ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

For

PULSE ENERGY ALLIANCE LP
NZBN: 9429043300020

Prepared by: Steve Woods, Rebecca Elliot and Tara Gannon

Date audit commenced: 1 March 2022

Date audit report completed: 12 May 2022

Audit report due date: 1 June 2022

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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 in accordance with the Guideline for Reconciliation Participant Audits V7.2.

Pulse operates the PUNZ and PPPP participant codes, and acts as an agent for submission for Pioneer Energy's NSP ANI0331BOPDNP. Unless otherwise specified, the processes and non-compliances described in the report apply to all codes.

At the time of the audit:

- PUNZ supplied 84,174 active ICPs. 11 had metering categories of three 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 NZX_TOU for HHR reconciliation.
- PPPP was listed as the trader for two ICPs; one at "ready for decommissioning" status and one decommissioned ICP. All PPPP ICPs switched out to other traders by 1 October 2021. PPPP only supplied meter category 1 pre-pay ICPs without unmetered load or distributed generation connected. PPPP used the PRADA data warehouse to manage readings, ABSL for customer and ICP information management, and John Candy Consulting as an agent for NHH reconciliation. All required revisions have been provided; because all ICPs had AMI metering and have switched out in September 2021, no further revisions are expected to be required.

PUNZ

Registry

There is a high level of timeliness with regard to registry updates.

Some registry discrepancies were identified and there is room to strengthen the controls in this area.

Switching

The number of late files is low, however there was some inaccuracy within files.

Reading

Examination of the read management processes found these are generally robust. They are continuing to move ICPs to be HHR reconciled which will improve read attainment. Due to resource constraints the no read processes have been paused since November 2021. This will have an impact on submission accuracy as defective or bridged meters will not be being identified and actioned in all instances. Pulse intends to recommence this activity in the near future.

HHR reading management is robust. I recommend that the event logs are reviewed to ensure that any events that require the attention are identified and actioned.

Reconciliation

Pulse is in the process of moving their submission processes to the Gentrack platform. A material change will be undertaken prior to this. They continue to use Cobra for NHH submissions and Scorpion (previously called NZX_TOU) for HHR submissions.

The processes for NHH submission are generally robust. The estimation processes in place are calculated at a global level rather than an NSP level and this can result in estimates being inaccurate causing large variances between revisions. Pulse review these where possible but in November 2020 due to time constraints this was not able to be carried out resulting in a high volume of FE remaining at R14.

Examination of active vacant and inactive vacant corrections found that these are not always being carried out and I recommend that the process is reviewed. Corrections were also not carried out in all instances for defective and bridged meters.

HHR submission is managed well with robust validation processes in place and a high level of accuracy. Estimation and correction processes are functioning as expected.

PPPP

There were a small number of registry and switching issues identified. This code is no longer being used so these issues have no further impact.

Conclusion

The audit found 27 non-compliances and eight recommendations are made. The audit risk rating is 74, which results in an indicative audit frequency of three months. Controls were strong for four non-compliances and moderate for 15 non-compliances. Five non-compliances have weak controls and three meter reading attainment non-compliances had no controls.

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 a next audit date of nine 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	**PUNZ** Some registry and submission information incorrect and not updated as soon as practicable.	Moderate	Medium	4	Identified
Electrical Connection of Point of Connection	2.11	10.33A	**PUNZ** Six new connections were not certified within five business days of initial electrical connection. 39 reconnections were not certified within five business days of electrical connection. ICP 0030386502PC8CC was not recertified when un-bridging occurred. Certification is now cancelled. **PPPP** Four reconnections were not certified within five business days of electrical connection.	Moderate	Low	2	Identified
Meter bridging	2.17	2A of Schedule 15.2	**PUNZ** Consumption for three of four bridged meters has not been submitted.	Weak	Low	3	Identified
Changes to registry information	3.3	10 Schedule 11.1	**PUNZ** 47 late updates to active status. 29 late updates to inactive status. 499 late trader updates. Five ANZSIC code updates more than 20 business days after initial electrical connection or switch in. **PPPP** Five late updates to active status. Two late updates to inactive status.	Moderate	Low	2	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	**PUNZ** 19 late updates to active status for new connections. 17 late MEP nominations for new connections.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			One incorrect active event date.				
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	**PUNZ** Seven ICPs with incorrect ANZSIC codes.	Moderate	Low	2	Identified
Management of "active" status	3.8	17 Schedule 11.1	**PUNZ** Three ICPs with incorrect active dates.	Moderate	Low	2	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	**PUNZ** Incorrect status for ICP 0158502167LC63E. Incorrect status reason for ICP 0000566989NR80B which switched in at 1,7. Incorrect status reason for ICP 0000222731TE242 at 1,5 but was 1,9. Incorrect status for 14 ICPs with consumption while inactive resulting in under submission of 17,466 kWh. Incorrect status for three vacant ICPs (0280470029LC488, 0273892118LC0EF and 0000727240TE4AC) with consumption recorded after the disconnection date.	Moderate	Medium	4	Identified
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**PUNZ** Five of 197 AN files incorrectly had a response code of AA. Two of 2,178 AN files incorrectly had a response code of AD. **PPPP** One E2 breach. Two AN files incorrectly had a response code of AD.	Moderate	Low	2	Investigating
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	**PUNZ** Average daily consumption of zero incorrect for two of five examples. Average daily consumption of more than 200 kWh incorrect for one of five examples.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Date of last meter reading incorrect for two ICPs. **PPPP** One E2 breach. One CS breach. Two ICPs with switch event readings labelled as estimates and they should have been labelled as actual. Three ICPs with incorrect last read dates.				
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	**PUNZ** The RR file for ICP 2611016500CHA7C contained the losing trader's customer's read and it was not supported by two actual reads	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**PUNZ** One ICP incorrectly had a response code of AA. Five AN files incorrectly had a response code of AD. **PPPP** One ET breach.	Moderate	Low	2	Investigating
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	**PUNZ** Average daily consumption incorrect for four ICPs. Last read date incorrect for five of eight files checked. Incorrect last read date for one ICP not read during the period of supply. Three CS files had readings labelled as estimates and should have been actuals. **PPPP** Two ICPs had last actual read dates after the last day of responsibility. Three ICPs had last actual read dates recorded as the switch date but they should have been the day before the switch date.	Moderate	Low	2	Investigating

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	**PUNZ** Three late RR files for Switch Move.	Strong	Low	1	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**PUNZ** Two NW files sent in error. **PPPP** One AW breach.	Moderate	Low	2	Identified
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**PUNZ** Volumes were not quantified in accordance with the code for five ICPs with bridged meters. **PPPP** Volumes were not quantified in accordance with the code for four ICPs with bridged meters.	Weak	Low	3	Identified
Derivation of meter readings	6.6	3(1), 3(2) and 5 Schedule 15.2	**PUNZ** ICP 2611016500CHA7C contained the losing trader's customer's read and it was not supported by two actual reads	Strong	Low	1	Identified
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**PUNZ** Exceptional circumstances were not proven for all ICPs not read during period of supply.	None	Low	5	Identified
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**PUNZ** Exceptional circumstances were not proven for two of the ten ICPs sampled.	None	Low	5	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	**PUNZ** Exceptional circumstances not confirmed for two ICPs on two NSPs that did not meet the 90% read rate within four months.	None	Low	5	Identified
Meter data used to derive volume information	9.3	3(5) Schedule 15.2	**PUNZ** NHH readings are truncated when imported into Gentrack. **PPPP** The MEP readings provided to John Candy Consulting by Pulse do not include decimal places.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	**PUNZ** Zero consumption is not being monitored. Event logs not reviewed.	Weak	Low	3	Identified
Daylight saving adjustment	12.1	15.36	**PUNZ** Incorrect TPM methodology used for the adjustment of daylight savings for the four ICPs where AccuCal provide the HHR data.	Strong	Low	1	Identified
Creation of submission information	12.2	15.4	**PUNZ** Some ICPs were missing from submissions due to status not being corrected for vacant consumption. 14 ICPs were missing from submissions due to status not being corrected for inactive vacant consumption resulting in 17,466 kWh. Shared unmetered load not submitted for three ICPs moved to the HHR profile. Consumption for one of three ICPs with defective meters and three of four bridged meters has not been submitted.	Weak	Medium	6	Identified
Accuracy of submission information	12.7	15.12	**PUNZ** Some submission data was inaccurate and was not corrected at the next available opportunity.	Weak	Medium	6	Identified
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	**PUNZ** Some estimates were not replaced with permanent estimates by revision 14.	Moderate	Low	2	Investigating
Historical estimate reporting to RM	13.3	10 Schedule 15.3	**PUNZ** The historic estimate attainment requirements were not met for some revisions.	Moderate	Low	2	Investigating
Future Risk Rating						74	

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

RECOMMENDATIONS

Subject	Section	Recommendation	Remedial action
Registry validation	2.1	Check the audit compliance report on a weekly basis.	Adopted
Active with no metering	3.4	Continue the investigation into the following matter: 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.	Metering has yet to be loaded to the registry- requires further action.
MEP nomination	3.5	Consider a process change to nominate the MEP before metering is installed for new connections.	Investigating
Disconnection location	3.9	1) Strengthen the contract with Wells and Delta to require their disconnection processes to be audited. 2) Request evidence from Wells and Delta that they are approved by all distributors to disconnect at the network fuse.	Investigating
Unmetered load	5.1	Update the description for ICP 0000678614UN599 to clarify there are 10 lights not one light.	Identified
Half hour estimates	9.4	For estimation of full days consider using same day of week from the previous week to estimate.	Identified
Electronic meter readings and estimated readings	9.6	Liaise with ARC and Influx to get meter event logs sent.	Identified
		Review and action any events that require investigation.	Identified
Creation of submission information	12.2	Review management of vacant and inactive vacant consumption to ensure these volumes are reconciled.	Investigating

ISSUES

Subject	Section	Clause	Description
			Nil

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

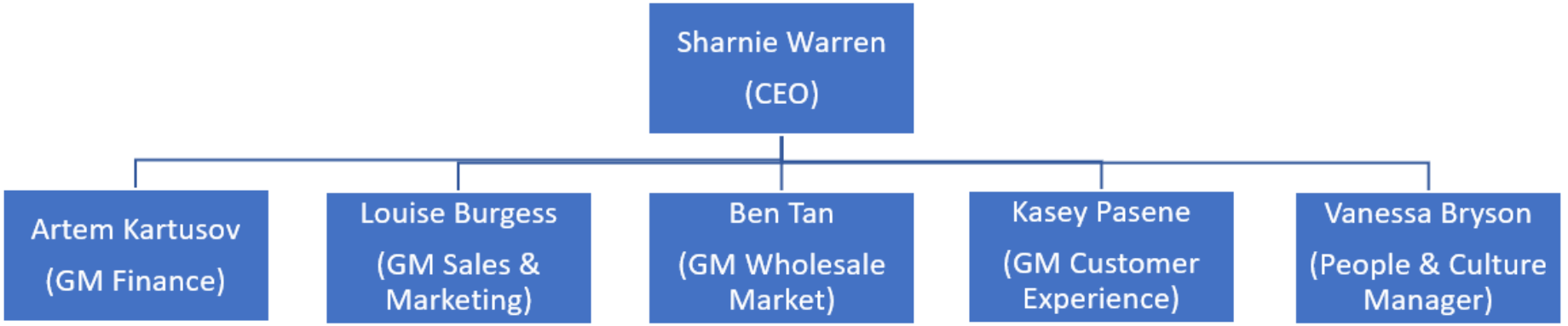
The Electricity Authority website was checked to identify any exemptions currently in place for Pulse.

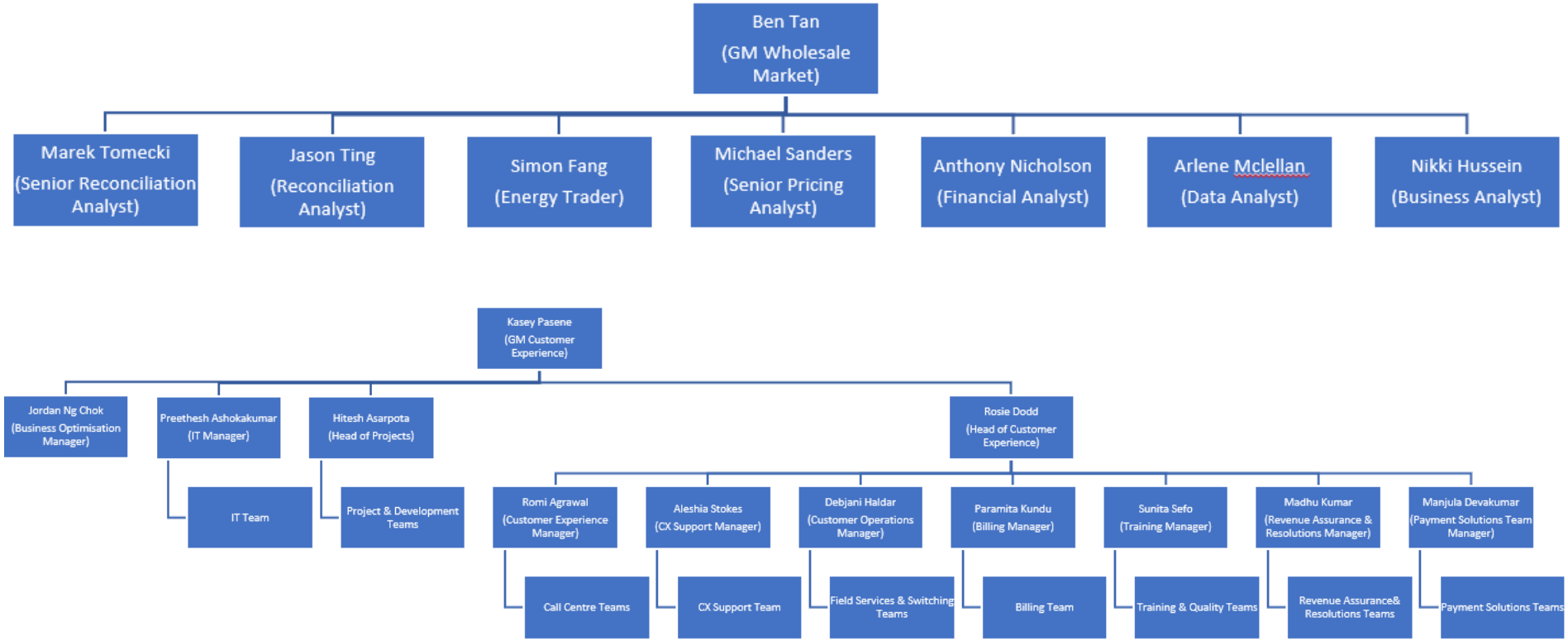
Audit commentary

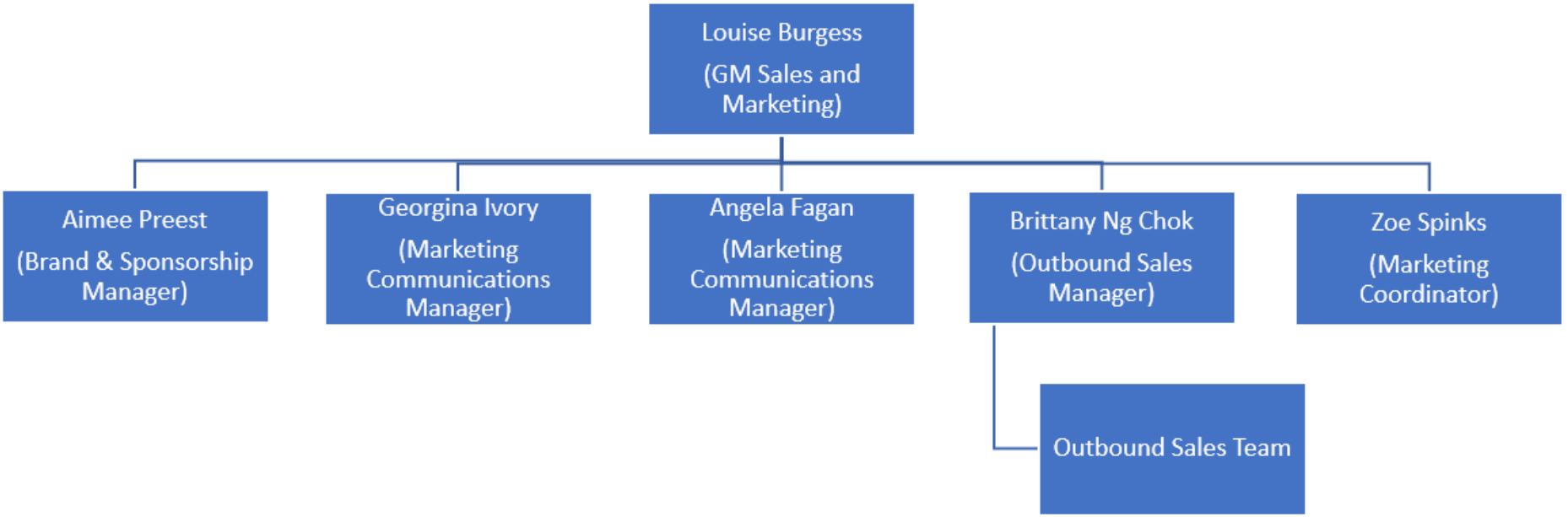
Pulse has no exemptions recorded on the Electricity Authority website.

1.2. Structure of Organisation

Pulse provided a copy of their organisation structure.




Ben Tan
(GM Wholesale Market)
Marek Tomecki
(Senior Reconciliation Analyst)
Jason Ting
(Reconciliation Analyst)
Simon Fang
(Energy Trader)
Michael Sanders
(Senior Pricing Analyst)
Anthony Nicholson
(Financial Analyst)
Arlene Mclellan
(Data Analyst)
Nikki Hussein
(Business Analyst)
Kasey Pasene
(GM Customer Experience)
Jordan Ng Chok
(Business Optimisation Manager)
Preethesh Ashokakumar
(IT Manager)
Hitesh Asarpota
(Head of Projects)
Rosie Dodd
(Head of Customer Experience)
IT Team
Project & Development Teams
Romi Agrawal
(Customer Experience Manager)
Aleshia Stokes
(CX Support Manager)
Debjani Haldar
(Customer Operations Manager)
Paramita Kundu
(Billing Manager)
Sunita Sefo
(Training Manager)
Madhu Kumar
(Revenue Assurance & Resolutions Manager)
Manjula Devakumar
(Payment Solutions Team Manager)
Call Centre Teams
CX Support Team
Field Services & Switching Teams
Billing Team
Training & Quality Teams
Revenue Assurance& Resolutions Teams
Payment Solutions Teams


Louise Burgess
(GM Sales and Marketing)
Aimee Preest
(Brand & Sponsorship Manager)
Georgina Ivory
(Marketing Communications Manager)
Angela Fagan
(Marketing Communications Manager)
Brittany Ng Chok
(Outbound Sales Manager)
Zoe Spinks
(Marketing Coordinator)
Outbound Sales Team

1.3. Persons involved in this audit

Auditors:

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

Pulse Personnel assisting with this audit:

Title	Organisation
Ben Tan	GM Wholesale Market
Debjani Haldar	Customer Operation Manager
Kathy Pang	Database Architect
Marek Tomecki	Senior Reconciliation Analyst
Jason Ting	Reconciliation Analyst
Malu Rokeni	Project Manager

Other personnel assisting with this audit:

Name	Role	Company
John Candy	Director	John Candy Consulting
Russell Mann	Director	AccuCal
Craig Simpson	Operations Manager Service Hub	Wells
Nick Appleby	Solution Support Specialist	EDMI NZ Limited
Laura Ferrier	Senior Data Analyst	Vector Metering

1.4. Use of Agents (Clause 15.34)

Code reference

Clause 15.34

Code related audit information

A reconciliation participant who uses an agent

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

Audit observation

The agents used by 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,
- AMS and EDMI as HHR agents, and
- AccuCal is an HHR agent for generation data for two ICPs for the Mangaotaki generation.

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

PPPP

PPPP uses John Candy Consulting as an agent for NHH reconciliation submissions.

NHH data is received from AMS, Influx and Metrix as MEPs.

Pioneer (NSP ANI0331BOPDNP)

AccuCal is a HHR agent for generation data for ANI0331.

Agent's audits

All agents have been audited in accordance with the Guidelines for Reconciliation Participant Audits. The EDMI, AMS, and Wells audits were completed more than seven months before this audit report's due date. Additional checks were conducted to confirm whether there have been any changes to procedures, or any events which could affect meter accuracy had occurred. The agent audit reports are expected to be submitted along with this report.

1.5. Hardware and Software

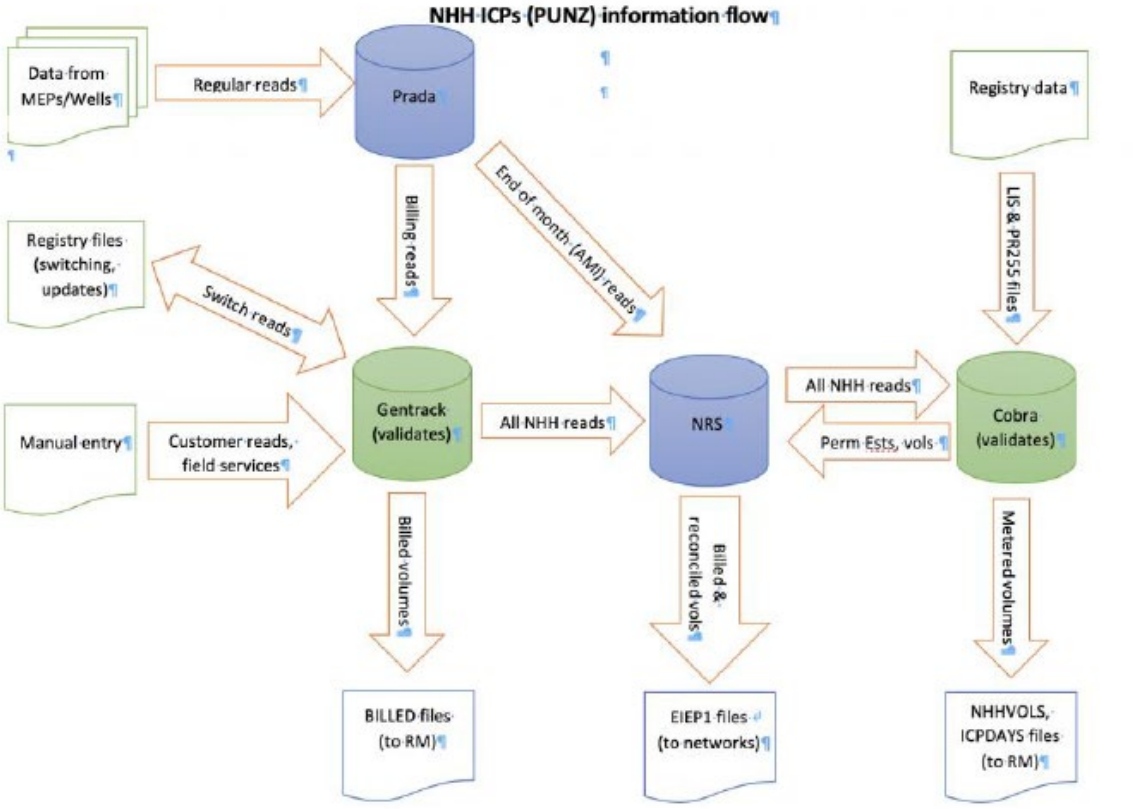
Systems are backed up, and access to systems is restricted through logins and passwords. The backup schedule/rotation consists of four daily backups (Monday to Thursday), four weekly backups (Friday), two monthly backups (last business day) and a quarterly backup, a new tape is always used. The daily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

PUNZ

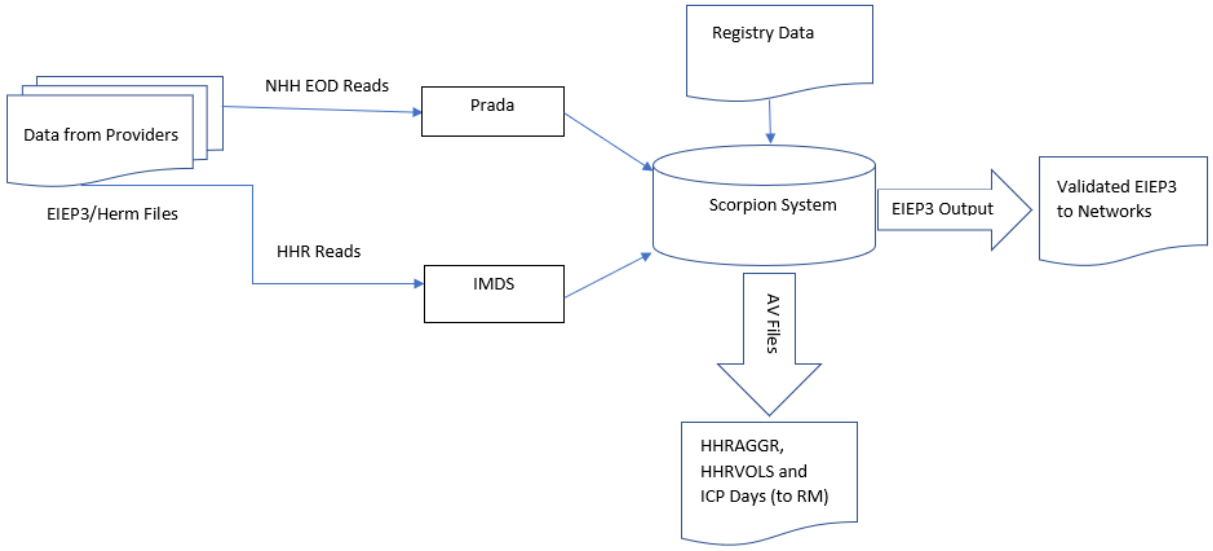
The following systems are used:

- 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

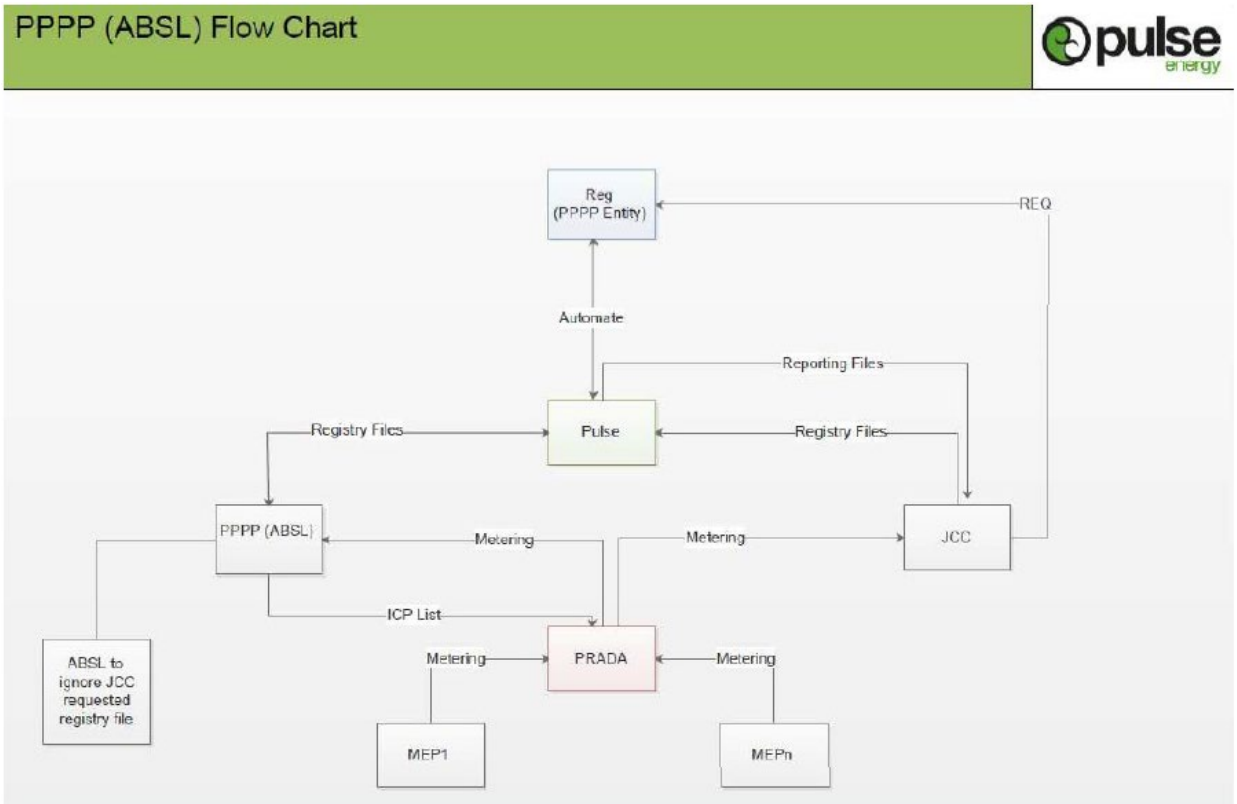


PPPP

The following systems were used:

- ABSL for management of pre-pay customers (PPPP) and their readings, and
- PRADA data warehouse for data storage and reporting.

John Candy Consulting completed NHH reconciliation for PPPP using their RM Tool.



Pioneer (NSP ANI0331BOPDNP)

The following systems were used:

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

1.6. Breaches or Breach Allegations

No alleged breaches were recorded during the audit period.

1.7. ICP Data

PUNZ

The quantity of ICPs by status is shown below.

Status	Number of ICPs 2022	Number of ICPs 2021	Number of ICPs Oct 2020	Number of ICPs Oct 2019	Number of ICPs Jan 2019	Number of ICPs 2018
Active (2,0)	84,174	82,971	78,437	75,536	75,649	71,933
Inactive – new connection in progress (1,12)	1	1	6	-	3	9
Inactive – electrically disconnected vacant property (1,4)	710	597	602	544	223	259
Inactive – electrically disconnected remotely by AMI meter (1,7)	36	48	27	25	18	22
Inactive – electrically disconnected at pole fuse (1,8)	76	50	40	34	4	5
Inactive – electrically disconnected due to meter disconnected (1,9)	17	18	12	8	2	1
Inactive – electrically disconnected at meter box fuse (1,10)	8	7	4	2	-	1
Inactive – electrically disconnected at meter box switch (1,11)	19	9	9	10	4	4
Inactive – electrically disconnected ready for decommissioning (1,6)	24	20	17	25	32	29
Inactive – reconciled elsewhere (1,5)	3	2	2	1	-	-

Status	Number of ICPs 2022	Number of ICPs 2021	Number of ICPs Oct 2020	Number of ICPs Oct 2019	Number of ICPs Jan 2019	Number of ICPs 2018
Decommissioned (3)	1,021	910	796	714	590	534

The active ICPs on the list file were summarised by meter category in the table below. The ten active ICPs with a metering category of 9 or blank were checked. Seven had unmetered load indicated, two had MEP nominations made and accepted and were awaiting population of metering data. 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. This is being investigated and I've recorded a recommendation in **section 3.4** to ensure visibility.

Metering Category	Number of ICPs 2022	Number of ICPs 2021	Number of ICPs Oct 2020	Number of ICPs Oct 2019	Number of ICPs Jan 2019	Number of ICPs 2018
1	83,927	83,330	79,445	75,973	76,465	71,822
2	225	183	180	162	156	100
3	7	7	7	7	7	1
4	4	4	4	4	4	2
5	1	1	3	2	2	1
9	6	13	3	6	2	5
Blank	4					

PPPP

The quantity of ICPs by status is shown below. All active ICPs switched out by 1 October 2021.

Metering Category	Number of ICPs 2022	Number of ICPs 2021	Number of ICPs Oct 2020	Number of ICPs Oct 2019
1	-	1,599	772	3
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
9	-	-	-	-
Blank	-	-	-	-

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

Status	Number of ICPs 2022	Number of ICPs 2021	Number of ICPs Oct 2020	Number of ICPs Oct 2019
Active (2,0)	-	1,571	740	3
Inactive – new connection in progress (1,12)	-	-	-	-
Inactive – electrically disconnected vacant property (1,4)	-	2	7	-
Inactive – electrically disconnected remotely by AMI meter (1,7)	-	32	25	-
Inactive – electrically disconnected at pole fuse (1,8)	-	-	-	-
Inactive – electrically disconnected due to meter disconnected (1,9)	-	-	-	-
Inactive – electrically disconnected at meter box fuse (1,10)	-	-	-	-
Inactive – electrically disconnected at meter box switch (1,11)	-	-	-	-
Inactive – electrically disconnected ready for decommissioning (1,6)	1	-	-	-
Inactive – reconciled elsewhere (1,5)	-	-	-	-
Decommissioned (3)	1	1	-	-

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 remotely using Microsoft Teams, and at Pulse's office in Auckland between 20 April 2022 and 29 April 2022.

For PUNZ a registry list, event detail report and audit compliance report for 1 September 2021 to 8 March 2022 and a registry list snapshot for 8 March 2022 were reviewed.

For PPPP a registry list, event detail report and audit compliance report for 1 September 2021 to 8 March 2022 were reviewed.

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	AMS EDMI AccuCal	Wells	Arc IntelliHUB AMS Influx SMCO
(c)(iii) Creation and management of HHR & NHH volume information		John Candy Consulting for PPPP NHH ICPs	
(d)(i) Calculation of ICP days		John Candy Consulting for PPPP ICPs	
(d)(ii) - delivery of electricity supplied information under clause 15.7		John Candy Consulting for PPPP ICPs	
(d)(iii) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8		John Candy Consulting for PPPP ICPs	

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks		MEPs providing data
	HHR	NHH	
(e) – Provision of submission information for reconciliation		John Candy Consulting for PPPP ICPs	

AMS, EDMI, and Wells have been audited in accordance with the Guidelines for Reconciliation Participant Audits. The agent audit reports are expected to be submitted along with this report, and the agents confirmed that there have been no changes to their processes which could have a negative impact on Pulse's compliance.

AccuCal is the HHR data collection agent for the generation data for ANI0331 and for two ICPs for the Mangaotaki generation. Their processes are discussed in this report. The audits were completed more than seven months before this audit report's due date.

John Candy Consulting has not undergone an agent audit and the processes they complete for Pulse were reviewed as part of this audit.

1.10. Summary of previous audit

A copy of the report from the previous audit completed in August 2021 by Ewa Glowacka and Allan Borcoski of TEG & Associates Ltd was checked. The current status of the non-compliances, recommendations and issues is recorded in the table below. The status "still existing" is noted if non-compliance with the clause has been found in this audit and does not refer to the specific ICPs where these are detailed. Further comment is made in the relevant sections of this report.

Table of Non-compliances

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	11.2, 15.2	PPPP /PUNZ - A small quantity of information in the registry was inaccurate, Incorrect information in CS files.	Still existing
Electrical Connection of Point of Connection	2.11	10.33A	14 reconnections had expired certification recorded on the registry when they were reconnected.	Still existing
Changes to registry information	3.3	10 Schedule 11.1	PUNZ - Late updates of "inactive" and "active" status and trader information PPPP – relatively low numbers of late registry updates for active, inactive, disconnection and MEP switches.	Still existing
Provision of information to the registry manager	3.5	9 Schedule 11.1	PUNZ - late trader updates, late updates of ANZSIC code for 5 ICPs, few correction of "active" date. PPPP - A very small number of MEP switch's in the registry were later than 5 business days.	Still existing

Subject	Section	Clause	Non-compliance	Status
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	PUNZ - 4 ICPs with incorrect ANZSIC code. Some ICPs had incorrect ANZSIC code recorded in the registry.	Still existing
Management of "inactive" status	3.9	19 Schedule 11.1	PPPP – 3 ICPs had the incorrect AMI flag set in the Registry for an AMI disconnecting meter.	Still existing
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	PUNZ - Average daily consumption methodology was incorrect. Average daily consumption value was incorrect for 1 ICP.	Still existing
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	PUNZ - 1 late RR files for Standard Switch.	Still existing
Gaining trader informs registry of switch request - switch move	4.7	9 of Schedule 11.3	PUNZ - Incorrect type of switch used.	Cleared
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	PUNZ - Average daily consumption methodology is incorrect. Information in CS files for 5 ICPs was incorrect.	Still existing
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	PUNZ - 6 late RR files for Switch Move	Still existing
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	PUNZ - 100% attainment was not achieved for up to 9 NSPs in 12 months period.	Still existing

Subject	Section	Clause	Non-compliance	Status
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	PUNZ - 90% attainment was not achieved for more than two NSPs over 4 months. PPPP - 90% attainment was not achieved for more than one NSP over 4 months.	Still existing
HHR interrogation data requirements	6.13	11(2)(e) of Schedule 15.2	PUNZ - No interrogation log is generated by the interrogation software to record details of all interrogations for readings provided by AccuCal.	Cleared
Meter data used to derive volume information	9.3	3(5) of Schedule 15.2	PUNZ - Meter data provided in the EIEP3 format is rounded therefore it results in a technical breach for Pulse Energy.	Still existing
Electronic meter readings and estimated readings	9.6	17(4)(f) of Schedule 15.2	PUNZ - Meter event information for AMI meters is not reviewed because log files are not provided by MEPs and agents except AccuCal.	Still existing
HHR aggregates information provision to the reconciliation manager	11.4	15.8	PUNZ/PPPP - HHRAGGR files do not contain electricity supplied information.	Cleared
Daylight saving adjustment	12.1	15.36	PUNZ- Partly incorrect daylight saving adjustment for NZDT for data provided by AccuCal	Cleared
Accuracy of submission information	12.7	15.12	PUNZ - Incorrect submission information for situations which are outside of main processes e.g. disconnected consumption, status reversal in the registry. One breach was recorded for inaccurate submissions.	Still existing
Permanence of meter readings for reconciliation	12.8	4 of Schedule 15.2	PUNZ- Some forward estimates are not replaced by permanent estimates in R14.	Still existing
Historical estimate reporting to RM	13.3	10 Schedule 15.3	PUNZ - Historical estimates target not met for revision 3, 7, and 14 for 4 months Moderate Low 2 Identified RP Audit Report v10 11 PPPP- Historical estimates target not met for revision 3, 7 for 4 months.	Still existing

Table of Recommendations

Subject	Section	Description	Recommendation	Status
Meter data used to derive volume information	9.3	Metering data provided by MEPS and agents in the EIEP3 format is rounded.	Request MEPs and agents to provide unrounded or truncated metering data.	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

PUNZ

Registry data synchronisation

Most registry updates are automated. Some manual entry occurs when corrections need to be made. Registry notification files are monitored for certain events.

Registry data validation

Pulse has a suite of weekly and monthly reports to ensure registry data is correct. The table below shows the details of these reports.

Report name	Frequency	Description
UML audit	Monthly	This report compares Gentrack to the registry.
Multiplier check	Monthly	This report compares Gentrack to the registry.
Meter certification expiry	Monthly	This report identifies all ICPs with expired certification. MEPs are then notified.
ADL Zero	Weekly	This report identifies all switched in ICPs where the average daily consumption is zero. The daily kWh values in Gentrack are manually updated to ensure billing and settlement is not zero.
Consumption on de-energised ICPs	Weekly	This report identifies ICPs where the status is inactive, but where consumption is present. Investigations occur and the status is changed to active as required.

Report name	Frequency	Description
Weekly zero consumption report	Weekly	This report identifies ICPs where there has been zero consumption for four or more months. Customers are contacted in the first instance to check if the property is occupied or whether the meter may not be in use, or the consumption may be seasonal. If it's determined the zero consumption is genuine, ICPs can be removed from the report for a further four months. If there is doubt about the zero consumption, it is investigated, and corrections made accordingly.
Field Services compliance raw data	Weekly	This report identifies retailer mismatches between Gentrack and the Registry.
Field services compliance	Weekly	There are various sub-reports, as follows: • reads in Prada but not in Gentrack, • switched in ICPs with no read for 30 days; special readings are conducted in these cases, • expired meter certification, • status change registry updates over five days and within five days, • decommissioned installations with meters still present, and • invalid ANZSIC codes
New connection report	Weekly	New connections in progress but not active.
DUNE IN16 and IN24 error report	Daily	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.
Daily remote disco report	Daily	Identifies ICPs that have been finalled with smart meters. A remote disco is requested for these.

There are additional validation reports available in the audit compliance report, which is checked periodically but these checks do not have a specific schedule. I recommend these reports are checked on a weekly basis.

Recommendation	Description	Audited party comment	Remedial action
Registry validation	Check the audit compliance report on a weekly basis.	Registry compliance report will be reviewed weekly from 1st July.	Adopted

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	2022 Qty	Comments
1	Status mismatch between Gentrack and Registry	-	Validation is in place to identify these examples.
2	ICP at status "inactive - new connection in progress" (1,12) or "ready" (000) with an initial electrical connection date populated by the distributor	3	Two ICPs are now active, but for ICP 0000010622EA5F6 Pulse has not agreed to be the trader, and this should not be in the registry with a "ready" status and Pulse as the proposed trader. See **sections 3.5** and **3.8**.
3	Active date variance with Initial Electrical connection Date	28	Pulse's dates were confirmed as correct for most ICPs but the active date for ICP 1100000044WMF02 should be 7 December 2021 not 29 November 2021. See **sections 3.5** and **3.8**.
4	Incorrect submission flag	5	Five ICPs with RPS PV1 profile have the HHR submission flag set to yes, and the NHH submission flag set to no. The profile is now HHR for all five ICPs.
5	Incorrect profiles	22	22 ICPs with PV1 profile but no generation installed. Three ICPs with shared unmetered load incorrectly recorded with HHR profile as detailed in **section 11.4**.
6	Distributor indicates embedded generation present with RPS profile	116	These are now all corrected. See **section 6.1**.
7	Active ICP with cat 9 and UML="N"	4	The AC020 report recorded four ICPs that were active with a metering category of nine or blank. One was a timing difference and metering details were populated after the AC020 report was run, two had MEP nominations made and accepted and were awaiting population of metering data. 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. This is being investigated and I've recorded a recommendation in **section 3.4** to ensure visibility. See also **section 2.9.**
8	Active ICP with no MEP recorded and UML="N"	3	One was a timing difference and metering details were populated after the AC020 report was run, two had MEP nominations made and accepted and were awaiting population of metering data.
9	Active with blank ANZSIC codes	-	Compliant.

Item No.	Issue	2022 Qty	Comments
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	1	See **section 3.6**.
13	Incorrect ANZSIC code applied	7	See **section 3.6**.
14	ICPs with Distributor unmetered load populated but retail unmetered load is blank	-	Compliant.
15	ICPs with standard unmetered load flag Y but load is recorded as zero	-	Compliant.
16	ICPs with incorrect shared unmetered load	-	Compliant.
17	ICPs have UML flag N and no shared unmetered load but Distributor field shows shared unmetered load.	-	Compliant.
18	Arc category 2 meters submitted as HHR	-	Compliant.
19	Incorrect active event date	3	See **section 3.8**
20	Incorrect inactive event date	-	Compliant
21	Incorrect inactive status	1	Incorrect status for ICP 0158502167LC63E. Incorrect status reason for ICP 0000566989NR80B which switched in at 1,7 (remote disconnection). This is detailed in **section 3.9**. Incorrect status for ICP 0000222731TE242 was recorded as 1,5 (reconciled elsewhere) but was 1,9 (meter disconnected). This is detailed in **sections 3.9** and **12.2**.

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	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 not currently in place as this is part of the no read process that is paused and therefore there is a risk that defective meters will not be identified at the earliest opportunity. There are plans to recommence this work in the near future. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect, and a consumption correction is processed if the volume difference is 200 kWh or more. The code requires that all information is complete and accurate, therefore all volume discrepancies should be corrected. I have included a recommendation below. 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. I reviewed three examples of stopped or faulty meters and found: • ICPs 0055029365HBCCD and 1001158643LCC7F have been corrected and the volumes have been submitted, and • ICP 0432585044LC835 has had a faulty meter since 1 March 2022, which had not been passed to the Revenue Assurance Team for correction, but was as a result of this audit, and is recorded as non-compliance.	No
Incorrect multipliers	8.2	Multiplier mismatches are checked as part of the weekly BAU processes. Any discrepancies identified are investigated and corrected as soon as practicable. During the last audit, it was discussed that there was a possible multiplier discrepancy between the registry and the paperwork for Aniwhenua. This was investigated and found the paperwork was out of date and the registry was correct. However, post the audit Pulse updated the multiplier from 100 to 80 but have since corrected this as soon as it was confirmed that the registry was correct. No other incorrect multipliers were identified.	Yes

Subject	Section	Comments	All practicable steps taken?
Bridged meters	2.1,2.17, 6.4	Potential bridged meters are identified through returned service requests, the MEP, the customer or through the NHH read validation process. However, as discussed in **section 9.6**, zero-consumption monitoring is not currently in place as this is part of the no read process that is paused and therefore there is a risk that bridged meters will not be identified at the earliest opportunity. There are plans to recommence this work in the near future. The removal reads calculator is used to calculate the volumes for the bridged period. The process is described above in defective meters findings. I reviewed four examples of corrections for bridged meters and found that: • three ICPs had not been passed to the Revenue Assurance Team so no corrections have been processed, and • a correction was processed for ICP 0001270560PC2AD and I confirmed that it was processed correctly.	No
Vacant consumption	2.1, 12.2 & 12.7	A sample of five ICPs with vacant consumption of a total of a possible 14 ICPs and 1,384 kWh were checked and found that vacant consumption was not submitted for the correct period in all instances. This is detailed in **section 12.2**. This was due to a misunderstanding between different parts of the business. Operations believed that if reads were entered the volume would be submitted regardless of the ICP's status, but a customer must be registered, and the status must be active in Gentrack for submission to occur. Pulse do not use occupier accounts to bill off vacant consumption. This is recorded as non-compliance below and in **sections 12.2** and **12.7**. I recommend in **section 12.2**, that the management of vacant and inactive vacant consumption is reviewed.	No
Consumption while inactive	2.1, 12.2 & 12.7	14 ICPs with inactive consumption were checked and found that the volumes had not been submitted as the ICPs had not been returned to active resulting in under submission of 17,466 kWh. I recommend in **section 12.2**, that this process is reviewed. This is recorded as non-compliance below and in **sections 12.2** and **12.7**	No
Unmetered load corrections	2.1, 3.7	Pulse has robust checks in place to ensure that unmetered load is calculated and submitted correctly. No unmetered load corrections were identified during the audit period. Three ICPs with shared unmetered load were incorrectly moved to the HHR profile resulting in the unmetered load not being submitted from 1 January 2022. These have been corrected back to the RPS profile during the audit and missing unmetered load volumes will be submitted.	No

Recommendation	Description	Audited party comment	Remedial action
Corrections	Recommend that processing all corrections not just those 200kWh and above.	Bridged meter calculations added to Field Services processes for future reference. All bridged meters will be referred to Revenue Assurance Team or removal read calculation will be completed by Field Service team. Meters with zero consumption are currently being monitored and actioned.	Identified

I walked through the process for NHH to NHH, NHH to HHR and HHR to HHR meter changes, including reviewing five upgrade examples. In all cases, data was continuous. Where data was missing due to faulty meters or because data was not supplied for the day of the meter change, estimations occurred, which were provided to confirm their accuracy. No downgrades were identified on the event detail report.

I re-checked submission issues recorded in the previous audit to determine whether they had been resolved as soon as practicable.

- 20 ICPs did not have the agreed switch reading recorded in Cobra resulting in over submission of 61 kWh. These have all now been corrected but 13 of these corrections are now outside the revision period resulting in 23 kWh of over submission. Whilst this is a small volume of kWh's in total this is due to overs and unders balancing the incorrect volumes out. This is detailed in **section 12.7**.
- ICP 0000000185CPB74 did not have the agreed switch reading recorded in Cobra. It rejected the reading because the reading came in the day before the ICP switched in. This was due to a known issue, that occurred from approximately February to April 2021and was caused by a date issue between Gentrack and Cobra which caused a read dated for example 16 January 2021 to be recorded in Cobra as 15 January 2021 and was therefore ignored. Pulse has put a fix in place by using the start read from the CS file rather than the read recorded in the PRADA data warehouse. The reads for ICP 0000000185CPB74 now have the agreed switch reading.
- ICP 0000682080TECE0 had an incorrect serial number recorded and volumes were unnecessarily estimated. This was investigated and found that Cobra was using an old meter serial number and therefore estimating volume as the current meter register was being ignored. Cobra has been corrected so the current meter serial is used to reconcile volumes from.

PPPP

PPPP was subject to the same discrepancy reporting as PUNZ. No registry discrepancies were identified.

The reconciliation team conducted 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**.

Submission data accuracy

Processes for correction of NHH meter readings are reviewed in **section 8.1**. Readings which potentially require corrections are identified through PPPP and John Candy Consulting's read validation processes. These validation processes check that the readings are recorded for the correct ICP, meter, register and date, and are reasonable when compared to previous readings.

John Candy Consulting confirmed that no defective meters, bridged meters, or inactive, excessive, negative or zero consumption issues were identified during the audit period. No unmetered load is supplied and all ICPs have a multiplier of one.

Pioneer (NSP ANI0331BOPDNP)

As detailed in **section 12.1**, data received from AccuCal is in standard time. In the last audit non-compliance was recorded for Pulse using the trading period run on process and the Electricity Authority advised that the trading period move process be used as detailed in the registry functional specification. The code requires that the trading period run on be used. The code always takes precedence therefore Pulse is returning to using the trading period run on process.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.6, 11.2, 15.2 From: 01-Sep-21 To: 31-Mar-22	**PUNZ** 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 inactive vacant consumption and correction of submission information for defective and bridged meters. 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
Incorrect submission Flag: This has been resolved in May and fortnightly report has been set up to monitor and prevent this going forward. Incorrect profiles: This has been resolved in May and fortnightly report has been set up to monitor and prevent this going forward. Meters with zero consumption are currently being monitored and actioned. Vacant Consumption: A list of sites with vacant consumption have already been passed to Revenue Assurance team to record consumption in Gentrack which will then feed to Cobra. Bridged Meters: Field service team had calculated the missing volume for all bridged meters and pass to Revenue Assurance team for customer related actions	26th May 2022	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Pulse is working on resuming the No Read process from 1st July. The process was stop during covid lock down in November 2021. We have put in place a process to monitor bridged meters after the audit. Meters with zero consumption are currently being monitored and actioned on.	1st July 2022	

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

PUNZ

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.

Validated reads in Gentrack are exported to Cobra, as well as end of month AMI reads which are received directly from PRADA. RR readings are extracted from the accepted RR files and imported into Cobra, as part of the daily import, and pass through the Cobra validation process.

To confirm the NHH data transmission process, I traced data for a diverse sample of 17 ICPs from the source files to Gentrack and Cobra. The volumes matched the source data.

HHR

HHR information is received via SFTP from AMS, 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 three ICPs from the source files to Scorpion and the HHR aggregates submissions for September 2021 and April 2022. 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 the two ICPs from the source files to submissions for September 2021 and April 2022. The volumes matched the source data.

PPPP

NHH meter reading information is received via SFTP the MEPs. The data is imported into the PRADA data warehouse, then exported as an REA file. Metering data for PPPP ICPs is passed to John Candy Consulting via SFTP server and agreed switch reading information is retrieved from the registry by John Candy Consulting.

Pioneer (NSP ANI0331BOPDNP)

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

To confirm the HHR data transmission process, I traced data for two ICPs from the source files to submissions for September 2021 and April 2022. 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

PUNZ

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. 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.

PPPP

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

System	Used for	Comments
ABSL database	Metering data	I was unable to view the reads flowing into the ABSL database. PPPP ceased trading on 30/09/21 so this has no ongoing impact.
PRADA	Data warehouse	NHH and AMI data is imported into the PRADA database and then exported to Gentrack. Data cannot be changed.
RM Tool	NHH submission by John Candy Consulting	Compliant audit trails exist.

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 (formerly called NZX_TOU)	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 provides access to metering installations as required by this clause. One ICP was examined where there was difficulty in arranging access, but compliance is achieved because progress is still being made.

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

PUNZ

Pulse supplies 12 ICPs with metering category 3 or higher. No error or loss compensation factors were required.

PPPP

All active ICPs supplied during the audit period had category 1 metering installed, and no error or loss compensation factors were applied.

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

PUNZ

The new connection process varies by network. For some networks the customer or their agent arranges the connection directly with the network (including for Vector, Powerco and Unison) and in others, the customer arranges the connection with the retailer who arranges for the network to create an ICP.

Each morning the Field Services Team receive a report showing any new ICPs on the registry where PUNZ has been nominated as the proposed trader. Once a customer application is received, the ICP is created in Gentrack, and the Field Services Team issues a service order for meter installation to NGCM (the preferred MEP for new connections).

Once Pulse receives confirmation that the meter is installed and the ICP is electrically connected the initial electrical connection date is recorded in Gentrack, which triggers a status update to active and MEP nomination to be sent to the registry. PUNZ does not routinely use the "inactive - new connection in progress" status.

The AC020 report recorded four ICPs that were active with a metering category of nine or blank. One was a timing difference and metering details were populated after the AC020 report was run, two had MEP nominations made and accepted and were awaiting population of metering data. 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. This is being investigated and I've recorded a recommendation in **section 3.4** to ensure visibility.

PPPP

No new connections occurred during the audit period, and PPPP does not complete new connections.

All active ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No unmetered load was recorded by the distributor or PPPP.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

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

Audit observation

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

Audit commentary

PUNZ

No temporary electrical connections were requested by Pulse Energy.

PPPP

No new connections occurred during the audit period, and PPPP does not complete new connections.

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

PUNZ

Metering information for active ICPs

The AC020 report recorded four ICPs that were active with a metering category of nine or blank. One was a timing difference and metering details were populated after the AC020 report was run, two had MEP nominations made and accepted and were awaiting population of metering data. 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. This is being investigated and I've recorded a recommendation in **section 3.4** to ensure visibility.

New Connections

The AC020 report recorded six ICPs which did not have full certification within five business days of initial electrical connection. One had its active status event reversed and the other five were checked, which confirmed that two are now certified for the active date and three had incorrect active dates, the work order date was used instead of the electrical connection date. This is recorded as non-compliance below and in **section 3.8.**

Reconnections

Reconnection occurs by MEPs for remote reconnection, and Delta in the South Island and Wells in the North Island for manual reconnection. If an ICP is to be reconnected and the metering is not certified, then a manual notification is supposed to be made to the MEP.

The AC020 report recorded 39 ICPs which did not have full certification within five business days of reconnection. All of the ICPs were metered and expected to be certified. A sample of five ICPs were checked, and the MEP was not notified as expected due to the manual step being missed. This is recorded as a non-compliance below.

Meter recertification for unbridged meters

PUNZ provided a list of five bridged meters. The metering for four ICPs was recertified on un-bridging. ICP 0030386502PC8CC was unbridged but not recertified. Certification is now cancelled.

PPPP

Metering information for active ICPs

All active ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No unmetered load was recorded by the distributor or PPPP.

New Connections

PPPP does not accept new connections. The PPPP business model was to trade only existing connections with remotely read meters using a pre-pay tariff. PPPP did not have a new connection process. Customers were acquired by switch in.

Reconnections

The AC020 report recorded four ICPs which did not have full certification within five business days of reconnection. All of the ICPs were metered and expected to be certified.

Meter recertification for unbridged meters

No bridged meters were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: Clause 10.33A From: 09-Sep-21 To: 01-Mar-22	**PUNZ** Six new connections were not certified within five business days of initial electrical connection. 39 reconnections were not certified within five business days of electrical connection. ICP 0030386502PC8CC was not recertified when un-bridging occurred. Certification is now cancelled. **PPPP** Four reconnections were not certified within five business days of electrical connection. 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 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
PPPP - reconnection was self-service by customer, Pulse has stop PPPP services since 30/09/2021	26/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refresher training will be provided to Customer Care to follow correct processes when requesting reconnections. Field Services will also closely monitor the registry compliance reporting from 1st July.	1/07/2022	

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

Arrangements are in place for existing networks.

Pulse began trading on the AMPC and SMRT networks during the audit period. Arrangements are in place with both networks.

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

Pulse has appropriate arrangements with all relevant MEPs and did not begin using any new MEPs during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 10.33B

Code related audit information

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

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

Audit observation

The process for reconnecting ICPs in the process of switching in was examined, including review of reports used in the process.

Traders are only able to update the ICP status for event dates where they are responsible for the ICP on the registry.

Audit commentary

If any ICPs reconnected as part of a switch in are then withdrawn the gaining trader is expected to disconnect using the same methodology as the losing trader used.

Pulse does not reconnect ICPs until the switch is complete. No examples were identified where this had occurred.

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

MEPs are required to ensure that only qualified personnel perform work and manage and trace seals. The MEPs do not usually provide details of seals in their job completion paperwork.

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

Audit outcome

Compliant

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

Code reference

Clause 10.33C and 2A of Schedule 15.2

Code related audit information

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

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

If the trader bridges a meter, the trader must:

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

The trader must determine meter readings as follows:

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

Audit observation

The process for bridging meters was discussed and five bridged meters were reviewed.

Audit commentary

Bridging of meters is done only by contractors authorised by MEPs. Once Pulse is notified or made aware that a meter was bridged, a job is issued to reinstate it.

PUNZ

Potential bridged meters are identified through returned service requests, the MEP, the customer or through the NHH read validation process. As noted in **section 9.6**, checks for zero consumption have been paused so there is a risk that bridged meters will not be identified in at the earliest opportunity. Four bridged ICPs were examined. The MEP was notified in all instances and the meter was recertified. Three of the four bridged ICPs have had no consumption submitted for the bridged period. This is recorded as non-compliance below.

PPPP

Potential bridged meters are identified through the NHH read validation process. No bridged meters were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.17 With: Clause 2A of Schedule 15.2 From: 24-Sep-21 To:22-Feb-22	**PUNZ** Consumption for three of four bridged meters has not been submitted. Potential impact: Low Actual impact: Unknown Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak as the process does not have sufficient controls to ensure that corrections are applied. The impact on settlement is expected to be minor as the volume of bridged meters is expected to be small.

Actions taken to resolve the issue	Completion date	Remedial action status
Field Services team has started reviewing bridged meters and either calculate consumption or refer to RA to calculate and engage with the customer.	24/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Field services process has been put in place to monitor and action on bridged meters.	24/05/2022	

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

PUNZ

ICP identifiers are included on invoices and in all relevant correspondence.

PPPP

ICP identifiers are included on invoices and in all relevant correspondence.

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:

- in the footer emails,
- on invoices for Pulse Energy customers,
- in Pulse's terms and conditions.,
- on Pulse's website under https://www.pulseenergy.co.nz/feedback-or-complaints/., and
- as part of the interactive voice recording message for inbound calls.

Audit outcome

Compliant

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

Code reference

Clause 11.30B

Code related audit information

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

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

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

Audit observation

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

Audit commentary

Clear and prominent information on Powerswitch is provided:

- on the website,
- on invoices for Pulse Energy customers, and
- on price and service change communications.

Inclusion of information on Powerswitch on invoices achieves compliance with the requirement for annual notification to PUNZ residential consumers.

Audit outcome

Compliant

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

PUNZ

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

PPPP

PPPP did not complete any new connections.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

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

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

Audit commentary

PUNZ

Status updates to the registry are made directly to the registry from Gentrack.

Status updates to "active"

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

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	2018	489	37%	25
	Jan 2019	173	62%	15
	Oct 2019	375	78%	10
	2020	156	90%	3.3
	2021	122	90.02%	3.05
	2022	47	94.19%	2.25

Timeliness of reconnections has improved during the audit period. 22 reconnections were processed more than ten business days after the event date, eight more than 30 business days after the event date, and two more than 100 business days after the event date. The latest update was 152 business days after the event date. The ten latest updates were reviewed to determine the reason for the late update:

- one was a backdated switch,
- two were late updates after reconnection,
- two were corrections after switch in, and
- five were status corrections of incorrect statuses.

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

Status updates to "inactive"

The timeliness of status updates to "inactive" is set out in the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time[1]	Average Business Days between Status Event and Status Input Dates
Inactive	2018	114	61%	8
	Jan 2019	60	88%	20
	Oct 2019	93	98.2%	2
	2020	635	99%	1
	2021	25	98.87%	1.22
	2022	29	98.00%	1.05

[1] For 2018-2020 status updates were split by reason code in the previous report so the percentage on time and average business days for updates to 1,4 electrically disconnected vacant property which made up the majority of the late updates have been listed.

There was one late update to "inactive - new connection in progress" identified on the AC020 report. The update was genuinely late because it occurred after the initial electrical connection date. The ICP is 1000603063PC078 and the late update was due to a system issue, where registry updates are not always successful.

The other 28 late updates recorded on the AC020 report were reviewed. 19 disconnections were processed more than ten business days after the event date, three more than 30 business days after the event date, and two more than 100 business days after the event date. The latest update was 334 business days after the event date. I checked the three latest (or all late) status updates to each disconnection status reason code. In total, 11 late updates were checked, with the following findings:

- seven were due to late notification from the field,
- one was a system issue,
- one was a data entry error, and
- two were corrections.

Trader updates

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

Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Jan 2019	633	42%	198
Oct 2019	261	75.1	23
2020	212	88%	2.75
2021	352	95.89%	2.69
2022	499	97.48%	0.91

Timeliness of trader updates has improved during the audit period. 373 updates were processed more than 30 business days after the event date, and eight more than 100 business days after the event date. The latest update was 288 business days after the event date. I checked a sample of late updates as described in the table below, including all updates made over 80 business days after the event date.

ANZSIC updates - changes	The five latest updates were checked and confirmed to be ANZSIC code or submission type corrections.
MEP nominations	I checked the ten latest MEP nominations. In most cases the trader event was to correct earlier incorrect MEP nominations.
Profile updates	I checked the 15 latest profile and/or profile and submission type changes. Seven were part of a clean-up to correct earlier changes that had not gone from Gentrack to the registry. One was to reverse a profile change because an EG meter was not installed as originally thought. The remainder were backdated changes to NHH due to the lack of HHR data.

The AC020 report did not record any changes to unmetered load details.

The AC020 report recorded five ANZSIC code updates more than 20 business days after initial electrical connection or switch in. All were delayed by backdated new connections or switch completion.

PPPP

Status updates to "active"

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

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	2021	196	73.97%	6.84
	2022	5	70.59%	14.71

Status updates to "inactive"

The timeliness of status updates to "inactive" is set out in the table below.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Inactive	2021	6	94.44%	3.12
	2022	2	50.00%	7.00

Trader updates

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

Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
2021	24	89.63%	3.45
2022	-	100.00%	1

No late trader updates or ANZSIC codes updated more than 20 business days after switch in were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 Schedule 11.1 From: 09-Sep-21 To: 01-Mar-22	**PUNZ** 47 late updates to active status. 29 late updates to inactive status. 499 late trader updates. Five ANZSIC code updates more than 20 business days after initial electrical connection or switch in. **PPPP** Five late updates to active status. Two late updates to inactive status. 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. There are good processes in place, but there is still room for improvement. The impact on settlement outcomes is minor therefore the audit risk rating is recorded as low.

Actions taken to resolve the issue	Completion date	Remedial action status
All late updates identified. System issues are caused by incorrect process flows on Gentrack which are causing some of the delays. Pulse has now fixed the process flow issues.	24/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
FS has controls in place to monitor and ensure follow ups are being completed for connection status updates. Reversal feature is not available in Gentrack. Field Service team will have to continue to make corrections/adjustments where required. PPPP services ceased from 30/09/2021	24/05/2022	

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

PUNZ

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process is discussed in detail in **sections 2.9**. MEP nominations occur when the ICP is moved to "active" status, so any backdated updates to "active" are likely to also have late MEP nominations.

All new connections had an MEP nominated, and all of the 1,434 MEP nominations made were accepted.

The AC020 report recorded four ICPs that were "active" with a metering category of nine or blank. One was a timing difference and metering details were populated after the AC020 report was run, two had MEP nominations made and accepted and were awaiting population of metering data. 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. This is being investigated and I've recorded a recommendation to ensure visibility.

Recommendation	Description	Audited party comment	Remedial action
Active with no metering	Continue the investigation into the following matter: 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.	Metering information has been loaded to Registry by MEP.	Metering has yet to be loaded to the registry- requires further action.

ICP Decommissioning

PUNZ 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. PUNZ 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.

PPPP

Retailers Responsibility to Nominate and Record MEP in the Registry

All "active" ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No MEP nominations were made during the audit period.

ICP Decommissioning

ICPs that are vacant and "active", or "inactive" were still maintained in the database. Review of the event detail report found no PPPP ICPs were decommissioned during the audit period.

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

PUNZ

<u>New connection information timeliness</u>

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 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
2021	216	86.06%	4.83
2022	19	89.27%	3.63

MEP nominations occur when the ICP is moved to “active” status, so any backdated updates to “active” are likely to also have late MEP nominations. 17 of the 19 ICPs with late updates to “active” statuses also had late MEP nominations.

I checked the ten latest new connections and found:

- four were due to late field notification,
- two switched in with the new connections already in progress, and
- four were due to processing issues.

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

MEP nominations occur at the time the ICP and metering is loaded into Gentrack, and the status is changed to "active", which all occurs after metering is installed. This process can often cause delays for MEPs and means they may be late in updating the registry. I recommend Pulse considers a process change to ensure MEP nominations occur before metering is installed.

Recommendation	Description	Audited party comment	Remedial action
MEP nomination	Consider a process change to nominate the MEP before metering is installed for new connections.	This is caused by a billing system defect. Pulse is in the progress of upgrading billing system.	Investigating

Pulse has sound validation steps in place, including the following:

- all new connections in progress,
- status mis-match report between Gentrack and the registry, and
- monitoring of the audit compliance report to identify discrepancies.

<u>New connection information accuracy</u>

The AC020 report recorded three ICPs which had an initial electrical connection date populated and which remained at "ready" status. Two ICPs are now "active", but for ICP 0000010622EA5F6, Pulse has not agreed to be the trader, and this should not be in the registry with a "ready" status and Pulse as the proposed trader.

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 28 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	1	Pulse's date was confirmed as correct.
IECD ≠ active date and MCD = active date	6	Pulse's dates were confirmed as correct.
IECD ≠ active date and MCD ≠ active date	3	Pulse's dates were confirmed as correct for two ICPs but the active date for ICP 1100000044WMF02 should be 7 December 2021 not 29 November 2021.
IECD = active date and no MCD	5	All were timing differences, and the meter certification date was updated to match the initial electrical connection date and active status date after the report was run.
No IECD and MCD = active date	12	Nine were timing differences, and the initial electrical connection date was updated to match the meter certification date and active status date after the report was run. For the other three, Pulse's date is correct.

Exception type	Quantity	Commentary
No IECD and no MCD	1	This was a timing difference, and the initial electrical connection date and meter certification dates were updated to match the active status date after the report was run.
Total	28	

PPPP

No new connections occurred during the audit period, and PPPP does not complete new connections.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 of schedule 11.1 From: 24-Sep-21 To:22-Feb-22	**PUNZ** 19 late updates to active status for new connections. 17 late MEP nominations for new connections. One incorrect active event 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 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
Late updates identified	26/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Late updates were caused by billing system issues. Pulse is undergoing billing system upgrade at the moment. The upgrade includes fixes to the system issues.	22/10/2022	

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

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

Audit commentary

PUNZ

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

- one ICP with a T994 unknown ANZSIC code, which has now been changed to residential,
- eight ICPs with metering category two had residential ANZSIC codes; four were genuinely residential, two are still unknown and two were incorrect, 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. Each code checked was applied to at least 0.1% of the total ICPs. 76 of the 80 were correct and four were incorrect. These are now all updated.

PPPP

PPPP does not currently supply any active ICPs and the AC020 report did not record any ANZSIC code exceptions.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: 9 (1(k) Schedule 11.1 From: 24-Sep-21 To:22-Feb-22	**PUNZ** Seven ICPs with incorrect ANZSIC codes. 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 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
We have updated the ANZSIC code for the seven ICPs	1/7/22	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Our investigation found that attempts were made to contact customers to confirm the best ANZSIC code to use. For the ones where customer replied, changes were made accordingly. For the ones where we have no reply, PUNZ is currently leaving the ANZSIC code as it is (except blank or T994). Pulse will implement a process change to load the ANZSIC code most close to information Pulse has rather than leave it as what the previous retail had. Recon will set up additional reports to monitor and prevent this.	1/6/22	

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

PUNZ

There is regular reporting to identify differences between Gentrack and the registry. The audit compliance report is checked as well.

PUNZ supplies 26 ICPs with unmetered load connected. Nine have shared unmetered load and 17 have standard unmetered load. No distributed unmetered load is supplied.

The AC020 report 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,
- no ICPs had distributor unmetered load recorded but the unmetered load flag set to no, and
- no ICPs had trader kWh more than ± 0.1 kWh different to the distributor value.

No unmetered builder's temporary supplies are supplied.

PPPP

All active ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No unmetered load was recorded by the distributor or PPPP.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

The ICP status of "active" is 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

PUNZ

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 ten updates to confirm that the correct status and dates were applied. All were confirmed to be correct.

New connections

The AC020 report recorded three ICPs which had an initial electrical connection date populated and which remained at "ready" status. Two ICPs are now "active", but for ICP 0000010622EA5F6, Pulse has not agreed to be the trader, and this should not be in the registry with a "ready" status and Pulse as the proposed trader.

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 28 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	1	Pulse's date was confirmed as correct.
IECD ≠ active date and MCD = active date	6	Pulse's dates were confirmed as correct.
IECD ≠ active date and MCD ≠ active date	3	Pulse's dates were confirmed as correct for two ICPs but the active date for ICP 1100000044WMF02 should be 7 December 2021 not 29 November 2021.
IECD = active date and no MCD	5	All were timing differences, and the meter certification date was updated to match the initial electrical connection date and active status date after the report was run.

Exception type	Quantity	Commentary
No IECD and MCD = active date	12	Nine were timing differences, and the initial electrical connection date was updated to match the meter certification date and active status date after the report was run. For the other three, Pulse's date is correct.
No IECD and no MCD	1	This was a timing difference, and the initial electrical connection date and meter certification dates were updated to match the active status date after the report was run.
Total	28	

Three ICPs were checked where it appeared certification was late, but in all cases, the "active" date was incorrect because the work order date was used, not the electrical connection date. The details are shown below.

ICP	Active date in registry	Correct active date
1100000054WM5AF	22/11/2021	15/12/2021
1100000044WMF02	29/11/2021	07/12/2021
0001113423WMFB2	20/09/2021	29/09/2021

PPPP

PPPP is currently the trader for two ICPs, one at "inactive - ready for decommissioning" status and one at "decommissioned" status. No new connections were completed, and the AC020 report did not record any active status date discrepancies.

I checked five reconnections which occurred during the audit period for accuracy and in all cases the correct information was populated.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 Schedule 11.1 From: 09-Sep-21 To: 01-Mar-22	**PUNZ** Three ICPs with incorrect active dates. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We have updated our processes to use electrical connection date to be the active date.	26/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Paperwork will be monitored more closely and frequently	26/05/2022	

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

Code reference

Clause 19 Schedule 11.1

Code related audit information

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

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

Audit observation

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

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

Audit commentary

PUNZ

Inactive - new connection in progress

The "inactive - new connection in progress" status is not routinely used. As discussed in **section 3.3**, there was one late update to "inactive - new connection in progress" identified on the AC020 report. The update was genuinely late because it occurred after the initial electrical connection date. The ICP is 1000603063PC078 and the late update was due to a system issue, where registry updates are not always successful.

One ICP is currently at "inactive - new connection in progress" status and has been at the status since November 2021.

Inactive Status (excluding new connection in progress)

The status of an ICP is only changed to "inactive" once confirmation has been received from the disconnection agent. If an ICP needs to be disconnected a service order is sent to the MEP for remote disconnections or 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. The "status mismatch" report is run regularly to check for discrepancies between Gentrack and the registry.

The AC020 report recorded eight ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. Six were correct and the ICP was subsequently updated to non-communicating after the disconnection. ICP 0158502167LC63E was not disconnected and the status is incorrectly recorded as "inactive". ICP 0000566989NR80B switched in from PPPP with an incorrect status reason of 1,7.

A diverse sample of 23 updates to disconnected status were checked, and I confirmed that the updates were applied from the correct date, and that the correct status reason codes were applied.

A report is run weekly by the Switching team to identify inactive ICPs with consumption, and pass exceptions for investigation to the Revenue Assurance Team. This process does not appear to be working as expected. A list of 14 ICPs where consumption while inactive had been identified by PUNZ was checked and found no corrections have been made resulting in under submission of 17,466 kWh. This is recorded as non-compliance below and in **sections 2.1, 12.2** and **12.7**.

As detailed in **section 12.2**, three vacant ICPs (0280470029LC488, 0273892118LC0EF and 0000727240TE4AC) had consumption recorded after the disconnection date and were therefore at the incorrect status.

One of the issues discussed was whether disconnection was being conducted at the meter or at the boundary. It seems that there are an increasing number of disconnections occurring at the meter rather than at the pole fuse or pillar box fuse. Disconnection at the meter makes it much easier for the customer or other party to reconnection without Pulse knowing. Wells and Delta conduct disconnections for Pulse and I recommend Pulse takes the following actions to assist with compliance:

1) Strengthen the contract with Wells and Delta to require their disconnection processes to be audited and that this audit includes the location of disconnections and whether meter readings are appropriately recorded along with the additional requirements including checking of seals, tampering and damage.
2) Request evidence from Wells and Delta that they are approved by all distributors to disconnect at the network fuse.

Recommendation	Description	Audited party comment	Remedial action
Disconnection location	1) Strengthen the contract with Wells and Delta to require their disconnection processes to be audited. 2) Request evidence from Wells and Delta that they are approved by all Distributors to disconnect at the network fuse.	Pulse agrees with the recommendation. Pulse will contact Wells and Delta to request them try their best to disconnect at pole fuse or pillar box fuse.	Investigating

As detailed in **section 12.2**, ICP 0000222731TE242 which has "inactive - reconciled elsewhere" status was examined and found that the incorrect status had been applied. This has been corrected to "inactive - meter disconnected" for the correct date. This is recorded as non-compliance below and in **section 2.1**.

PPPP

PPPP is currently the trader for two ICPs, one at "inactive - ready for decommissioning" status and one at "decommissioned" status.

I checked all four disconnections which occurred during the audit period for accuracy and found the correct dates and status reason codes were applied. The AC020 report did not record any ICPs disconnected for status reason "Electrically disconnected remotely by AMI meter" where AMI metering was not present.

ICPs with potential inactive consumption are identified and checked through the NHH read validation process. No ICPs with inactive consumption were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 24-Sep-21 To:22-Feb-22	**PUNZ** Incorrect status for ICP 0158502167LC63E. Incorrect status reason for ICP 0000566989NR80B which switched in at 1,7. Incorrect status reason for ICP 0000222731TE242 at 1,5 but was 1,9. Incorrect status for 14 ICPs with consumption while inactive resulting in under submission of 17,466 kWh. Incorrect status for three vacant ICPs (0280470029LC488, 0273892118LC0EF and 0000727240TE4AC) with consumption recorded after the disconnection date. Potential impact: Low Actual impact: Medium Audit history: Once previously Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are assessed to be moderate, because most ICPs have the correct status and event dates recorded, but there is room for improvement. The impact was assessed to be low. There is a small impact on settlement for the ICP incorrectly recorded as inactive, and a very minor impact on ICP days submissions.

Actions taken to resolve the issue	Completion date	Remedial action status
Statuses are corrected for all the ICPs identified.	26/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Status reason issues were caused by training. A refreshment training will be provided to the team. Field Service team will start monitor and action on consumption from vacant ICP.	26/05/2022	

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

PUNZ

When Pulse is notified of a new connection where they have been nominated, they conduct an outbound call to the customer to complete sign up. A service order is sent to the MEP for when livening is ready.

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

Inactive - new connection in progress status

One ICP is currently at "inactive - new connection in progress" status and has been at the status since November 2021.

New status

Two ICPs are at "new" status and neither have been at the status for more than 24 months.

Ready status

69 ICPs are at "ready" status and eight have been at the status for more than 24 months. Five are ICP amalgamations on the Counties or Ashburton networks, where Pulse has not agreed to be the trader. The remaining three are not required and the distributors have been advised.

PPPP

PPPP does not complete new connections. PPPP is currently the trader for two ICPs, one at "inactive - ready for decommissioning" status and one at "decommissioned" status.

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

PUNZ

PUNZ'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.

Review of the event detail report found 3,542 transfer switch NTs were issued. I checked ICP metering details for the 3,224 NTs included on the registry list with history and found they all had metering category 1.

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

PPPP

No NTs were issued by PPPP during the audit period.

Audit outcome

Compliant

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

Code reference

Clauses 3 and 4 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The event detail reports were reviewed to:

- identify AN files issued by 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 for each trader code to determine whether the codes had been correctly applied.

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

Audit commentary

PUNZ

The daily switch breach report is monitored twice daily to ensure files are sent on time. The AN response codes are selected by Gentrack automatically, without manual intervention.

The event detail was reviewed for all 2,407 transfer ANs to assess compliance with the setting of event dates requirements.

- 2,376 ANs (98.7%) had proposed event dates within five business days of the NT receipt date.
- 2,405 ANs (99.9%) had proposed event dates within ten business days of the NT receipt date. Two ANs had proposed event dates more than ten business days after the event date and in both cases the gaining trader's requested date was applied.

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

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	197	192 had the AA code validly applied. Five ICPs had the advanced metering flag set to yes. These five should have had either "AD" or "OC", not "AA". This was caused by a system issue with Gentrack, where the AMI flag is not always being updated in Gentrack from the registry.
AD (Advanced metering)	2,210	I checked all 2,178 ICPs which had metering information recorded on the ICP list with history: 2,176 ICPs had the advanced metering flag set to Y and AD was correctly applied. Two ICPs had the advanced metering flag set to N. These should both have been OC or AA. Once again this was caused by an issue with Gentrack not loading the AMI flag.

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

PPPP

The PPPP code has not been used since September 2021, therefore September 2021 is the only relevant month for this audit. Most of the switching activity in this month is between PPPP and PUNZ.

The event detail was reviewed for all 833 transfer ANs to assess compliance with the setting of event dates requirements.

- 832 ANs (99.9%) had proposed event dates within five business days of the NT receipt date.
- 832 ANs (99.9%) had proposed event dates within ten business days of the NT receipt date. One AN file had a proposed event date more than ten business days after the event date and the gaining trader's requested date was applied. The ICP is 0490748589LC7FF and PUNZ sent the NT on 14 September 2021 with a proposed switch date of 1 October 2021. PPPP accepted the 1 October 2021 date which made them non-compliant. PPPP should have sent an NW. There was no impact on either participant or the customer.

All 832 ANs had the AD (Advanced metering) response code applied. I checked all 793 ICPs which had metering information recorded on the ICP list with history:

- 761 ICPs had the advanced metering flag set to Y and AD was correctly applied,
- 32 ICPs had the advanced metering flag set to N; I checked a sample of five ICPs and two ICPs with the AD code recorded should have had AN, because the AMI flag was "N" when the file was sent.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: Clauses 3 and 4 of schedule 11.3 From: 01-Sep-21 To: 08-Mar-22	**PUNZ** Five of 197 AN files incorrectly had a response code of AA. Two of 2,178 AN files incorrectly had a response code of AD. **PPPP** One E2 breach. Two AN files incorrectly had a response code of AD. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. There is no impact on settlement or other participants because the AD field is normally derived from the registry by gaining traders, not from the AN file. The E2 breach did not affect either the participant or the customer. Therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Pulse put in place a fix before which worked. This issue reappeared. PPPP - human error as switching processed manually via REG	1/07/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse will raise this issue again with Gentrack for a fix. PPPP ceased from 30/09/2021.	1/07/2022	

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

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

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

Audit observation

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

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

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

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

Audit commentary

PUNZ

<u>CS timeliness</u>

The daily switch breach report is run in the registry twice daily to identify files that are due. The switch breach history report did not record any late transfer CS files.

<u>CS content</u>

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 read-to-read period. Gentrack is configured to calculate the average daily consumption from the last two readings, but as shown in the table below some scenarios are still not operating correctly.

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

Average daily kWh	Count of transfer CS files	Comment
Negative	-	Compliant.
Zero	55	I checked a sample five and found three were correct. ICP 0005082536RNBB8 should have 11 kWh per day not zero. Pulse will investigate to check why this occurred. ICP 0030366375PCB20 did not have a read during the period of supply so the average daily consumption of 18 kWh from the previous CS file is expected to be used by Gentrack.
More than 200 kWh	10	I checked five examples with the highest average daily kWh and found that four were correct. ICP 0000207267DE86C had an incorrect zero removed meter read loaded into Gentrack, which should have been rejected but was used for the calculation, resulting in 1,377 kWh per day.

I checked all 2,356 transfer switch CS files for inconsistencies between last actual read dates and switch event read types:

- no CS files had estimated switch event reads where the last actual read date was on the last day of responsibility,
- two CS files had actual switch event reads where the last actual read date was before the last day of responsibility; ICPs 0000174060TE30D and 0011001102PC093 both had correct switch event meter readings, correctly labelled, but the date of the last meter reading was incorrect,
- no CS files had last actual read dates on or after PUNZ's last day of responsibility, and
- no CS files had a CS premises rows only.

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

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

PPPP

<u>CS timeliness</u>

The PPPP code has not been used since September 2021, therefore September 2021 is the only relevant month for this audit. Most of the switching activity in this month is between PPPP and PUNZ.

The switch breach history report for the audit period recorded:

- one CS breach where the CS arrival date was more than five business days after the actual transfer date; the delay was primarily caused by a backdated NT file, and the switch was completed within two business days of NT receipt, and
- one E2 breach where the CS actual transfer date was more than ten business days after the NT arrival date as PPPP had applied the gaining trader's requested date.

CS content

CS files were manually initiated after a series of checks were completed (for example remaining debt) and files were automatically generated by ABSL. CS files could also be sent manually using the registry web interface for a number of reasons, for example if the customer account is being closely managed.

The registry functional specification requires average daily kWh to be based on the average daily consumption for the last read-to-read period. Estimated daily kWh is calculated based on the last read to read period.

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

Average daily kWh	Count of transfer CS files	Comment
Negative	-	Compliant.
Zero	15	A check of a sample of five confirmed zero was correct.
More than 200 kWh	-	Compliant.

I checked all 831 transfer switch CS files for inconsistencies between last actual read dates and switch event read types:

- two CS files had estimated switch event reads where the last actual read date was on the last day of responsibility; the ICPs are 0005063973RN483 and 0006775799RN942 and the readings should have been labelled as actuals, not estimates,
- two CS files had actual switch event reads where the last actual read date was before the last day of responsibility; in both cases, the reads were correctly recorded,
- no CS files had last actual read dates after PPPP's last day of responsibility,
- six CS files had last actual read dates on PPPP's last day of responsibility; I checked three examples, which confirmed that all reads were labelled as estimates, which was correct because the last actual reads were prior to the switch date and the same read was used for the switch date because it's likely the ICPs were vacant however the date of the last read was incorrect for all three ICPs 0000566989NR80B, 0001920510PC341 and 0311651038LC0A0, and
- no CS files had a CS premises rows only.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 Schedule 11.3 From: 24-Sep-21 To:22-Feb-22	**PUNZ** Average daily consumption of zero incorrect for two of five examples. Average daily consumption of more than 200 kWh incorrect for one of five examples. Date of last meter reading incorrect for two ICPs. **PPPP** One E2 breach. One CS breach. Two ICPs with switch event readings labelled as estimates and they should have been labelled as actual. Three ICPs with incorrect last read dates. 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 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
Pulse will raise with Gentrack on the two zero Average Daily Consumption cases. PPPP - human error	1/07/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse will raise with Gentrack on the two zero Average Daily Consumption cases. PPPP ceased from 30/09/2021.	1/07/2022	

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

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

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

PUNZ

RR

RR requests are generally initiated via email between the two parties and once agreement has been reached, an RR file is sent to complete the process. An appropriate audit trail is kept, and I confirmed that in all cases, the agreed reading matched the reading in Cobra.

PUNZ issued 29 RR files for transfer switches. 26 were accepted and three were rejected. A sample of all rejected files and seven accepted files were checked. In all cases except one there was a genuine reason for PUNZ's RR, the file content was accurate and supported by two actual reads obtained by PUNZ (or was as requested by the other trader), and the reads recorded in Gentrack and Cobra reflected the outcome of the RR process. The RR file for ICP 2611016500CHA7C contained the losing trader's customer's read and it was not supported by two actual reads. There is nothing to suggest this read was incorrect and it was agreed between all three parties.

The switch breach history report recorded no RR breaches for transfer switches.

AC

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

PUNZ issued 71 AC files for transfer switches. 50 were accepted and 21 were rejected. A sample of all rejected files and seven accepted files were checked. In all cases the reads recorded in Gentrack and Cobra reflected the outcome of the RR process, and the rejections were valid and based on the information available at the time of rejection.

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

CS files with estimated reads where no RR is issued

Review of the event detail report did not identify any CS files with estimated reads where no RR was issued.

PPPP

RR

No RR files were issued during the audit period, and no RR breaches were recorded on the switch breach history report.

AC

PPPP issued four AC files for transfer switches, all accepted the other trader's RR. The reads recorded in ABSL and for submission matched the outcome of the RR process.

No AC breaches were recorded on the switch breach history report.

CS files with estimated reads where no RR is issued

Review of the event detail report did not identify any CS files with estimated reads where no RR was issued.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: 6(1) and 6A Schedule 11.3 From: 03-Feb-22 To: 09-Mar-22	**PUNZ** The RR file for ICP 2611016500CHA7C contained the losing trader's customer's read and it was not supported by two actual reads. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
PUNZ used a non-validated reading to resolve a customer dispute – provided both retailers involved are happy with the amendment and the consumption is being accounted for. This is not our normal/preferred practice.	24/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Training will be provided to front line customer service agents to prevent loading unreasonable customer read	01/07/2022	

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

PUNZ

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

32 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. 31 were accepted by PUNZ, and one was validly rejected because PUNZ was also trading the ICP as HHR.

PPPP

PPPP is a NHH trader and did not issue RRs under clause 6(2) and (3) Schedule 11.3.

No RR files were issued to PPPP under clause 6(2) and (3) Schedule 11.3.

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

I confirmed with 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 for each trader code to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

PUNZ

PUNZ'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.

During previous audits, PUNZ applied the switch move switch type where an NT was required to be backdated, even if a new customer was not moving in. No examples of this were found during this audit.

Review of the event detail report found 4,887 transfer switch NTs were issued. I checked ICP metering details for the 4,788 NTs included on the registry list with history and found they all had metering categories below 3.

The 15 NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected.

PPPP

No NTs were issued by PPPP during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail reports were 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 for each trader code to determine whether the codes had been correctly applied.

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

Audit commentary

PUNZ

The daily switch breach report is monitored twice daily to ensure files are sent on time. The AN response codes are selected by Gentrack automatically, without manual intervention.

The event detail was reviewed for all 5,529 switch move ANs to assess compliance with the setting of event dates requirements.

- All had proposed event dates within ten business days of the NT receipt date.
- No ANs had a proposed event date before the gaining trader's requested date.

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

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	170	169 had the AA code validly applied. ICP 0001757222CN9C8 should have had either "AD" or "OC", not "AA". This was caused by a system issue with Gentrack, where the AMI flag is not always being updated in Gentrack from the registry.
AD (Advanced metering)	1,069	I checked all 1,053 ICPs which had metering information recorded on the ICP list with history: 1,048 ICPs had the advanced metering flag set to Y and AD was correctly applied. Five ICPs had the advanced metering flag set to N. These should both have been OC or AA. Once again this was caused by an issue with Gentrack not loading the AMI flag.
OC (Unmetered supply)	2,928	I checked a sample of five and they were all recorded correctly.
PD (Premises electrically disconnected)	1,092	893 ICPs were confirmed to be disconnected at the time the AN was issued from ICP information on the registry list with history. I checked a sample of a further five ICPs which showed active status on the registry list. In all cases, Gentrack had a disconnected status on the day the file was sent.

The switch breach history report for the audit period recorded no AN or CS breaches for switch moves.

PPPP

The event detail report was reviewed for all 56 switch move ANs to assess compliance with the setting of event dates requirements.

- All had proposed event dates within ten business days of the NT receipt date.
- No ANs had a proposed event date before the gaining trader's requested date, in all cases the gaining trader's proposed date matched PPPP's proposed date.

All 56 ANs had the AD (Advanced metering) response code applied. I checked all 32 ICPs which had metering information recorded on the ICP list with history and found the advanced metering flag was set to Y and AD was correctly applied.

The switch breach history report for the audit period recorded the one ET breach where the expected transfer date was more than ten business days after the NT arrival date. PPPP had applied the gaining trader's requested date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) Schedule 11.3 From: 01-Sep-21 To: 31-Mar-22	**PUNZ** One ICP incorrectly had a response code of AA. Five AN files incorrectly had a response code of AD. **PPPP** One ET breach. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Pulse put in place a fix before which worked. This issue reappeared.	1/07/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse will raise the issue with Gentrack for a fix	1/07/2022	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

If the losing trader determines a different 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

PUNZ

All proposed event dates were compliant. Switches were completed as required by this clause.

PPPP

All AN proposed event dates matched the gaining trader's proposed event date, and all proposed event dates were compliant. Switches were completed as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

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

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

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

Audit commentary

PUNZ

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 read-to-read period. Gentrack is configured to calculate the average daily consumption from the last two readings, but as shown in the table below some scenarios are still not operating correctly.

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

Average daily kWh	Count of switch move CS files	Comment
Negative	-	Compliant.
Zero	658	A typical sample of five files were checked and it was confirmed ICP 0000560764TU27E should have had 1 kWh and not 0 kWh.
More than 200 kWh	8	I checked the five largest and found two ICPs had incorrect average daily kWh due to meter reading errors.

I checked all 5,238 switch move CS files for inconsistencies between last actual read dates and switch event read types:

- no CS files had estimated switch event reads where the last actual read date was on the last day of responsibility,
- 13 CS files had actual switch event reads where the last actual read date was before the last day of responsibility; I checked five and found the switch event meter readings were correct, but the last actual read dates were incorrect,
- one CS file had last actual read dates after PUNZ's last day of responsibility; the ICP did not have a reading during the period of supply, so the last read date from the incoming CS file should have been used,
- ten CS files had last actual read dates on PUNZ's last day of responsibility; I checked three and the readings were all correct, but should have been labelled as actuals, not estimates, and
- one CS file had a CS premises rows only. It had inactive ready for decommissioning status and no metering was installed.

The accuracy of the content of a sample of five CS files was checked and the only issue found was that one file had average daily consumption of zero which was incorrect.

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

PPPP

CS files are manually initiated after a series of checks are completed (for example remaining debt) and files are automatically generated by ABSL. CS files may also be sent manually using the registry web interface for a number of reasons, for example if the customer account is being closely managed.

The registry functional specification requires average daily kWh to be based on the average daily consumption for the last read-to-read period. Estimated daily kWh is calculated based on the last read to read period.

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

Average daily kWh	Count of switch move CS files	Comment
Negative	-	Compliant.
Zero	3	These were all correctly recorded as zero.
More than 200 kWh	-	Compliant.

I checked all 56 switch move CS files for inconsistencies between last actual read dates and switch event read types:

- one CS file had an estimated switch event read where the last actual read date was the day before the last day of responsibility; the ICP was disconnected the day before the switch, therefore the reading was not a "midnight" read and recording it as an estimate for the switch date is correct,
- ten CS files had actual switch event reads where the last actual read date was before the last day of responsibility; I checked a sample of five and they were all correct,
- two CS files had last actual read dates after PPPP's last day of responsibility; last actual read dates should be within the period of responsibility,
- five CS files had last actual read dates on PPPP's last day of responsibility; I checked three examples and found the last actual read date should have been the day before the switch event date, and
- no CS files had a CS premises rows only.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 Schedule 11.3 From: 01-Sep-21 To: 31-Mar-22	**PUNZ** Average daily consumption incorrect for four ICPs. Last read date incorrect for five of eight files checked. Incorrect last read date for one ICP not read during the period of supply. Three CS files had readings labelled as estimates and should have been actuals. **PPPP** Two ICPs had last actual read dates after the last day of responsibility. Three ICPs had last actual read dates recorded as the switch date but they should have been the day before the switch 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 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
Pulse will contact Gentrack for fixes. PPPP - human error	1/07/2022	Investigating

Preventative actions taken to ensure no further issues will occur	Completion date	
Pulse will contact Gentrack for fixes	1/07/2022	

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

PUNZ

RR requests are generally initiated via email between the two parties and once agreement has been reached, an RR file is sent to complete the process. An appropriate audit trail is kept, and I confirmed that in all cases, the agreed reading matched the reading in Cobra.

PUNZ issued 132 RR files for switch moves. 115 were accepted and 17 were rejected. A sample of five rejected files and five accepted files were checked. In all cases there was a genuine reason for PUNZ's RR, the file content was accurate and supported by two actual reads obtained by PUNZ (or was as requested by the other trader), and the reads recorded in Gentrack and Cobra reflected the outcome of the RR process.

The switch breach history report recorded three RR breaches for move switches. In all cases the RR was sent as soon as it was determined it was needed. Delays are common and are due to late meter readings or late customer notification.

AC

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

PUNZ issued 254 AC files for switch moves. 207 were accepted and 47 were rejected. A sample of five rejected files and five accepted files were checked. In all cases the reads recorded in Gentrack and Cobra reflected the outcome of the RR process, and the rejections were valid and based on the information available at the time of rejection.

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

CS files with estimated reads where no RR is issued

Review of the event detail report did not identify any CS files with estimated reads where no RR was issued.

PPPP

RR

No RR files were issued during the audit period, and no RR breaches were recorded on the switch breach history report.

AC

No AC files were issued during the audit period, and no AC breaches were recorded on the switch breach history report.

CS files with estimated reads where no RR is issued

Review of the event detail report did not identify any CS files with estimated reads where no RR was issued.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 12 Schedule 11.3 From: 01-Sep-21 To:31-Mar-22	**PUNZ** Three late RR files for Switch Move. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
This will occur from time to time as we choose accuracy over timeliness.	24/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse will try our best to not delaying the RR files.	24/05/2022	

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

Audit commentary

PUNZ

PUNZ did not issue any HH NTs during the audit period.

Meter certification details were checked for the 4,788 switch move NTs and 3,224 transfer switch NTs issued; all had metering categories below 3.

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

PPPP

PPPP did not issue any HH NTs during the audit period. The switch breach history report did not record any breaches for HH NT files.

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

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

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

Audit observation

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

Audit commentary

PUNZ and PPPP did not issue any HH AN files and the switch breach history reports for the audit period 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

PUNZ and PPPP did not issue any HH CS files and the switch breach history reports for the audit period 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 reports were checked for any late switch withdrawal requests or acknowledgements.

Audit commentary

PUNZ

NW

61 (7.2%) of the 842 NWs issued by PUNZ were rejected. I checked a diverse sample of 21 NWs including at least two for each advisory code and found 19 had the correct code applied and were validly issued based on information available at the time of issue. NW files for ICPs 0000006705TE325 and 1001153248CKF23 were sent in error. Both were rejected.

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

AW

PUNZ rejected 166 of 883 withdrawal requests received (18.8%). I checked a sample of 13 rejections and confirmed that they were rejected for valid reasons.

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

PPPP

NW

PPPP issued three NW files which were accepted by the other trader. The correct withdrawal codes were applied.

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

AW

PPPP rejected four of 16 withdrawal requests received (25%), and three related to the same ICP and event date. I checked the rejections and confirmed that they were rejected for valid reasons.

The switch breach history report recorded one AW breach. This was missed because PPPP was no longer operating.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clause 17 and 18 Schedule 11.3 From: 01-Dec-21 To: 01-Dec-21	**PUNZ** Two NW files sent in error. **PPPP** One AW breach. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Refresher training completed for the Switching Team to correct NW errors. PPPP - human error	24/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refresher training completed for the Switching Team to correct NW errors.	24/05/2022	

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

PUNZ

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

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

PPPP

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

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

Audit outcome

Compliant

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

Code reference

Clause 11.15AA to 11.15AC

Code related audit information

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

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

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

Audit observation

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

Audit commentary

PUNZ

PUNZ does not initiate any win-back activity with lost customers during or after the switch. The company confirmed that contact is only made with departing customers to confirm their notice period and any termination fees that apply, and discuss outstanding accounts if required.

Review of the event detail report identified 84 NWs issued with a CX withdrawal reason code issued within 180 days of switch completion where Pulse was the losing trader. One was rejected and accepted on reissue. I checked ten withdrawals including the rejection and confirmed no counteroffers were made in relation to these withdrawals. The customer initiated the withdrawal in all instances.

PPPP

PPPP does not initiate win-back activity with lost customers during or after the switch. PPPP staff confirmed contact is made with departing customers only as required to confirm their notice period, any termination fees that may apply or to discuss outstanding accounts.

No withdrawals were issued with the CX reason code where PPPP was the losing trader.

Audit outcome

Compliant

5. MAINTENANCE OF UNMETERED LOAD

5.1. Maintaining shared unmetered load (Clause 11.14)

Code reference

Clause 11.14

Code related audit information

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

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

Audit observation

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

Audit commentary

PUNZ

There is a validation report that compares unmetered fields between the registry and Gentrack. Discrepancies are resolved as required. Cobra unmetered details are derived from the registry.

PUNZ supplies nine ICPs with shared unmetered load. The AC020 report 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,
- no ICPs had distributor unmetered load recorded but the unmetered load flag set to no, and
- no ICPs had trader kWh more than ± 0.1 kWh different to the distributor value.

I rechecked ICP 0000678614UN599, which had a discrepancy between the trader and distributor kWh during the last audit which is still present. I confirmed that the daily kWh figure is correct, but the description indicates there is one light and there are actually 10 lights. I recommend the description is updated.

Recommendation	Description	Audited party comment	Remedial action
Unmetered load	Update the description for ICP 0000678614UN599 to clarify there are 10 lights not one light.	Pulse accepts the recommendation and will action on correcting the discrepancy between the trader and distributor.	Identified

PPPP

All active ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No unmetered load was recorded by the distributor or PPPP.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

The AC020 reports were examined to determine compliance.

Audit commentary

PUNZ

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.

PPPP

All active ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No unmetered load was recorded by the distributor or PPPP.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

The AC020 reports were examined to determine compliance.

Audit commentary

PUNZ

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.

PPPP

All active ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No unmetered load was recorded by the distributor or PPPP.

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

PUNZ

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

PPPP

All active ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No unmetered load was recorded by the distributor or PPPP.

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

PUNZ

Metering installations installed

PUNZ'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.

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

The AC020 report recorded four ICPs that were active with a metering category of nine or blank. One was a timing difference and metering details were populated after the AC020 report was run, two had MEP nominations made and accepted and were awaiting population of metering data. 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. This is being investigated and I've recorded a recommendation in **section 3.4** to ensure visibility.

Distributed generation

Checks were conducted to identify discrepancies between the registry and Gentrack and to identify ICPs where Pulse Energy had not been notified that distributed generation was present.

PUNZ's registry list as of showed 3,091 active ICPs with a non-zero generation capacity listed by the distributor. 53 of these did not have I flow metering installed. 25 of these were checked, with the following findings:

- 15 are being investigated to determine whether generation is installed, and a meter change is required, and
- ten have now been updated to RPS PV1.

84 active ICPs have a generation profile but no generation recorded by the distributor. Of those, 22 do not have I flow metering and 62 do. 23 of the 62 were checked and it was confirmed that DG is present, and the profile is correct. All 22 without "I flow" metering have the incorrect profile. This is recorded as non-compliance in **section 2.1.**

The AC020 report recorded 116 active ICPs with generation recorded by the distributor and I flow metering where PUNZ did not record a generation profile. All 116 were checked and corrected. If files from MEPs contain generation kWh, submission occurs correctly against the PV1 profile even if the registry is incorrect or has not yet been updated due to timing of field notifications.

Where a generation profile was recorded, I checked that the profile was consistent with the fuel type listed by the distributor and identified 66 ICPs with fuel type "wind" or "other" with PV1 profile. Pulse confirmed their PV1 profile was correct for the 22 examples checked.

Bridged meters

PUNZ provided a list of five bridged meters. The existence of bridged meters is recorded as non-compliance below. Corrections to capture the bridged consumption are discussed further in **section 2.1**.

PPPP

Metering installations installed

All active ICPs supplied during the audit period had category 1 metering installed and an MEP recorded. No unmetered load was recorded by the distributor or PPPP, and no ICPs had submission information determined by subtraction.

Distributed Generation

Analysis of the registry list with history and AC020 report did not identify any ICPs with distributed generation recorded by the distributor or trader. No distributed generation exceptions were recorded on the AC020 report.

Bridged meters

Four bridged meters were identified during the audit period. The management of these is discussed in **sections 2.1** and **2.17**. Non-compliance exists because quantification does not occur during the bridged period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13 From: 15-Jun-21 To: 10-Dec-21	**PUNZ** Volumes were not quantified in accordance with the code for five ICPs with bridged meters. **PPPP** Volumes were not quantified in accordance with the code for four ICPs with bridged meters. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as weak as there is room for improvement for the management of bridged meters. 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
Process updated for Field Services team Recon: Recon has resolved the issues regarding DG. A weekly report has been setup to monitor this going forward. Reconciliation team will work with FS on issues that involve both departments. PPPP - human error, not picked up in MEP notification	26/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Reports have been set up by Reconciliation team to prevent this going forward.	25/5/22	

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

PUNZ and PPPP are not responsible for any GIPs.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

Audit observation

The registry 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

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

PPPP

PPPP have only used the RPS profile, and control devices are not used for reconciliation purposes.

Audit outcome

Compliant

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

Processes relating to defective metering were examined.

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

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

Four bridged meters were checked. These were identified on receipt of reconnection paperwork, from the field contractor attending faults or the distributor. The MEP was notified in all instances and the meters were unbridged. As discussed in **section 9.6**, zero-consumption monitoring is not currently in place as this is part of the no read process that is paused and therefore there is a risk that bridged meters will not be identified at the earliest opportunity. There are plans to recommence this work in the near future.

Corrections were not processed for the one of the three defective meters and three of the four bridged meters. This is discussed further in **section 2.1**.

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

PPPP

Potentially defective meters are identified through PPPP and John Candy Consulting's read validation processes. These validation processes check that the readings are recorded for the correct ICP, meter, register and date, and are reasonable when compared to previous readings.

John Candy Consulting confirmed that no defective meters, bridged meters, or inactive, excessive, negative or zero consumption issues were identified during the audit period.

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 is does not exceed the maximum interrogation cycle on the registry.

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

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

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

2(6) – The interrogation systems must record:

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

Audit observation

The data collection and clock synchronisation processes were examined.

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.

Audit commentary

PUNZ

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.

PPPP

All information used to determine volume information is collected from the services access interface by the MEP. Compliance is confirmed as part of the MEP audits. No meter defects including clock synchronisation issues were identified during the audit period.

Pioneer (NSP ANI0331BOPDNP)

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

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 PUNZ's systems and is labelled as a reading, which denotes that it is a meter reading collected and validated by a meter reader.

Wells monitor meter condition as required by schedule 15.2 and provide information on meter condition along with the daily reads, and monthly summary report containing missing seal and broken seal events.

These are reviewed by the field services team and a service request issued as required. I reviewed seven examples and confirmed that these were issued and resolved by the field agent as expected.

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

Customer and photo readings

PUNZ 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.

I checked a sample of seven customer and photo readings and found all had been validated against two previous actual reads.

Checks of switch reads found that the RR file for ICP 2611016500CHA7C contained the losing trader's customer's read and it was not supported by two actual reads. This is recorded as non-compliance below.

PPPP

All meter readings are received from the MEP from the services interface, or through the switching process. All active ICPs supplied by PPPP during the audit period had the HHR flag set to yes, or the advanced metering installation flag set to yes.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.6 With: Clauses 3(1), 3(2) and 5 Schedule 15.2 From: 12-Oct-21 To: 12-Oct-21	**PUNZ** ICP 2611016500CHA7C contained the losing trader's customer's read and it was not supported by two actual reads. Potential impact: Low Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because this was an isolated incident, and the reading was agreed by the customer and both traders. There is strong evidence that customer readings are accurate and could be used more than they are. 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 used a non-validated reading to resolve a customer dispute – provided both retailers involved are happy with the amendment and the consumption is being accounted for. This is not our normal/preferred practice.	24/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Training will be provided to front line customer service agents to prevent loading unreasonable customer read	1/07/2022	

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.

PUNZ

Application of reads was reviewed as part of the historic estimate checks in **section 12.11** and found to be compliant. The content of CS and RR files was examined in **sections 4.3**, **4.4**, **4.10** and **4.11**. No issues were identified.

I walked through the process for NHH to NHH, NHH to HHR and HHR to HHR meter changes, including reviewing five upgrade examples. In all cases, data was continuous. Where data was missing due to faulty meters or because data was not supplied for the day of the meter change, estimations occurred, which were provided to confirm their accuracy. No downgrades were identified on the event detail report.

PPPP

Application of reads was reviewed as part of the historic estimate checks in **section 12.11** and found to be compliant. The content of CS and RR files was examined in **sections 4.3**, **4.4**, **4.10** and **4.11**. No issues were identified.

Audit outcome

Compliant

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was examined.

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

Audit commentary

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

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

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

PUNZ

AMI meters continue to be deployed where possible. PUNZ used to monitor unread ICPs but due to resource constraints and COVID 19 this activity has been paused since November 2021. This includes the monitoring of no read codes and zero consumption. There are plans to recommence this work in the near future. The process was to review all ICPs which haven't had an actual read for more than three months and attempt to contact the customer via phone, then email or text and then letter. If no contact was made, then a high estimate bill was sent to prompt a response. The process met the requirements of the code to make three attempts using two forms of communication. The read attainment for ICPs read at 12 months and 90% in four months detailed in the two following sections, is still high but this will decline without having this process in place.

Pulse provided a list of 141 ICPs not read during the period of supply. Exceptional circumstances could not be proven for all ICPs. This is recorded as non-compliance below.

PPPP

I checked all ICPs where the period of supply ended during the audit period and confirmed each had at least one actual reading. All ICPs had AMI metering and readings were regularly received.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 01-Apr-21 To: 31-Mar-22	**PUNZ** Exceptional circumstances were not proven for all ICPs not read during period of supply. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: None Breach risk rating: 5
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as none as the process to manage this has been paused. 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
Pulse plans to recommence the process to monitor unread ICPs from 1st July 2022.	01/07/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse plans to recommence the process to monitor unread ICPs from 1st July 2022.	01/07/2022	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

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

PUNZ

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
October 2021	187	12	17	99.98%
November 2021	187	12	20	99.98%
December 2021	196	14	25	99.97%
February 2022	197	38	27	99.96%

As discussed in **section 6.8**, the process in place monitor read attainment, and attempt to resolve issues preventing read attainment has been paused due to resource constraints and COVID 19.

PUNZ provided a list of ICPs unread for 12 months as of 28 February 2022. I reviewed ten ICPs not read in the previous 12 months determine whether exceptional circumstances exist, and if PUNZ had used their best endeavours to obtain readings. The best endeavours requirements were met in eight of the ten instances. No attempt to read or locate the meters have been made for ICPs 0189414677LC895 and 0238179044LCB4C for more than 12 months. This is recorded as non-compliance.

PUNZ provides monthly reports on meter reading frequency to the Electricity Authority. I reviewed the reports for October to December 2021 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.

PPPP

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

The monthly meter reading frequency reports are produced by John Candy Consulting, and the September 2021 submission was reviewed. The content of the report met the requirements of clauses 8 and 9 of schedule 15.2. All ICPs had AMI meters, and 100% read attainment was achieved for 12 months ending September 2021.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
September 2021	80	0	0	100.00%

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: Clause 8(1) and (2) Schedule 15.2 From: 01-Apr-21 To: 31-Mar-22	**PUNZ** Exceptional circumstances were not proven for two of the ten ICPs sampled. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: None Breach risk rating: 5
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as none as the process to manage this has been paused. 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
Pulse plans to recommence the process to monitor unread ICPs from 1st July 2022.	01/07/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse plans to recommence the process to monitor unread ICPs from 1st July 2022.	01/07/2022	

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

PUNZ

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
October 2021	187	-	745	99.13%
November 2021	187	1	872	98.98%
December 2021	196	3	873	98.99%
February 2022	197	1	732	99.15%

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

I checked the NSPs where 90% read attainment was not achieved for November 2021, December 2021 and February 2022 and found they each had two or fewer ICPs connected. Four ICPs were confirmed to have met best endeavours. ICP 1002072034UN0D0 requires a key pack to be sent but due to the no read process being paused this hasn't been actioned. ICP 0000025734WE5BA has no attempts to be read since July 2021. This is recorded as non-compliance below.

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.

PPPP

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

The monthly meter reading frequency reports are produced by John Candy Consulting, and the September 2021 submission was reviewed. All ICPs had AMI meters, and 100% read attainment was achieved for four months ending September 2021.

Month	Total NSPs where ICPs were supplied > four months	NSPs <90% read	ICPs unread for four months	Overall percentage read
September 2021	105	0	0	100.00%

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.10 With: Clause 9(1) and (2) Schedule 15.2 From: 01-Jul-21 To: 31-Mar-22	**PUNZ** Exceptional circumstances not confirmed for two ICPs on two NSPs that did not meet the 90% read rate within four months. Potential impact: Medium Actual impact: Low Audit history: Once previously Controls: None Breach risk rating: 5
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as none as the process to manage this has been paused. The audit risk rating is assessed to be low as the overall read attainment read rate is high.

Actions taken to resolve the issue	Completion date	Remedial action status
Pulse plans to recommence the process to monitor unread ICPs from 1st July 2022.	01/07/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse plans to recommence the process to monitor unread ICPs from 1st July 2022.	01/07/2022	

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

PUNZ

NHH data is provided by Wells and MEPs. The data interrogation log requirements were reviewed as part of their agent and MEP audits.

PPPP

NHH data is provided MEPs. The data interrogation log requirements were reviewed as part of their MEP audits.

Audit outcome

Compliant

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

Code reference

Clause 11(1) Schedule 15.2

Code related audit information

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

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

Audit observation

HHR data is collected by EDMI and AMS for PUNZ, and AccuCal for Pioneer (NSP ANI0331BOPDNP) and a number of other HHR ICPs. HHR interrogation data requirements were reviewed as part of their agent audits.

PPPP does not supply any HHR ICPs.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDMI.

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

HHR data is collected by EDMI and AMS for PUNZ, and AccuCal for Pioneer (NSP ANI0331BOPDNP) and a number of other HHR ICPs. HHR interrogation data requirements were reviewed as part of their agent audits.

PPPP does not supply any HHR ICPs.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDMI.

Compliance was confirmed with AccuCal as part of this 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

HHR data is collected by EDMI and AMS for PUNZ, and AccuCal for Pioneer (NSP ANI0331BOPDNP) and a number of HHR ICPs. HHR interrogation data requirements were reviewed as part of their agent audits.

PPPP does not supply any HHR ICPs.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDMI.

The interrogation log provided by AccuCal was reviewed and compliance is confirmed.

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. Because AMS and EDMI's audits were completed more than seven months ago, I confirmed that there were no changes to HHR processes since their previous audits.

Compliance was confirmed with AccuCal as part of this audit.

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 February 2018 during the audit. Data is archived for more than 48 months as required by the code.

I traced reads for a sample of 17 ICPs from the source files to Gentrack and Cobra for NHH meters. The readings were the same for all ICPs, confirming the security of the process.

I traced volumes for a sample of three 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.

PPPP

NHH meter reading information is received via SFTP the MEPs. The data is imported into the PRADA data warehouse, then exported as an REA file. Metering data for PPPP ICPs is passed to John Candy Consulting via SFTP server and agreed switch reading information is retrieved from the registry by John Candy Consulting.

Data is retained by the John Candy Consulting indefinitely and reads cannot be modified without an audit trail being created.

Pioneer (NSP ANI0331BOPDNP)

I reviewed raw HHR meter read data from July 2016 during the audit. Data is archived for more than 48 months as required by the code. I traced data for two ICPs 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

PUNZ and PPPP do not deal with any non-metering information.

Audit outcome

Compliant

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

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

Code reference

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

Code related audit information

Code related audit information

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

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

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

Audit observation

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

Audit commentary

PUNZ

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 will be corrected using the read renegotiation process if switch reads are affected, or by moving the readings to the correct registers. One example was examined and confirmed to be compliant.

PPPP

Readings are validated by PPPP and John Candy Consulting by checking that the readings are recorded for the correct ICP, meter, register and date, and are reasonable when compared to previous readings. Where a potential issue is detected, AMI readings for surrounding dates are checked to determine whether the read is valid. If the read cannot be confirmed to be accurate it will be excluded from the RM Tool and a correction will be processed if necessary, or forward estimate will be calculated for submission.

John Candy Consulting confirmed that no defective meters, bridged meters, or inactive, excessive, negative or zero consumption issues were identified during the audit period. No unmetered load is supplied and all ICPs have a multiplier of one.

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 expected to be similar to the estimated period is used.

The process is the same for HHR and AMI meters.

No examples of corrections were identified.

PPPP

PPPP does not supply any HHR ICPs.

Pioneer (NSP ANI0331BOPDNP)

The same process is used for any HHR corrections required for Aniwhenua as described above. During the last site audit, it was discussed that there was a possible multiplier discrepancy between the registry and the paperwork at hand for Aniwhenua. This was investigated and found the paperwork was out of date and the registry was correct. However, post the audit Pulse updated the multiplier from 100 to 80 but as soon as it was confirmed that the registry was correct the volumes were corrected. I reviewed the affected submission files and confirmed compliance.

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 PUNZ or PPPP.

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 agent for the two ICPs for the Mangaotaki generation.

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

PPPP

Raw meter data is held by MEPs.

An appropriate audit trail is created when NHH meter reading data is modified. These audit trails are discussed further in **section 2.4.**

Pioneer (NSP ANI0331BOPDNP)

Raw meter data is held by AccuCal as an agent.

The same process is used for PUNZ 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.

Audit outcome

Compliant

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

Audit commentary Code reference

Clause 3(4) Schedule 15.2

Code related audit information

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

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

All meter data that is used 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 PUNZ, and MEPs for PPPP. HHR data is collected by AMS and EDMI for PUNZ and AccuCal for Pioneer (NSP ANI0331BOPDNP) and two HHR ICPs for Mangaotaki generation.

Audit commentary

PUNZ

The MEP or agent retains raw, unrounded data.

The NHH meter reading information received from the MEPs is not rounded or truncated. The data is imported into the PRADA data warehouse, then exported to Gentrack which does not have decimal places then into Cobra, so the reads are truncated prior to the creation of submission files. This is recorded as non-compliance below.

The HHR meter reading information received from the 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.

PPPP

The MEP or agent retains raw, unrounded data.

The NHH meter reading information received from the MEPs is not rounded or truncated. The data is imported into the PRADA data warehouse, then exported as an REA file which does not include decimal places for readings. John Candy Consulting loads these readings into the RM Tool to calculate submissions.

The RM Tool does not round the meter reading data received until the point of submission, so if unrounded readings were provided these would be used to calculate submission information.

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-Sep-21 To: 31-Mar-22	**PUNZ** NHH readings are truncated when imported into Gentrack. **PPPP** The MEP readings provided to John Candy Consulting by Pulse do not include decimal places. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as the NHH reads are truncated when imported into Gentrack. ICPs are no longer supplied by PPPP. 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
Pulse is investigating this internally to find out where exactly the digits are truncated before we can put a fix in place.	1/07/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse is planning to upgrade Gentrack to process meter reading files directly from meter readers and MEPs. This will prevent truncation from happening again	1/03/2023	

9.4. Half hour estimates (Clause 15 Schedule 15.2)

Code reference

Clause 15 Schedule 15.2

Code related audit information

If a reconciliation participant is unable to interrogate an electronically interrogated metering installation before the deadline for providing submission information, the submission to the reconciliation manager must be the reconciliation participant's best estimate of the quantity of electricity that was purchased or sold in each trading period during any applicable consumption period for that metering installation.

The reconciliation participant must use reasonable endeavours to ensure that estimated submission information is within the percentage specified by the Authority.

Audit observation

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, kWh needed to be estimated (profiled).

HHR estimations 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 recommend below that rather than using the previous day that the same day of the previous week would be likely to produce a closer estimate, and
- if there is no earlier data, then zeroes are populated until such time as data is available to use for estimates; there are checks in place for the reconciliation team to investigate any ICPs with continuous zero consumption but as the no read process has been paused these will not be being investigated which is discussed further in **section 9.6**.

Description	Recommendation	Audited party comment	Remedial action
Half hour estimates	For estimation of full days consider using same day of week from the previous week to estimate.	Pulse accepts the recommendation and will implement recommended logic.	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 the five temporary estimates and they met the reasonable endeavours requirement for all the estimates reviewed.

PPPP

PPPP does not supply any HHR ICPs.

Pioneer (NSP ANI0331BOPDNP)

HHR estimates would be created using the same methodology as described for PUNZ above. No estimations have been required during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

> *16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register,*
>
> *16(2)(b) - checks for invalid dates and times*
>
> *16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend,*
>
> *16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected zero values.*

Audit observation

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

Audit commentary

PUNZ

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, and zero consumption for more than five days.

Additional reports are run to identify readings of vacant installations, inactive or decommissioned, negative consumption, too low or too high daily consumption. 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	

Processes to review reconciliation submission information are discussed in **section 12.3.**

PPPP

NHH information is received via FTP from the MEPs. The data is imported into the PRADA data warehouse, then exported as an REA file.

ABSL

When meter readings are received from PRADA, validation occurs to confirm 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, and to look for negative consumption between actual reads and zero consumption for more than five days.

RM Tool

Readings are validated by PPPP and John Candy Consulting by checking that the readings are recorded for the correct ICP, meter, register and date, and are reasonable when compared to previous readings. Where a potential issue is detected, AMI readings for surrounding dates are checked to determine whether the read is valid. If the read cannot be confirmed to be accurate it will be excluded from the RM Tool and a correction will be processed if necessary, or forward estimate will be calculated for submission.

John Candy Consulting confirmed that no defective meters, bridged meters, or inactive, excessive, negative or zero consumption issues were identified during the audit period. No unmetered load is supplied and all ICPs have a multiplier of one.

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:

- 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 as part of the no read process that has been paused, so is not be being worked. This is recorded as non-compliance below.

Event logs are being received from all but ARC and Influx. I recommend that these MEPs are contacted to request these are sent or if they are being sent ensure they are being received to an attended mailbox.

Description	Recommendation	Audited party comment	Remedial action
Electronic meter readings and estimated readings	Liaise with ARC and Influx to get meter event logs sent.	Pulse accepts the recommendation and will request ARC and Influx for meter event logs.	Identified

The reports are not being reviewed as it was thought that the MEP will email requests for field service work to be issued. I recommend that these reports are reviewed as part of BAU to ensure that all relevant events are investigated and actioned.

Description	Recommendation	Audited party comment	Remedial action
Electronic meter readings and estimated readings	Review and action any events that require investigation.	Pulse will implement a process to review and action on the events.	Identified

PPPP

All PPPP ICPs have AMI meters. AMI data goes through the NHH validation process described in **section 9.5**. John Candy Consulting confirmed that no defective meters were identified during the audit period.

Pioneer (NSP ANI0331BOPDNP)

HHR data is validated using the same processes described above for PUNZ.

AccuCal provide an event log each month to Pulse who review these. No events requiring further action have been identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.6 With: Clause 17 Schedule 15.2 From: 01-Nov-21 To: 31-Mar-22	**PUNZ** Zero consumption is not being monitored. Event logs not reviewed. Potential impact: Medium Actual impact: Unknown Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as weak as event logs are not reviewed and zero consumption is not being monitored in all instances. The audit risk rating is assessed to be low, as the number of ICPs likely to be affected is small.

Actions taken to resolve the issue	Completion date	Remedial action status
Pulse plans to recommence the process to monitor unread ICPs from 1st July 2022.	1/07/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse plans to recommence the process to monitor unread ICPs from 1st July 2022.	1/07/2022	

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 Energy 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 Energy 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 Energy 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 Energy 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 PUNZ has only applied the HHR, RPS, EG1 and PV1 profiles during the audit period. Trading notifications are not required for these profiles.

PPPP

PPPP have only used the RPS profile, and trading notifications are not required.

Audit outcome

Compliant

11.2. Calculation of ICP days (Clause 15.6)

Code reference

Clause 15.6

Code related audit information

Each retailer and direct purchaser (excluding direct consumers) must deliver a report to the reconciliation manager detailing the number of ICP days for each NSP for each submission file of submission information in respect of:

> *15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

The ICP days information must be calculated using the data contained in the retailer or direct purchaser's reconciliation system when it aggregates volume information for ICPs into submission information.

Audit observation

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

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

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

Audit commentary

PUNZ

No alleged breaches were recorded for late provision of ICP days information.

PUNZ 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 PUNZ imports the LIS file to Cobra and compares the two sets of data. Any discrepancies are analysed and addressed.

The process for the calculation of ICP days for January 2022 was examined by checking NHH ICP days for 50 NSPs with a small number of ICPs each, and HHR ICP days for 50 NSPs with a small number of ICPs each. The ICP days calculation was confirmed to be correct for the NSPs checked.

The following table shows the ICP days difference between PUNZ files and the RM return file (GR100) for all available revisions for 17 months and found the differences were very small.

Month	Ri	R1	R3	R7	R8	R14
Oct 2020	0.00%	0.01%	0.00%	-	0.00%	0.00%
Nov 2020	-	0.00%	0.00%	-	-	0.00%
Dec 2020	0.00%	0.01%	0.00%	0.00%	-	0.00%
Jan 2021	0.00%	0.00%	0.00%	0.00%	-	-
Feb 2021	0.00%	0.00%	0.00%	0.00%	-	-
Mar 2021	0.01%	0.00%	0.01%	0.00%	-	-
Apr 2021	0.01%	0.00%	0.00%	0.00%	-	-
May 2021	0.00%	0.01%	0.00%	0.00%	-	-
Jun 2021	0.00%	0.00%	0.00%	0.00%	-	-
Jul 2021	0.00%	0.00%	0.00%	0.00%	-	-
Aug 2021	0.00%	0.00%	0.00%	-	-	-

Month	Ri	R1	R3	R7	R8	R14
Sep 2021	0.01%	0.00%	0.00%	-	-	-
Oct 2021	0.01%	0.00%	0.00%	-	-	-
Nov 2021	0.00%	0.36%	0.00%	-	-	-
Dec 2021	0.00%	0.00%	-	-	-	-
Jan 2022	0.01%	0.00%	-	-	-	-
Feb 2022	0.00%	-	-	-	-	-
Oct 2020	0.00%	0.01%	0.00%	-	0.00%	0.00%
Nov 2020	-	0.00%	0.00%	-	-	0.00%
Dec 2020	0.00%	0.01%	0.00%	0.00%	-	0.00%
Jan 2022	0.00%	0.00%	0.00%	0.00%	-	-
Feb 2022	0.00%	0.00%	0.00%	0.00%	-	-

I reviewed all differences remaining after revision three and found these were due to:

- generation ICPs being included in three instances; these are identified as part of a manual check prior to submission but this was missed due to human error and is expected to be automated as part of the move to the new Gentrack platform,
- two were due to being moved to HHR submission for the incorrect date due to human error; these have since been corrected, and
- a backdated withdrawn switch for ICP 0001261409UN12F.

Pulse intends to start reviewing the ICP day files to assist with identifying potential discrepancies.

I walked through the process for NHH to NHH, NHH to HHR and HHR to HHR meter changes, including reviewing five upgrade examples. In all cases, ICP days were continuous. No downgrades were identified on the event detail report.

PPPP

AV110 ICP days are calculated and submitted to the reconciliation manager by John Candy Consulting. No alleged breaches were recorded for late provision of ICP days information.

The process for the calculation of ICP days for September 2021 was examined by checking NHH ICP days for all NSPs against the expected values calculated from a registry list with history. The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between PPPP files and the RM return file (GR100) for all available revisions for three months and found the differences were very small. I checked the difference for September 2021 revision three and confirmed it related to timing.

Month	Ri	R1	R3	R7
Aug-21	0.13%	-0.06%	0.00%	0.00%
Sep-21	0.00%	0.00%	-0.23%	-
Oct-21	-	-	0.00%	-

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.

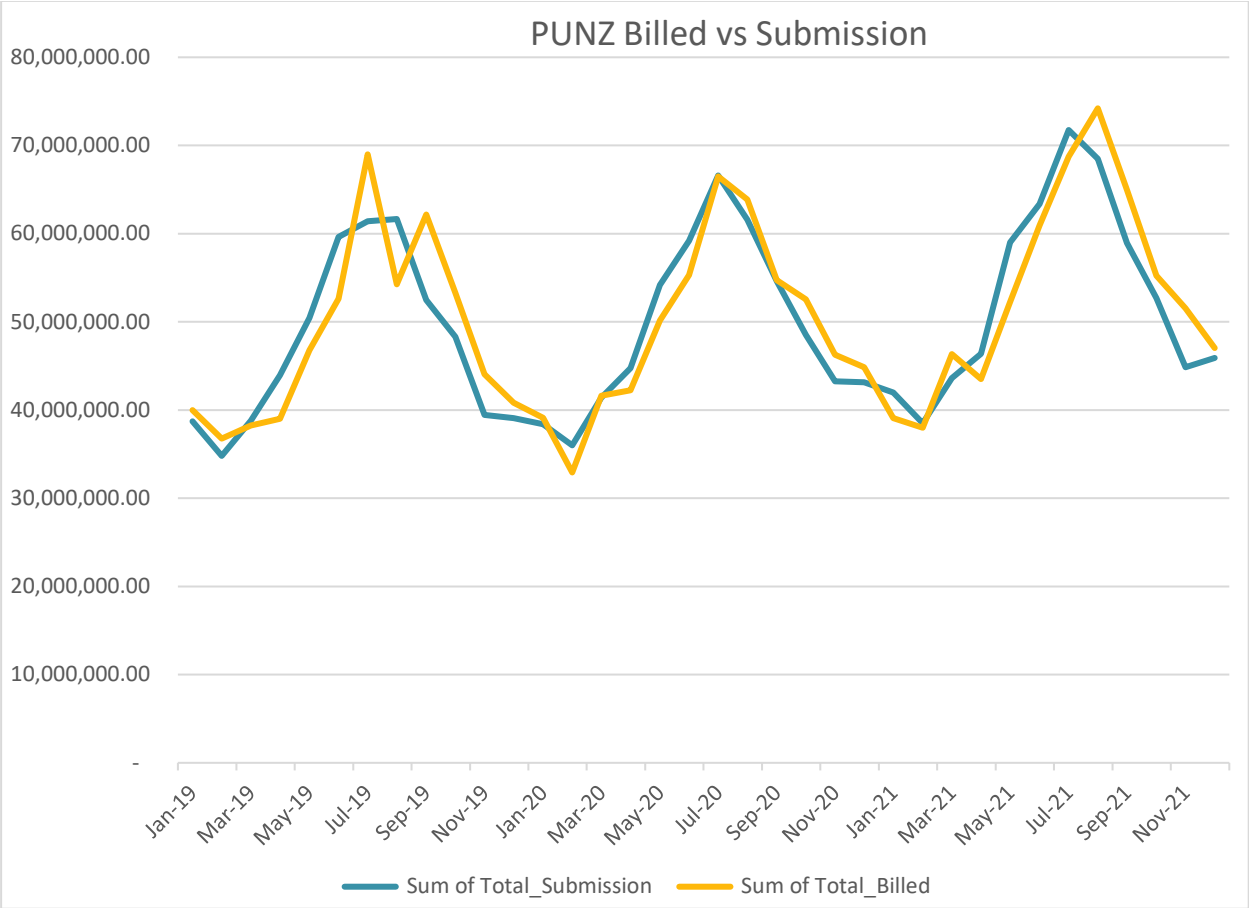
Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late.

Audit commentary

PUNZ

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs against invoice information for February 2022. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

I checked the difference between submission and electricity supplied information for a three-year period, and the results are shown chart below. The total difference is 0.4% for the two years ended December 2021 (billed higher than submitted) and 1.0% for the year ended December 2021 (billed higher than submitted). The differences between billed and submitted data appear reasonable.

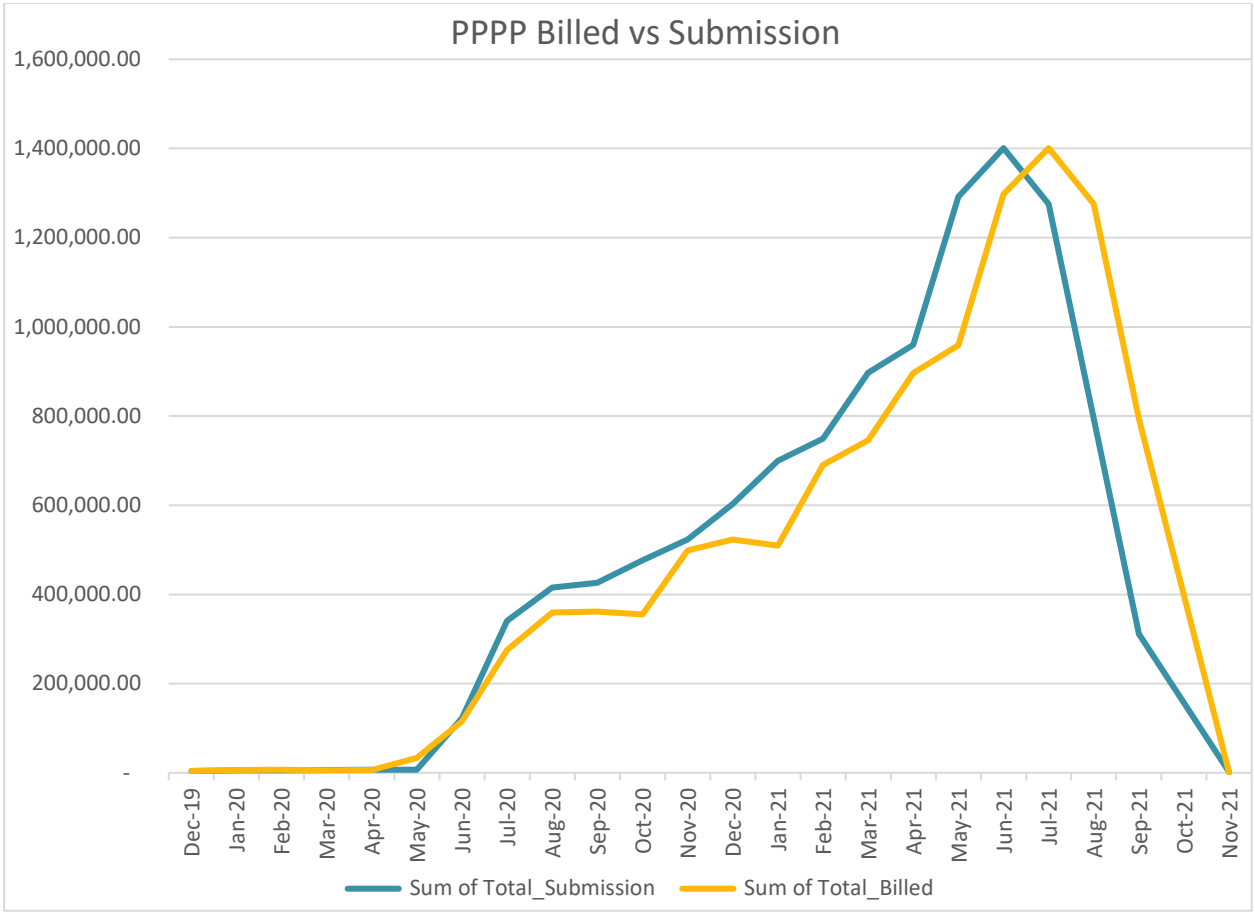


PPPP

Because PPPP ICPs have pre-pay meters and volumes are pre-paid rather than billed, the AV120 files are created by John Candy Consulting based on the previous month's initial AV080 submission. To confirm the AV120 calculations are correct, I checked:

- the AV120 volumes for September 2021 for five NSPs against the reading data for August 2021, and confirmed the volumes matched exactly, and
- the AV120 billed volumes for September 2021 against the previous month's AV080 NHH volumes for revision three for all 117 NSPs; I found 104 matched within ± 1 kWh and 11 larger differences occurred because the AV120 is based on the initial submission for the previous month, and differences occurred in revision submissions.

I checked the difference between submission and electricity supplied information for a two-year period, and the results are shown chart below. The total difference is 1.8% for the two years ended November 2021 (billed lower than submitted) and 1.2% for the year ended November 2021 (billed higher than submitted). The differences appear to relate to timing because the billed data is based on the initial submission for the previous month, and the submission data is based on the latest revision. The differences between billed and submitted data appear reasonable.



Audit outcome

Compliant

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

Code reference

Clause 15.8

Code related audit information

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

> *15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data for a sample of submissions.

The GR090 ICP Missing files were examined. An extreme case sample of ICPs missing were checked.

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

Audit commentary

PUNZ

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

HHR aggregates and volumes files are created by PUNZ in Scorpion. I checked the process for aggregation of HHR data is correct, by:

- matching HHR aggregates information to the volumes for 11 submissions; ten submissions matched within two decimal places, and one contained small rounding differences less than ± 7 kWh at NSP level, and
- tracing a sample of raw HHR data through to the aggregates submission for three ICPs.

The GR090 ICP Missing files were examined for all revisions for November 2020 to December 2021. All ten missing ICPs were checked and found to be caused by:

- backdated switches,
- backdated submission type and profile changes, and
- inconsistencies between submission type and profiles for 0000131054TR9DC, 0000182596WE1C3 and 0113906005LC030 between 1 October 2021 and 31 October 2021 as these ICPs have shared unmetered load but were mistakenly moved to the HHR profile causing this issue; all have been returned to the RPS profile and a check has been put in place to check for shared unmetered load on ICPs being moved to a HHR profile and any shared unmetered load being added to existing HHR profiled ICPs - this is recorded as non-compliance in **sections 2.1** and **12.7**.

PPPP

PPPP does not supply any HHR ICPs.

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 AMS for PUNZ, and AccuCal for four ICPs including Aniwhenua (Pioneer) and Mangaotaki generation. AMI data is provided by MEPs.

PPPP does not supply any HHR ICPs.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDMI as part of their agent audits. AMI data provided is daylight savings adjusted.

Data received from AccuCal is in standard time. In the last audit non-compliance was recorded for Pulse using the trading period run on process and the Electricity Authority advised that the trading period move process be used as detailed in the registry functional specification. The code requires that the trading period run on be used. The code always takes precedence therefore Pulse is returning to using the trading period run on process. The use of the incorrect methodology is recorded as non-compliance.

PPPP

PPPP does not supply any HHR ICPs.

Pioneer (NSP ANI0331BOPDNP)

As detailed above the incorrect methodology has been used and is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.1 With: Clause 15.36 From: 01-Nov-21 To: 31-Mar-22	**PUNZ** Incorrect TPM methodology used for the adjustment of daylight savings for the four ICPs where AccuCal provide the HHR data. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as Pulse's original processes are robust and compliant. The audit risk rating is assessed to be low, as this will have only a minor effect on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Pulse will correct the TPM calculation in the next available washups.	25/5/22	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse has been advised the correct method and we have updated our process accordingly.	25/05/22	

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

No alleged breaches were recorded for late provision of submission information.

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, and
- a sample of five ICPs with vacant consumption were checked of a possible total of 14 ICPs and 1,384 kWh. This found that vacant consumption was not submitted for the correct period in all instances:

ICP	Move out date	Disconnection date	Vacant Consumption	Comments
0000091053WW0BF	8/11/2021	16/12/2021	16	Correct
0280470029LC488	31/01/2022	15/02/2022	131	This ICP switched away on 27 February 2022 but was consuming between the disconnection date and the switch out date. An RR has been accepted from the gaining trader for 131 kWh but as the ICP was inactive from 15 February 2022 to 27 February 2022 so the volume will be incorrectly allocated up to 15 February 2022.
0273892118LC0EF	11/11/2021	14/11/21	192	This ICP switched away, but the switch was withdrawn by Pulse as the request date was earlier than Pulse's customer move out date. The gaining trader never re-requested the switch. The ICP is active, but no volumes have been submitted since 14 November 2021.
0000727240TE4AC	02/11/2021	16/11/2022	207	The remote disconnection has failed so the volume since 16 November 21 has not been submitted as the ICP is inactive.

ICP	Move out date	Disconnection date	Vacant Consumption	Comments
0414943198LC65C	20/12/2021	10/01/2022	63	This ICP switched out 25 January 2022 and the customers final read on 20 December 2021 was sent as an estimate when an actual read for 10 January 2022 was available, resulting in the volume being reconciled by the gaining trader.

This was due to a misunderstanding between different parts of the business. Operations believed that if reads were entered the volume would be submitted regardless of the ICP's status, but a customer must be registered, and the status must be active in Gentrack for submission to occur. Pulse do not use occupier accounts to bill off vacant consumption. This is recorded as non-compliance below and in **sections 2.1** and **12.7**. I recommend that the management of vacant and inactive vacant consumption is reviewed.

Description	Recommendation	Audited party comment	Remedial action
Creation of submission information	Review management of vacant and inactive vacant consumption to ensure these volumes are reconciled.	Pulse understands the flow on effect from the vacant/inactive vacant consumption management processes. Pusle will improve the vacant consumption management process.	Investigating

- 14 ICPs with inactive consumption were checked and found that the volumes had not been submitted as the ICPs had not been returned to "active" resulting in under submission of 17,466 kWh; I recommend above that this process is reviewed and it is recorded as non-compliance below and in **sections 2.1, 3.9** and **12.7**,
- ten ICPs with unmetered volumes and NHH submission type were reviewed, including five ICPs with standard and five ICPs with shared unmetered and found that the correct consumption was submitted, and
- ICP 0000222731TE242 which has "inactive-reconciled elsewhere" status was examined and found that the incorrect status had been applied. This has been corrected to" inactive - meter disconnected" for the correct date and therefore no submission is expected or has occurred, and the incorrect status reason is recorded as non-compliance in **sections 2.1** and **3.9**.

A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **sections 2.1** and **8.1**. This found submission volumes have not been submitted for ICP 0432585044LC835 which had a defective meter, and three bridged meters as they had not been passed to the Revenue Assurance Team to process.

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

HHR

Scorpion is used to create HHR submissions. HHR submissions were checked in **section 11.4** and found to be compliant. No corrections were identified. HHR volumes are reviewed prior to submission, these checks are discussed in **section 12.3**.

I checked:

- all three ICPs (0000036764CPF61, 0000042482CPB6E and 0000042484CPAE1) with unmetered volumes and HHR submission type were reviewed and found they were incorrectly moved to the HHR profile and have been returned to the RPS profile. The unmetered volumes were not submitted whilst they were HHR reconciled but this will be flow through the revisions now they have been returned to the RPS profile, and
- the two ICPs with "inactive - reconciled elsewhere" status are associated with Aniwhenua and are confirmed to be correct.

PPPP

No alleged breaches were recorded for late provision of submission information.

John Candy Consulting creates NHH submissions using the RM Tool as PPPP's agent.

- No ICPs with distributed generation were supplied during the audit period.
- No ICPs with unmetered load were supplied during the audit period, all ICPs were metered.
- No ICPs had "inactive - reconciled elsewhere" status.
- No ICPs had inactive or vacant consumption during the audit period.
- No defective meters, bridged meters, or inactive, excessive, negative or zero consumption issues were identified during the audit period.
- All ICPs have a multiplier of one.

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

Pioneer (NSP ANI0331BOPDNP)

No alleged breaches were recorded for late provision of submission information.

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: 01-Sep-21 To: 31-Mar-22	**PUNZ** Some ICPs were missing from submissions due to status not being corrected for vacant consumption. 14 ICPs were missing from submissions due to status not being corrected for inactive vacant consumption resulting in 17,466 kWh. Shared unmetered load not submitted for three ICPs moved to the HHR profile. Consumption for one of three ICPs with defective meters and three of four bridged meters has not been submitted. Potential impact: Medium Actual impact: Medium Audit history: None 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 does not ensure that vacant consumption is submitted. 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
All 14 ICPs identified with vacant consumption issues are passed to Revenue Assurance team to load meter reads to Gentrack which will feed to Cobra at the end. Pulse will correct the unmetered load o HHR sites in the next washups	25/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse has put in place a process changes for Field Service team to improve process/management of vacant consumption. HHR UML not submitted: This has been corrected and the script to choose ICPs for HHR has been amended, and a report has been set up to monitor current HHR ICPs if they change to UML.	25/05/2022	

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 automatically inserts zero lines where consumption has been reported in a previous revision but is not present in the current revision.

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 the last audit. There are a small number of channels that 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:

1) Comparison_yyyymm – shows which ICPs are missing, missing channels etc.
2) Mismatch_ yyyymm.
3) ICP_POC_mismatch_yyyymm - mismatch between POC in the registry and Cobra. In some cases Cobra still "remembers" POCs which were decommissioned. We checked five ICPs and POC used for submissions were correct.
4) Nearmatch year_yyyymm – usually this shows that the meter serial number is incorrect by one character.

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 will be derived within Gentrack.

Detailed meter register level supporting data was provided for five submissions and reviewed to confirm that the AV080 report is correctly aggregated. NHH volume calculation was confirmed to be correct.

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.

PPPP

NHH meter reading information is received via FTP from the MEPs. The data is imported into the PRADA data warehouse, then exported as an REA file. Metering data for PPPP ICPs is passed to John Candy Consulting via SFTP server and agreed switch reading information is retrieved from the registry by John Candy Consulting.

The allocation of volume information is completed by John Candy Consulting as an agent of PPPP. ICP information from the registry is refreshed in the RM Tool prior to each reconciliation submission to ensure that aggregation factors and statuses are consistent with the registry.

Prior to NHHVOLS submission on day 4 and day 13 (including revisions) PPPP send the ABSL output data by FTP process to John Candy Consulting who independently verifies the data using RM Tool. John Candy Consulting provides a file which shows the discrepancies and PPPP addresses them before final NHHVOLS are submitted.

Detailed meter register level supporting data was provided for three submissions and reviewed to confirm that the AV080 report is correctly aggregated. NHH volume calculation was confirmed to be correct.

GR170 and AV080 files were compared for four months and revisions, and found to contain the same NSPs, confirming that zeroing is occurring as required.

Audit outcome

Compliant

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

The participant (if a grid owner) must deliver to the reconciliation manager for each point of connection for all of its GXPs, the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.9(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period (clause 15.9(b)).*

Audit observation

Review of the NSP table confirmed that 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 Energy 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 and PPPP

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. We compared the original files with the submission files for January 2022 to March 2022 to confirm that submitted volumes correspond with the original files. No late file submissions were recorded.

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 breaches were recorded for late provision of submission information.

No ARCS meters are settled as HHR.

As detailed in **section 2.1**:

- Corrections are only processed if the volume difference is 200 kWh or greater. I recommend in **section 2.1**, that all corrections are processed.
- One of the three ICPs with defective meters had no consumption submitted for the defective meter period.
- Three of the four ICPs with bridged meters had no consumption submitted for the bridged period.
- A sample of five ICPs with vacant consumption of a possible 14 ICPs and 1,384 kWh were checked and are detailed in **section 12.2**. This found that vacant consumption was not submitted for the correct period in all instances due to a misunderstanding between different parts of the business. Operations believed that if reads were entered the volume would be submitted regardless of the ICP's status, but a customer must be registered, and the status must be active in Gentrack for submission occur. Pulse do not use occupier accounts to bill off vacant consumption. This is recorded as non-compliance below and in **sections 2.1** and **12.2**. I recommend that the management of vacant and inactive vacant consumption is reviewed in **section 12.2**.
- 14 ICPs with inactive consumption were checked and found that the volumes had not been submitted as the ICPs had not been returned to "active" resulting in under submission of 17,466 kWh. I recommend in **section 12.2** this process is reviewed. This is recorded as non-compliance below and in **sections 2.1, 3.9** and **12.2.**

I re-checked submission issues recorded in the previous audit to determine whether they had been resolved:

- 20 ICPs did not have the agreed switch reading recorded in Cobra resulting in over submission of 61 kWh. These have all now been corrected but 13 of these corrections are now outside the revision period resulting in 23 kWh of over submission. Whilst this is a small volume of kWh's in total this is due to overs and unders balancing the incorrect volumes out. I have detailed the volumes involved in the table below for reference:

ICP	Meter	Difference
0000002759DE6F2	212026236,1	74
0000003020DE35C	212132660,1	26
0000003020DE35C	212132660,2	0
0000003278DE347	212141862,1	557
0000019191NTE89	NTL1603615,1	3
0000019191NTE89	NTL1603615,2	1
0000035416NT141	NTL1401554,1	1
0000035416NT141	NTL1401554,2	8

ICP	Meter	Difference
0000040959DE82C	214557023,1	514
0000102460TR0E3	130777,1	-37
0000102460TR0E3	130777,2	33
0000144248TR7F1	212351198,1	-301
0000180812CT334	216036213,1	-198
0000180812CT334	216036213,2	-104
0000224614UN4D2	210063525,1	-68
0000224614UN4D2	210063525,2	0
0000302226WEB8E	10057902,1	-368
0000302226WEB8E	10057902,2	-196
0000836373NVD7C	218001291,1	17
0000836373NVD7C	218001291,2	15

- ICP 0000000185CPB74 did not have the agreed switch reading recorded in Cobra. It rejected the reading because the reading came in the day before the ICP switched in. This was due to a known issue, that occurred from approximately February to April 2021 and was caused by a date issue between Gentrack and Cobra. This caused a read dated for example 16 January 2021 to be recorded in Cobra as 15 January 2021 and was therefore ignored. Pulse put a fix in place by using the read from the CS file rather than any read recorded in the PRADA data warehouse. The reads for ICP 0000000185CPB74 now have the agreed switch reading.
- ICP 0000682080TECE0 had an incorrect serial number recorded and volumes were unnecessarily estimated. This was investigated and found that Cobra was using an old meter serial number and therefore estimating volume as the current meter register was being ignored. Cobra has been corrected so the current meter serial is used to reconcile volumes from.

PPPP

No breaches were recorded for late provision of submission information, and no inaccurate submission information was identified.

Pioneer (NSP ANI0331BOPDNP)

No breaches were recorded for late provision of submission information, and no inaccurate submission information was identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 01-Sep-21 To: 31-Mar-22	**PUNZ** 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
Pulse has corrected all the issues identified.	26/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse will recommence no read process from 1st July. Pulse has updated our Field services process for handling vacant consumption.	1/07/2022	

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

Some forward estimate remains at revision 14:

Month	Forward estimate
Oct 2020	22,427.14
Nov 2020	151,950.8
Dec 2020	46,253.28
Total	220,631.22

Pulse are moving as many ICPs as possible to be HHR reconciled using AMI meters. This will improve the number of actual reads gained and reduce the volume of FE. They run a process to make as many estimates permanent as possible as part of the reconciliation BAU processes each month.

The FE remaining at 14 months was examined and found that the main cause was due to a time lag between Gentrack and Cobra which results in a date mismatch e.g., if the meter is changed on 17 January 2022 the start date of the meter will be 16 January 2022 in Cobra resulting in one day of estimated volume. This is expected to be resolved with the move to the new Gentrack platform where reconciliation will be calculated for the correct date.

The FE volumes increased for the R14 revisions in November and December 2020. This was due to the time taken to carry out fixes required in Cobra resulting in not all remaining FE checks being able to be run prior to submission. The fixes referred to include:

- the use of CS and RR reads as first priority as detailed in **section 12.7**, and
- the fix required to reference the current meter record.

PPPP

John Candy produces reconciliation submissions using the RM Tool as PPPP's agent. All ICPs have AMI or HHR metering and readings are normally regularly received. I checked revision submissions for June and July 2021 and confirmed that volumes were 100% historic estimate by revision 7.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 Schedule 15.2 From: Oct to Dec-21 r14	**PUNZ** Some estimates were not replaced with permanent estimates by revision 14. 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 they will mitigate risk most of the time but can be compromised if time doesn't allow all processes to be run prior to the submission being due. The audit risk rating is assessed to be low overall as generally the % is close to 100% with the exception of R14 for November 2020.

Actions taken to resolve the issue	Completion date	Remedial action status
Pulse will tighten up the checks moving forward.	1/6/22	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Pulse has put in place an automated process to identify and fix the time-lag. Pulse is undergoing billing system upgrade which will ultimately resolve the date difference problem between two systems.	1/6/22	

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

PUNZ

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.

Five ICPs with RPS PV1 profile had submission type HHR recorded on the registry. Submission occurred as HHR, and the registry is now correct for all of these.

PPPP

Compliance with this clause was assessed:

- all PPPP's ICPs had metering category 1, and are submitted as NHH with RPS profile,
- no ICPs with unmetered load were supplied,
- no loss or compensation arrangements are required, and
- aggregation of the AV080 report was reviewed in sections **13.2** and **12.3** and confirmed compliant.

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.

PPPP

I reviewed seven 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 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 (seasonal adjusted shape values) 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

Test	Scenario	Test expectation	Result
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	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

PPPP

John Candy Consulting calculates and reports historic estimate as PPPP's agent and ensures that the most recent SASV values are applied. The table below shows the test results for the historic estimate scenarios.

Test	Scenario	Test expectation	Result
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Not applicable – no ICPs became active during the audit period
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.	Not applicable – no ICPs became active during the audit period
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Not applicable – no ICPs switched in during the audit period
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.	Not applicable – no ICPs switched in during the audit period
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Not applicable – no unmetered load
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Not applicable – no unmetered load
l	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant

Test	Scenario	Test expectation	Result
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Not applicable – no customer reads
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Not applicable - no photo reads
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Not applicable – no ICPs with multipliers supplied

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

PUNZ

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 a validated reading is available during the read period, Cobra applies the daily average for the period between two register reads.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh in relation to forward estimations. The table below shows the number of balancing areas where this target was not met.

Quantity of balancing areas with differences over 15% and 100,000 kWh

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Jun 2020	0	0	0	0	80
Jul 2020	0	0	0	0	80
Aug 2020	0	0	0	0	80
Sep 2020	0	0	0		80
Oct 2020	0	0	0		80
Nov 2020	0	0	0		81
Dec 2020	0	1	1		82
Jan 2021	0	0	1		81
Feb 2021	0	0	0		82
Mar 2021	0	1	1		81
Apr 2021	0	0			82
May 2021	0	0			83
Jun 2021	0	0			83
Jul 2021	0	0			84
Aug 2021	0				84
Sep 2021	0				84
Oct 2021	0				84

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Jun 2020	-2.20%	-2.84%	-2.91%	-2.94%
Jul 2020	-0.69%	-1.35%	-1.49%	-1.76%
Aug 2020	-1.37%	-1.49%	-1.66%	-1.84%
Sep 2020	-0.21%	0.11%	-0.29%	
Oct 2020	-0.21%	0.95%	0.72%	
Nov 2020	0.49%	1.22%	0.81%	
Dec 2020	0.04%	1.54%	1.34%	
Jan 2021	1.87%	2.71%	2.66%	
Feb 2021	-0.66%	0.72%	0.06%	
Mar 2021	0.58%	2.03%	1.41%	
Apr 2021	0.70%	0.77%		
May 2021	-1.12%	-2.42%		
Jun 2021	-2.12%	-3.72%		
Jul 2021	-0.92%	-2.21%		
Aug 2021	-0.68%			
Sep 2021	-0.08%			
Oct 2021	-0.31%			

I reviewed the two balancing area differences where the variation between revisions was more than ± 15% and ± 100,000 kWh and found this was due to over estimation on the Eastland network and one Powerco balancing area. This was caused by the estimation process used by Cobra which is calculated globally and not NSP specific. This is expected to improve with the move to the Gentrack platform for calculating submissions.

PPPP

Forward estimate is calculated by John Candy Consulting based on the average daily consumption for the previous read to read period for each meter register. If previous read period information is not available, the forward estimate consumption is based on the estimated daily consumption provided by the previous retailer in the CS file.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. The target was met for all balancing areas.

Quantity of balancing areas with differences over 15% and 100,000 kWh

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Jun 2020	0	0	0	0	32
Jul 2020	0	0	0	0	41
Aug 2020	0	0	0	0	44
Sep 2020	0	0	0		46
Oct 2020	0	0	0		46
Nov 2020	0	0	0		46
Dec 2020	0	0	0		46
Jan 2021	0	0	0		47
Feb 2021	0	0	0		47
Mar 2021	0	0	0		47
Apr 2021	0	0			47
May 2021	0	0			47
Jun 2021	0	0			48
Jul 2021	0	0			48
Aug 2021	0				48
Sep 2021	0				48

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Oct 2021	-				-

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Jun 2020	-17.17%	-16.61%	-16.69%	-16.69%
Jul 2020	-0.20%	0.62%	0.55%	0.50%
Aug 2020	0.74%	1.03%	0.94%	1.26%
Sep 2020	-0.44%	-0.29%	-0.40%	
Oct 2020	-0.75%	0.90%	1.00%	
Nov 2020	-0.41%	-0.27%	-0.02%	
Dec 2020	-18.07%	-15.46%	-15.39%	
Jan 2021	0.85%	-0.57%	-0.30%	
Feb 2021	0.14%	0.08%	-0.24%	
Mar 2021	-0.19%	-0.09%	0.02%	
Apr 2021	-0.43%	-0.34%		
May 2021	0.61%	0.62%		
Jun 2021	0.04%	0.05%		
Jul 2021	0.09%	0.03%		
Aug 2021	0.15%			
Sep 2021	0.04%			
Oct 2021	-			

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 15.3

Code related audit information

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

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

Audit observation

The event detail report was examined to identify all ICPs which had a profile change during the report period.

A sample of ICPs with profile changes were reviewed to confirm that there was an actual or permanent estimate reading on the day of the profile change.

Audit commentary

PUNZ

Every month PUNZ shifts more ICPs to 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, PUNZ uses a validated meter reading on the day that the change is effective. All ten ICPs checked had an actual meter reading recorded on the day of the profile change, and the day before the profile change.

PPPP

PPPP only uses the RPS profile, and no profile changes have occurred.

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.

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

PPPP

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
- consumption period.

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

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.3

Code related audit information

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

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

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

Audit observation

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

I reviewed a sample of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

PUNZ

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. The is largely due to the time lag between Gentrack and Cobra which results in a date mismatch e.g. if the meter is changed on 17 January 2022 the start date of the meter will be 16 January 2022 in Cobra resulting in one day of estimated volume and. This is expected to be resolved with the move to the new Gentrack platform where reconciliation will be calculated for the correct date.

The low HE volumes submitted for the R14 revisions for November 2020 were examined and found were due to the time taken to carry out fixes required in Cobra and resulted in not all remaining FE checks being able to be run prior to submission. The fixes referred to include:

- the use of CS and RR reads as first priority as detailed in **section 12.7**, and
- the fix required to reference the current meter record.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Oct 2020			127	164
Nov 2020			74	164
Dec 2020			133	165
Apr 2021		165		165
May 2021		165		166
Jun 2021		166		166
Aug 2021	164			167
Sep 2021	164			167
Oct 2021	163			167

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 2020	-	-	99.95%
Nov 2020	-	-	99.65%
Dec 2020	-	-	99.89%
Apr 2021	-	99.34%	-
May 2021	-	99.33%	-
Jun 2021	-	99.27%	-
Aug 2021	98.23%	-	-
Sep 2021	98.26%	-	-
Oct 2021	97.68%	-	-

PPPP

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 met for the submissions checked:

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jun 2021	113	113	-	113
Jul 2021	113	113	-	113
Aug 2021	-	113	v	113
Sep 2021	113	-	-	113
Oct 2021	113	-	-	113

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.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jun 2021	99.97%	100.00%	-
Jul 2021	100.00%	100.00%	-
Aug 2021	-	100.00%	-
Sep 2021	100.00%	-	-
Oct 2021	-	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: 01-Sep-21 To: 31-Mar-22	**PUNZ** 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 they will mitigate risk most of the time but can be compromised if time doesn't allow all processes to be run prior to the submission being due. The audit risk rating is assessed to be low overall as generally the % is achieved with the exception of the R14 submissions.

Actions taken to resolve the issue	Completion date	Remedial action status
Pulse's current reconciliation system does not take average daily consumption information from the Registry which results in lower quality estimates in cases when no actual meter read is received at all. Pulse does update our default estimation settings to provide accurate estimates.	1/7/22	Investigating

Preventative actions taken to ensure no further issues will occur	Completion date	
Pulse is undergoing a system upgrade. The new system will utilise average daily consumption information from the previous retailer to provide more accurate estimation.	1/03/2023	

CONCLUSION

Pulse operates the PUNZ and PPPP participant codes, and acts as an agent for submission for Pioneer Energy's NSP ANI0331BOPDNP. Unless otherwise specified, the processes and non-compliances described in the report apply to all codes.

At the time of the audit:

- PUNZ supplied 84,174 active ICPs. 11 had metering categories of three 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 NZX_TOU for HHR reconciliation.
- PPPP was listed as the trader for two ICPs; one at "ready for decommissioning" status and one decommissioned ICP. All PPPP ICPs switched out to other traders by 1 October 2021. PPPP only supplied meter category 1 pre-pay ICPs without unmetered load or distributed generation connected. PPPP uses the PRADA data warehouse to manage readings, ABSL for customer and ICP information management, and John Candy Consulting is an agent for NHH reconciliation. All required revisions have been provided; because all ICPs had AMI metering and have switched out in September 2021 no further revisions are expected to be required.

PUNZ

Registry

There is a high level of timeliness with regard to registry updates.

Some registry discrepancies were identified and there is room to strengthen the controls in this area.

Switching

The number of late files is low, however there was some inaccuracy within files.

Reading

Examination of the read management processes found these are generally robust. They are continuing to move ICPs to be HHR reconciled which will improve read attainment. Due to resource constraints the no read processes have been paused since November 2021. This will have an impact on submission accuracy as defective or bridged meters will not be being identified and actioned in all instances. Pulse intends to recommence this activity in the near future.

HHR reading management is robust. I recommend that the event logs are reviewed to ensure that any events that require the attention are identified and actioned.

Reconciliation

Pulse is in the process of moving to their submission processes to the Gentrack platform. A material change will be undertaken prior to this. They continue to use Cobra for NHH submissions and Scorpion (previously called NZX_TOU) for HHR submissions.

The processes for NHH submission are generally robust. The estimation processes in place are calculated at a global level rather than an NSP level and this can result in estimates being inaccurate causing large variances between revisions. Pulse review these where possible but in November 2020 due to time constraints this was not able to be carried out resulting in a high volume of FE remaining at R14.

Examination of active vacant and inactive vacant corrections found that these are not always being carried out and I recommend that the process is reviewed. Corrections were also not carried out in all instances for defective and bridged meters.

HHR submission is managed well with robust validation processes in place and a high level of accuracy. Estimation and correction processes are functioning as expected.

PPPP

There were a small number of registry and switching issues identified. This code is no longer being used so these issues have no further impact.

Conclusion

The audit found 27 non-compliances and eight recommendations are made. The audit risk rating is 74, which results in an indicative audit frequency of three months. Controls were strong for four non-compliances and moderate for 15 non-compliances. Five non-compliances have weak controls and three meter reading attainment non-compliances had no controls.

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 a next audit date of nine months.

PARTICIPANT RESPONSE

Pulse have reviewed this audit and their comments are contained in the body of the report. No further comments were provided.