

**ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT**

For

**PULSE ENERGY ALLIANCE LP
(COMPANY # 1484483)**

Prepared by: Ewa Glowacka and Allan Borcoski

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EXECUTIVE SUMMARY

This reconciliation participant audit was performed at the request of Pulse Energy Alliance LP (PUNZ & PPPP) to support their application for certification, in accordance with clause 4 of Schedule 15.1 of The Code 2010. The relevant clauses audited are as required by the Guidelines for Reconciliation Participants Audits V 7.2 issued by the Electricity Authority.

The company uses two participant codes, PUNZ and PPPP. At the time of the audit, Pulse Energy was trading 83,543 ICPs using PUNZ code and 1,571 ICPs using PPPP code. The PUNZ code is used for NHH and HHR ICPs, PPPP is used for NHH pre-pay ICPs, which are read remotely. If for some reason communication becomes unreliable, a customer is offered to switch to PUNZ on a similar plan. This audit has examined compliance for both participant codes.

PPPP is a boutique retailer who have offered a prepay product called Lifestyle to residential customers for around 18 months. Unfortunately it has been decided to stop offering the product from 30 June 2021 and PPPP is actively migrating customers to PUNZ or other retailers of the customer's choice. Since the first customers switched in in November 2019 PPP has enjoyed steady growth, supported by dedicated staff, a purpose built system and processes. PPPP is also well supported by JC Consulting providing reconciliation services. There were small quantities of non-compliance identified.

Pulse Energy runs two separate systems to manage PUNZ and PPPP customers. The PRADA database stores NHH reads and is used for both codes. The database is partitioned to keep meter reads separate for each code. HHR ICPs are reconciled using the NZX_TOU system, which was audited in April 2021. At the time of this audit Pulse Energy was submitting reconciliation volumes for 51 ICPs using new system.

Pulse Energy is in the process of replacing legacy meters with smart meter working together with IHUB. The project to roll out AMI meters is progressing well, already more than 3,000 meters have been replaced.

Pulse Energy is in partnership with Solar City to install embedded generation in residential homes.

The audit identified 19 non-compliances and one recommendation.

There is a good level of compliance in the following areas:

- Switch Breach Report noted only 5 late RR file, other switching activities were completed in time
- More timely registry updates, less backdated entries
- NHH reads – good attainment of reads in 4 and 12 month periods- 99.99% for 12 months reading across all 183 NSPs.
- More timely updates of embedded generation information

The main issues identified during this audit are:

- Accuracy of submissions – it was noted previously
- Lack of a robust process to reconcile volumes for ICPs which are outside of main processes e.g. disconnected consumption, status reversal in the registry. A process needs to be created for the exchange of information between the Reconciliation Team and the Switching Team

The audit period was 01/10/2020 to 30/06/2021.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. Table 1 of the Guidelines for Reconciliation Participant audit provides some guidance on this matter. The Future Risk Rating score is 34 which results in an indicative audit frequency of 12 months. We agree with the outcome of the matrix.

We thank Pulse Energy's staff for their full and complete cooperation in this audit. Their response to any request for information, or clarification, was answered in a timely manner and each time, in depth, supporting evidence was provided.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
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	Moderate	Low	2	Identified
Electrical connection	2.11	10.33A	14 reconnections had expired certification recorded on the registry when they were reconnected	Moderate	Low	2	Identified
Changes to registry	3.3	10 of 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.	Moderate	Low	2	Identified
Provision of information to the registry manager	3.5	9 of 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.	Moderate	Low	2	Identified
ANZSIC codes	3.6	9 (k) of Schedule 11.1	PUNZ - 4 ICPs with incorrect ANZSIC code Some ICPs had incorrect ANZSIC code recorded in the registry	Moderate	Low	2	Identified
Management of “inactive” status	3.9	Clause 19 Schedule 11.1	PPPP – 3 ICPs had the incorrect AMI flag set in the Registry for an AMI disconnecting meter.	Strong	Low	1	Identified

Losing trader must provide final information - standard switch	4.3	3 of Schedule 11.3	PUNZ - Average daily consumption methodology was incorrect . Average daily consumption value was incorrect for 1 ICP	Strong	Low	1	Identified
Retailers must use same reading - standard switch	4.4	6(1) and 6A of Schedule 11.3	PUNZ - 1 late RR files for Standard Switch.	Strong	Low	1	Identified
Gaining trader informs registry of switch request - switch move	4.7	9 of Schedule 11.3	PUNZ - Incorrect type of switch used	Moderate	Low	2	Identified
Losing trader must provide final information - switch move	4.10	5 of Schedule 11.3	PUNZ - Average daily consumption methodology is incorrect Information in CS files for 5 ICPs was incorrect	Strong	Low	1	Identified
Gaining trader changes to switch meter reading - switch move	4.11	12 of Schedule 11.3	PUNZ - 6 late RR files for Switch Move	Strong	Low	1	Identified
NHH meters interrogated annually	6.9	8(1) of Schedule 15.2	PUNZ - 100% attainment was not achieved for up to 9 NSPs in 12 months period	Strong	Low	1	Identified
NHH meters 90% read rate	6.10	9(1) of 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	Strong	Low	1	Identified
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	Strong	Low	1	Identified

			interrogations for readings provided by AccuCal				
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	Moderate	Low	2	Identified
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	Weak	Low	3	Identified
HHR aggregates information provision to the reconciliation manager	11.4	15.8	PUNZ/PPPP - HHRAGGR files do not contain electricity supplied information	Strong	Low	1	Not required. The Code change required a line up with RN file specification. Breach risk rating excluded from total
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.	Weak	Low	6	
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	Moderate	Low	2	Identified
Historical estimate reporting	13.3	10 of Schedule 15.3	PUNZ - Historical estimates target not met for revision 3, 7, and 14 for 4 months	Moderate	Low	2	Identified

			PPPP- Historical estimates target not met for revision 3, 7 for 4 months				
Future Risk Rating						34	
Next audit date						12 months	

Future risk rating	0-1	1-3	4-15	16-40	41-55	56+
Indicative audit frequency	36 months	24 months	18 months	12months	6 months	3 months

RECOMMENDATIONS

Subject	Section	Description	Recommendation
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

ISSUES

Subject	Section	Description	Issue
			Nil

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

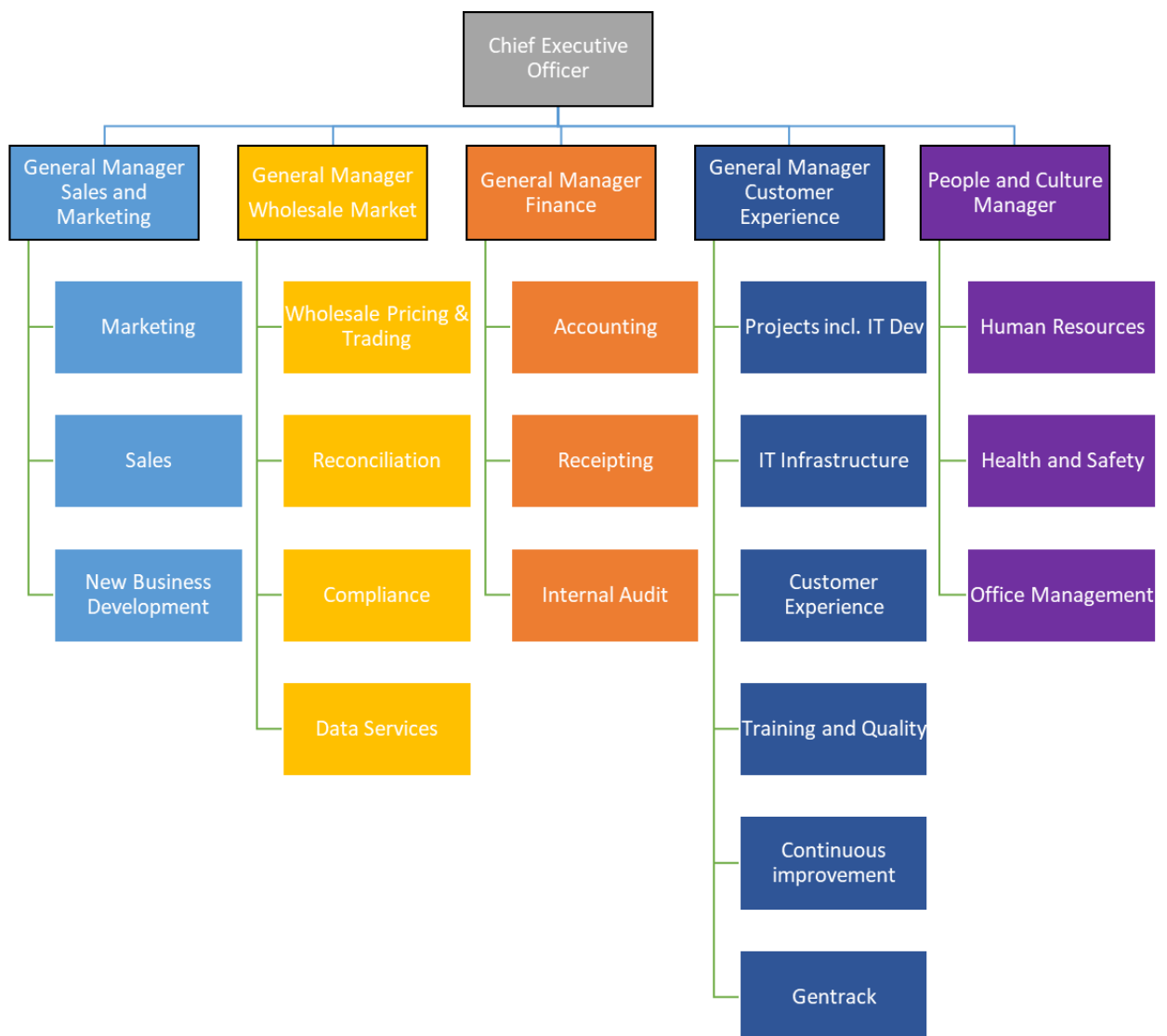
Audit observation

Pulse Energy does not have any exemptions granted to exempt them from compliance with all or any of the clauses.

Audit commentary

Pulse Energy did not apply for any exemptions. We checked the Electricity Authority website and confirmed that there are no exemptions in place.

1.2. Structure of Organisation



1.3. Persons involved in this audit

Name	Title	Company
Ben Tan	GM Wholesale Market	Pulse Energy
Kasey Pasene	GM Operations	Pulse Energy
Debjani Haldar	Customer Operation Manager	Pulse Energy
Paramita Kundu	Billing Manager	Pulse Energy
Edward Pokoroa	Field Services Team Lead	Pulse Energy
Marek Tomecki	Senior Reconciliation Analyst	Pulse Energy
Jason Ting	Reconciliation Analyst	Pulse Energy
Qiuwei Hui	Solution Architect	Pulse Energy
Tuoya Wang	Outbound Sales Administrator	Pulse Energy
Erin Gifkins	Systems Support Co-ordinator	Pulse Energy
Malu Rokeni	Project Manager	Pulse Energy
John Candy	Director	JC Consulting
Russell Mann	Director	AccuCal
Ewa Glowacka	Electricity Authority Approved Auditor (lead auditor)	TEG & Associates
Allan Borcoski	Electricity Authority Approved Auditor (supporting auditor)	Borcoski Energy Services

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

Pulse Energy contracted the following agents to fulfil all relevant requirements set out in clause 15.38 of the Code.

- Wells – NHH readings
- AMS, EDM I and AccuCal– HHR readings
- JC Consulting – reconciliation services for PPPP

This was discussed with PPPP and PUNZ staff.

Audit commentary

A copy of the most recent WELLS, EDM I and AMS HHR audit reports were used to determine compliance. As a part of this audit, we audited work done by AccuCal (provision of metering data for 2 ICPs) and JC Consulting for provision of reconciliation services for PPPP. Details are in the relevant parts of this audit.

The EDM I audit report dated 12/08/2021 reports one non-compliance

There are up to 59 ICPs which have trading period data rounded to two decimal places, when three decimal places are available.

This non-compliance is not relevant to Pulse Energy operation. The reports list 59 ICPs which are affected by this non-compliance, none of them is traded by PUNZ.

AMS HHR 04/06/2021 identified non-compliance

The EIEP3 and GENDF file formats may round the trading period data to two decimal places if the meter does not have a multiplier and the volume for that hour has a non-zero value in the third decimal place.

WELLS audit report dated 01/07/2021. The audit did not record any non-compliances.

It was discussed during the audit, and we confirm that Pulse Energy understand their responsibilities in relation to this clause.

JC Consulting provides reconciliation services for PPPP, further information will be found in the relevant parts 6 – 13 of this audit.

1.5. Hardware and Software

The main Pulse Energy systems are as follows:

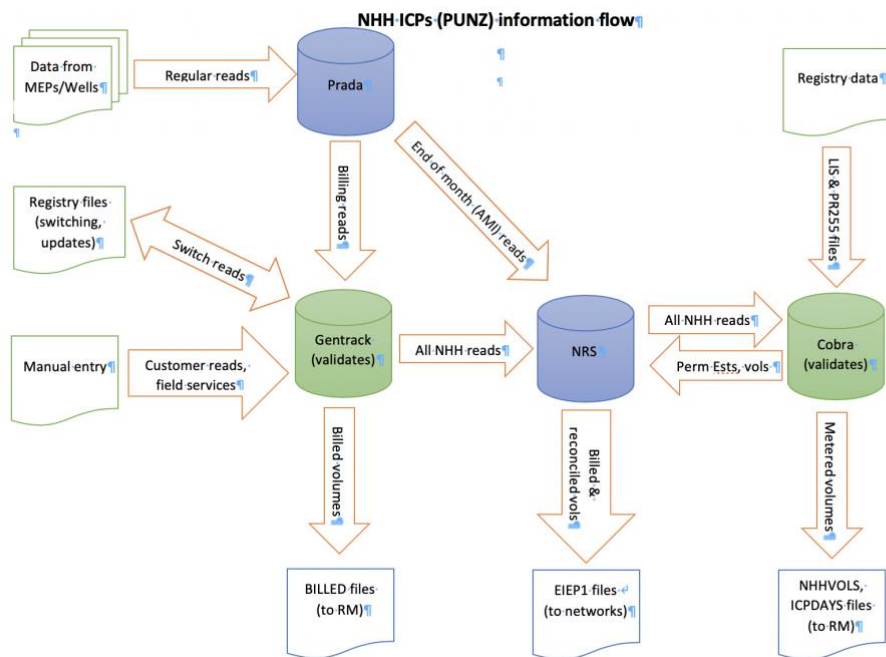
- Gentrack – switching, registry management, and billing
- COBRA – NHH reconciliation
- NZX_TOU – HHR reconciliation
- PRADA – data warehouse
- ABSL – management of pre-pay customers (PPPP) and their readings
- RM TOOL used by JC Consulting for NHH reconciliation for PPPP
- Two routines are written in Python to daylight shift data from AccuCal when required and create files which are later imported to NZX_TOU

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.

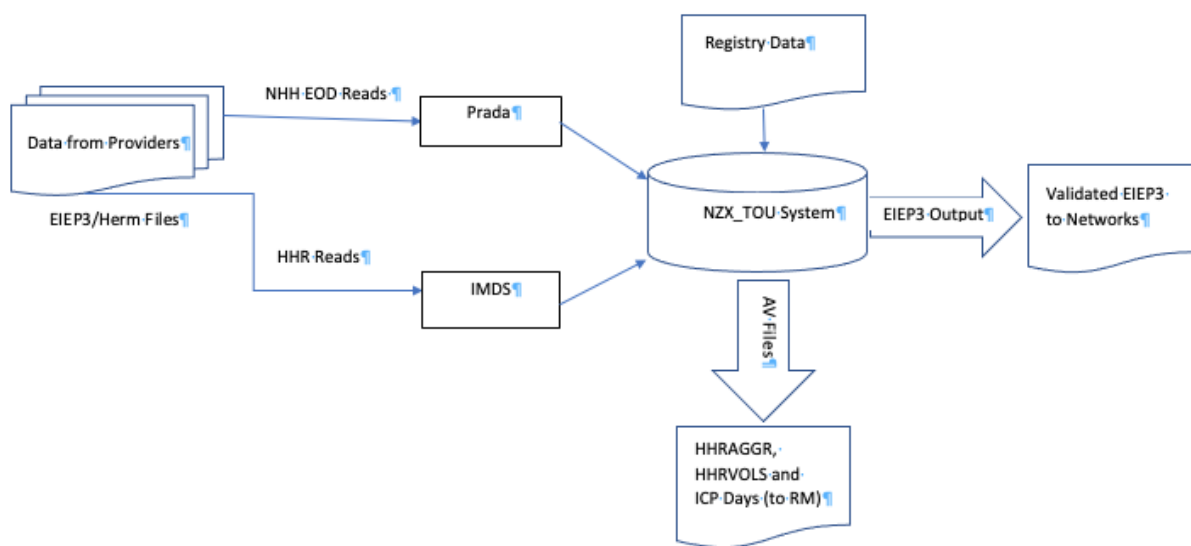
The diagrams below show a configuration of the system and information flow for PUNZ and PPPP.

The PUNZ code is used for both NHH and HHR ICP reconciliation.

PUNZ

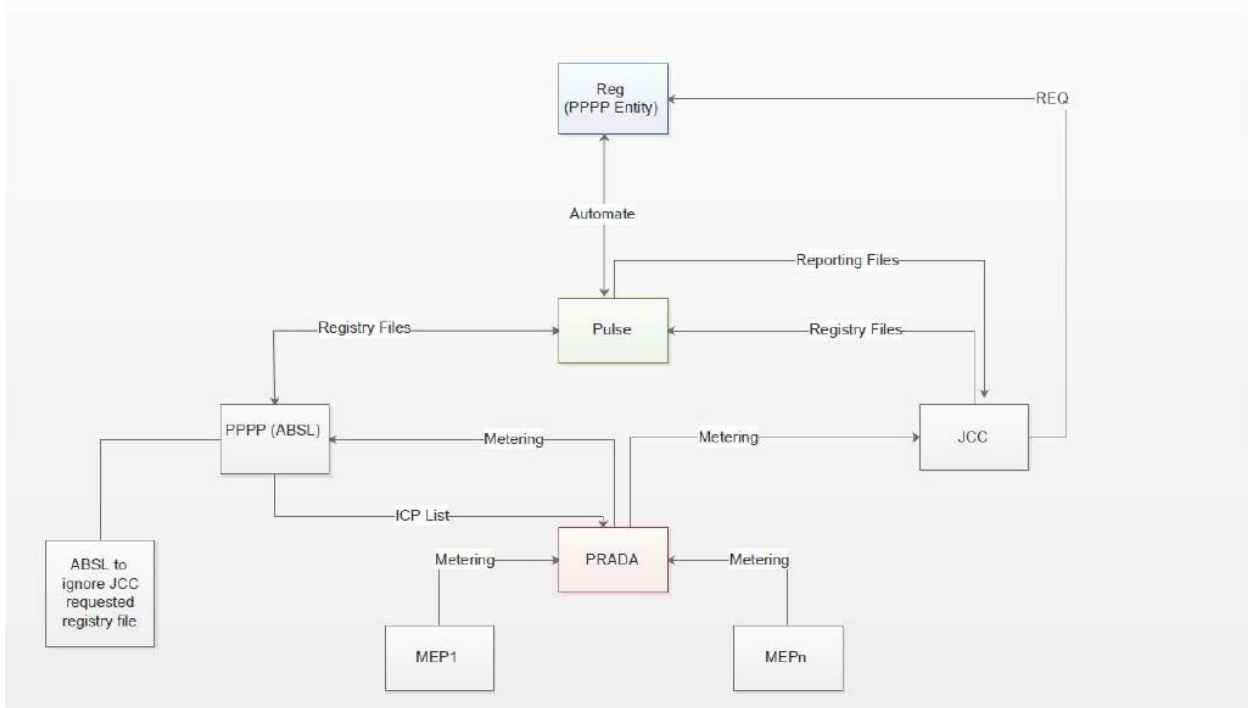


Schematic of the NZX_TOU system for HHR ICPs



PPPP

The PPPP code is used for NHH ICPs reconciliation.



1.6. Breaches or Breach Allegations

PUNZ

One breach was recorded during the audit period.

File ref	Clause	Description
2104PEAL1	15.2(1)9a)	<p>On 6 April 2021, NZX Limited as the reconciliation manager (the reconciliation manager) reported to the Electricity Authority (Authority) that Pulse Energy Alliance LP (Pulse LP) had breached clause 15.2(1)(a) of the Electricity Industry Participation Code 2010 (Code).</p> <p>It was alleged that on 17 March 2021 Pulse LP failed to provide accurate information to the reconciliation manager. Pulse LP was notified by the RM on 25/03/2021 about the allocation of scaling on some NSPs, giving it an additional 500MWh of volumes across R3, R7 and R14. Pulse LP confirmed this error was due to a system error in their generation of the files.</p>

1.7. ICP Data

PUNZ

Metering Category	12/07/2021	(10/2020)	(10/2019)	(01/2019)	(2018)
1	83,330	79,445	75,973	76,465	71,822
2	183	180	162	156	100

3	7	7	7	7	1
4	4	4	4	4	2
5	1	3	2	2	1
9	13	3	6	2	5

Status	Number of ICPs 12/07/2021)	Number of ICPs (10/2020)	Number of ICPs (10/19)	Number of ICPs (01/19)	Number of ICPs (2018)
Active (2,0)	82,791	78,437	75,536	75,649	71,933
Inactive – new connection in progress (1,12)	1	6	0	3	9
Inactive – electrically disconnected vacant property (1,4)	597	602	544	223	259
Inactive – electrically disconnected remotely by AMI meter (1,7)	48	27	25	18	22
Inactive – electrically disconnected at pole fuse (1,8)	50	40	34	4	5
Inactive – electrically disconnected due to meter disconnected (1,9)	18	12	8	2	1
Inactive – electrically disconnected at meter box fuse (1,10)	7	4	2	0	1
Inactive – electrically disconnected at meter box switch (1,11)	9	9	10	4	4
Inactive – electrically disconnected ready for decommissioning (1,6)	20	17	25	32	29
Inactive – reconciled elsewhere (1,5)	2	2	1	0	0
Decommissioned (3)	910	796	714	590	534

PPPP

Metering Category	(14/07/2021)	(08/10/2020)	(2019)
1	1,599	772	3
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
9	7	0	0

Status	Number of ICPs (14/07/2021)	Number of ICPs (08/10/2020)	Number of ICPs (2019)
Active (2,0)	1,571	740	3
Inactive – new connection in progress (1,12)	0	0	0
Inactive – electrically disconnected vacant property (1,4)	2	7	0
Inactive – electrically disconnected remotely by AMI meter (1,7)	32	25	0
Inactive – electrically disconnected at pole fuse (1,8)	0	0	0
Inactive – electrically disconnected due to meter disconnected (1,9)	0	0	0
Inactive – electrically disconnected at meter box fuse (1,10)	0	0	0
Inactive – electrically disconnected at meter box switch (1,11)	0	0	0
Inactive – electrically disconnected ready for decommissioning (1,6)	0	0	0
Inactive – reconciled elsewhere (1,5)	0	0	0
Decommissioned (3)	1	0	0

1.8. Authorisation Received

Pulse Energy provided a letter of authorisation to TEG & Associates permitting the collection of data from other parties for matters related to the audit.

1.9. Scope of Audit

This reconciliation participant audit was performed at the request of Pulse Energy. Clause 16A.24(b) of The Code puts the obligation on the reconciliation participant to obtain Authority approval before performing a function listed in clause 15.38(1), to assure compliance with the Electricity Industry Participation Code 2010. The audit was carried out at 33 Enfield Street, Mt Eden, Auckland on 27 July 2021 and 29-30 July 2021. The table below shows the tasks under clause 15.38 of part 15 for which Pulse Energy requires certification

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Relevant to audit	Agents Involved in Performance of Tasks
(a) - Maintaining registry information and performing customer and embedded generator switching	✓	
(b) – Gathering and storing raw meter data	✓	EDMI – HHR ICPs AMS (AMCI)– HHR ICPs AccuCal – HHR ICPs Wells – NHH ICPs
(c)(i) - Creation and management of HHR volume information	✗	
(c)(ii) - Creation and management of NHH volume information	✗	
(c)(ii) - Creation and management of HHR and NHH volume information	✓	JC Consulting for PPPP NHH ICPs
(c)(iv) - Creation and management of dispatchable load information	✗	
(d)(i) – Calculation and delivery of ICP days under clause 15.6	✓	JC Consulting for PPPP ICPs
(d)(ii) - delivery of electricity supplied information under clause 15.7	✓	JC Consulting for PPPP ICPs
(d)(iii) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8	✓	JC Consulting for PPPP ICPs
(e) – Provision of submission information for reconciliation	✓	JC Consulting for PPPP ICPs
(f) - Provision of metering information to the grid owner in accordance with subpart 4 of part 13	✗	

1.10. Summary of previous audit

The previous audit was conducted in Nov 2020 by Ewa Glowacka of TEG & Associates Ltd. The following non-compliances for PUNZ were identified.

PUNZ

Subject	Section	Clause	Non-Compliance	Comment
Relevant information	2.1	11.2;15.2	A small quantity of information in the registry was inaccurate, Incorrect information in CS files	Still exists
Provision of information	2.2	15.35	One breach was recorded for late or inaccurate submissions.	Still exists
Electrical connection	2.11	10.33A	4 reconnections had expired certification recorded on the registry when they were reconnected; 0000509411CE968 made active before its installation was certified.	Still exists
Changes to registry	3.3	10 of Schedule 11.1	Late updates of “inactive” and “active” status and trader information	Still exists
Provision of information to the registry manager	3.5	9 of Schedule 11.1	11 new connections for which the update to “active” status was done later than 5 business days, late updates of ANZSIC code for 4 ICPs	Still exists
ANZSIC codes	3.6	9 (k) of Schedule 11.1	209 ICPs had incorrect ANZSIC code recorded in the registry	Still exists
Changes to unmetered load	3.7	9 (f) of Schedule 11.1	1 ICP had incorrect UML details recorded in the registry	Cleared
Losing trader must provide final information - standard switch	4.3	5 of Schedule 11.3	Average daily consumption methodology is incorrect for ICPs which usage is less than 1 kWh. Information for a small number of ICPs is incorrect	Still exists
Retailers must use same reading - standard switch	4.4	6(1) and 6A of Schedule 11.3	11 late RR files for Standard Switch. Lost ICPs do not switch on the same read when RR file accepted	Still exists
Non-half hour switch event meter reading - standard switch	4.5	6(3)(a) of Schedule 11.3	6 RR files provided by a gaining trader (AMI reads) within 5 BD were not accepted	Cleared
Gaining trader informs registry of switch request - switch move	4.7	9 of Schedule 11.3	Incorrect type of switch used	Still exists
Losing trader must provide final information - switch move	4.10	5 of Schedule 11.3	Average daily consumption methodology is incorrect for ICPs where usage is less than 1 kWh. Information in CS files for a number of ICPs was incorrect	Still exists
Gaining trader changes to switch meter reading - switch move	4.11	12 of Schedule 11.3	11 late RR files for switch move; Lost ICPs do not switch on the same read when RR file accepted	Still exists

Gaining trader informs registry of switch request - gaining trader switch	4.12	14 of Schedule 11.3	The proposed event date was not in the same month as the date on which PUNZ advised the registry manager switch 1000023002BPF97	Cleared
Withdrawal of switch request	4.15	17 of Schedule 11.3	6 late NW files	Cleared
Electricity conveyed & notification by embedded generators	6.1	10.13 (2)(b)	The profile RPS PV1 is assigned to an ICP one day after the switch event date. RM not notified	Cleared
NHH meters interrogated annually	6.9	8(1) of Schedule 15.2	100% attainment was not achieved for more than 8 NSPs in 12 months period	Still exists
NHH meters 90% read rate	6.10	9(1) of Schedule 15.2	PUNZ 90% attainment was not achieved for more than one NSP over 4 months	Still exists
HHR interrogation data requirements	6.13	11(2)(e) of Schedule 15.2	No interrogation log is generated by the interrogation software to record details of all interrogations for readings provided by AccuCal	Still exists
Correction of NHH readings	8.1	19(1) of Schedule 15.2	7 corrections for bridged meters have not been processed	
Meter data used to derive volume information	9.3	3(5) of Schedule 15.2	Meter data provided by AMCI, FCLM, and EDM1 for reconciliation is rounded therefore it results in technical breach for Pulse Energy	Still exists
Electronic meter readings and estimated readings	9.6	17(4)(f) of Schedule 15.2	Meter event information for AMI meters is not reviewed because log files are not provided by MEPs and agents except AccuCal	Still exists
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates information provision to the reconciliation manager	Still exists
Daylight saving adjustment	12.1	15.36	Partly incorrect daylight saving adjustment for NZDT for data provided by AccuCal	Cleared
Accuracy of submission information	12.7	15.12	Some submission volumes were inaccurate	Still exists
Permanence of meter readings for reconciliation	12.8	4 of Schedule 15.2	Some forward estimates are not replaced by permanent estimates in R14	Still exists

Historical estimate reporting	13.3	10 of Schedule 15.3	Historical estimates target not met for revision 3, 7, and 14 for 4 months	Still exists
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PPPP

Subject	Section	Clause	Non-Compliance	Comment
Relevant information	2.1	11.2;15.2	Incorrect information in CS files	
Changes to registry	3.3	10 of Schedule 11.1	Late updates of “inactive” and “active” status and trader information	
Losing trader must provide final information - standard switch	4.3	5 of Schedule 11.3	Average daily consumption methodology is incorrect, it calculated for the last 7 days, 50% of CS files had incorrect “Last Read Date”	
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3)	AN file not sent for a small number switch moves (approx. 19)	
Losing trader determines a different date - switch move	4.9	10(2) Schedule 11.3)	The switch event date was backdated for 5 ICPs	
Losing trader must provide final information – switch move	4.10	11 of Schedule 11.3	Average daily consumption methodology is incorrect, it calculated for the last 7 days, 50% of CS files incorrect “Last Read Date”	
Electronic meter readings and estimated readings	9.6	17(4)(f) of Schedule 15.2	Meter event information for AMI meters is not reviewed because log files are not provided by MEPs	
Historical estimate reporting	13.3	10 of Schedule 15.3	Historical estimates target not met for R3 for one NSP	

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

This was discussed with PPPP staff and the Audit Compliance Summary Reports, EDA PR-255, LIS switching and reconciliation submission files for the audit period were examined. A number of random samples of transactions were checked from various parts of the audit.

A check was performed of the Audit Compliance Summary Reports, for the audit period, and the registry files. We discussed with PUNZ what processes were in place to ensure accurate information was provided to the registry.

Audit commentary

PUNZ

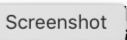
The analysis of the LIS file and PR-255 found the following:

Issue	ICP	Comment
ANZSIC code assigned as T99	4	0000127797UNA08 0221272488LC10C 0419871489LC235 1001255180LCEC6
ICP with B Inst Type that do not have a corresponding Injection Register	61	
Active ICPs with embedded generation indicated	940	

The analysis of the LIS files and did not show any incorrect information in the registry. We conducted sampling of the switching information including CS files, RR files and submissions.

We did not observe any misleading or deceptive information in submission files. There were a very small quantity of information discrepancies identified. More details are in relevant sections; **3.3, 3.5, 3.6, 4** and **6.10**.

Weekly and monthly reports are to monitor data integrity:

Report Name	Frequency	Process
UML Audit	Monthly	Captures mismatches. Field Services picks these up and fixes them in GT/registry
Multiplier Check	Monthly	Captures mismatches. Field Services picks these up and fixes them in GT/registry
Meter Certification Expiry	Monthly	This report captures all ICPs where the meter certification has expired. Field Services Team communicates with the MEPs to have the meter certification updated. Where MEPs send access issues/turndown lists to PUNZ, we contact the customer to arrange access to recertify these meters and issue work orders back to retailers.
ADL Zero	Weekly	Captures all ICPs that have switched in with ADL of 0. The ADLs are manually updated on Gentrack to ensure estimations are correct (where required) for billing purposes.
Consumption on De-Energised Sites	Weekly	Captures all ICPs that are inactive but are recording consumption. Field Services checks consumption, available reads, reconnection requests and possible missing paperwork and updates the status to CO if positive consumption has been confirmed.
Weekly Zero Consumption Report	Weekly	Captures active ICPs with PUNZ that is not recording any consumption. The customers are contacted to clarify whether the site is occupied or not, if the meters are on and in use, and if the site is prone to seasonal useage. If zero consumption is validated, the ICP is removed from the report for the next 4 months (the ICP will reappear and we make the same checks again). If there should be consumption but none is recorded, a Meter Investigation is lodged to find out what the issue is and resolve accordingly. Field Services then works with Revenue Assurance to calculate the estimated consumption to bill the customer to for the timeframe 0 consumption was recorded.
Field Services Compliance Raw Data	Weekly	Captures status and retailer mismatches for Field Services and Switching to update (GT vs. registry)
Field Services Compliance	Weekly	Captures various reports as below: <ul style="list-style-type: none"> Months since actual reads GT vs. Prada Switched in sites with no actual reads Expired Meter Certification Install Status Changes (under 5 days vs. over 5 days) Installed Meters on Decommissioned Sites Invalid ANZSIC Code
Gas and Electricity New Connection Report	Weekly	For monitoring purposes
Daily DUNE IN16 and IN24 Error Report	Daily	Captures DUNE IN16 and all IN24 ICPs that have switched into PUNZ or has had registry updates done recently to invalid registry codes. Field Services updates Gentrack to ensure correct tariffs are available on Gentrack to make the site billable.
Daily Remote Disco Report	Daily	Captures ICPs that have smart meters that have  the day before. Field Services issue the sites out for vacant and disconnections.

PPPP

The analysis of the LIS files and did not show any incorrect information in the registry. We conducted sampling of the switching information including CS files, RR files and submissions.

We did not observe any misleading or deceptive information in submission files. There were a very small quantity of information discrepancies identified. More details are in relevant sections; **3.3, 3.5, 3.9, 4.15** and **6.10**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: 11.2; 15.2 From: 01-Oct-20 To: 30-Jun-21	PUNZ/PPPP A small quantity of information in the registry was inaccurate, Incorrect information in CS files 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 assessed as moderate. They will mitigate risk most of the time but there is room for improvement. Recently introduced reports help to identify inaccuracies and correct them. Audit risk rating is assigned as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse has put in place a system fix regarding to CS files.		31/6/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We have not seen any incorrection information in CS files since.		01/05/2021	

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. Alleged breaches during the audit period were reviewed. Provision of information was discussed with Pulse's staff.

Audit commentary

PUNZ

We reviewed the breaches described in **section 1.6**. One breach was recorded., incorrect information. Non-compliance is recorded in **section 12.7**.

PPPP

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

Audit outcome

Compliant

2.3. Data transmission (Clause 20 Schedule 15.2)

Code reference

Clause 20 Schedule 15.2

Code related audit information

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

Audit observation

The **section 1.5** shows three diagrams of the information flow for PUNZ and PPPP. Data transmission was discussed during the audit.

Audit commentary

PUNZ

All NHH metering data from MEPs and agents is downloaded from SFTP servers to PRADA. It is a fully automated process. The exceptions are customer reads, which are entered directly into Gentrack by Pulse Energy staff. PRADA is partitioned into two parts to separate PUNZ and PPPP metering data.

Metering data for ICPs reconciled as HHR is downloaded to NZX_TOU via a few channels:

- The AMI readings from MEPs are received by SFTP and archived in assigned directories.
- EDM I provides meter data using email, files are password protected.
- AccuCal provides monthly meter readings for 2 ICPs, which are downloaded from their SFTP server.

All files will have an activity identifier and the date and time of download. The diagram in section 2.3 shows flow of metering data.

Reconciliation files are submitted via the RM portal by Pulse Energy.

PPPP

All metering data from MEPs is downloaded from SFTP servers to PRADA. It is a fully automated process.

Metering data for PPPP ICPs is passed to JCC via SFTP server. RR files are passed using the same method. Reconciliation files are submitted via the RM portal by JC Consulting.

A small number of manual updates of the registry data for PPPP are carried out by PPPP staff using the registry web portal.

Audit outcome

Compliant

2.4. Audit trails (Clause 21 Schedule 15.2)

Code reference

Clause 21 Schedule 15.2

Code related audit information

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

The audit trail must include details of information:

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

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

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

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

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

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

Audit observation

The **section 1.5** shows three diagrams of the information flow for PUNZ and PPPP. Pulse Energy uses several databases. We reviewed the audit trails for each of them

Audit commentary

PUNZ

- Gentrack audit trail was reviewed, and we found it compliant.
- NZX_TOU – HHR ICPs submissions – audit trail was reviewed, compliance was confirmed during the material change audit
- PRADA - data cannot be changed, it is the database which accepts metering data from MEPs and agents
- COBRA -NHH submissions. Data is imported from Gentrack. COBRA allows a user to add permanent estimates and invalidate readings. During the last audit we noted that it is possible for an operator to go directly to the database and change the date of a reading without leaving an audit trail. The Pulse Energy comment was that it is an option which is hardly ever used. It is only used when some changes are unable to be resolved through the application, so the reconciliation team must make corrections in the database. The changes can range from filling up blank dates, fixing install/removal date, or just manually import meter reads which were sometimes missed by our automated system. Whenever they want to update the data in Cobra, they would paste all the data to be updated in the Excel sheet, then write a simple SQL code besides the data indicate what to be changed.

It is not the optimal solution but what is available. There is nothing to prevents an operator from making changes and not recording them on the spreadsheet. It is matter of trusting in integrity and their work ethics of PUNZ employee. I have full confidence that all changes were recorded.

PPPP

ABSL database is used to store metering data. It was observed that a source name (file reference) of metering data is not visible on a screen used by operators. A file reference is stored internally however. It was also identified that ABSL uses only two descriptions of reads, actual or estimated, and RR files are not individually identified, which may possibly lead to confusion.

It was recommended in the previous audit to store the source name against each meter reading, similar to Gentrack. It appears this recommendation was not implemented. However it should be noted that since 30 June 2021 the PPPP lifestyle product is no longer being offered to the market. PPPP is actively moving customers to PUNZ or other retailers of choice.

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

Pulse Energy provided Terms and Conditions, which we reviewed. They are used for customers traded under both trading codes, PUNZ and PPPP.

Audit commentary

The Pulse Energy's Terms and Conditions cover customers for the full term of contract, and it covers any participant who may need to rely on this.

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

Pulse Energy provided Terms and Conditions, which we reviewed. They are used for customers traded under both trading codes, PUNZ and PPPP.

Audit commentary

The Pulse Energy's Terms and Conditions includes consent to access a customer's property by authorised parties.

The company confirmed that any access will be provided with the cooperation of a customer and taking into consideration any health & safety issues.

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

This was discussed during the audit. Pulse Energy trades category 1 to 5 metering installations.

Audit commentary

PUNZ

It trades category 1 to 5 metering installations as shown below

Metering Category	12/07/2021
1	83,330
2	183
3	7
4	4
5	1

9	13
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The company confirmed that none of the metering installations traded by them requires the application of any error or loss compensation factors.

We sighted category 4 and 5 metering installation certifications to confirm.

PPPP

PPPP trades on Pre Pay ICPs using category 1 metering installations only. PPPP staff confirm agreements in place with MEP's require metering installations to be ATH approved designs and certified to meet the requirements of the Code.

Audit outcome

Compliant

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

Code reference

Clause 11.15B

Code related audit information

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

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

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

Audit observation

Pulse Energy provided Terms and Conditions, which we reviewed. They are used for customers traded under both trading codes, PUNZ and PPPP.

Audit commentary

The Pulse Energy's Terms and Conditions include a provision to allow 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.

Audit outcome

Compliant

2.9. Connection of an ICP (Clause 10.32)

Code reference

Clause 10.32

Code related audit information

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

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

Audit observation

We reviewed the LIS file, EDA file and the Audit Compliance report for the audit period. We reviewed the New Connection process and discussed this with Pulse Energy's staff. The switch process documentation was reviewed.

Audit commentary

PUNZ

The new connection process during the audit period has not changed.

Each network has its own process for how to deal with new connections. Some of them deal with a customer directly, others prefer a customer to contact a trader first who then requests a new ICP.

New connections on the Vector, PowerCo and Unison networks are advised by the network, and Pulse Energy provides approval. For the other networks, the application is received from the customer's agent and Pulse Energy contacts the network to request the creation of an ICP.

Every morning the Field Services Team receives a report, based on the registry notification, showing any new ICPs for which Pulse Energy was nominated as the proposed trader.

All newly created ICPs are recorded in Gentrack. Once a customer contacts Pulse Energy, a customer is signed up and a notification is sent to a network accepting the ICP. Field Services issue a SO to a MEP requesting a meter installation. NGCM is the preferred MEP for new connections.

Once a meter is installed and the installation is electrically connected Pulse Energy is notified by the MEP. The date of electrical connection is recorded in Gentrack, which notifies the registry to change the ICP

status to “active” and nominates the MEP. Metering details are usually uploaded to the registry by the NGCM within a few days and a metering notification is uploaded to Gentrack.

In the last audit report it was noted that PUNZ wanted to change the new connection process by starting to use the registry status “new connection in progress” and nominating an MEP and sending a SO at the same time. This project did not go ahead because a required changes too many changes to Gentrack.

PPPP

PPPP does not accept new connections. The PPPP business model is to trade only existing connections with remotely read meters using a pre-pay tariff.

PPPP does not have a new connection process. Customers are acquired by switch in.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

A trader 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 trader is recorded in the registry as the trader responsible for the ICP or has an arrangement with the customer and initiates a switch within 2 business days of electrical connection*
 - *if the ICP has metered load, 1 or more certified metering installations are in place*
 - *if the ICP has not previously been electrically connected, the relevant distributor has given written approval of the temporary electrical connection.*

Audit observation

We reviewed the LIS file, EDA and the Audit Compliance report for the audit period. Also we reviewed the New Connection process and discussed this with Pulse Energy’s staff. The switch process documentation was reviewed.

Audit commentary

PUNZ

No temporary electrical connections were requested by Pulse Energy.

PPPP

PPPP does not accept new connections. The PPPP business model is to trade only existing connections with remotely read meters using a pre-pay tariff.

PPPP does not have a new connection process. Customers are acquired by switch in.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

- for a point of connection to the grid – the grid owner has approved the connection
- for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection.
- for a point of connection that is an ICP, but is not as NSP:
 - o the trader is recorded in the registry as the trader responsible for the ICP or has an arrangement with the customer and initiates a switch within 2 business days of electrical connection
 - o if the ICP has metered load, 1 or more certified metering installations are in place
 - o if the ICP has not previously been electrically connected, the relevant distributor has given written approval of the electrical connection.

Audit observation

We reviewed the LIS file, EDA file and the Audit Compliance report for the audit period. Also, we reviewed the new connection and reconnection process and discussed this with Pulse Energy's staff.

Audit commentary

PUNZ

New Connections

According to Pulse Energy records all new installations are certified within 5 business days. The company is notified of electrical connections and updates the registry accordingly. The Audit compliance report reports that one new installation 0110012167EL6B2 was certified after it was made "active" by PUNZ. Closer investigation of the registry entry showed that the report picked up the wrong date. The installation was certified the same date as PUNZ made it "active".

Reconnections

Pulse Energy follows a process setup by MEPs. A SO is issued to MEPs by the Field Services team requesting reconnection or disconnection.

The Audit Compliance report identified 14 ICPs, listed below, which had expired interim certification when they were reconnected. It is identified as non-compliance. Before this report was finalised one of them was certified, another one switched to OURP.

As described in the last audit Pulse Energy implemented an upgrade to their process to follow up with MEPs to certify installations. Pulse runs weekly reports to identify reconnected installation which need to be recertified.

ICP	Reconnection date	Metering Installation Certification Expiry Date	MEP	Comment
0030106640PCE12	25/06/2021	23/04/2020	NGCM	
0005671019RNA2D	25/06/2021	01/04/2015	NGCM	

0000040203TR96C	11/05/2021	01/04/2015	NGCM	
4303001000CH7F3	08/05/2021	03/01/2021	ARCS	
0006657346RN93E	26/03/2021	01/04/2015	NGCM	
0076302395WEED0	08/03/2021	01/04/2015	NGCM	
0036792369PC7A9	05/02/2021	23/04/2020	NGCM	
0000012537WE631	29/01/2021	01/04/2015	NGCM	
0006010007WE815	25/01/2021	01/04/2015	NGCM	Switched to OURP, AMI meter installed
0000045791CPA60	29/12/2020	01/04/2015	NGCM	
0000070117CPEAF	11/12/2020	01/04/2015	NGCM	
0007003780WMB7A	13/11/2020	01/04/2015	FCLM	
0086303000WRFAB	23/10/2020	01/04/2015	NGCM	
0036710181PC965	05/10/2020	01/04/2015	NGCM	AMI meter installed on 30/04/2021

The company estimates that about 9,000 installations metering installations are not certified. In Sept 2020 the project Pulse has setup project with IHUB to install smart meters. At the time of this audit 3,152 ICPs had smart meters installed. The special portal has been setup between Pulse and IHUG to manage the project, exchange information, address access issue etc.

Bridged meters

Pulse Energy provided a list of 11 ICPs which were identified as bridged during the audit period. All were re-certified by the MEP when they were unbridged as per the registry details. Not metered volumes were estimated, the company walked us through the estimation process. We followed with the reconciliation team and some of these volumes were not reconciled. It is discussed in a relevant **section 12.7**).

PPPP

PPPP does not accept new connections. The PPPP business model is to trade only existing connections with remotely read meters using a pre-pay tariff.

PPPP does not have a new connection process. Customers are acquired by switch in.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.11 With: 10.33A From: 01-Oct-20 To: 30-Jun-21	PUNZ – 14 reconnections had expired certification recorded on the registry when they were reconnected; Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate. Pulse Energy proactively works with MEPs to ensure meters are certified when an ICP is reconnected. Audit risk rating is recorded as low due to the small number of ICPs affected		
Actions taken to resolve the issue		Completion date	Remedial action status
Field Services (FS) are working with Customer Services (CS) to monitor this. The meters do not get re-certified in time so we hold the MEPs accountable for not certifying in a timely manner. We are working on a report internally to pick these ones up as they get reconnected.		1/11/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
New reporting and procedures have been put in place to cover this issue. Pulse will strengthen training to make sure agents check certification date before issuing a reconnection job.		1/11/21	

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

We reviewed the LIS file for assessment on which networks the ICPs were connected to and MEPs which provide their services. It was discussed with Pulse Energy staff.

Audit commentary

PUNZ

PUNZ trades on 38 networks. The company stated to have Use System Agreements signed for all networks to which their ICPs are connected. The agreements are signed as Pulse Energy which trades under two codes.

PUNZ uses 9 MEPs to provide metering services. The company confirms they have arrangements with all of them.

PPPP

PPPP trades on 29 networks. The company stated to have Use System Agreements signed and in place for all networks to which their ICPs are connected. The agreements are signed as Pulse Energy which trades under two codes PUNZ and PPPP.

PPPP uses 5 MEPs to provide metering services. PPPP staff state they have agreements in place with all of them:

- ARCS
- COUP
- IHUB
- NGCM
- MTRX

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

We reviewed the LIS file for assessment of MEPs which provide their services. It was discussed with Pulse Energy staff.

Audit commentary

PUNZ

PUNZ uses 21 MEPs to provide metering services. The company confirms they have arrangements with all of them.

PPPP

PPPP uses 5 MEPs to provide metering services. PPPP staff state they have agreements in place with all of them:

- ARCS
- COUP

- IHUB
- NGCM
- MTRX

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

It was discussed during the audit.

Audit commentary

PUNZ/PPPP

The company policy is not to reconnect any ICP until switch is complete. PUNZ is aware of their obligation.

PPPP

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

It was discussed during the audit.

Audit commentary

PUNZ/PPPP

The company understands their obligations. It never asks for reconnection or disconnection any ICP for which is not responsible.

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 unbridged 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

It is a new clause when came in to force on 01/02/2021. It was discussed during the audit.

Audit commentary

PUNZ/PPPP

PUNZ did not remove or break seals without authorisation from the MEPs. If such a situation occurs, PUNZ will notify the MEP recorded in the registry. The company is aware that sometimes electrician remove seals working on a customer switchboard.

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 1 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

It is a new clause when came in to force on 01/02/2021. It was discussed during the audit.

Audit commentary

PUNZ/PPPP

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

Audit outcome

Compliant

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

It is a new clause when came in to force on 01/02/2021. It was discussed during the audit.

Audit commentary

PUNZ/PPPP

PUNZ provided a copy of invoice to verify compliance

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

It is a new clause when came in to force on 01/02/2021. It was discussed during the audit.

Audit commentary

PUNZ/PPPP

We checked Pulse Energy website and confirm that information about Utilities Dispute is posted there.

Information about Utilities Dispute has been added to the signatures of the agents for correspondence with customers.

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

It is a new clause when came in to force on 01/02/2021. It was discussed during the audit.

Audit commentary

PUNZ/PPPP

We checked Pulse Energy website and confirm that information about Power Switch is posted there.

Information about PowerSwitch has been added to the signatures of the agents for correspondence with customers.

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

We reviewed the LIS file, EDA file and the Audit Compliance report for the audit period. We also reviewed the New Connection process and discussed this with Pulse Energy's staff.

The switch process documentation was reviewed.

Audit commentary

PUNZ

The new connection process during the audit period has not changed.

Each network has its own process for how to deal with new connections. Some of them deal with a customer directly, others prefer a customer to contact a trader first who then requests a new ICP.

New connections on the Vector, PowerCo and Unison networks are advised by the network, and Pulse Energy provides approval. For the other networks, the application is received from the customer's agent and Pulse Energy contacts the network to request the creation of an ICP.

Every morning the Field Services Team receives a report, based on the registry notification, showing any new ICPs for which Pulse Energy was nominated as the proposed trader.

All newly created ICPs are recorded in Gentrack. Once a customer contacts Pulse Energy, a customer is signed up and a notification is sent to a network accepting the ICP. Field Services issue a SO to a MEP requesting a meter installation. NGCM is the preferred MEP for new connections.

Since January 2021 218 new connections were created.

PPPP

PPPP

PPPP does not accept new connections. The PPPP business model is to trade only existing connections with remotely read meters using a pre-pay tariff.

PPPP does not have a new connection process. Customers are acquired by switch in.

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

We reviewed the LIS file, EDA file and the Audit Compliance report for the audit period. We also reviewed the new connection process and discussed this with Pulse Energy's staff. The switch process documentation was reviewed.

This section is linked to **section 3.5**.

Audit commentary

PUNZ

We reviewed new connection process and information provided to the registry. The process in place ensures that the required trader information is populated as prescribed by this clause.

PPPP

PPPP does not accept new connections. The PPPP business model is to trade only existing connections with remotely read meters using a pre-pay tariff.

PPPP does not have a new connection process. Customers are acquired by switch in.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

The processes to manage MEP nominations, trader updates and the processes to manage status changes were discussed. The audit compliance report and EDA files were examined and a sample of late status updates, trader updates and MEP nominations were checked.

This was discussed with PPPP/PUNZ staff.

Audit commentary

PUNZ

The table below shows the summary of updates in the registry.

Status update	Year	No of updates later than 5BD	Average notification days [BD]	Percentage compliant
Change to active (2,0)	2018	489	25	37%
	01/19	173	15	62%
	10/19	375	10	78%
	2020	156	3.3	90%
	2021	122	3.05	90.02%
Change to inactive	2021	25	1.22	98.87%
Change to electrically disconnected vacant property - (1,4)	2018	87	8	61%
	01/19	23	20	88%
	10/19	34	2	98.2%
	2020	614	1	99%
	2021	4	0.16	
Change to reconcile elsewhere (1,5)	2018			
	01/19	1	6	0%
	10/19			
	2020			
	2021	0		
Change to electrically disconnected ready for decommissioning (1,6)	2018	22	69	27%
	01/19	31	51	53%
	10/19	32	90	42%
	2020	9	10	60%
	2021	14	11.3	
Change to electrically disconnected by AMI meter (1,7)	2018	0	1	100%
	01/19	1	1	83%
	10/19	1	0.03	98.4%
	2020	0	1	

	2021	0		
Change to electrically disconnected at pole fuse (1,8)	2018	5	25	38%
	01/19	3	10	50%
	10/19	21	23	88.2%
	2020	4	1.8	97.5%
	2021	1	1.9	
Change to electrically disconnected due to meter disconnected (1,9)	2018	0	2	100%
	01/19	1	3	83%
	10/19	4	13	92.8%
	2020	3	3.8	88.4%
	2021	3	2.6	
Change to electrically disconnected at meter box fuse (1,10)	2018			
	01/19			
	10/19	0	2.5	100%
	2020	1	3.5	97.8%
	2021	0		
Change to electrically disconnected at meter box switch (1,11)	2020	0	2	100%
	2021	0		
Change to new connection in progress (1,12)	2018			
	01/19			
	10/19	1	154	50%
	2020	4	10	0%
	2021	3	1.22	
Trader updated	2018			
	01/19	633	198	42%
	10/19	261	23	75.1%
	2020	212	2.75	88%
	2021	352	2.69	95.89%

Status updates

Updates to status active

20 of the late updates were made more than 30 business days after the event date, and the latest update was made 123 business days after the event date. We checked an extreme case sample of the 5 latest updates, and 5 updates between 30 and 50 business days late. It was reviewed with PUNZ's staff, who commented on circumstances of late registry update. Each of them had a particular reason, none of them was a result of systemic problem or staff negligence.

Updates to inactive status

There were 25 genuine late updates to inactive statuses. A sample of 7 late status updates were checked as described in the table below. Overall, I found that the late updates were predominantly caused by corrections, and late notifications.

It was reviewed with PUNZ's staff, who commented on circumstances of late registry update. Each of them had a particular reason, none of them was a result of systemic problem or staff negligence.

Trader updates (no new connections)

345 of the late trader updates were made between 6 and 1,491 business days after the event date, and 3 updates were made over 1,000 business days after the event date. We checked 45 late trader updates were checked as described in the table below:

- 18 late ANZSIC code updates - 6 to 317 BD
- 161 late profile update – 6 to 409 BD, we checked 10 of them; probably PV1 added
- 165 late MEP nomination – 6 to 1491 BD
- 1 late correction of type of reconciliation to HHR - 22 BD

The MEP nomination process for existing installations is well managed. The MEP is nominated at the time the service order is raised, and bulk updates are made for AMI meter roll outs. In some cases, the MEP will initiate a change, and ask PUNZ to raise an MEP nomination. There is reporting in place to identify any MEP mismatches between the job issued and the MEP nominated. This also identifies any missing MEP nominations for jobs issued.

PPPP

The table below shows a summary of updates in the registry for the audit period.

Status update	Total number of updates	No of updates within 5BD	No of updates later than 5BD	Average notification days [BD]	Percentage compliant
Change to active (2,0)	753	557	196	6.84	73.97%
Change to electrically disconnected vacant property – (1,4)	9	8	1	1.6	88.8%
Change to electrically disconnected by AMI meter (1,7)	99	94	5	3.26	94.9%
Trader (NT updates and MEP nominations are excluded)	156	143	13	3.35	91.77%
MEP nomination	55	44	11	3.75	80%

PPPP staff advised that the ABSL issue that was causing the update to the active status to be late previously has been rectified. An exception report is run weekly to monitor this issue.

PPPP staff also advised that an MEP large scale meter replacement programme beginning to cause late information updates to the registry. The meter change information is late and the MEP code is being changed at the same time. A new process is being developed to deal with this issue.

Materially the quantity of late Registry information updated to the Registry was relatively low.

Audit outcome

Non-compliant

Non-compliance	Description
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<p>Audit Ref: 3.3</p> <p>With: 10 of Schedule 11.1</p> <p>From: 01-Oct-20</p> <p>To: 30-Jun-21</p>	<p>PUNZ - Late updates of “inactive” and “active” status and trader information.</p> <p>PPPP – relatively low numbers of late registry updates for active, inactive, disconnection and MEP switches.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>	
Audit risk rating	Rationale for audit risk rating	
Low	Controls are recorded as moderate. There are good processes in place, they need to be rigorously followed. 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
Controls have been introduced and are working to contain the problem. Pulse has seen substantial improvements on this since we put in place control reports. Pulse relies on 3 rd parties to provide timely information to further improve this.	01/04/2020	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
Training and processes will be further tweaked to ensure that updates are notified within timeframes whenever it is humanly possible to do so. However, it is important to recognize that there will always be some number of late updates arising from causes beyond our control. It has always been our policy to prioritize accuracy over timeliness, whenever the two conflict, and we will continue to submit late updates when it is necessary to ensure accurate reconciliation.	01/10/2021	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

The new connection and the ICPs decommissioning processes were examined. The registry files were reviewed. Pulse Energy fully understand that as soon as they are recorded in the registry as accepting responsibility, the responsibility will cease only when an ICP switches out to another trader and its four-letter code is recorded in the registry.

This was discussed with PPPP/PUNZ staff. The LIS file, EDA file and Audit Compliance report for the audit period were reviewed.

Audit commentary

PUNZ

We identified 20 ICPs which were tagged as “inactive ready for decommissioning” in the audit period. For some ICPs the status was updated later than 5 BD because of late notification.

We checked 10 decommissioned ICPs and confirm final reads were taken and used for reconciliation.

All ICPs have a MEP assigned in the registry except 2 UML installations (satellite boosters).

NGCM is a preferred MEP for new connections. At present, for new connections a MEP is nominated as soon as the registry is updated with details of newly installed meter.

PPPP

All ICPs have a MEP assigned in the registry. The checks identified no inactive ready for decommissioning or decommissioned.

PPPP trades on Pre Pay ICPs using category 1 NHH metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters. PPPP does not have a new connection process.

PPPP staff are aware of the obligations and code requirements of being responsible for an ICP with respect to this clause.

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 5 business days of trading (clause 9(2)).

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

Audit observation

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

A sample of 10 late updates to “active” were checked. We checked all registry records for possible discrepancies using the registry files.

This was discussed with PPPP staff. The LIS file, EDA file and Audit Compliance report for the audit period were reviewed. A sample of 10 randomly selected ICPs were checked.

Audit commentary

PUNZ

New connection information timeliness of updates

All new connections were NHH. A change to HHR submission type may occur post connection for ICPs which meet the requirements of the HHR profile (reliable data delivery by MEPs).

1. PUNZ notified later than 6 BD – 216, 86.06% updated were on time, average time 4.83 . We checked 4 the most later entries. Two of them were correction of the “active” date and 2 updates were part of a pilot project to use the “new connection in progress” status (1,12). The outcome of the project were not satisfactory and it was cancelled.
2. 6 updates of ANZSIC code were populated later than 20 BS after PUNZ commences trading
3. One ICP was recorded with no MEP – metering was uploaded after metering data was populated by NGCM

Accuracy of updates

1. 5 ICPs where the status event date was different to the IECD. In all 5 cases, PUNZ's date was corrected based on a check of paperwork during the audit
2. 412 ICP generation indicated by the Distributor and MEP where the trader has not recorded a generation profile.

PPPP

The PPPP business model is to trade only existing residential connections with remotely read meters. PPPP does not have a new connection process. PPPP does not trade UML or embedded networks.

The ICPs sampled met requirement however the Audit Compliance report identified a very small number of MEP switch's did not meet the 5 day registry update requirement.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.5 With: 9 of Schedule 11.1 From: 01-Oct-20 To: 30-Jun-21	PUNZ – late trader updates, late updates of ANZSIC code for 5 ICPs, few corrections of “active” date PPPP – A very small number of MEP switch's in the registry were later than 5 business days. 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 because they mitigate risk most of the time but there is room for improvement. The audit risk rating is assessed as low because there is a process in place to identify and correct incorrect entries and volumes will be washed up through the revision process.		
Actions taken to resolve the issue		Completion date	Remedial action status
A control report was brought in June 2021, this is being monitored and rectified on a weekly basis.		1/6/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Weekly reports and monitoring have been put in place since June 2021. We believe moving to weekly clearing of reported errors should prevent late updates from happening again.		1/6/21	

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

The process to capture and manage ANZSIC codes was examined.

The LIS was reviewed to check ANZSIC codes. To confirm the validity of the ANZSIC codes we checked a diverse sample of 10 active ICPs across 5 different ANZSIC codes.

This was discussed with PPPP staff. The LIS file, EDA file and Audit Compliance report for the audit period were reviewed. A sample of 10 randomly selected ICPs were checked.

Audit commentary

PUNZ

The Audit Compliance report identified 4 ICPs with ANZSIC code T99*, they are recently gained ICPs, which means that the evaluation process during sign up is not working well.

Identified ICPs are: 1001255180LCEC6, 0221272488LC10C, 0419871489LC235, and 0000127797UNA08

The breakdown of ANZSIC code allocation is as follows:

ANZSIC code	Description	Number of ICPs
0	Residential	79,736
A01	Agriculture	389
A014	Grain Sheep and Beef Cattle Farming	99
A016	Dairy Cattle Farming	131
E30	Building Construction	151
E301	Residential Building Construction	147
G42	Other Store-Based Retailing	119
L67	Property Operators and Real Estate Services	239
O753	Local Government Administration	102
Q860	Residential Care Services	93

PUNZ went through some clean-up of ANZSIC data to assign a correct code to sheds and farms. Probably some ICPs with the ANZSIC code “E30” or “E301” might be incorrect, house already build, not under construction anymore. It is difficult to assess using Google Maps.

PPPP

ANZSIC codes for all ICPs are correct. The Audit Compliance report identified a small number of discrepancies however further checks with PPP staff and ABSL verified they were ok. When switching in an ICP ABSL automatically updates the ANZSIC to the correct code. The system updates the Registry with the overnight refresh.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.6 With: 9(1)(k) of Schedule 11.1 From: 01-Oct-20 To: 30-Jun-21	PUNZ –4 ICPs with incorrect ANZSIC code Some ICPs had incorrect ANZSIC code recorded in the registry Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Moderate Breach risk rating:2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The audit risk rating is recorded to be low. No impact on market settlement.		
Actions taken to resolve the issue		Completion date	Remedial action status
The option to use the ANZSIC code T99 has been removed from Gentrack but some have gotten through. We have set up a weekly report going forward to monitor this so these will be picked up going forward. We will improve our reports to identify suspect ANZSIC errors and will introduce further programs to check these codes when customers contact us for other reasons.		1/11/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse is developing a process to work with customers and networks to pinpoint what the actual end use of the property is.		1/11/21	

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 LIS file and the Audit Compliance report was reviewed. The process to manage unmetered load was examined and discussed with Pulse Energy staff.

This was discussed with PPPP staff. The LIS file, EDA file and Audit Compliance report for the audit period were reviewed.

Audit commentary

PUNZ

PUNZ trades 4 UML ICPs and 21 ICPs to which unmetered load is attached. In most cases they are shared private streetlights. We checked the calculation of daily unmetered kWh, it was correct.

PPPP

The PPPP business model is to trade only existing residential connections with remotely read meters. PPPP does not have a new connection process. PPPP does not trade UML.

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 1 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 LIS, EDA files, and the Audit Compliance report for PUNZ/PPPP were reviewed. It was discussed with PPPP/PUNZ staff.

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 by a contractor. Submission information is provided for all “active” ICPs, even if they are vacant.

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).

The Audit Compliance report noted 5 ICPs for which the ‘Active’ date was different from Metering Installation Certification date. It was reviewed during the audit and corrected. It was noted as non-compliance in **section 3.5**.

PPPP

All PPPP ICPs had the “active” status assigned.

Audit outcome

Compliant

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 LIS, EDA files, and the Audit Compliance report were reviewed. It was discussed with PPPP/PUNZ staff.

The disconnection process was discussed.

The LIS examined to identify any ICPs that had been at the Inactive - new connection in progress for greater than 24 months or with an initial electrical connection date populated and the “inactive” status recorded.

Audit commentary

PUNZ

The process to identify inactive ICPs with consumption was checked, a report is run weekly by the Switching team. Any ICPs with consumption recorded are passed to the Revenue Team.

The status of an ICP is only changed to “inactive” once confirmation has been received by an MEP.

If an ICP needs to be disconnected a SO is sent by the Field Services to the MEP or WELLS. Once a confirmation is received, Gentrack is updated, then the registry. Weekly reporting is used as a monitoring tool to ensure identical ICP status in both Gentrack and the registry.

We sampled 10 ICPs to verify the date of disconnection in the registry with paperwork from contractors.

PPPP

The Audit Compliance report identified 5 ICPs as remotely disconnected even though the registry indicated that they were non communicating meters. Further checks show 2 of the ICPs were part of the NGCM meter replacement programme which appeared to trigger the discrepancy. The remaining 3 have since switched and the AMI flag has been updated on the Registry.

Audit outcome

Compliant

Non-compliance	Description		
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 01-Oct-20 To: 30-Jun-21	PPPP – 3 ICPs had the incorrect AMI flag set in the Registry for an AMI disconnecting meter. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating:1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as strong. A very low number of discrepancies, 3 ICPs were corrected, and the remaining were explained by meter replacement process. The audit risk rating is recorded to be low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Issue for these 3 sites seems to be caused by a delay in the MEP in updating the AMI flag back to Y when meter has gone from non-communicating back to communicating.		1/10/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse is going to discontinue services with PPPP from the 1/10/21.		1/10/21	

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

It is a distributor's obligation to monitor an ICP which has had the status of "New" or "Ready" for 24 calendar months or more. It is expected that a trader be able to respond to such queries from distributors.

We analysed the LIS files to identified ICPs with the status "ready".

This was discussed with PPPP/PUNZ staff. The LIS file, EDA file and Audit Compliance report for the audit period were reviewed.

It is a distributor's obligation to monitor

Audit commentary

PUNZ

There were no ICPs with the status “ready”. Pulse Energy gets daily notifications of new connections where they have been nominated as the retailer and it is followed up with a customer to confirm and to sign a contract with PUNZ. It is part of the new connection process. Once a customer signs the contract a MEP is contacted requesting a meter installation.

PPPP

The PPPP business model is to trade only existing residential connections with remotely read meters. PPPP does not have a new connection process.

Audit outcome

Compliant

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

Code reference

Clause 2 Schedule 11.3

Code related audit information

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

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

A gaining trader must advise the registry manager of a switch no later than 2 business days after the arrangement comes into effect and include in its advice to the registry manager that the switch type is TR and 1 or more profile codes associated with that ICP.

Audit observation

The EDA file was reviewed to determine whether any standard switches occurred. The Switch Breach report was reviewed to identify any non-compliances.

The standard switch process was examined and discussed with Pulse's staff.

The EDA file, the Registry, a sample of 10 randomly selected PPPP ICPs were checked and the Switch Breach Report for the audit period was checked.

Audit commentary

PUNZ

During the audit period 7,925 NTTR were sent using the PUNZ code. Once all pre-conditions are met the Sales Team "triggers" the sending of NT files to the registry.

We identified 6 ICPs which were backdated by up to 6 business days. Closer analyses of the file showed that "backdated" standard switches were a result of action of WISER, FOGY, and PPPP. The losing traders specified the transfer date before the data of notification from the registry.

During the audit period all ICPs gained were metering installations category 1 and 2. The correct type of switch was used.

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

PPPP

1224 NTTR were sent using the PPPP code during the audit period. The Sales Team initiate the sending of NT files to the registry when all TR switch requirements are met. The small number of Registry notifications greater than two days from the proposed switch event date were checked in the registry. They were found to be switch dates requested by the losing trader, and in one instance a series of customer withdrawals and re notifications with eventual switch being a move in(MI).

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

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 3 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 5 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 EDA file was reviewed to determine whether any standard switches occurred. The Switch Breach report was reviewed to identify any non-compliances.

The standard switch process was examined and discussed with Pulse's staff.

We reviewed the AN response codes and the setting of event dates.

Audit commentary

PUNZ

PUNZ received 513 notices of a standard switch from the registry manager for standard switches. The Switch Breach report did not record late AN files. We sampled 10 AN files and confirmed that the response code was correct.

Pulse Energy closely monitors compliance with clause 4 (b) of Schedule 11.3. Monthly report is run by the switching team. On average for 98% switches the event dates is no more than 5 business days after the date of notification

PPPP

No late AN files were identified in the Switch Breach report for the audit period. A random sample of ten AN files were checked and it was verified their format and content met code requirement.

Audit outcome

Compliant

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

If the losing trader provides information to the registry manager in accordance with clause 3(a) of Schedule 11.3 with the required information, no later than 5 business days after the event date, the losing trader must complete the switch by:

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

Audit observation

The EDA file was reviewed to determine whether any standard switches occurred. The Switch Breach report was reviewed to identify any non-compliances. The standard switch process was examined and discussed with Pulse's staff.

The accuracy of the content of CS files was confirmed by checking a sample of 10 records. We checked the correct identification of meter readings and correct date of last meter reading, accuracy of meter readings (flag), and accuracy of average daily consumption.

This was discussed with PPPP staff, and the switch process documentation was reviewed. The EDA file, the Registry, a sample of 10 randomly selected ICPs were checked and the Switch Breach Report for the audit period was also checked.

Audit commentary

PUNZ

The Switch Breach report is run in the registry twice daily to identify files that are due. The Switch Breach report did not record any late CS files.

CS files are automatically generated by Gentrack. 436 CS files were sent in the audit period. We sampled 28 CS files to check if the information in Gentrack was transferred correctly. We found the format was correct.

Previous audit identified a few problems with CS files content. Most of problems are gone thanks to Gentrack updates

Issue	Number of ICPs		
	2019	2020	2021
Average daily consumption = 0	149	79	12*
Negative average daily usage	2	2	0
Average daily consumption greater than 200	16	8 (correct)	0

We checked 4 ICPs with daily consumption of 100 kWh, all of them were correct.

* It was incorrect. It should be 2 kWh

Average daily consumption is expected to be calculated using the volume from the last two validated reads divided by the number of days between them. This method gives false results if validated reads are received daily. Gentrack calculates the average daily consumption using the following logic:

1. Get Latest Reading record (Record#1) for a register where Read has a status of Validated by Gentrack and is a read type of one of the below:

'BR','C','CR','E','FE','FR','GR','IM','MR','OR','PR','RM','SR','TOU'

2. It then finds the previous record before the above using the same criteria as above (Record#2).

3. It then takes the consumption recorded from Record#1 and divides this by the number of days between the read date of Record#1 and Record#2.

4. It then uses this calculated value as the Average Daily Value.

When Gentrack derives the average daily consumption as less than 1 kWh, it rounds down to 0 kWh, which could be right for some installations but not all of them.

The Registry Functional Specification v22.21 states that average daily consumption within the CS file should be the average kWh per day for the last read period. PUNZ receives daily readings for some ICPs, so the last read period is technically one day. PUNZ calculates the average daily consumption as the consumption over last billing period. While this is not technically consumption for the last read to read period, it provides a reasonable indication of the average daily consumption. It is compliant with clause

We randomly chose 43 CS files for both standard and switch move. We compared the switch event reading between Gentrack and the CS files and confirm they were the same.

PPPP

PPPP staff run the Registry Switch Breach report daily to monitor files that are due although PPPP staff use their own due date calculation.

PPPP sent 1192 CS files during the audit period in response to requests from gaining traders. 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 Switch Breach report recorded two CS files which were late. both were due to the switch date requested by the winning trader being backdated 15 days and 22 days earlier than the NT file and CS file dates (being the same).

The sample CS files were checked to verify they transferred the correct information. No issues were found.

The two non-compliances discovered at the last audit have been corrected.

No incorrect "last read Dates" were observed in CS file information checked. PPPP staff demonstrated the average daily consumption value was now calculated correctly in ABSL and was also demonstrated to be correctly provided in the CS file.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.3 With: 5 of Schedule 11.3 From: 01-Oct-20 To: 30-Jun-21	PUNZ - Average daily consumption methodology is incorrect Average daily consumption value was incorrect for 1 ICP Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong. Good management of switching process. Audit risk rating is recorded as low due to the small number of ICPs affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
Gentrack resolved the issue in June 2021		31/6/21	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
Gentrack resolved the issue in June 2021		31/6/21	

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

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

The EDA file was reviewed to identify RR and AC files. The Switch Breach report was reviewed to identify any non-compliances.

The process for the management of read change requests was examined and discussed with Pulse's staff.

This was discussed with PPPP staff and the switch process documentation was reviewed. The EDA file, the Registry, a sample of 6 randomly selected RR files were checked and the Switch Breach Report for the audit period were checked.

Audit commentary

PUNZ

PUNZ sent 72 RR files for standard switches and received one RR file from Electric Kiwi. After the AC file was sent accepting RR, ELKI sent NWCX withdrawing the switch.

The Switch Breach report noted that one RR file (0000022532EAE34) sent by PUNZ was late by 14 days. The file was accepted CTCT.

We walked through the RR files process. The company designed a new tool which allows them to quickly evaluate if a CS read provided by a losing trader can be accepted. It is a highly accurate manual calculation. Pulse Energy always includes in an email the calculation of the new read, supported by validated reads.

We selected 60 RR files (multiple channel) sent to losing retailers for both types of switches to check if files were imported into Gentrack and used to calculate submission volumes. We confirm that changes to a switch event meter reading, caused by accepted RR files flow through to COBRA and are used for reconciliation.

We randomly sampled 35 RR files (multiple channels) which were received from gaining traders for both type of switches, which were accepted by PUNZ. They are recorded in Gentrack and used for billing but some of them are not transferred to COBRA. It means they are not used for the calculation of NHHVOLS. It was noted as a non-compliance in **section 12.7**.

PPPP

During the audit period PPPP sent 19 RR files and received 29 RR files were from other traders. JC Consulting processed both the sent and received RR files for Reconciliation purposes. The sample RR files were checked between ABSL, the Registry and reconciliation submission files. The sample RR files met code requirements.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.4 With:6(1) and 6A of Schedule 11.3 From: 01-Oct-20 To: 30-Jun-21	PUNZ - 1 late RR files for Standard Switch Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating:1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong. The tool used by Pulse Energy to evaluate CS reads from losing traders is highly effective. Audit risk rating is recorded as low		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse is implementing a new process to bring the RR records to COBRA. The reconciliation team has had several meetings with Pulse's internal development team, we expect to put in place an automated system fix by 1/11/21		1/11/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
A monthly manual process has been setup to verify final reads in COBRA comparing with Gentrack.		1/11/21	

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

The EDA file was reviewed to determine whether such a situation occurred. The Switch Breach report was reviewed to identify any non-compliances.

This was discussed with PPPP staff and the switch process documentation was reviewed. The EDA file, the Registry and the Switch Breach Report for the audit period were checked.

Audit commentary

PUNZ

PUNZ trades mainly ICs reconciled as NHH. There were no HHR switches during the audit period.

During the audit period Pulse Energy received 1 RR files from Electric Kiwi which was accepted.

PPPP

PPPP is a NHH trader and will not issue RRs 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

There were no disputes with losing retailers. If such a situation were to occur in the future, it would be resolved in accordance with this clause.

Audit commentary

PUNZ/PPPP

Pulse Energy confirmed that no disputes occurred in the period covered by this audit which would require a resolution. Pulse Energy stated that they will not decline to accept another retailer's validated meter reading or permanent estimate if they are reasonable and appropriate in the applicable circumstances.

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 2 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 EDA file was reviewed to determine whether any switch move switches occurred. The Switch Breach report was reviewed to identify any non-compliances.

The switch move process was examined and discussed with Pulse's staff.

This was discussed with PPPP staff and the switch move process documentation was reviewed. The EDA file, the Registry, a sample of 10 randomly selected ICPs were checked and the Switch Breach Report for the audit period was checked.

Audit commentary

PUNZ

During the audit period 6,929 NTMI were sent using the PUNZ code. Once all pre-conditions are met the Sales Team "triggers" the sending of NT files to the registry.

17% of switches using Switch Move process were backdated.

In last audit we noted that when Pulse Energy was sending the NTTR requesting a switch event in the past it was rejected by the losing traders. To remedy that it was decided to use the Switch Move process when in fact it was a Standard Switch process that should have been used. It was discussed during this audit. The switching team made the following comment:

"Where we need to backdate an original NTTR switch, we are still using NTMI as the switch type. This is still the practice until we get another way to complete the switches correctly. It doesn't look like the EA have come up with a solution yet".

During this audit we did not evaluate how many ICPs were switched using the incorrect process. We think that some backdated switch move should be standard switch. It will be quite a laborious process to evaluate all of them. Pulse Energy confirmed that this process is still used therefore non-compliance is noted.

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

PPPP

During the audit period 1557 NTMI using the PPPP code were sent. The Sales Team initiate the sending of NT files to the registry when all MI switch requirements are met. Some switch moves were backdated, they were found to be switch dates instigated by the customer.

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

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.7 With: 9 of Schedule 11.3 From: 01-Oct-20 To: 30-Jun-21	PUNZ - Incorrect type of switch used Potential impact: Low Actual impact: Unknown Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate. It is a common practise used between some traders. Audit risk rating is recorded as low. The impact on settlement outcomes is minor, ICPs switch on the same read		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse is aware of this non-compliance issue. There is a lack in mechanism to realistically backdate TR switches. It is common practice to use NTMI for backdated switches to ensure that the site switches on the requested date. This was discussed in the EA's recent switch process review, where the consensus was that a new switch type should be created for use in these instances.		1/10/20	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
See above.		1/10/20	

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 5 business days after receiving notice of a switch move request from the registry manager—

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

Audit observation

The EDA file was reviewed to determine whether any switch move switches occurred. The Switch Breach report was reviewed to identify any non-compliances.

The switch move process was examined and discussed with Pulse staff.

We reviewed the AN response codes and the setting of events date.

This was discussed with PPPP staff and the switch move process documentation was reviewed. The EDA file, the Registry, a sample of 10 randomly selected ICPs were checked and the Switch Breach Report for the audit period was checked.

Audit commentary

PUNZ

PUNZ received 513 notices of a Switch Move from the registry manager for standard switches. The Switch Breach report did not record late AN files. We sampled 10 AN files and confirmed that the response code was correct.

PUNZ always sends a response to the switch request by sending AN file. AN file contains the date of the switch event. Our analysis of the EDA file showed that Pulse Energy always accepted the event date proposed by the gaining trader during the audit period. In some situations PUNZ sent NWDF if the proposed transferred date was not acceptable. Emails were exchanged between both parties and finally PUNZ confirmed the agreed date in AN file.

PPPP

No late AN files were identified in the Switch Breach report for the audit period. A random sample of ten AN files were checked in the registry and it was verified their format and content met code requirement.

PPPP staff run the Registry Switch Breach report daily to monitor files that are due although PPPP staff use their own due date calculation.

The AN file is sent automatically on the receipt of an NT file. If the proposed event date is blank or in the past, then it is set to five business days from the date the file is processed.

PPPP received 1557 NTMI file and sent 1262 AN file confirmations.

Audit outcome

Compliant

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

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

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

Audit observation

The EDA file was reviewed to determine whether any switch move switches occurred. The Switch Breach report was reviewed to identify any non-compliances.

We reviewed the AN the setting of event dates.

This was discussed with PPPP staff and the switch move process documentation was reviewed. The EDA file, a sample of 10 randomly selected MI ICP switches were checked in the Registry and the Switch Breach Report for the audit period was also checked.

Audit commentary

PUNZ

PUNZ always sends a response to the switch request by sending AN file. The AN file contains the date of the switch event. Our analysis of the EDA file showed that Pulse Energy always accepted the event date proposed by the gaining trader during the audit period. In some situations PUNZ sent NWDF if the proposed transferred date was not acceptable. Emails were exchanged between both parties and finally PUNZ confirmed the agreed date in AN file.

PPPP

The checks completed verified switch dates, file format and content met code requirement.

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 EDA file was reviewed to determine whether any switch move switches occurred. The Switch Breach report was reviewed to identify any non-compliances.

The switch move process was examined and discussed with Pulse's staff.

The accuracy of the content of CS files was confirmed by checking a sample of 10 records. We checked correct identification of meter readings and correct date of last meter reading, accuracy of meter readings, and accuracy of average daily consumption.

This was discussed with PPPP staff, and the switch move process documentation was reviewed. The EDA file, a sample of 10 randomly selected MI ICP switches were checked in the Registry and the Switch Breach Report for the audit period was also checked.

Audit commentary

PUNZ

The Switch Breach report is run in the registry twice daily to identify files that are due. The Switch Breach report did not record any late CS files.

CS files are automatically generated by Gentrack. We sampled 10 CS files to check if the information in Gentrack was transferred correctly. We found the format was correct.

Previous audit identified a few problems with CS files content. Most of problems are gone thanks to Gentrack updates

Issue	Number of ICPs		
	2019	2020	2021
Average daily consumption = 0	149	79	27*
Negative average daily usage	2	2	1**
Average daily consumption greater than 200	16	8 (correct)	2 (correct)

*We samples 10 ICP with average daily consumption of "0". 4 of them were incorrect.

** It was incorrect. It should be 2 kWh

Average daily consumption is expected to be calculated using the volume from the last two validated reads divided by the number of days between them. This method gives false results if validated reads are received daily. Gentrack calculates the average daily consumption using the following logic:

1. Get Latest Reading record (Record#1) for a register where Read has a status of Validated by Gentrack and is a read type of one of the below:
'BR','C','CR','E','FE','FR','GR','IM','MR','OR','PR','RM','SR','TOU'
2. It then finds the previous record before the above using the same criteria as above (Record#2).
3. It then takes the consumption recorded from Record#1 and divides this by the number of days between the read date of Record#1 and Record#2.
4. It then uses this calculated value as the Average Daily Value.

When Gentrack derives the average daily consumption as less than 1 kWh, it rounds down to 0 kWh, which could be right for some installations but not all of them.

The Registry Functional Specification v22.21 states that average daily consumption within the CS file should be the average kWh per day for the last read period. PUNZ receives daily readings for some ICPs, so the last read period is technically one day. PUNZ calculates the average daily consumption as the consumption over last billing period While this is not technically consumption for the last read to read period, it provides a reasonable indication of the average daily consumption. It is compliant with clause 11.2.

We randomly chose 43 CS files for both standard and switch move. We compared the switch event reading between Gentrack and the CS files and confirm they were the same.

PPPP

PPPP staff run the Registry Switch Breach report daily to monitor files that are due. No late CS MI files were identified in the Switch Breach report for the audit period. A random sample of ten CS MI files were checked in the registry and it was verified their format and content met code requirement.

PPPP sent 1204 CS files in response to move in switch requests from traders. Standard CS file responses are automatically generated by ABSL. There are some occurrences when the CS file is sent manually using the registry web interface, this is usually when additional checks might be required before confirming the switch.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: 11 of Schedule 11.3 From: 01-Oct-20 To: 30-Jun-21	PUNZ - Average daily consumption methodology is incorrect Average daily consumption value was incorrect for 5 ICPs Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong. Good management of switching process. Audit risk rating is recorded as low due to the small number of ICPs affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
Gentrack resolved the issue in June 2021		1/7/21	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
Gentrack resolved the issue in June 2021		1/7/21	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

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

- *if the switch meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader (clause 12(2)(a)); or*

- *if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch meter reading. In this case, the gaining trader, within 4 calendar months of the date the registry manager gives the gaining trader written notice of having received information about the switch completion, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by 2 validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):*
- *advise the gaining trader if it does not accept the switch event meter reading and the losing trader and the gaining trader must resolve the dispute in accordance with the disputes procedure in clause 15.29 (with all necessary amendments) (clause 12(3)(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader. (clause 12(3)(b)).*

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

- *the gaining trader will trade electricity from a meter with a half hour submission type in the registry (clause 12(2A)(b));*
- *the gaining trader no later than 5 business days after receiving final information from the registry manager, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading. (clause 12(2B)).*

Audit observation

The EDA file was reviewed to identify RR and AC files. The Switch Breach report was reviewed to identify any non-compliances.

The process for the management of read change requests was examined and discussed with Pulse's staff.

This was discussed with PPPP staff and the switch move process documentation was reviewed. The EDA file, a sample of 5 randomly selected outgoing RR files were checked in the Registry and the Switch Breach Report for the audit period was also checked.

Audit commentary

PUNZ

The EDA file and the Switch Breach Report for the audit period were analysed. Pulse Energy sent 234 RR files (146 were accepted) and received no RR files for Switch Move. We walked through the RR files process. The company designed a new tool which allows them to quickly evaluate if a CS read provided by a losing trader can be accepted. It is a manual calculation but accurate. PUNZ always includes the calculation of the new read in the email, supported by validated reads.

The Switch Breach Report identified 6 late RR files. It was discussed during the audit. The company provided detailed explanations for each of them. In many cases delays of sending RR files were caused by a lack of access by meter readers due to COVID-19.

We selected 60 RR files sent to or received from other retailers for both types of switches to check if files were imported into Gentrack and used to calculate submission volumes. We confirm that changes to a switch event meter reading caused by accepted RR files sent by Pulse Energy flow through to COBRA.

As described in **section 4.4** we randomly sampled 35 RR files (multiple channels) which were received from gaining traders for both type of switches, which were accepted by PUNZ. They are recorded in Gentrack and used for billing but some of them are not transferred to COBRA. It means they are not used for the calculation of NHHVOLS. It was noted as a non-compliance in **section 12.7**.

PPPP

The checks completed verified sent RR file transmission dates, file format and content met code requirement.

During the audit period PPPP sent 19 RR files. Other traders sent 29 RR files. JC Consulting is notified of any RR files sent or received. We followed through 5 RR files and confirm they were used for reconciliation

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.11 With:12 of Schedule 11.3 From: 01-Oct-20 To: 30-Jun-21	PUNZ - 6 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	Controls are rated as strong. Good management of switching process. Audit risk rating is recorded as low due to the small number of ICPs affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse is aware of this non-compliance issue. There is a lack in mechanism to realistically backdate TR switches. It is common practice to use NTMI for backdated switches to ensure that the site switches on the requested date. This was discussed in the EA's recent switch process review, where the consensus was that a new switch type should be created for use in these instances.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
See above.			

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

Code reference

Clause 14 Schedule 11.3

Code related audit information

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

- *the gaining trader will trade electricity through a half hour metering installation that is a category 3 or higher metering installation; or*

- the gaining trader will trade electricity through a non-AMI half hour metering installation and the losing trader trades electricity through a non-AMI non half hour metering installation; or
- the gaining trader will trade electricity through a non-AMI non half hour metering installation and the losing trader trades electricity through a non-AMI half hour metering installation

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

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

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

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

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

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

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

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

Audit observation

The gaining switch process was examined. The EDA file was examined to determine if any gaining switches occurred. The Switch Breach Report was reviewed.

This was discussed with PPPP staff and the switch process documentation was reviewed. The EDA, LIS files and the Switch Breach Report for the audit period was also checked.

Audit commentary

PUNZ

PUNZ did not use this type of switch during the audit period. The company trades only residential customers.

PPPP

PPPP did not use this type of switch during the audit period. Checks confirm PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

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 3 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 gaining switch process was examined. The EDA file was examined to determine if any gaining switches occurred. The Switch Breach Report was reviewed.

This was discussed with PPPP staff and the switch process documentation was reviewed. The EDA, LIS files and the Switch Breach Report for the audit period was also checked.

Audit commentary

PUNZ

The review of the EDA file showed that PUNZ did not receive a switch notification from the registry manager from a gaining trader.

PPPP

PPPP did not use this type of switch during the audit period. Checks confirm PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

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

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

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

16(b)- carry out an interrogation and, no later than 5 business days after the metering installation is electrically disconnected or removed, advise the losing trader of the results and metering component numbers for each data channel in the metering installation.

Audit observation

The gaining switch process was examined. The EDA file was examined to determine if any gaining switches occurred. The Switch Breach Report was reviewed.

This was discussed with PPPP staff and the switch process documentation was reviewed. The EDA, LIS files and the Switch Breach Report for the audit period was also checked.

Audit commentary

PUNZ

PUNZ did not use this type of switch during the audit period. The company trades only residential customers.

PPPP

PPPP did not use this type of switch during the audit period. Checks confirm PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read

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 2 calendar months after the event date of the switch.

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

- *for each ICP, the trader withdrawing the switch request must provide the registry manager with (clause 18(c)):*
 - o *the participant identifier of the trader making the withdrawal request (clause 18(c)(i)); and*
 - o *the withdrawal advisory code published by the Authority. (clause 18(c)(ii))*
- *within 5 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 2 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 EDA files were reviewed to identify all switch withdrawal requests and an acceptance or rejection (NW and AW files) issued by Pulse Energy the content of the files was reviewed.

The Switch Breach Report was checked for any late NW and AW files. The report noted no NW or AW files were late.

This was discussed with PPPP staff and the switch process documentation was reviewed. The EDA, LIS files and the Switch Breach Report for the audit period was also checked.

Audit commentary

PUNZ

PUNZ sent 526 NW files and received 666 NW files. We examined 12 randomly chosen NW files and the reason code used was correct. 187 NW files used the reason code "CX" which accounts for 35%, it is lower than in the previous audit period.

It was discussed during the audit. Pulse Energy commented that often a losing retailer contacts a customer after a switch is finalised and offers them a better deal or a customer has a contract with an existing trader and does not wish to pay a penalty e.g. GBUG.

Reason code	Number of ICPs
CE	75
CX	187
DF	46
MI	9
UA	72
WP	96
WS	41

PPPP

PPPP sent 319 NW files and received 341 NW files. A sample of 5 randomly selected outgoing NW files were checked in the Registry. The sample confirmed code requirements were met. PPPP staff commented that often a customer has a contract with an existing trader and does not wish to pay a break penalty, and is the suggested reason for the high percentage of CX and CE withdrawal codes.

Reason Code Used	% Code used During Audit Period
CX	29.5
CE	50.7
DF	4.7
WP	11
WS	1.9
UA	2.2

The Switch Breach report did not record any late NW files. 344 AW notifications were sent to the registry

Audit outcome

Compliant

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 the switching process was examined. All reads are received from MEPs or agents.

The data collection process was examined. A sample of 10 randomly selected ICPs were checked. The sample confirmed code requirements were met.

Audit commentary

PUNZ

All meter readings used in the switching process are validated meter readings or permanent estimates. Pulse Energy's policies regarding the management of meter reading expenses is compliant.

PPPP

All reads are received from MEPs or agents. Meter readings used in the switching process are validated meter readings or permanent estimates. The sample confirmed code requirements were met.

PPPP staff are aware of the code requirements and understands the obligations with respect to this clause.

Audit outcome

Compliant

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

Code reference

Clause 11.15AA to 11.15AC

Code related audit information

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

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

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

Audit observation

We checked the EDA identify all withdrawn with a CX code applied during the audit period.

This was discussed with PPPP/PUNZ staff.

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.

I discussed the process and checked five examples to confirm save or win-back activity was not being conducted.

PPPP

Pulse Energy (including PPP) has been a part of the Switch Save Protection program since 2015. The program was terminated 31/03/20.

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.

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

We reviewed the LIS files and the Audit Compliance report for the period covered by this audit. We discussed the company policy in relation to accepting and trading unmetered load ICPs.

This was discussed with PPPP staff. In addition the LIS and Audit Compliance reports for the audit period were checked.

Audit commentary

PUNZ

The Billing team have a daily report that compares Gentrack with the registry. If there is a discrepancy between Gentrack and the registry, they will investigate. If it's a new ICP and the UML information is not in Gentrack, then the Billing team will add to Gentrack. COBRA automatically pulls the information from the registry.

Whenever the COBRA process is run, it will compare the previous details from the registry, if there is no change, then no change will occur.

PUNZ trades 10 shared unmetered load ICPs. Based on distributor information held by the registry, daily kWh are calculated correctly and volumes are submitted in NHHVOLS files sent to the reconciliation manager.

0000678614UN599 – distributor records in the registry 0.820 kW, PUNZ records 0.84 kW.

PPPP

Checks confirm PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters. The LIS report verified that PPPP has not been trading any unmetered load. PPPP does not accept either unmetered load ICPs or ICPs with attached unmetered load.

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

We reviewed the LIS files and the Audit Compliance report for the period covered by this audit. We discussed the company policy in relation to accepting and trading unmetered load ICPs.

This was discussed with PPPP staff. In addition the LIS and Audit Compliance reports for the audit period were checked.

Audit commentary

PUNZ

PUNZ trades 25 unmetered load ICPs.

We identified one ICP, 0000678614UN599, which has a daily kWh of 9.98, which is 3,642 kWh per annum. The load is predictable and of the type approved and published by the Authority. There are no ICPs where load exceeds 6,000 kWh per annum.

PPPP

Checks confirm PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters. The LIS report verified that PPPP has not been trading any unmetered load. PPPP does not accept either unmetered load ICPs or ICPs with attached unmetered load.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

The LIS file was reviewed to identify any ICPs where load exceeds 3,000 kWh per annum.

This was discussed with PPPP staff. In addition the LIS and Audit Compliance reports for the audit period were checked.

Audit commentary

PUNZ

We identified one ICP, 0000678614UN599, which has a daily kWh of 9.98, which is 3,642 kWh per annum. The load is predictable and of the type approved and published by the Authority. There are no other ICPs where load exceeds 6,000 kWh per annum.

PPPP

Checks confirm PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters. The LIS report verified that PPPP has not been trading any unmetered load. PPPP does not accept either unmetered load ICPs or ICPs with attached unmetered load.

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

We reviewed the LIS files and the Audit Compliance report for the period covered by this audit. We discussed the company policy in relation to trading distributed unmetered load ICPs.

This was discussed with PPPP staff. In addition the LIS and Audit Compliance reports for the audit period were checked

Audit commentary

PUNZ

The review of registry files showed that PUNZ has not been trading any unmetered load. There are no plans to trade distributed unmetered load ICPs in the foreseeable future.

PPPP

Checks confirm PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters. The LIS report verified that PPPP has not been trading any unmetered load. PPPP does not accept either unmetered load ICPs or ICPs with attached unmetered load.

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 Clause 15.13

Code related audit information

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

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

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

- *there is 1 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

We reviewed the LIS files, EDA files and the Audit Compliance report for the audit period. Submission volumes for PUNZ are calculated in house. Submission information for PPPP is calculated by JC Consulting.

We reviewed processes for submitting data to the reconciliation manager to assess if subtraction is used to determine submission information.

Audit commentary

PUNZ

Energy trades 2,607 installations where embedded generation is installed. The profiles used for reconciliation are HHR, RPS, PV1, and EG1.

The table below shows the breakdown of the type of profiles used by Pulse Energy for each type of embedded generation. It appears that the company is not consistent in their management of profiles in the registry.

Profile	Type of embedded generation	
	Other	Solar
RPS	40	434
RPS EG1	20	0
RPS PV1	225	1,872
HHR	15	1

We compared the LIS dated 12/07/2021 and PR255. It showed that 61 installations have import/export meters installed but the profile is still RPS. This number changes every day as more and more embedded generation installations are coming.

Pulse Energy together with Solar City work together to offer customers installation of embedded generation (solar) in their homes. Solar City manages the project, it liaise with customers and networks. FCLM is the MEP for these installations. Once import/export meter is installed, the registry is updated and PUNZ the profile. In the last audit we noted that the profile is updated only once per month. The process has been changed and it is updated within a few days. The profile is change to RPS PV1 on the day when a meter is installed. The number of late profile updates has decreased significantly since the last audit.

We reviewed NHHVOLS for the audit period and confirm that for these installations where profile PV1 or EG1 is recorded in Gentrack the reconciliation team submits volumes to the RM.

The communication between the team who is responsible for making sure that export/import meters are installed, and the correct type of profile is recorded in the registry has improved.

PPPP

PPPP

Submission information for PPPP is calculated by JC Consulting. All installations traded by PPPP are metered and category 1 metering installations only.

PPPP does not trade installations with embedded generation. JC Consulting does not use subtraction to determine volume information.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

- *provide to the grid owner a copy of the metering installation design (before ordering the equipment)*
- *provide at least 3 months for the grid owner to review and comment on the design*
- *respond within 3 business days of receipt to any request from the grid owner for additional details or changes to the design*
- *ensure any reasonable changes from the grid owner are carried out.*

The participant responsible for the metering installation must:

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

Audit observation

The NSP table was reviewed to confirm if Pulse Energy is responsible for any GIPs.

Audit commentary

PUNZ

The review of the NSP table confirmed that Pulse Energy is not responsible for any GIPs. This clause is not applicable. Compliance was not assessed.

PPPP

The review of the NSP table confirmed that PPPP is not responsible for any GIPs. This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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 LIS file was reviewed to identify which profiles are used for reconciliation purposes to determine if any used profiles require certification of any control devices.

Audit commentary

PUNZ

Reconciliation files and the LIS file analysis showed that Pulse Energy submits volumes to the reconciliation manager using the RPS, EG1 and PV1 profiles. Control devices are not used for reconciliation purposes.

PPPP

PPPP uses the RPS profile for reconciliation. No control devices are used to control loads or switch meter registers.

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 led 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

The process for defective & bridged meters was reviewed and discussed with Pulse Energy' staff. A potentially faulty meter will be identified through the validation process.

Metering data is provided by MEPs.

Audit commentary

PUNZ

Defective meters are typically identified through the meter reading validation process or from information provided by the meter read provider or customer. In a situation where no consumption is recorded for "active" ICPs, a SO is issued to the relevant MEP and they are asked to investigate. Before the MEP does any investigation, they ask Pulse Energy to contact the customer to check if the power is on. If the MEP decides that a meter is faulty it is replaced, and the metering installation recertified.

PUNZ identified 5 defective meters during the audit period. MEPs were notified and meters were replaced.

PPPP

Defective meters are typically identified through the meter reading validation process. No defective meters were identified during this audit period.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

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

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

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

f) *download the event log.*

2(6) – *The interrogation systems must record:*

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

Audit observation

The data collection process was examined. Data collection is conducted by MEPs or it is provided by agents. The obligation of compliance lies with the agent, but it is still the responsibility of Pulse Energy. The company does not collect metering data themselves.

This was discussed with PPPP/PUNZ staff.

Audit commentary

PUNZ

All information used to determine volume information is collected from the services interface or the metering installation by agents or MEPs.

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

During the audit AccuCal stated that the clock of the computer which reads two ICPs for Pulse Energy is automatically synchronised to MSL time.

PPPP

PPPP does not collect raw meter data. Raw meter data is collected by MEPs such as NGCM, IHUB, MTRX, COUP, and ARCS). No non compliances relevant to this audit were identified.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined and discuss with staff.

Processes to provide meter condition information were reviewed as part of WELLS' agent audit. PUNZ's processes to manage communication with its agent was reviewed.

Audit commentary

PUNZ

The majority of register reads are provided by WELLS. Reads are received daily. Meters are read every second month. Every day PUNZ sends three files to WELLS which contain the following information

- New customers
- Meter changes at already read ICPs
- Do not read anymore – lost ICPs or legacy meter replaced by a smart meter

PUNZ accepts customer reads in the form of email, photo or phone call. A record of customer reads is attached to the account in Gentrack. This will only be validated if there are at least two 'ordinary reads' to validate against. Validated reads will be used for reconciliation.

The WELLS agent audit report did not identify any non-compliances related to PUNZ.

PPPP

PPPP only trades remotely read NHH ICPs. No non compliances relevant to this audit were identified.

Meters that can't be read because of communication issues are referred to the responsible MEP. PPPP does not accept customer reads.

Audit outcome

Compliant

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

Code reference

Clause 6 Schedule 15.2

Code related audit information

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

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

Audit observation

The switch read from the CS file is used as a start read for NHH ICPs. Consecutive readings from WELLS and MEPs, apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation.

This was discussed with PPPP/PUNZ staff and the data collection process was examined. The EDA file, the Registry and reconciliation submission files were checked.

Audit commentary

PUNZ

Compliance confirmed based on scenarios as described in section 12.11. Compliance was confirmed.

PPPP

PPPP collects meter read data daily. Checks of switching information for example confirmed code requirements were met.

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 for missing reads was examined and discussed with Pulse Energy's staff. Meter Frequency reports submitted to the Authority were analysed.

The Meter Read frequency Reports for the audit period were checked.

Audit commentary

PUNZ

PUNZ stated that they did not have any ICP, for which they did not obtain meter register for every non half hour metered ICP for which they were responsible, at least once during the period of supply to the ICP. PUNZ monitors very closely readings for installation which can't be read remotely. The project to replace vanilla meter with AMI meters will decrease installations read by WELLS even more.

PPPP

Checks confirmed validated meter readings were obtained by PPPP for every ICP traded during the period of supply.

Audit outcome

Compliant

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 process for missing reads was examined and discussed with Pulse Energy's staff. Meter Readings Frequency reports are submitted monthly to the Authority. We reviewed the Meter Reading Frequency reports for the audit period to check if the company had 100% attainment of reads.

Audit commentary

PUNZ

The Meter Readings Frequency report for PUNZ is created in house.

We reviewed the Meter Readings Frequency reports for the audit period to check if the company had 100% attainment of reads.

Compliance was not achieved in the audit period. The table below shows how reads were not met by NSPs and the number of ICPs that did not have 100% attainment of reads

Month	Total number of NSPs	Number of NSPs with less than 100%	ICP unread for 12 months	Overall percentage read
Oct-20	183	5	6	99.99%
Nov-20	183	6	6	99.99%
Dec-20	183	6	6	99.99%
Jan-21	184	8	8	99.99%
Feb-21	184	5	6	99.99%
Mar-21	184	8	8	99.99%
Apr-21	185	9	9	99.99%
May-21	186	7	7	99.99%
Jun-21	187	9	9	99.99%

Compliance has not been met for a small number of NSPs. There was a small number of ICPs which were not read in the 12 month period. These ICPs are called special circumstances ICPs. This clause allows their exclusion from this report but PUNZ decided to have them included.

Weekly reports are run to monitor which ICPs have been missing reads for 12 months. The stats for the audit period are shown below.

Legacy Metering Issues - 12+ Months					
	Gas sites Unread	Sites on Manual	Sites Pending Manual	Non smart issues Total	Grand total
5/10/20	0	8	0	8	8
12/10/20	0	6	0	6	6

19/10/20	0	5	0	5	5
26/10/20	1	4	0	5	5
2/11/20	1	8	1	10	10
9/11/20	0	8	0	8	8
16/11/20	0	6	0	6	6
23/11/20	0	5	0	5	5
30/11/20	0	5	0	5	5
7/12/20	0	10	0	10	10
14/12/20	0	8	0	8	8
21/12/20	0	8	0	8	8
5/01/21	0	9	0	9	9
11/01/21	0	9	0	9	9
18/01/21	0	8	0	8	8
25/01/21	0	7	0	8	8
1/02/21	0	11	0	11	11
8/02/21	0	12	0	12	12
15/02/21	0	12	0	12	12
22/02/21	0	11	0	11	11
1/03/21	0	15	0	15	16
8/03/21	0	12	0	12	12
15/03/21	0	10	0	10	10
22/03/21	0	10	0	10	10
29/03/21	0	10	0	10	10
5/04/21	0	10	0	10	10
12/04/21	0	10	0	10	10
19/04/21	0	10	0	10	10
26/04/21	0	10	0	10	10
3/05/21	0	11	0	11	13
10/05/21	1	9	0	10	10
17/05/21	0	9	0	9	9
24/05/21	0	9	0	9	9
31/05/21	0	12	0	12	12
7/06/21	0	12	0	12	12
14/06/21	0	12	0	12	12
21/06/21	0	12	0	12	12
28/06/21	0	12	0	12	12
5/07/21	1	21	1	23	23
12/07/21	1	21	0	22	22
19/07/21	1	18	0	19	19
26/07/21	1	16	0	17	17

It was discussed during the audit. The company comment was :

Some of the ICPs do have special reasons for being unread for so long, I think there is one ICP where it was located in a remote location and the meter reader need to take a boat to the place every year or something.

Some of the ICPs have blank screen and is faulty. Most of them don't have any special reasons though, just some ICPs where we have not been able to successfully get access to the meter to get a read.

PPPP

Meter Read Frequency Reports checked for the audit period verified code requirements were met.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.9 With: 8(1) of Schedule 15.2 From: 01-Oct-20 To: 30-Jun-21	PUNZ - 100% attainment was not achieved for up to 9 NSPs in 12 months period Potential impact: Low Actual impact: Low Audit history: Many times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as strong. There are very good processes in place. Overall percentage of compliance is 99.99%. Some ICPs are very difficult to read, access problems. 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
Pulse has established a robust process to ensure all the meters are read according to compliance requirements. All the meters that Pulse is unable to read are with exceptional circumstances. Pulse tried at least 4 different methods(calling, texting, emails and sending field visits) to obtain meter reads on ICPs without read for 12 months.		1/10/20	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will further improve the processes to record reasons for no read.		1/10/20	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

In relation to each NSP, each reconciliation participant must ensure that for each NHH ICP at which the reconciliation participant trades continuously for each 4 months, for which consumption information is required to be reported into the reconciliation process. A validated meter reading is obtained at least once every 4 months for 90% of the non-half hour metered ICPs.

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

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

Audit observation

The process for missing reads was examined and discussed with Pulse Energy's staff. Meter Readings Frequency reports are submitted monthly to the Authority. We reviewed the Meter Reading Frequency reports for the audit period to check if the company had 90% attainment of reads.

Audit commentary

PUNZ

Every month Pulse Energy provides the Authority with a Meter Readings Frequency report for PUNZ and PPPP. We reviewed the Meter Reading Frequency reports for the audit period to check if the company had 90% attainment of reads.

PUNZ provides Meter Readings Frequency Report to the Authority on behalf of PUNZ.

Compliance was not achieved in the audit period. The table below shows how reads were not met by NSPs and the number of ICPs which did not have 90% attainment of reads.

PUNZ keeps records for ICPs which were not read and the reason for it. Rigid monitoring is in place.

Month	Total number of NSPs	Number of NSPs with less than 90%	ICP unread for 4 months	Overall percentage read
Oct-20	183	2	2	99.09%
Nov-20	183	2	2	99.09%
Dec-20	183	1	1	99.54%
Jan-21	184	1	4	99.15%
Feb-21	184	0	0	99.50%
Mar-21	184	0	0	99.45%
Apr-21	185	2	2	98.83%
May-21	186	2	2	98.94%
Jun-21	187	2	2	98.95%

PPPP

Meter Read Frequency Reports checked for the audit period. Compliance was not achieved in the audit period comprising a relatively small number of NSPs and ICPs, typically only 1 or 2 ICPs in each NSP. The table below shows the reads not met by NSP.

Month	Total number of NSPs	Number of NSPs with less than 90%	ICPs unread for 4 months	Overall percentage read
Nov 20	109	3	3	99.18
Dec 20	111	3	3	99.51
Jan 21	112	2	2	99.48
Feb 21	113	7	7	98.74
Mar 21	114	8	8	98.86
Apr 21	116	9	10	98.17
May 21	116	4	4	98.80

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.10</p> <p>With: 9(1) of Schedule 15.2</p> <p>From: 01-Oct-20</p> <p>To: 30-Jun-21</p>	<p>PUNZ - 90% attainment was not achieved for more than two NSPs over 4 months</p> <p>PPPP - 90% attainment was not achieved for more than one NSP over 4 months</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Many times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are recorded as strong. There are good processes in place. Overall percentage of compliance is 99%. Some ICPs are very difficult to read, access problems. The impact on settlement outcomes is minor therefore the audit risk rating is recorded as low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Pulse has established a robust process to ensure all the meters are read according to compliance requirements. All the meters that Pulse is unable to read are with exceptional circumstances. Pulse tried at least 4 different methods(calling, texting, emails and sending field visits) to obtain meter reads on ICPs without read for 12 months.</p>			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Pulse will further improve the processes to record reasons for no read.</p>			

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

NHH readings are provided by MEPs and WELLS. We reviewed the WELLS agent audit report. This was discussed with PPPP staff and the data collection process was examined.

Audit commentary

PUNZ

PUNZ receives NHH data from MEPs and WELLS. The review of the WELLS audit report shows no non-compliances were identified.

PPPP

PPPP receives NHH data from MEPs. Review of MEP EDM I and AMCI audit reports identified no non-compliances relevant to this audit.

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

The LIS file was reviewed to assess the number of ICPs reconciled as HHR. HHR data is provided by EDM I, AMCI, AccuCal, and FCLM.

Audit commentary

PUNZ

At the time of this audit PUNZ was trading 51 ICPs. The company uses the MEP services of 5 companies (ACCM, AMCI, FCLM, MTRX, and TRSV). EDM I provides data on behalf of TRSV and MTRX.

Compliance with this clause was assessed during the EDM I and AMCI agents' audit. We reviewed both reports to confirm compliance with the above clause. Compliance of FCLM was confirmed during their audit.

We assessed AccuCal for compliance during this audit. The company uses proprietary software to read ION and EDM I meters. All meters are read remotely.

PPPP

PPPP trades only NHH ICPs.

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

The LIS file was reviewed to assess the number of ICPs reconciled as HHR. HHR data is provided by EDM, AMCI, AccuCal, and FCLM.

Audit commentary

PUNZ

At the time of this audit PUNZ was trading 51 ICPs.

Compliance with this clause was assessed during the EDM and AMCI agents' audit. We reviewed both reports to confirm compliance with the above clause. Compliance of FCLM was confirmed during their audit.

We assessed AccuCal compliance during this audit. The company uses proprietary software to read ION and EDM meters. All meters are read remotely. AccuCal meets compliance with clause 11(2)(b) by manually recording the meter time before reconciliation and adjusting if necessary. The event log is downloaded and reviewed by AccuCal and a copy is provided to Pulse Energy. We reviewed the event log for April 2021 to May 2021.

Compliance is met for 11(2)(a)(b)(c)(d) but not with 11(2)(e), an interrogation log is not generated by interrogation software.

Since April 2021 AccuCal became the MEP for 1000023001BP357, previously it was BOPE.

PPPP

PPPP trades only NHH ICPs.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.13 With: 11(2)(e) of Schedule 15.2 From: 01-Oct-20 To: 30-Jun-21	PUNZ - No interrogation log is generated by the interrogation software to record details of all interrogations for readings provided by AccuCal Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as strong. There are only two meters read by AccuCal. AccuCal is certified as an ATH and MEP. Reading meters and providing data to traders are additional services provided by AccuCal. No impact on settlement outcomes. Audit risk low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse receives the interrogation log files from AccuCal. However, Pulse does not current have a process to review and action on the interrogation log files. Pulse is in talk with AccuCal to see if AccuCal can be compliant with 11(2)(e). Pulse may consider transferring the meter data provision function to other fully compliant MEP.		18/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
See above.		18/12/2020	

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

The LIS file was reviewed to assess the number of ICPs reconciled as HHR. HHR data is provided by EDM, AMCI, AccuCal, and FCLM.

Audit commentary

PUNZ

At the time of this audit PUNZ was trading 51 ICPs. The company uses the MEP services of 5 companies (ACCM, AMCI, FCLM, MTRX, and TRSV).

Compliance with this clause was assessed during the EDM and AMCI agents' audit. We reviewed both reports to confirm compliance with above clause. Compliance of FCLM was confirmed during their audit.

The functionality of the ION and EDM software allows the programming of meters and the downloading of data. The software is not strictly compliant with 11(3)(a)(b) like, for example, MV90 and others. There is an interrogation log created during interrogation to meet the requirements of this clause.

To address the non-compliance noted in the last audit, AccuCal manually creates a HHR interrogation log. The log contains information specified in this clause.

PPPP

PPPP trades only NHH ICPs.

Audit outcome

Compliant

7. STORING RAW METER DATA

7.1. Trading period duration (Clause 13 Schedule 15.2)

Code reference

Clause 13 Schedule 15.2

Code related audit information

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

Audit observation

HHR data is provided by EDMl, AMCl, AccuCal, and FCLM.

Checks confirm PPPP trades on Pre Pay ICPs using category 1 NHH metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

Audit commentary

PUNZ

We reviewed the data provided by EMS and AccuCal, and confirm the trading period is 30 minutes. The EMS and AMS HHR audit report states that the trading period duration is 30 minutes. It is managed through the clock synchronisation process.

FCLM's compliance was confirmed during their audit.

PPPP

PPPP trades only NHH ICPs.

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

HHR data is provided by EDMl, AMCl, AccuCal, and FCLM.

This was discussed with PPPP/PUNZ staff and the data collection process was examined. The reconciliation submission files were checked.

Audit commentary

PUNZ

According to the EDMl and AMS HHR audit report all data is archived, in accordance with this clause, for a period of more than 48 months. This was confirmed by viewing raw meter data from a prior period. Password protection is in place to ensure raw meter data cannot be accessed by unauthorised personnel.

AccuCal archived all data in accordance with this clause.

PPPP

PPPP trades only NHH ICPs. PPPP does not collect raw meter data. Raw meter data is collected by MEPs such as NGCM, IHUN, MTRX, COUP, and ARCS. No non compliances relevant to this audit were identified.

MEP audits report all data is archived, in accordance with this clause for a period of more than 48 months. This was verified by viewing raw meter data. Password protection is in place to ensure raw meter data cannot be accessed by unauthorised personnel

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

This was discussed during the audit. Pulse Energy uses RPS, HHR, EG1 and PV1 profiles and does not use non-metering information to determine profile data.

Audit commentary

PUNZ

PUNZ does not use non-metering information to determine profile data.

PPPP

PPPP does not use non-metering information to determine profile data.

Audit outcome

Compliant

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

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

Code reference

Clause 19(1) Schedule 15.2

Code related audit information

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

19(1)(a) - confirm the original meter reading by carrying out another meter reading

19(1)(b) - replace the original meter reading the second meter reading (even if the second meter reading is at a different date)

19(1A) if a reconciliation participant detects errors while validating non half hour meter readings, but the reconciliation participant cannot confirm the original meter reading or replace it with a meter reading from another interrogation, the reconciliation participant must:

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

Audit observation

We checked the process for correction and whether there were any examples.

This was discussed with PPPP staff and the data collection process was examined along with the processes for correction of NHH meter readings. The reconciliation submission files were checked.

Audit commentary

PUNZ

PUNZ receives daily reads for NHH sites from MEPs or from WELLS. Where errors are detected during the validation process to Gentrack, Pulse may request a check meter reading for meters read by WELLS, or review AMI readings for a similar period. If an original meter reading cannot be confirmed it is marked as "misread" then an estimated reading is used, which is appropriately labelled.

PPPP

PPPP does not collect raw meter data. Raw meter data is collected by MEPs such as NGCM, IHUB, MTRX, COUP, and ARCS

Daily readings are validated and PPPP identify any errors requiring correction promptly and process corrections as soon as possible. JC Consulting also validates NHH reads before calculation of submission volumes.

Vacant and disconnected ICPs continue to read. If an account is closed, no meter readings will be recorded in ABSL, but they will continue to be received by PRADA and sent to JCC.

PPPP completes reconnections remotely wherever possible and does not bridge meters to reconnect.

Audit outcome

Compliant

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

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

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

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

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

Audit observation

PUNZ trades 51 HHR ICPs. This clause was discussed during the audit.

PPPP trades on Pre Pay ICPs using category 1 NHH metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

Audit commentary

PUNZ

The company stated that no correction of HHR data occurred. If Pulse Energy considers that the data is not accurate, in the first instance, it will talk to the MEP or agent who provided the data.

HHR data correction is completed by Pulse Energy. No faulty HHR meters were identified during the audit period. There were no examples of corrections to actual data during the audit period.

If data needs to be substituted, register reads will be used to ensure that substituted intervals match the total consumption recorded on the meter.

PPPP

PPPP trades NHH ICPs only, PPPP does not use HHR meter reading data.

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.

PPPP trades on Pre Pay ICPs using category 1 NHH metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

Audit commentary

PUNZ

Pulse Energy stated that they do not have any ICPs for which error or compensation needs to be applied.

PPPP

PPPP trades NHH ICPs only, PPPP does not use HHR meter reading data.

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

Pulse Energy only receives a copy of meter data provided by MEPs and agents, and it is archived and never adjusted. The MEPs audit assessed compliance with this clause. Both the EDM I and AMCI reports confirm that raw data is never changed or overwritten.

During the audit AccuCal confirm that raw data is never changed or overwritten.

PPPP trades on Pre Pay ICPs using category 1 NHH metering installations only.

Audit commentary

PUNZ

If any correction to the copy of raw data is required a journal will be created. It is the same journal which is created when metering data is estimated.

Gentrack– we viewed evidence of the audit trail when data is corrected. It does not happen often because in most cases the data provider is asked to provide another read. If this is not possible that data is estimated.

We reviewed NZX_TOU functionality of data correction. Any changes to interval data are journaled as this clause requires.

PPPP

PPPP trades NHH ICPs which are read remotely, PPPP does not use HHR meter reading data.

PPPP receives a copy of raw meter data, it is archived and never adjusted. The MEP audit assessed compliance with this clause. MEP audit reports confirm that raw data is never changed or overwritten.

ABSL does not allow the correction of data. If data fails validation, the MEP is contacted and asked for a replacement reading. JCC confirmed that no data corrections have been made 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

Data received from MEPs or agents is actual. Estimated Metrix data is not imported to Gentrack therefore does not flow to COBRA. Pulse Energy also accepts customer reads.

PUNZ provided a sample of reads from MEPs and agents. We traced them to COBRA, ABSL, Gentrack, NXZ_TOU, and the RM TOOL used by JC Consulting.

This was discussed with PPPP staff and the data collection process was examined. Meter reading files from MEPs reconciliation submission files were checked.

Audit commentary

PUNZ

We reviewed readings in Gentrack, COBRA, and NZX_TOU. We followed through 3 readings per MEP and agent (EDMI, WELLS). We confirm that readings in COBRA, Gentrack, and NZX_TOU are correctly flagged as actual or estimates.

PPPP

PPPP receives data from MEPs or agents, uploads to Prada and then is transferred to ABSL. Data received from MEPs or agents is actual. JCC receives actual data only from ABSL, which is then loaded to the RM TOOL. The data is correctly flagged in the system. Any data estimated by JCC for reconciliation purposes is flagged as an estimate.

Audit outcome

Compliant

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

Code reference

Clause 3(4) Schedule 15.2

Code related audit information

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

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit observation

We reviewed submission files for the audit period. The reconciliation process documented by Pulse Energy and JC Consulting was examined. We discussed the type of readings and how they are used with Pulse Energy and JC Consulting.

We reviewed submission files for the audit period.

This was discussed with PPPP staff and the data collection process was examined. Meter reading files from MEPs reconciliation submission files were checked.

Audit commentary

PUNZ

A review of submission data confirmed that it is based on readings as required by this clause.

A process walkthrough confirmed that volume information is based on validated data and if this is not available, estimated or corrected data is used. All estimated or corrected data is replaced with actual data as soon as it is available.

Volume information provided to the reconciliation manager is calculated by the Pulse Energy reconciliation team.

NHH register reads are received daily from MEPs and WELLS. WELLS data is validated when uploaded to the system, data from MEPs goes through basic validation and then again during a reconciliation run.

The correctness of the calculation for volumes using meter readings was assessed during NHH scenarios described in **section 12.11** (Historical estimate process).

HHR readings are imported straight into NZX_TOU which validates them. Only validated readings are used to calculate submission volumes.

PPPP

Volume information provided to the reconciliation manager is calculated by JCC. Checks of reconciliation submission files for the audit period demonstrated volume information was derived from validated meter readings or estimates. PPPP does not accept customer reads.

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

The MEPs and agents retain the raw, unrounded data as per their audit reports which were reviewed.

HHR data is provided to PUNZ by MEPs and agents. The company provided samples of data for analysis.

PPPP trades NHH ICPs which are read remotely, PPPP does not use HHR meter reading data.

Audit commentary

PUNZ

HHR ICPs are category 1 to 5 metering installations, and the HHR data is provided by MEPs. The MEPs retain the raw, unrounded data.

The examination of sample files allowed us to draw the following conclusions:

1. Data provided in the HERM format is neither rounded nor truncated
2. AccuCal - data is neither truncated nor rounded
3. AMCI - data is provided in EIEP3 format with 2 DP, which indicates that it is rounded. It was confirmed that it is rounded
4. FCLM – meter data is provided for one ICP. The company confirmed that data is rounded to 2DP before being uploaded to their server to be pick up by Pulse Energy. FCLM now has the functionality which allows them to submit non rounded metering data
5. EDM I – data is provided on behalf of MRTX and TRSV. Meter data is provided in EIEP3 format with 2 DP. It was confirmed by EDM I that it was rounded. It was identified in their most recent audit report.

Our conclusion is that as long as the MEP provides data used in submission files in the HERM format compliance is met. When data is provided in EIEP3 format, metering data is rounded to 2 DP (decimal places). It was already noted in the previous audit. It is an industry wide problem.

PPPP

PPPP trades NHH ICPs which are read remotely, PPPP does not use HHR meter reading data.

Volume information provided to the reconciliation manager is calculated by JCC. The MEPs and agents audit reports reviewed confirmed meter data used by JCC to derive volume information was not rounded or truncated from the stored data from the metering installation.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 9.3 With: 3(5) of Schedule 15.2 From: 01-Oct-20 To: 30-Jun-21	PUNZ - Meter data provided in the EIEP3 format rounded therefore it results in a technical breach for Pulse Energy Potential impact: Medium Actual impact: Unknown Audit history: Twice previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate. It is a technical breach. Pulse Energy has to request their service provides to provide raw meter data. The impact on settlement outcomes is medium therefore the audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse will engage with AMCI, FCLM, and EDM I to find a solution. Intellihub no longer rounded data.		1/11/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Same as above.		1/11/21	

Description	Recommendation	Audited party comment	Remedial action
Metering data provided by MEPS and agents in the EIEP3 format is rounded	Request MEPS and agents to provide unrounded or truncated metering data		

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 estimation process was examined.

This was discussed with Pulse Energy staff and the data collection process was examined.

Audit commentary

PUNZ

NZX_TOU is used to process data and create reconciliation files. It was examined during the material change audit.

Information on missing data for each ICP is stored in the table called "E_Controller" (screenshot below). The table contained detailed information on what number of intervals are missing, register reads, data source, kWh needed to be estimated (profiled).

The estimation/corrections methodology is as follows:

- Register reads are used to work out the missing consumption then the profile is applied to get the HHR consumption of each half hour period. If there is no consumption profile, then a calculate the shape, based on three weeks of actual reads, to get the HHR consumption of each half hour period.
- If no register reads are available the last available full days data of the same site is used as estimation.

PUNZ provided four examples of estimated volumes showing ICP identifier, reconciliation month, comparison of estimated and actual values. In all cases estimated volumes were very close to actual volumes provided by MEPS. Actual volumes were submitted on day 13.

PPPP

PPPP trades NHH ICPs which are read remotely, PPPP does not use HHR meter reading data.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

We examined the data validation process used by Pulse Energy and JC Consulting. It was discussed with Pulse staff.

This was discussed with PPPP staff and the data collection process was examined. The reconciliation submission files were checked.

Audit commentary

PUNZ

The validation process has not changed since the last audit.

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

Metering data is validated in two places, Gentrack and COBRA.

On upload the following validation is conducted by Gentrack:

- Checks for invalid dates and times
- Ensure that a read received is assigned to a meter on the correct ICP.
- Ensure that a read received is assigned to a meter with the correct serial number.
- Ensure that a read received is assigned to a channel with the correct channel number
- Check read date prior the last read date
- Ensure that our retailer is responsible for the ICP for the day of the read

Additional reports are run to identify readings of vacant installations, inactive or decommissioned, negative consumption, too low or too high daily consumption. Once the billing run is done, so-called post checking reports are run, which is another validation of data e.g. unbilled ICPs, which could be caused by incorrect reads which were not identified during data upload.

COBRA validates data on upload. Any ICPs which fail validation are not used for submissions. 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	

PPPP

MEPs or agents provide NHH meter readings to PPPP where it is uploaded to Prada and then to ABSL. ICP and meter information is loaded into ABSL from the registry and CS file information.

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.

JCC carries out further validation checks when meter reading data is loaded from ABSL into the RM TOOL.

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 0 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

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

We reviewed the data validation process for remotely read meters including meter event logs, validation exceptions

The validation of electronic readings was reviewed as part of the EDM I and AMCI agent audits.

This was discussed with PPPP staff, and the data collection process was examined. Meter reading and reconciliation submission files were checked.

Audit commentary

PUNZ

HHR and AMI data is validated:

- Pulse checks HHR data for missing days and missing trading periods; if the data cannot be obtained, estimation is conducted as described in **section 9.4**
- the Gentrack billing process checks for invalid data and compares data to historic consumption patterns
- AMI data is validated according to the NHH validation process described in **section 9.5**.

Meter data providers do not provide log files to Pulse Energy. The only exception is AccuCal. The Aniwhenua metering installation is complex. AccuCal is the MEP and also provides readings. They have in depth knowledge of the technical characteristics therefore I am confident that their review of log files on behalf of Pulse Energy meet compliance with this clause.

PPPP

PPPP trades on existing residential connections using category 1 NHH remotely read metering installations only.

All readings are received from AMI meters, and are validated in accordance with the NHH validation process as per **section 9.5**. AMI meter reading information is provided to PPPP by MEPs. Meters are interrogated regularly (daily where possible), there is a low risk that data can be overwritten.

MEPs or agents provide NHH meter readings to PPPP where it is uploaded to Prada and then to ABSL. ICP and meter information is loaded into ABSL from the registry. When meter readings are received

from PRADA it is validated to ensure there is a matching ICP, meter and register number, and that dates and times are valid, readings are within an expected range, for negative consumption between actual reads and zero consumption for more than five days.

Whilst PPPP does not receive log files from MEPs for every meter reading, it does request them from MEPs by exception. Such as zero reads, no reads or out of range meter readings.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 9.6 With: 17(4)(f) of Schedule 15.2 From: 01-Oct-20 To: 30-Jun-21	PUNZ -Meter event information for AMI meters is not reviewed because log files are not provided by MEPs and agents except AccuCal Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate because of the lack of review of log files from MEPs that are provided to them could affect the integrity of data. Pulse Energy have very stringent data validation processes which can offset the possible inaccuracy of data. The majority of sites traded by Pulse Energy are NHH. The risk rating is low because most issues should be identified through Pulse Energy's other read validation processes, and some events are emailed by the MEPs for urgent action.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse has a robust HHR metering reading validation process in place to mitigate some of the risks. Pulse will work with MEPs for log files.		1/11/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Same as above.		1/11/21	

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 give notice to the reconciliation manager if it is to commence or cease trading electricity at a point of connection using a profile with a profile code other than HHR, RPS, UML, EG1, or PV1 at least five business days before commencing or ceasing trader.

The notification must comply with any procedures or requirements specified by the reconciliation manager.

Audit observation

The LIS and EDA files were reviewed to identify which profiles were used during the audit period.

Audit commentary

PUNZ

PUNZ uses HHR, RPS, EG1 and PV1 profiles for volume submissions to the reconciliation manager. Notice to the reconciliation manager for these profiles is not required.

PPPP

PPPP uses the RPS profile for volume submissions to the reconciliation manager. Notice to the reconciliation manager for these profiles is 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

Audit commentary

PUNZ

PUNZ calculates ICP days using NZX_TOU and COBRA as part of the submission process. We reviewed files for Jan 2021 to May 2021. The process for the calculation of ICP days was examined by checking 3 NSPs. The ICP days calculation was confirmed to be correct. The table below shows the difference between ICP days recorded in the registry and ICP days calculated by PUNZ.

Month	R0	R1	R3	R7	R14
Aug-19	0.002%	0.006%	0.001%	0.000%	0.000%
Sept-19	0.000%	0.001%	-0.002%	0.001%	0.005%
Oct-19	0.000%	0.001%	0.003%	0.001%	0.000%
Nov-19	0.000%	0.000%	0.003%	0.000%	0.000%
Dec-19	0.004%	0.008%	0.000%	0.001%	-0.001%
Jan-20	0.005%	0.006%	0.000%	0.000%	0.000%
Feb-20	-0.001%	-0.001%	0.000%	-0.001%	0.000%
Mar-20	0.001%	-0.003%	0.003%	-0.002%	0.000%
Apr-20	0.006%	0.001%	0.003%	0.005%	
May-20	0.000%	0.000%	-0.002%	0.000%	
June-20	-0.001%	0.004%	0.000%	0.000%	
July-20	0.003%	-0.003%	0.000%	0.000%	
Aug-20	0.001%	0.002%	0.001%	-0.001%	
Sept-20	0.003%	0.002%	0.001%	-0.001%	
Oct-20	0.004%	0.009%	0.001%	0.000%	
Nov-20	0.000%	-0.003%	0.000%	-0.001%	
Dec-20	0.000%	0.006%	-0.002%		
Jan-21	0.002%	0.002%	-0.001%		
Feb-21	-0.001%	0.000%	0.000%		
Mar-21	0.007%	-0.003%	0.001%		
Apr-21	0.011%	0.000%			
May-21	0.001%	0.010%			
June-21	0.005%				

Although the percentages fluctuate, the difference in days is very small. Before each reconciliation run PUNZ imports the LIS file to Cobra and compares the two sets of data. Any discrepancies are analysed and addressed.

PPPP

ICPDAYS are calculated and submitted to the reconciliation manager by JC Consulting. We reviewed files for the audit period. The process for the calculation of ICP days was examined by checking 2 NSPs. The ICP days calculation was confirmed to be correct. The table below shows the difference between ICP days recorded in the registry and ICP days calculated by JC Consulting.

Month	R0	R1	R3	R7
Nov-20	0.00%	0.00%	0.00%	2.19%
Apr-21	0.00%	0.00%	0.00%	-0.10%
May-21	0.00%	0.00%	0.00%	0.08%

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

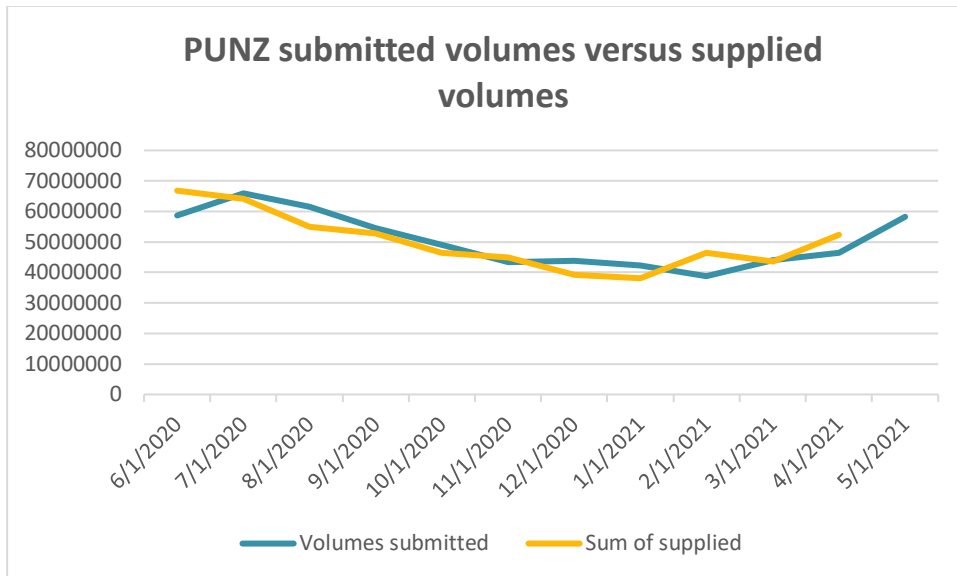
The process for the calculation of electricity supplied was examined. We reviewed the BILLED files for the last 4 months

Audit commentary

PUNZ

The PUNZ BILLED files are prepared and submitted by Pulse Energy.

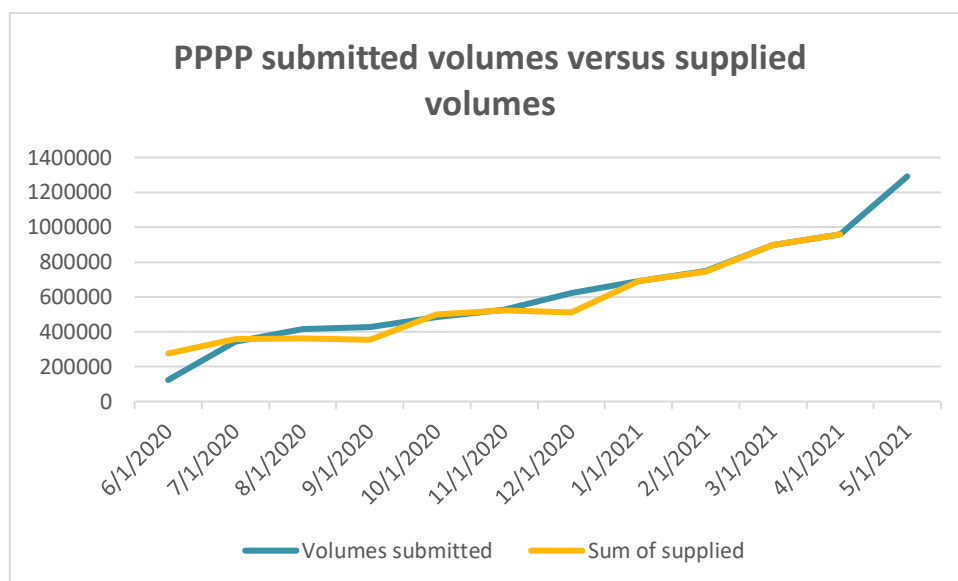
The graph below shows volumes submitted and supplied (day 14) for NHH and HHR during the audit period. The BILLED file for PUNZ is created in Gentrack and submitted to the reconciliation manager every month. The graph below is offset by 1 month.



PPPP

The BILLED files are created using the RM TOOL and submitted by JC Consulting. JC Consulting submits the BILLED file for PPPP based on financial information provided by Pulse Energy.

The graph below shows volumes submitted and supplied (day 14) during the audit period. The graph below is offset by 1 month.



Audit outcome

Compliant

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

Code reference

Clause 15.8

Code related audit information

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

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

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

Audit observation

The process for submission files was reviewed and discussed with the reconciliation team. To assess compliance, we analysed the LIS file, EDA file, the Audit Compliance report and HHRAGGR and GR-090 files for the audit period.

Audit commentary

PUNZ

At the time of the audit PUNZ was trading 51 HHR ICPs. The data is provided by MEPs and agents.

The HHRAGGR files are created in NZX_TOU.

We compared volumes between HHRVOLS and HHRAGGR for February 2021 to May 2021, they matched. We have also randomly chosen 3 ICPs and traced volumes from the source data to reconciliation file.

A review of GR-090 identified one ICP 0149295030LC865, which was included in initial submission for November 2020, but it was not expected by the RM. It was the result of a late update of the type of reconciliation in the registry to from NHH to HHR, originally reconciled on 4/12/2020 but backdating to 04/11/2020.

The HHRAGGR files are prepared at ICP level based on submission information. Clause 15.8 states that the HHRAGGR should contain electricity supplied information rather than submission information. The Reconciliation Manager Functional Specification in section 3, described HHRAGGR as HHR submission information that is aggregated per ICP for the whole month.

There is a misalignment between the Code requirements and RM file specification. It is a problem well known to the Authority and is awaiting a resolution

PPPP

PPPP trades NHH ICPs only.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 11.4 With: 15.8 From: 01-Oct-20 To: 30-Jun-21	HHRAGGR files do not contain electricity supplied information Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Pulse Energy submits submissions volumes as per the reconciliation manager specification.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse submits volume files according to RM specification			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will continue to submit volume files according to RM specification			

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 1 of the techniques set out in clause 15.36(3) specified by the Authority.

Audit observation

Pulse Energy trades 51 HHR ICPs. Data is collected by agents (EDMI, AMCI, and AccuCal MEPs). We reviewed EDM I and AMCI agent reports.

As a part of this audit, we reviewed compliance with this clause with AccuCal.

PPPP trades on Pre Pay ICPs using category 1 NHH metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

Audit commentary

PUNZ

Data provided by MEPs and EDM I is daylight shifted when required.

Data received from AccuCal is in standard time. Pulse Energy daylight shifts using two special programs written in Python. Data is adjusted for daylight savings as part of the process to prepare submissions. The trading period run on technique is applied. We reviewed how the adjustment was done, it is correct.

PPPP

PPPP trades NHH ICPs only, PPPP does not use HHR meter reading data.

Audit outcome

Compliant

12.2. Creation of submission information (Clause 15.4)

Code reference

Clause 15.4

Code related audit information

By 1600 hours on the 4th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all NSPs for which the reconciliation participant is recorded in the registry as having traded electricity during the consumption period immediately before that reconciliation period (in accordance with Schedule 15.3).

By 1600 hours on the 13th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all points of connection for which the reconciliation participant is recorded in the registry as having traded electricity during any consumption period being reconciled in accordance with clauses 15.27 and 15.28, and in respect of which it has obtained revised submission information (in accordance with Schedule 15.3).

Audit observation

Pulse Energy provided reconciliation data for the audit period. We confirmed that volumes are submitted on day 4 and day 13 (all relevant revisions). NHHRVOLS, ICPDAYS, BILLED, HHRVOLS, and HHRAGGR files are submitted.

This was discussed with PPPP staff and the data collection process was examined. Meter reading and reconciliation submission files were checked.

Audit commentary

PUNZ

We reviewed the process to create submission files. Every month Pulse Energy submits a set of data for NHH and HHR ICPs. COBRA is used to create NHH submissions and NZX_TOU HHR submissions.

A diverse sample of NHH ICPs was checked to confirm submissions were correct such as new switches and switches out, RR files received and sent.

The reconciliation team monitors the shift in NSPs and balancing area numbers between two revisions. The system will automatically pick up any serious breach (>100,000 units, >15%), but they also manually monitor the numbers. If anything seems suspicious, they monitor the data at ICP level to check whether the volume change is normal.

As was described in the last audit report, the way in which COBRA processes data has some flaws which require extra vigilance from the operator. The company commented that there is a known bug with Cobra in that there is a fraction of channels that get left out of later revisions. Those channels need to be identified, and the missing volumes estimated and manually added to the totals from COBRA.

To address this issue, before the NHHVOLS file is submitted to the RM, Pulse Energy send the COBRA's output data to JC Consulting. He verifies it using his system to assist the Reconciliation Team in being certain that volumes for all ICPs, with correct channels, are submitted. He provides files which show discrepancies and Pulse Energy addresses them before final NHHVOLS are submitted. The process is described in **section 12.3**.

PPPP

We reviewed the process to create submission files. Every month JC Consulting submits NHHVOLS, ICPDAYS, and BILLED. The files are created using the RM TOOL. A diverse sample of NHH ICPs was checked to confirm that submission files were correct. Before the files are created JC Consulting goes through the checklist to assure that all ICPs are included in submissions and volumes are calculated correctly. The current months volumes are compared with the previous month.

No late file submissions were identified during the audit period.

Audit outcome

Compliant

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

In preparing and submitting submission information, the reconciliation participant must allocate volume information for each ICP to the NSP indicated by the data held in the registry for the relevant consumption period at the time the reconciliation participant assembles the submission information. Volume information must be derived in accordance with Schedule 15.2.

However, if, in relation to a point of connection at which the reconciliation participant trades electricity, a notification given by an embedded generator under clause 15.13 for an embedded generating station is in force, the reconciliation participant is not required to comply with the above in relation to electricity generated by the embedded generating station.

Audit observation

Metering data is provided monthly by MEPs and agents. The allocation of volumes for each code is done using two independent systems. Submissions for PUNZ are prepared by Pulse Energy's staff, submissions for PPPP are prepared by the agent, JC Consulting.

The processes to ensure that submissions are accurate were discussed and observed, including a review of reports used in the process.

This was discussed with PPPP staff and JCC. Meter reading and reconciliation submission files were checked.

Audit commentary

PUNZ

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.

HHR processes (NZX_TOU) are automated to ensure that volumes are submitted for every NSP with active ICPs, regardless of whether any consumption has been recorded. The NZX_TOU creates files for ICPs reconciled as HHR.

PUNZ has validation processes to ensure that submissions are correct. HHR and NHH volumes and ICP days submissions are validated together 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 $\pm 100,000$ kWh and $\pm 15\%$. 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 allows you to easily follow all meter readings and see what volumes were submitted for each month. It also allows you to mark a reading as a permanent estimate when entering estimated readings. As described in **section 12.2**, COBRA has a few issues, which were described in the last audit.

As mentioned before COBRA has got a few issues. It is a known bug with COBRA. There are a fraction of channels that get left out of later revisions. To address COBRA's issues Pulse Energy is working together with JC Consulting using the following process to identify discrepancies before submission files are sent to the reconciliation manager. Before NHHVOLS are submitted on day 3 and day 14 (including revisions), the Reconciliation Team sends the COBRA's output data to JC Consulting, which is independently verified using his system, to see that volumes for all ICPs are submitted. JC Consulting provides files which show the discrepancies as 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 5 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. This report is not used by the Reconciliation Team. My recommendation is to pass it to the Switching Team. The file for 072021 had only 4 ICPs listed. One of them was 0000682080TECE0. COBRA was using an incorrect meter serial number and volumes were unnecessarily estimated.

The first two files are used extensively by the Reconciliation Team to correct submissions.

PUNZ reviews the return files from the reconciliation manager. Any anomalies are investigated, and corrections are processed as required.

The process described above is followed for each submission and consecutive revision. It is a difficult process, open to mistakes, but PUNZ strive to have submission files as accurate as possible.

PPPP

MEPs or agents provide NHH meter readings to PPPP monthly where it is uploaded to Prada and then to ABSL. ICP and meter information is loaded into ABSL from the registry. When meter readings are received from PRADA it is validated.

The allocation of volume information is completed by JCC 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 3 and day 14 (including revisions) PPPP send the ABSL output data by FTP process to JCC who independently verifies the data using RM Tool. JC Consulting provides a file which shows the discrepancies and PPPP addresses them before final NHHVOLS are submitted.

The process for the calculation of NHH volumes was examined by checking several NSPs ICPs supplied during the audit period. JCC provided a detailed breakdown of volume for each ICP by NSP. NHH volumes aggregation was confirmed to be correct.

A comparison of the NHHVOLS and GR-170NHH and revisions confirmed that the same NSPs were included, and zeroing occurs 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

Pulse Energy is not a grid owner.

Audit commentary

This clause is not applicable. Compliance was not assessed.

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

Pulse Energy is not an embedded network owner, but it provides NSPVOLS files on behalf of Pioneer Energy as their agent. Pulse Energy provided files for February 2021 to May 2021 for review.

Audit commentary

PUNZ

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 February 2021 to May 2021 to confirm that submitted volumes correspond with the original files.

No late file submissions were recorded.

PPPP

PPPP does not submit NSP volume information.

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

Pulse Energy is not a grid owner.

Audit commentary

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

The process for submitting revision files by Pulse Energy and JC Consulting was reviewed.

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

We reviewed the schedule of reconciliation submissions used by Pulse Energy. The company also provided the GR-170 NHH file from the reconciliation manager.

The process of submitting revision files by Pulse Energy and JCC (as agent for PPPP) was reviewed. Revision information was reviewed.

Audit commentary

PUNZ

Every month on day 13, Pulse Energy submits revised reconciliation files. JC Consulting compares the COBRA's output with his system and provides the comparison files.

The following areas were evaluated to assess compliance

1. As part of the switching review we followed the RR files process.

Accepted RR files from gaining retailers are recorded in Gentrack but do not flow to COBRA. We sampled 35 RR files and compared switch event meter readings stored in Gentrack and COBRA. For 29 reads the meter reads used for billing and reconciliation volumes were different.

The table below shows the summary of finding. Overall, PUNZ over submitted 61 kWh to the RM.

ICP	Accepted RR read from gaining trader	Read in COBRA	Difference between reads [kWh]
0000002759DE6F2	107268	107194	74
0000003020DE35C	73654	73628	26

0000003020DE35C	0	0	0
0000003278DE347	79695	79138	557
0000007488DE3D6	35400	35387	13
0000010803HB0C5	65803	65788	15
0000019191NTE89	35536	35533	3
0000019191NTE89	10098	10097	1
0000023748DE877	65581	65567	14
0000023748DE877	0	0	0
0000035416NT141	12179	12178	1
0000035416NT141	6533	6525	8
0000040959DE82C	39025	38511	514
0000049339CEF6D	59946	59946	0
0000049339CEF6D	19404	19404	0
0000049339CEF6D	320	320	0
0000102460TROE3	118095	118132	-37
0000102460TROE3	50269	50236	33
0000144248TR7F1	25762	26063	-301
0000166122TR31E	36676	36666	10
0000180812CT334	20227	20425	-198
0000180812CT334	6885	6989	-104
0000186899UN1D4	30	30	0
0000186899UN1D4	24331	24301	30
0000224614UN4D2	49529	49597	-68
0000224614UN4D2	0	0	0
0000302226WEB8E	14032	14400	-368
0000302226WEB8E	13925	14121	-196
0000836373NVD7C	12868	12851	17
0000836373NVD7C	6355	6340	15
0005730228RN5CE	23815	23811	4
0005730228RN5CE	22392	22389	3
0005730228RN5CE	7279	7279	0
0935350075LCA5D	42471	42478	-7
4306013000CH800	92071	92069	2
		Total	61

We sampled 60 RR files sent by PUNZ and rejected by other traders, which means the CS file switch meter readings had to be used. All of them were reflected in COBRA correctly except one ICP 0000287676MPF05 (one channel) the rejected RR was used for reconciliation.

2. Sampling of CS file reads used for reconciliation

- 20 CS files sent to other traders, some multichannel, total 43 meter readings. These readings were correctly recorded in Gentrack. In COBRA, 9 reads failed validation and were not used, another 9 reads were unvalidated and also not used for reconciliation.

- 20 CS files received from other traders were correctly recorded in Gentrack. Some ICPs were multichannel, total 36 meter readings. Readings for 3 ICPs were not used for reconciliation. It was discussed during the audit. The company comment was:

ICP 0000000185CPB74 switched on the 26/5/21, reading is recorded in Gentrack as the 25/5/21, COBRA rejects the reading because the reading came in the day before the ICP switched to us. Known issue, started occurring in Feb 2021; trying to solve it

3. File from JCC "Nearmatch 202107" had only 4 ICPs listed. One of them was 0000682080TECEO. COBRA was using an incorrect meter serial number and volumes were unnecessarily estimated. Currently this file is not reviewed and reconciled with the Switching Team.
4. HHR ICP- The walkthrough of the HHR correction and estimation processes confirmed compliance, and that corrections will flow through to the relevant submission files.
5. Consumption while ICP inactive – it is monitored closely by the Revenue Team and the Reconciliation Team. A report was provided of 7 ICPs with consumption while "inactive". COBRA was estimating volumes due to incomplete data.
6. Bridged meters -_When AMI meters have been bridged, unmetered consumption is calculated for the bridged period based on the consumption after unbridging, or historic consumption prior to the bridged period. The Switching Team showed us the methodology used to calculate missing volumes. The Team provided the list of 17 ICPs, where meters were bridged and consequently replaced.

ICP	Calculated removal register read	Consumption calculated [kWh]	Meter Removal date	Comment	COBRA reading*	Difference between reading in Cobra and Gentrack [kWh]
0000427448MP6EE	412334	1	1/12/20			
0013579228EL97A	123294	1709	30/11/20	not in Cobra	122473	-821
0000003117ENA24	35900	2124	15/12/20	in Cobra		
0000913565TUEAB	41142	5423	10/12/20	reading was rejected, will be fixed		
0128733039LC14C	26623	1071	5/01/20201	no in Cobra	25552	-1071
1000550264PCA95	18784	517	9/03/21	no in Cobra	18267	-517
0000104533UN237	19444	892	15/03/21	no in Cobra	18553	-891
0000006157CP373	587807	3600	29/03/21	in Cobra		
0000010499UNBB0	2231	2230	29/03/21	not in Cobra	1	-2230
0000553925NR506	387	239	8/04/21	not in Cobra	148	-239
1001295175LC72E	24601	3631	12/04/21	not in Cobra	20970	-3631
0000148517UNE7D	116038	6891	4/05/21	reading was rejected, will be fixed		
0000401018EN601	0	0	6/05/21			

0000041668NT1B9	9908	1935	11/05/21	not in Cobra	9503	-405
0000041668NT1B9	8758	1796	11/05/21	not in Cobra	8362	-396
0005666079WA32B	38018	851	26/05/21	not in Cobra	37167	-851
0499525558LC537	3113	1456	28/06/21	not in Cobra	1567	-1546
					Total	- 12,598

* value is shown if different from value recorded in Gentrack

7. Defective meters – it is a similar process to bridged meters. Where a meter is found to be stopped or faulty, it is replaced. Unmetered consumption is calculated based on the consumption on the replacement meter, or historic consumption prior to the stopped or faulty period – no examples were provided.
8. Incorrect multipliers- Multipliers are stored against the meter and applied to the readings to produce the aggregate volume. It is checked by the Reconciliation Team. There were no multiplier corrections during the audit period.
9. Unmetered load

Weekly reports are created and reviewed by the Switching team and the Revenue Assurance Team. The list of weekly reports run is shown below:

- Consumption on De-energised sites
- No reads project analyses
- Weekly zero consumption reports
- ADL-zero – ICPs which switched out with ADL=0
- UML ICPs

No issues were found.

10. A per **section 1.6**, one breach was noted related to the accuracy of data.

PPPP

JCC submits revision files. PPPP provides metering data for traded ICPs via FTP. JCC loads them into the RM TOOL. Very small changes to volume information between consecutive revisions were observed because actual daily meter reading data is provided.

No late submissions were noted.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 12.7</p> <p>With: 15.12</p> <p>From: 01-Oct-20</p> <p>To: 30-Jun-21</p>	<p>PUNZ – Incorrect submission information for situations which are outside of main processes e.g. disconnected consumption, status reversal in the registry.</p> <p>One breach was recorded for inaccurate submissions.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Weak</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
Medium	<p>Controls are rated as weak as they are unlikely to mitigate the risk of incorrect data. The issue has been noted previously and it still not satisfactory resolved. Audit risk rating is recorded as medium.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status

<p>1. We are currently working with our development team to use RR and CS records in Cobra.</p> <p>2. We are currently working with our development team to use RR and CS records in Cobra.</p> <p>3. We will use the NearMatch report going forward.</p> <p>4. HHR ICP- The walkthrough of the HHR correction and estimation processes confirmed compliance, and that corrections will flow through to the relevant submission files.</p> <p>5. Field Services (FS) run a report to monitor consumption while inactive. FS will share the report with reconciliation so we can monitor and rectify the volume submitted in Cobra.</p> <p>6. Field Services (FS) run a report to monitor bridged meter readings. FS will share the report with reconciliation so we can monitor and rectify the readings in Cobra. We are also working with our development team to investigate why these readings do not get pulled through automatically.</p> <p>7. Field Services (FS) run a report to monitor defective meters. FS will share the report with reconciliation so we can monitor and rectify the readings in Cobra. We are also working with our DBA to investigate why these readings do not get pulled through automatically.</p> <p>8. Multipliers are processed correctly by cobra.</p> <p>9. UML - no issues found</p> <p>10. We under-submitted HHR ICP days. Measures were put in place to prevent this happening again. This issue has not occurred since we put the measures in place.</p>	1/12/21	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
As above	1/12/21	

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

We reviewed the timeliness of NNHVOLS file submitted by Pulse Energy using the PUNZ code. Seven NNHVOLS for 14-month revisions were reviewed to identify any forward estimate still existing.

The process of submitting revision files by Pulse Energy and JCC (as agent for PPPP) was reviewed. Revision information was reviewed.

Audit commentary

PUNZ

Month	Total submission [kWh]	Total Historical estimates [kWh]	Total Forward Estimates [kWh]	HE	No of NSPs for which HE≠0
Sept-19	51,815,435	51,812,991	2,444	0.005%	20
Oct-19	47,682,290	47,680,011	2,279	0.005%	16
Nov-19	38,904,667	38,890,239	14,228	0.04%	65
Dec-19	38,551,561	38,546,496	5,065	0.001%	21
Jan-20	37,883,096	37,880,315	2,781	0.007%	26
Feb-20	35,483,992	35,480,304	3,688	0.010%	20
Mar-20	40,868,887	40,865,908	2,979	0.007%	23

Overall, the percentage of HE in revision 14 is low but it is spread across many NSPs. At the end of the last audit period Pulse Energy introduced a system improvement to ensure that permanent estimates are available for all unread meters after 13 months. It appears that it is working well except for R14 for November 2019. The number of non-compliant NSPs and HE volumes has tripled. It requires further investigation. Overall the HE volume is trending down steadily but the number of NSPs is quite constant.

PPPP

JCC submits revision files. PPPP provides metering data for traded ICPs via FTP. JCC loads them into the RM TOOL. Very small changes to volume information between consecutive revisions were observed because actual daily metering data is provided.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.8 With: 4 of Schedule 15.2 From: 01-Oct-20 To: 30-Jun-21	PUNZ- Some forward estimates are not replaced by permanent estimates in R14 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 implemented by the Field Services and the Switching Team. The impact on settlement outcomes is minor therefore the audit risk rating is recorded as low. Audit risk rating low		
Actions taken to resolve the issue		Completion date	Remedial action status
We are continually monitoring and looking at ways to improve and reduce the number of affected sites.		1/11/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will continue to review R14 accuracy to identify process problems in order to improve our existing processes.		1/6/2022	

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)(ac) to 2(1)(ae)):*
 - 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 use volume information (clause 2(3))*
- *to calculate volume information the reconciliation participant must apply raw meter data :*
 - a) *for each ICP, the compensation factor that is recorded in the registry (clause 2(4)(a))*
 - b) *for each NSP the compensation factor that is recorded in the metering installations most recent certification report. (clause 2(4)(b))*

Audit observation

Pulse Energy provided reconciliation files submitted during the audit period JC Consulting provided reconciliation files for the same period submitted on behalf of PPPP.

This was discussed with PPPP staff and JCC. In addition the LIS, Audit Compliance reports NHHVOLS submission files for the audit period were checked.

Audit commentary

PUNZ

In **section 12.2**. we described in detail the process used by the company to make sure that volumes are submitted for all ICPs for which they are responsible.

We confirm:

- ICPs of category 3 metering installations have submission type HHR
- EG ICPs have correct profile assigned
- Only profiles HHR, RPS, PV1, and EG1 are used, and they do not require certified control devices
- UML ICPs are accounted for
- There are no ICPs with loss or compensation factors
- HHR submissions were correctly aggregated – **section 11.4**

PPPP

PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

PPPP uses the RPS profile for reconciliation. No control devices are used to control loads or switch meter registers.

The LIS report verified that PPPP has not been trading any unmetered load. PPPP does not accept either unmetered load ICPs or ICPs with attached unmetered load.

The process for the calculation of NHH volumes was examined by checking several NSPs ICPs supplied during the audit period. JCC provided a detailed breakdown of volume for each ICP by NSP. NHH volumes aggregation was confirmed to be correct.

Audit outcome

Compliant

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

Code reference

Clause 3 Schedule 15.3

Code related audit information

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

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

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

Audit observation

We reviewed NHHVOLS files submitted for PUNZ during the audit period.

This was discussed with PPPP staff and JCC. In addition NHHVOLS submission files for the audit period were checked.

Audit commentary

PUNZ

We confirm that historic estimates were included and identified correctly in submission files.

PPPP

The process for the calculation of NHH volumes was examined by checking several NSPs ICPs supplied during the audit period. JCC provided a detailed breakdown of volume for each ICP by NSP. NHH volumes aggregation was confirmed to be correct and verified that historic estimates were included and identified correctly in NHHVOLS files submitted during the audit period.

Audit outcome

Compliant

12.11. Historical estimate process (Clause 4 and 5 Schedule 15.3)

Code reference

Clause 4 and 5 Schedule 15.3

Code related audit information

The methodology outlined in clause 4 of Schedule 15.3 must be used when preparing historic estimates of volume information for each ICP when the relevant seasonal adjustment shape is available.

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

Audit observation

We provided Pulse Energy with a set of scenarios to validate the accuracy of the calculation of historic and forward estimation for NHH ICP days.

Audit observation

This was discussed with PPPP staff and JCC. In addition NHHVOLS submission files for the audit period were checked.

Audit commentary

PUNZ

The results of the calculation of historic and forward estimation are shown in the table below:

Test	Scenario	Test Expectation	ICP	Comment
A	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month	0255596723LC568	Compliant
B	ICP becomes Inactive part way through a month	Consumption is only calculated for the Active portion of the month	0000062311TROCD	Compliant
C	ICP become Inactive then Active again within a month	Consumption is only calculated for the Active portion of the month	0000018181EA32B	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	0000008486NT5AA	Compliant
E	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility	0000006875TE977	Compliant
F	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility	0000310898ENFOC	Compliant
G	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	0110003728EL48E	Compliant
H	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	0000019949NT1D2	Compliant
I	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers	0000021742CE7BD	Compliant
J	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month	1001134603LC702	Compliant

K	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month	0000015716CP194	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	0000665241HB411	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	1000572535PCB57	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	0000572497WT80B	Compliant
O	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	0099554430CN4D4	Compliant

PPPP

PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

JCC submits NHHVOLS on behalf of PPPP. JCC receives actual daily meter reading data from ABSL, which is then loaded to the RM TOOL. JCC outlined the process used for estimation.

Estimation of volume information occurs relatively infrequently and because daily meter readings are available JCC is able to calculate very accurate daily consumption to use for any period needing estimation. One of the reasons to estimate is to deal with meter changes, particularly where meter change information has not been made available. If a newly switch gained ICP needs estimated volume information, JCC will use the average daily consumption to calculate an estimate. Any data estimated by JCC for reconciliation purposes is flagged as an estimate.

The calculation of estimate volume information appeared to meet code requirements.

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

We reviewed the estimation process used in the situation when no actual read is available. Forward estimates were checked for accuracy by analyzing the GR170 file for variances between revisions over the audit period.

This was discussed with PPPP staff and JCC. In addition, NHHVOLS submission files for the audit period were checked.

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.

We reviewed GR-170NHH in relation to forward estimate accuracy. We chose Mar2020 and examined the wash up files.

Balancing area	R0 [kWh]	R1 [kWh]	R3 [kWh]	R7 [kWh]	R14 [kWh]
ALLGXPSNPOWG	1,164,404.46	1,194,744	1,143,389	1,166,694	1,168,652
ASHBURTEASHG	1,307,987.16	1,372,788	1,380,931	1,412,918	1,415,530
AUCKLNDVECTG	4,275,877.78	4,457,682	4,450,756	4,467,493	4,458,668
BALANC1TASMG	2,148,135.95	2,200,380	2,122,695	2,107,210	2,098,435
BLN0331MARLG	1,497,428.97	1,548,203	1,472,575	1,530,244	1,531,460
DUNEDINDUNEG	3,050,447.51	3,437,560	3,450,633	3,479,742	3,478,207
MAGPIESHAWKG	1,289,911.48	1,382,233	1,359,262	1,360,476	1,358,164
NORTHRNUNETG	2,930,346.68	3,032,961	3,035,853	3,040,329	3,033,494
PRM0331ELECG	1,140,450.01	1,193,137	1,199,158	1,201,188	1,205,782

RNBAL01ORONG	1,105,686.83	1,181,284	1,173,276	1,186,060	1,183,516
TAUPROTHAWKG	1,689,959.34	1,734,060	1,732,170	1,726,181	1,726,299
TUI1101EASTG	1,713,739.39	1,770,833	1,596,680	1,651,255	1,647,483
WELLTONUNETG	958,034.42	1,006,751	1,023,889	1,023,476	1,020,658

Balancing area	R1/R0	R3/R0	R7/R0	R14/R0
ALLGXPSNPOWG	2.61%	-1.80%	0.20%	0.36%
ASHBURTEASHG	4.95%	5.58%	8.02%	8.22%
AUCKLNDVECTG	4.25%	4.09%	4.48%	4.27%
BALANC1TASMG	2.43%	-1.18%	-1.91%	-2.31%
BLN0331MARLG	3.39%	-1.66%	2.19%	2.27%
DUNEDINDUNEG	12.69%	13.12%	14.07%	14.02%
MAGPIESHAWKG	7.16%	5.38%	5.47%	5.29%
NORTHRNUNETG	3.50%	3.60%	3.75%	3.52%
PRM0331ELECG	4.62%	5.15%	5.33%	5.73%
RNBAL01ORONG	6.84%	6.11%	7.27%	7.04%
TAUPROTHAWKG	2.61%	2.50%	2.14%	2.15%
TUI1101EASTG	3.33%	-6.83%	-3.65%	-3.87%
WELLTONUNETG	5.09%	6.87%	6.83%	6.54%

PPPP

PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

JCC submits NHHVOLS on behalf of PPPP. JCC receives actual daily meter reading data from ABSL, which is then loaded to the RM TOOL. JCC outlined the process used for estimation.

Estimation of volume information occurs relatively infrequently and because daily meter readings are available for existing ICPs JCC is able to calculate very accurate daily consumption to use for any period needing estimation.

One of the reasons to estimate is to deal with meter changes, particularly where meter change information has not been made available. If a newly switch gained ICP needs estimated volume

information, JCC will use the average daily consumption obtained from the registry to calculate an estimate. Any data estimated by JCC for reconciliation purposes is flagged as an estimate.

The calculation of estimate volume information appeared to meet code requirements.

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

We examined the EDA file and the Audit compliance Report from the point of view of profile changes.

We checked a sample of five ICPs where profile changes had occurred.

Audit commentary

PUNZ

PUNZ uses HHR, RPS, PV1, and EG1. The most common profile change is from RPS to RPS PV1 or RPS EG1.

PUNZ uses a validated meter reading on the day that the profile change is effective. Profile changes usually either have metering change on the effective date of the new profile (e.g. where import/export metering is installed and PV1 profile is added), or AMI metering is in place and daily reads are received.

PUNZ ensures that there is a reliable source of daily reading and HHR data prior to moving an ICP from NHH to HHR profile. Every month PUNZ shifts more ICPs to the NZX_TOU system. The plan to have most of ICPs reconciled as HHR.

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.

PPPP

PPPP uses only the RPS profile for reconciliation submissions.

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

Pulse Energy's staff creates NHH and HHR submissions submitted under the PUNZ code.

This was discussed with PPPP staff and JCC. In addition NHHVOLS submission files for the audit period were checked.

Audit commentary

PUNZ

Every month Pulse Energy's staff submits NHHVOLS (cat 1 & 2), HHRVOLS, HHRAGGR (cat 1 to 5). NHH submissions are calculated using COBRA and HHR ICPs using NZX_TOU

We reviewed files and confirm that the format of submission files is compliant.

Submission information was provided to the reconciliation manager in the appropriate format and was aggregated to the following level:

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

PPPP

PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

JCC submits NHHVOLS on behalf of PPPP. Every month JCC submits NHHVOLS using the RPS profile. Several NHHVOLS submission files were checked and it was verified that the format of submission files is compliant.

Submission information was provided to the reconciliation manager in the appropriate format and aggregated correctly by:

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

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 2 decimal places.

If the unrounded digit to the right of the second decimal place is greater than or equal to 5, the second digit is rounded up, and

If the digit to the right of the second decimal place is less than 5, the second digit is unchanged.

Audit observation

We reviewed submission volumes provided to the RM by Pulse Energy. Submission volumes are calculated and submitted by Pulse Energy using code PUNZ and JC Consulting using code PPPP.

This was discussed with PPPP/PUNZ staff and JCC.

Audit commentary

PUNZ

The review of submission files (HHRAGGR, HHRVOLS, NHHVOLS, and BILLED) confirmed that submission data is rounded to two decimal places (2DP).

PPPP

PPPP trades on Pre Pay ICPs using category 1 metering installations only. The PPPP business model is to trade only existing residential connections with remotely read meters.

JCC submits NHHVOLS on behalf of PPPP. JCC receives actual daily meter reading data from ABSL then loaded to the RM TOOL. The data which is loaded to the RM TOOL does not contain decimal places.

The review of submission files confirmed that when reporting submission information, the number of decimal places is rounded to not more than 2 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

We reviewed the timeliness of NHHVOLS file submitted on behalf of Pulse Energy.

We reviewed submitted files and GR-170NHH for the audit period (October 2020 to June 2021).

This was discussed with PPPP staff and JCC. NHHVOLS submission and GR-170 files for the audit period were checked.

Audit commentary

PUNZ

The table shows number of NSPs for which historic estimates percentage have not met the threshold specified in this clause

Audit outcome

The table shows number of NSPs for which historic estimates percentage have not met the threshold specified in this clause

Month	Total number of NSPs	R3	R7	R14
Feb-20	165	1	2	20
Mar-20	165	1	0	23
Apr-20	164	1	0	
May-20	164	0	0	
June-20	162	0	1	
July-20	163	2	0	
Aug-20	163	2	0	
Sept-20	163	3	1	
Oct-20	163	2		
Nov-20	164	1		
Dec-20	165	4		
Jan-21	164	2		
Feb-21	165	3		
Mar-21	164	2		

PPPP

JC Consulting provides NHHVOLS to the reconciliation manager as the agent for PPPP.

Month	Total number of NSPs	R3	R7	R14
June-20	71	1	0	
Aug-20	100	1	1	
Oct-20	107	1		

JCC submits NHHVOLS on behalf of PPPP and revisions 3, 7 and 14 were checked.

4 discrepancies were identified, 3 ICPs in rev 3 files and 1 ICP in rev 7 files. They were all investigated further and found to be related to single new ICPs at an NSP so few meter readings to work with. In

addition 1 ICP had a meter change soon after switching in and another (rev 7) had a history of short rotation switch in and outs that distorted the readings. No issues were identified with revision 14 files.

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 13.3</p> <p>With: 10 of Schedule 15.3</p> <p>From: 01-Oct-20</p> <p>To: 30-Jun-21</p>	<p>PPPP - Historical estimates target not met for revision 3 and 7 for 4 months</p> <p>PUNZ - Historical estimates target not met for revision 3, 7, and 14 for small number of NSPs</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple time</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are recorded as moderate, non-compliance with R3 is and 7 is small (volumes are ever decreasing). More detective controls need to be designed to address R14. The impact on settlement outcomes is minor therefore the audit risk rating is recorded as low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
We have identified the common scenarios that lead to data being incorrectly recorded at the R14 submission stage (mostly, switch reads, and meter change information not being correctly captured by Cobra) and have already implemented new processes to catch and correct these cases.		1/12/21	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will continue to review R14 accuracy to identify process problems to improve our existing processes.		1/12/21	

CONCLUSION

PARTICIPANT RESPONSE