applied if there isn't one. We will test this during the Gentrack reconciliation migration project.	12/07/2024	

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

Code reference

Clause 7 Schedule 15.3

Code related audit information

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

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

Audit observation

The event detail report was examined to identify all ICPs which had a profile change during the report period.

A sample of ICPs with profile changes were reviewed to confirm that there was an actual or permanent estimate reading on the day of the profile change.

Audit commentary

Every month Pulse shifts more ICPs to HHR submission and into the Scorpion system. For the majority of profile changes a new meter was installed with the capability to record import/export therefore the final reading of the removed meter was recorded and used for volume calculation.

In the event of a profile change, Pulse uses a validated meter reading on the day that the change is effective. A sample of 26 ICPs were checked. In all cases, actual readings were used at the time of the profile change the reads were correctly applied.

Audit outcome

Compliant

13. SUBMISSION FORMAT AND TIMING

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

Code reference

Clause 8 Schedule 15.3

Code related audit information

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

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

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

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

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

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

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

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

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

Audit observation

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

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

Audit commentary

PUNZ

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.

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

Audit observation

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

Audit commentary

Review of AV-080, AV-090, AV-130 and AV-140 reports identified that submission information is rounded to no more than two decimal places.

Pulse's submission information processes within Scorpion appears to aggregate and round the HHR volume information at ICP level to produce the submission information for the AV-140 (HHRAGGS) file prior to aggregation to produce the AV-090 HHRVOLS submission data file.

Pulse is one of a number of traders that creates the AV-140 submission information and file prior to the aggregation of this information to create AV-090 submission information and file.

The point at which volume information can be rounded in the AV-090/AV140 process requires some additional clarity. This is recorded as an issue for the authority to provide clarification regarding at what step in the creation of HHR submission information process can the rounding of volume information occur.

Issue	Section	Clause	Description
Clarification at which point can HHR volume information be rounded when creating submission information.	13.2	9 Schedule 15.3	AV-090 (HHRVOLS – aggregated submission information) and AV-140 (HHRAGGS – ICP submission information) are sourced from the same volume information. Where a trader creates the ICP level submission information to create the AV-140 (HHRAGGS) file prior to aggregation to create the AV-090 (HHRVOLS) file, clarification is required to confirm that this approach is compliant with clause 8 & 9 of schedule 15.3.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.3

Code related audit information

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

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

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

Audit observation

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

I reviewed a sample of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

The quantity of historical estimates is contained in the submission file and is not a separate report.

The table below shows that the HE threshold was not met for all NSPs for all submissions.

Pulse runs a process to make as many estimates permanent as possible as part of the reconciliation BAU processes each month. This process identifies FE recorded in the 14-month revision and the estimated reading relating to this revision period within Cobra is updated. Clause 4 of schedule 15.2 requires Pulse to replace estimates with actual validated readings or permanent estimates by revision 14 at the latest, but also requires Pulse to only add permanent estimates where they have been unable to obtain a validated actual reading despite using reasonable endeavours. In some cases, permanent estimates are entered for revision 14 where Pulse has not used reasonable endeavours to obtain an actual validated reading, and this is recorded as non-compliance in **section 12.8**.

Clause 10 of schedule 15.2 allows Pulse not to meet prescribed historic estimate thresholds if exceptional circumstances exist. In **section 6.9** and **6.10**, it is recorded that exceptional circumstances did not exist for some NSPs where ICPs had not received actual readings within the previous 12 and four months respectively, making it likely that some NSPs where the historic estimate thresholds were not met for revision 3, 7 or 14 will also not have exceptional circumstances.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Oct 2022	-	-	186	186
Nov 2022	-	-	186	186
Dec 2022	-	-	187	187
May 2023		184	-	188
Jun-23		186		188
Jul-23		185		188
Sep-23	183			189
Oct-23	185			189
Nov-23	185			191

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

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Oct 2022	-	-	100.00%
Nov 2022	-	-	100.00%
Dec 2022	-	-	100.00%
May 2023	-	99.03%	-
Jun-23	-	99.17%	-
Jul-23	-	99.16%	-
Sep-23	97.57%	-	-

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Oct-23	96.98%	-	-
Nov-23	97.40%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: 01-Oct-22 To:30-Nov-23	The historic estimate attainment requirements were not met for some revisions. 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 recorded as moderate as Pulse has not used reasonable endeavours to attempt to obtain reads prior to applying a permanent read. The audit risk rating is low as the volume of ICPs affected by this is small.

Actions taken to resolve the issue	Completion date	Remedial action status
The numbers above are showing a sign of improvements compared to PUNZ's results from a few audits ago. PUNZ will continue to monitor and develop scripts/process to help bring the HE requirements to as high as possible.	12/07/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are always looking to improve our processes in Cobra. PUNZ plans to resolve this once Gentrack system has been upgraded. We have added this to the testing of the Gentrack reconciliation migration project.	12/07/2024	

CONCLUSION

Pulse operates the PUNZ participant code only and acts as an agent for submission for Pioneer Energy's NSP ANI0331BOPDNP.

At the time of the audit PUNZ supplied 81,063 "active" ICPs. 21 had metering categories of 3 or higher, and the remainder had metering categories 1 or 2. PUNZ uses the PRADA data warehouse to manage readings, Gentrack for customer and ICP information management, Cobra for NHH reconciliation and Scorpion for HHR reconciliation. They are still in the process of moving reconciliation to Gentrack and retiring the Cobra system as part of the Gentrack upgrade project. This has been delayed due to unforeseen circumstances.

Registry and Switching

Examination of the registry and switching areas found that the monitoring of registry discrepancies has improved, and staffing levels have stabilised. However other issues have affected performance during the audit period.

There was a Gentrack patch upgrade in November 2023 which was not expected to affect production, so no testing was carried out. Once deployed it stopped some updates getting to the registry and manual interventions had to be put in place. This affected new connections, MEP nominations, CS files and RR files. It has been resolved but has affected the timeliness of updates to registry during the audit period as detailed in the relevant sections.

I found that estimated gain reads are not being applied in Cobra resulting in incorrect submission volumes for all ten ICPs sampled of a possible 790 files received with estimated readings. Cobra is ignoring the start read and using an actual read if available. Pulse is investigating this issue.

The Gentrack upgrade is expected to automate some manual processes which should improve accuracy and timeliness of updates.

Reading and Reconciliation

Some improvements have been made during the audit period. Corrections for "inactive" consumption, defective and bridged metering are now being conducted, and it is expected that revisions will occur for examples identified in the last audit.

The main issues requiring attention are as follows:

- Cobra's estimation logic only includes forward default estimates, based on average consumption, and does not estimate based on historical consumption for specific ICPs,
- manual adjustments are sometimes required to correct inaccurate submission data produced in Cobra,
- HHR C&I estimation uses the same average kWh per interval based on last month's consumption; previous flow patterns are not catered for,
- the electricity supplied file had an error leading to double submission in some scenarios,
- whilst improvements have been made with management of distributed generation, further improvement is required to improve the timeliness of the resolution of discrepancies, and
- some meter change scenarios result in missing data for part of the day of the meter change.

The implementation of Gentrack for submission activities is expected to improve the controls and submission accuracy.

The audit found 38 non-compliances, which is similar to the last audit. 23 recommendations are made. The audit risk rating is 93, which is similar to the previous audit. This is due to the impact rating of the CS files with estimated readings to the overall score and does not reflect the progress made during the audit period.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The future risk rating table provides some guidance on this matter and recommends an indicative audit frequency of three months. I have considered this in conjunction with Pulse's responses, and I recommend the next audit is conducted in 13 months.

PARTICIPANT RESPONSE

Pulse have reviewed this report, and their comments are recorded in the body of the report. No further comments were provided.