

ELECTRICITY INDUSTRY PARTICIPATION CODE RECONCILIATION PARTICIPANT AUDIT REPORT

For

PULSE ENERGY ALLIANCE LP

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TABLE OF CONTENTS

Executive summary	5
Audit summary	7
Non-compliances	7
Recommendations	11
Issues 12	
1. Administrative	13
1.1. Exemptions from Obligations to Comply with Code (Section 11)	13
1.2. Structure of Organisation	13
1.3. Persons involved in this audit	13
1.4. Use of Agents (Clause 15.34)	14
1.5. Hardware and Software	15
1.6. Breaches or Breach Allegations	17
1.7. ICP Data	17
1.8. Authorisation Received	19
1.9. Scope of Audit	19
1.10. Summary of previous audit	20
2. Operational Infrastructure	24
2.1. Relevant information (Clause 10.6, 11.2, 15.2)	24
2.2. Provision of information (Clause 15.35)	27
2.3. Data transmission (Clause 20 Schedule 15.2)	28
2.4. Audit trails (Clause 21 Schedule 15.2)	29
2.5. Retailer responsibility for electricity conveyed - participant obligations (Clause 10.4)	30
2.6. Retailer responsibility for electricity conveyed - access to metering installations (Clause 10.7(2), (4),(5) and (6))	31
2.7. Physical location of metering installations (Clause 10.35(1) & (2))	31
2.8. Trader contracts to permit assignment by the Authority (Clause 11.15B)	32
2.9. Connection of an ICP (Clause 10.32)	33
2.10. Temporary Electrical Connection of an ICP (Clause 10.33)	34
2.11. Electrical Connection of Point of Connection (Clause 10.33A)	35
2.12. Arrangements for line function services (Clause 11.16)	37
2.13. Arrangements for metering equipment provision (Clause 10.36)	38
3. Maintaining registry information	39
3.1. Obtaining ICP identifiers (Clause 11.3)	39
3.2. Providing registry information (Clause 11.7(2))	39
3.3. Changes to registry information (Clause 10 Schedule 11.1)	40
3.4. Trader responsibility for an ICP (Clause 11.18)	44
3.5. Provision of information to the registry manager (Clause 9 Schedule 11.1)	45
3.6. ANZSIC codes (Clause 9 (1)(k) of Schedule 11.1)	47
3.7. Changes to unmetered load (Clause 9(1)(f) of Schedule 11.1)	48
3.8. Management of “active” status (Clause 17 Schedule 11.1)	49
3.9. Management of “inactive” status (Clause 19 Schedule 11.1)	50
3.10. ICPs at new or ready status for 24 months (Clause 15 Schedule 11.1)	51
4. Performing customer and embedded generator switching	52
4.1. Inform registry of switch request for ICPs - standard switch (Clause 2 Schedule 11.3)	52

4.2.	Losing trader response to switch request and event dates - standard switch (Clauses 3 and 4 Schedule 11.3)	52
4.3.	Losing trader must provide final information - standard switch (Clause 5 Schedule 11.3)	53
4.4.	Retailers must use same reading - standard switch (Clause 6(1) and 6A Schedule 11.3)	56
4.5.	Non-half hour switch event meter reading - standard switch (Clause 6(2) and (3) Schedule 11.3)	58
4.6.	Disputes - standard switch (Clause 7 Schedule 11.3)	59
4.7.	Gaining trader informs registry of switch request - switch move (Clause 9 Schedule 11.3) ..	60
4.8.	Losing trader provides information - switch move (Clause 10(1) Schedule 11.3)	62
4.9.	Losing trader determines a different date - switch move (Clause 10(2) Schedule 11.3)	63
4.10.	Losing trader must provide final information - switch move (Clause 11 Schedule 11.3)	64
4.11.	Gaining trader changes to switch meter reading - switch move (Clause 12 Schedule 11.3) ..	67
4.12.	Gaining trader informs registry of switch request - gaining trader switch (Clause 14 Schedule 11.3)	69
4.13.	Losing trader provision of information - gaining trader switch (Clause 15 Schedule 11.3) ..	71
4.14.	Gaining trader to advise the registry manager - gaining trader switch (Clause 16 Schedule 11.3)	72
4.15.	Withdrawal of switch requests (Clauses 17 and 18 Schedule 11.3)	72
4.16.	Metering information (Clause 21 Schedule 11.3)	74
4.17.	Switch protection (Clause 11.15AA to 11.15AB)	75
5.	Maintenance of unmetered load	76
5.1.	Maintaining shared unmetered load (Clause 11.14)	76
5.2.	Unmetered threshold (Clause 10.14 (2)(b))	77
5.3.	Unmetered threshold exceeded (Clause 10.14 (5))	77
5.4.	Distributed unmetered load (Clause 11 Schedule 15.3, Clause 15.37B)	78
6.	Gathering raw meter data	79
6.1.	Electricity conveyed & notification by embedded generators (Clause 10.13, Clause 10.24 and 15.13)	79
6.2.	for metering at GIP (Clause 10.26 (6), (7) and (8))	81
6.3.	Certification of control devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3) ..	82
6.4.	Reporting of defective metering installations (Clause 10.43(2) and (3))	83
6.5.	Collection of information by certified reconciliation participant (Clause 2 Schedule 15.2) ..	83
6.6.	Derivation of meter readings (Clause 3(1), 3(2) and 5 Schedule 15.2)	84
6.7.	NHH meter reading application (Clause 6 Schedule 15.2)	85
6.8.	Interrogate meters once (Clause 7(1) and (2) Schedule 15.2)	86
6.9.	NHH meters interrogated annually (Clause 8(1) and (2) Schedule 15.2)	87
6.10.	NHH meters 90% read rate (Clause 9(1) and (2) Schedule 15.2)	89
6.11.	NHH meter interrogation log (Clause 10 Schedule 15.2)	92
6.12.	HHR data collection (Clause 11(1) Schedule 15.2)	93
6.13.	HHR interrogation data requirement (Clause 11(2) Schedule 15.2)	93
6.14.	HHR interrogation log requirements (Clause 11(3) Schedule 15.2)	95
7.	Storing raw meter data	97
7.1.	Trading period duration (Clause 13 Schedule 15.2)	97
7.2.	Archiving and storage of raw meter data (Clause 18 Schedule 15.2)	97
7.3.	Non metering information collected / archived (Clause 21(5) Schedule 15.2)	98
8.	Creating and managing (including validating, estimating, storing, correcting and archiving) volume information	99
8.1.	Correction of NHH meter readings (Clause 19(1) Schedule 15.2)	99

8.2.	Correction of HHR metering information (Clause 19(2) Schedule 15.2)	101
8.3.	Error and loss compensation arrangements (Clause 19(3) Schedule 15.2)	102
8.4.	Correction of HHR and NHH raw meter data (Clause 19(4) and (5) Schedule 15.2)	102
9.	Estimating and validating volume information.....	104
9.1.	Identification of readings (Clause 3(3) Schedule 15.2).....	104
9.2.	Derivation of volume information (Clause 3(4) Schedule 15.2)	104
9.3.	Meter data used to derive volume information (Clause 3(5) Schedule 15.2).....	105
9.4.	Half hour estimates (Clause 15 Schedule 15.2).....	107
9.5.	NHH metering information data validation (Clause 16 Schedule 15.2)	108
9.6.	Electronic meter readings and estimated readings (Clause 17 Schedule 15.2)	110
10.	Provision of metering information to the GRID OWNER in accordance with subpart 4 of Part 13 (clause 15.38(1)(f))	113
10.1.	Generators to provide HHR metering information (Clause 13.136)	113
10.2.	Unoffered & intermittent generation provision of metering information (Clause 13.137)	113
10.3.	Loss adjustment of HHR metering information (Clause 13.138).....	114
10.4.	Notification of the provision of HHR metering information (Clause 13.140)	114
11.	Provision of submission information for reconciliation.....	115
11.1.	Buying and selling notifications (Clause 15.3).....	115
11.2.	Calculation of ICP days (Clause 15.6)	115
11.3.	Electricity supplied information provision to the reconciliation manager (Clause 15.7).....	117
11.4.	HHR aggregates information provision to the reconciliation manager (Clause 15.8)	119
12.	Submission computation	121
12.1.	Daylight saving adjustment (Clause 15.36)	121
12.2.	Creation of submission information (Clause 15.4).....	122
12.3.	Allocation of submission information (Clause 15.5)	123
12.4.	Grid owner volumes information (Clause 15.9)	125
12.5.	Provision of NSP submission information (Clause 15.10)	125
12.6.	Grid connected generation (Clause 15.11).....	126
12.7.	Accuracy of submission information (Clause 15.12)	126
12.8.	Permanence of meter readings for reconciliation (Clause 4 Schedule 15.2).....	129
12.9.	Reconciliation participants to prepare information (Clause 2 Schedule 15.3)	131
12.10.	Historical estimates and forward estimates (Clause 3 Schedule 15.3).....	132
12.11.	Historical estimate process (Clause 4 and 5 Schedule 15.3)	133
12.12.	Forward estimate process (Clause 6 Schedule 15.3)	135
12.13.	Compulsory meter reading after profile change (Clause 7 Schedule 15.3).....	137
13.	Submission format and timing	138
13.1.	Provision of submission information to the RM (Clause 8 Schedule 15.3)	138
13.2.	Reporting resolution (Clause 9 Schedule 15.3)	139
13.3.	Historical estimate reporting to RM (Clause 10 Schedule 15.3)	140
Conclusion	144
Participant response	144

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 79,156 ICPs using PUNZ code and 772 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.

Pulse Energy runs two separate systems to manage PUNZ and PPPP customers. The database, PRADA, stores NHH reads and is used for both codes. The database is partitioned to keep meter reads separate for each code.

This audit has examined compliance for both codes.

The Pulse Energy Alliance compliance is partly dependent on JC Consulting for providing reconciliation services for PPPP, and meter data providers, such as MEPs and agents (AccuCal, EDMi, AMCI, and WELLS) for PUNZ and PPPP.

The functions performed by JC Consulting and AccuCal were audited as part of this audit. The EDMi agent report (dated 27/08/2020), the AMS HHR agent report (dated 27/06/2020,) and the WELLS agent report (dated 30/07/2020) were reviewed during this audit.

Pulse Energy is in the process of replacing legacy meters with smart meter therefore the number of meters read by WELLS is decreasing steadily.

For PUNZ 26 non-compliances, 3 recommendations, and one issue were recorded. For PPPP 6 non-compliances and one recommendation were recorded during the audit.

The level of compliance has improved in the following areas:

- Switch Breach Report noted only late RR file, other switching activities were completed in time
- More timely registry updates, less backdated entries
- Decrease in numbers of no-reads ICPs (4 months cycle)
- NHH reads – good attainment of reads in 4 and 12 month periods

The main issues identified during this audit are:

- Accuracy of submissions
 - Aniwhenua Barrage -possibly an incorrect multiplier and local services volumes are not submitted. We recommend conducting an audit for this installation.
 - Bridged meters – 7 ICP volumes not estimated, there is a process in place but not always followed
 - RR files received from gaining traders are not accounted for in submission files created by COBRA. We note in the previous audit that it was noted as non-compliance but addressed.
- No progress in addressing issues related to incorrect information in CS files created by Gentrack
- Embedded generation - mismatch of profile used in submission files and recorded in the registry, only bulk updates to the registry information
- 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

- Lack of a robust process to compare ICP status in the registry and Gentrack, which means that on some occasion volumes are not submitted because COBRA submissions are based on the registry information
- Swich Move process used incorrectly when Standard Swich needs to be backdated

The audit period was 01/11/2019 to 30/09/2020.

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 50 which results in an indicative audit frequency of 6 months. Our recommendation is 12 months. This should allow the time necessary for Pulse Energy to put new processes in place to address non-compliances.

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

PUNZ

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	11.2;15.2	A small quantity of information in the registry was inaccurate, Incorrect information in CS files	Moderate	Low	2	Identified
Provision of information	2.2	15.35	One breach was recorded for late or inaccurate submissions.	Strong	Low	1	Identified
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.	Moderate	Low	2	Identified
Changes to registry	3.3	10 of Schedule 11.1	Late updates of “inactive” and “active” status and trader information	Moderate	Low	2	Identified
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	Moderate	Low	2	Identified
ANZSIC codes	3.6	9 (k) of Schedule 11.1	209 ICPs had incorrect ANZSIC code recorded in the registry	Moderate	Low	2	Identified
Changes to unmetered load	3.7	9 (f) of Schedule 11.1	1 ICP had incorrect UML details recorded in the registry	Strong	Low	1	Cleared
Losing trader must provide final information -	4.3	5 of Schedule 11.3	Average daily consumption methodology is incorrect for ICPs	Moderate	Low	2	Identified

standard switch			which usage is less than 1 kWh. Information for a small number of ICPs is incorrect				
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	Moderate	Low	2	Identified
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	Moderate	Low	2	Identified
Gaining trader informs registry of switch request - switch move	4.7	9 of Schedule 11.3	Incorrect type of switch used	Weak	Low	3	Identified
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	Moderate	Low	2	Identified
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	Moderate	Low	2	Identified
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	Strong	Low	1	Identified
Withdrawal of switch request	4.15	17 of Schedule 11.3	6 late NW files	Moderate	Low	2	Identified
Electricity conveyed & notification by	6.1	10.13 (2)(b)	The profile RPS PV1 is assigned to an ICP one day after the	Weak	Low	3	Identified

embedded generators			switch event date. RM not notified				
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	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 one NSP over 4 months	Strong	Low	1	Identified
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	Moderate	Low	2	Identified
Correction of NHH readings	8.1	19(1) of Schedule 15.2	7 corrections for bridged meters have not been processed	Weak	Low	3	Identified
Meter data used to derive volume information	9.3	3(5) of Schedule 15.2	Meter data provided by AMCI, FCLM, and EDM I for reconciliation is rounded therefore it results in technical breach for Pulse Energy	Moderate	Low	2	Identified
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	Weak	Low	3	Identified
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates information provision to the reconciliation manager	Strong	Low	1	Not required. The Code change required a line up with RN file specification. Breach risk rating excluded from total

Daylight saving adjustment	12.1	15.36	Partly incorrect daylight saving adjustment for NZDT for data provided by AccuCal	Moderate	Low	2	Identified
Accuracy of submission information	12.7	15.12	Some submission volumes were inaccurate	Weak	Low	3	Identified
Permanence of meter readings for reconciliation	12.8	4 of Schedule 15.2	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	Historical estimates target not met for revision 3, 7, and 14 for 4 months	Strong	Low	1	Identified
Future Risk Rating						50	

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

PPPP

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	11.2;15.2	Incorrect information in CS files	Moderate	Low	2	Identified
Changes to registry	3.3	10 of Schedule 11.1	Late updates of “inactive” and “active” status and trader information	Moderate	Low	2	Identified
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”	Moderate	Low	2	Identified

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)	Moderate	Low	2	Identified
Losing trader determines a different date - switch move	4.9	10(2) Schedule 11.3)	The switch event date was backdated for 5 ICPs	Strong	Low	1	Identified
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”	Moderate	Low	2	Identified
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	Weak	Low	3	Identified
Historical estimate reporting	13.3	10 of Schedule 15.3	Historical estimates target not met for R3 for one NSP	Strong	Low	1	Identified
Future Risk Rating						15	

RECOMMENDATIONS

PPPP

Subject	Section	Description	Recommendation
Audit trails	2.4	A source name (file reference) of metering data is not visible on a screen	Store the name of the source against each meter reading as a reference

PUNZ

Subject	Section	Description	Recommendation
Embedded generation	6.1	Distributors assigned embedded generation to 18 ICPs but no Import/ Export meter installed	To contact networks to confirm if embedded generation for 18 ICPs was connected to their network
		The profile RPS PV1 is assigned to an ICP one day after the switch event date.	Enhance a process of assigning PV1 or EG1 profile to installation with embedded generation after a switch is finalised.
Accuracy of submission information	12.7	Possibility of incorrect multiplier applied, and no volumes submitted for Aniwhenua Barrage local services	Conduct an audit of metering configuration for ICP 1000023001BP357

ISSUES

Subject	Section	Description	Issue
Meter data used to derive volume information	9.3	Meter data provided by AMCI, FCLM, and EDM I in EIEP3 format is rounded	Meter data provided by AMCI, FCLM, and EDM I (EIEP3 format) is rounded therefore it results in technical breach for Pulse Energy

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 confirm 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 Pricing and Trading	Pulse Energy
Kasey Pasene	GM Operations	Pulse Energy
Debjani Haldar	Customer Operation Team Leader	Pulse Energy
Paramita Kundu	Billing Team Leader	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
Eri Gifkins	Data Analyst	Pulse Energy
Leroy Wiles	Senior Sales Analyst	Pulse Energy
John Candy	Director	JC Consulting
Russell Mann	Director	AccuCal
Ewa Glowacka	Electricity Authority Approved Auditor	TEG & Associates

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 – about 10,000 ICPs
- AMS, EDM and AccuCal – HHR readings – 50 ICPs
- JC Consulting – reconciliation services for PPPP

Audit commentary

A copy of the most recent WELLS, EDM 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 audit report was completed on 27/08/2020, AMS HHR (dated 27/06/2020) and WELLS audit report was completed on 30/07/2020)

In the EDM audit report the following non-compliances were identified:

1. ICP 0305679023LC074 was unable to be read in the previous three months, and has a maximum interrogation cycle of 90 days – it is not a PUNZ ICP
2. There are at least 34 ICPs which have trading period data rounded to two decimal places, when three decimal places are available.

The first non-compliance is not relevant to the Pulse Energy's operations. The second non-compliance is relevant to Pulse Energy operation because EDM I provides data for 25 HHR ICPs. It will be discussed further in relevant parts of this report.

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

1.5. Hardware and Software

The main Pulse Energy systems are as follows:

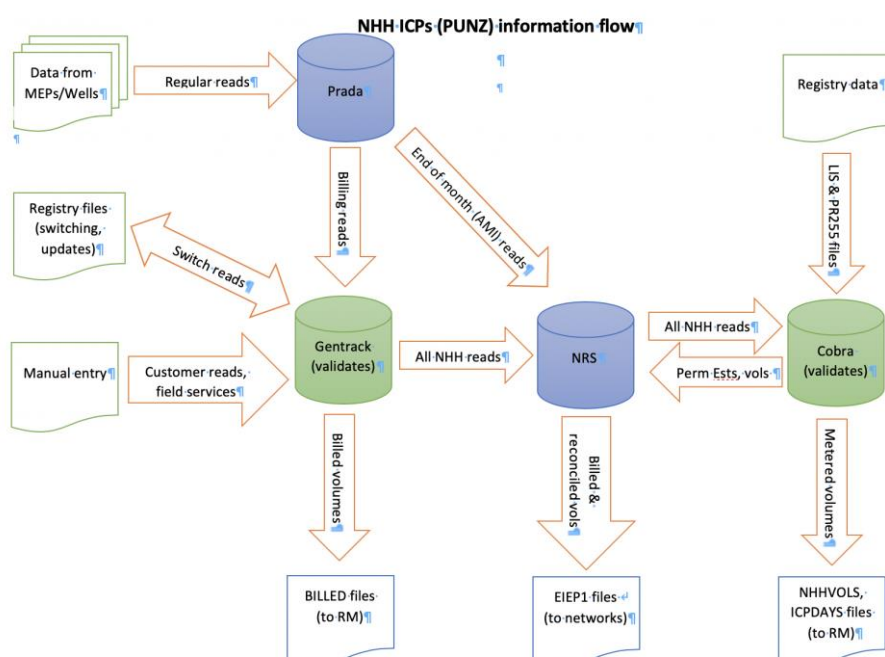
- Gentrack – switching, registry management, and billing
- COBRA – NHH reconciliation
- VIPER – HHR reconciliation
- PRADA – data warehouse
- ABSL – management of pre-pay customers and their readings
- Two routines are written in Python to daylight shift data from AccuCal when required and create files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

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.

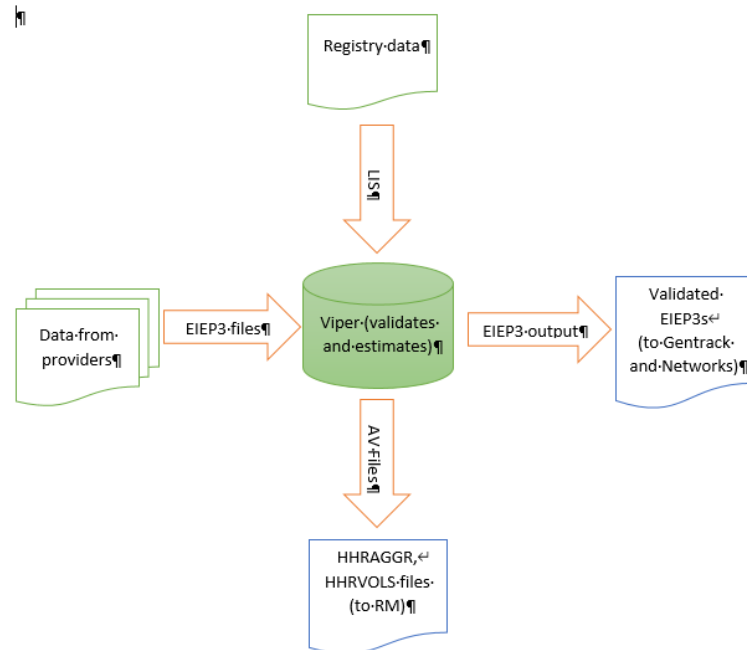
The diagrams below show a configuration of the system and information flow for PUNZ and PPPP.

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

PUNZ



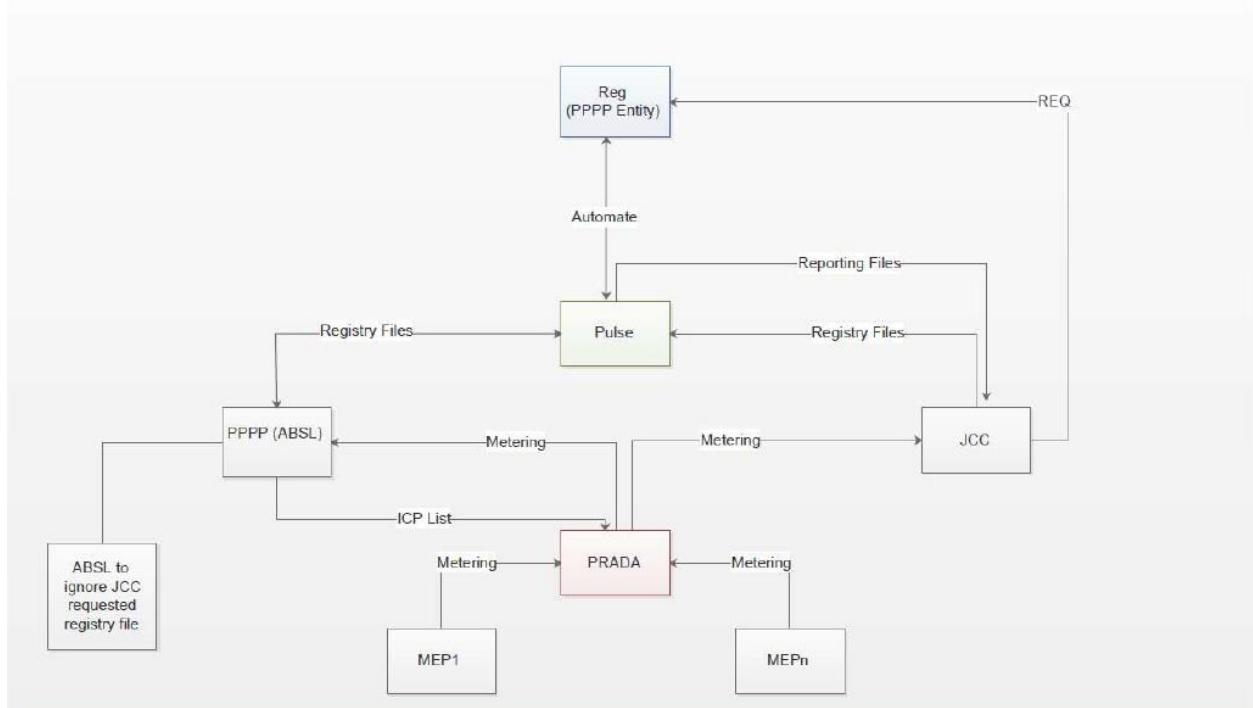
HHR ICPs data flow



PPPP

The PPPP code is used for NHH ICPs reconciliation.

PPPP (ABSL) Flow Chart



1.6. Breaches or Breach Allegations

Compliance Electricity Authority advised the following breaches were recorded against Pulse Energy

Reference	Status	Result	Target EGR date	Severity	Code	Code	Summary
1904PEAL3	closed	early closure	16/03/20 12:00 AM	low	Part 15 clause 15.4 (2)		Property Power Limited (CPPL) has failed to submit data to the reconciliation manager by 16:00 on January 22nd BD 13 in breach of Part 15.4 (2) of the Code. CPPL submitted the data at 17.55 on the 20th Feb.
2009PEAL1	fact finding	no result yet	2/12/20 12:00 AM	low	Part 15 clause 15.4	Part 15 clause 15.12	The Reconciliation Manager notified PUNZ of the incorrect submission on the dedicated Y flag for LINE NSPs at HTI0331 for the washup periods of June 2019, January 2020, May 2020 for the HHRVOLS. PUNZ was also previously notified by LINE and the Reconciliation Manager on 13/08/2020 to correct future submissions and revisions. PUNZ submitted on 19/08/2020, before submission deadline. PUNZ was notified to correct washup files submitted. PUNZ did not correct their submission in time before the deadline and submitted past the submission deadline at 16:00 on 19/08/2020. PUNZ was given the option to revise their submission and re-submit before the submissions were processed and published.

The first breach was discussed during the audit. The company was not cleared of the reason for this breach. All CPPL ICPs switched to PUNZ. It was covered by previous audits.

1.7. ICP Data

PPPP

Metering Category	(08/10/2020)	(2019)	(date)
1	772	3	
2	0	0	
3	0	0	
4	0	0	
5	0	0	
9	0	0	

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

PUNZ

Metering Category	08/10/2020	(22/10/2019)	(01/2019)	(2018)
1	79,445	75,973	76,465	71,822
2	180	162	156	100
3	7	7	7	1
4	4	4	4	2
5	3	2	2	1
9	297	6	2	5

Status	Number of ICPs (08/10/2020)	Number of ICPs (22/10/19)	Number of ICPs (01/19)	Number of ICPs (2018)
Active (2,0)	78,437	75,536	75,649	71,933
Inactive – new connection in progress (1,12)	6	0	3	9
Inactive – electrically disconnected vacant property (1,4)	602	544	223	259
Inactive – electrically disconnected remotely by AMI meter (1,7)	27	25	18	22
Inactive – electrically disconnected at pole fuse (1,8)	40	34	4	5
Inactive – electrically disconnected due to meter disconnected (1,9)	12	8	2	1
Inactive – electrically disconnected at meter box fuse (1,10)	4	2	0	1
Inactive – electrically disconnected at meter box switch (1,11)	9	10	4	4
Inactive – electrically disconnected ready for decommissioning (1,6)	17	25	32	29
Inactive – reconciled elsewhere (1,5)	2	1	0	0
Decommissioned (3)	796	714	590	534

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 21 October

2020 and 28 November 2020. 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'19 by Ewa Glowacka of TEG & Associates Ltd. The following non-compliances for PUNZ were identified. PPPP was fully compliant and had just started trading at the time of the audit.

PUNZ

Subject	Section	Clause	Non-Compliance	Comment
Relevant information	2.1	11.2	Discrepancies between Gentrack and the registry. Incorrect information in CS files, incorrect submission volumes for 1000023001BP357	Still exists
Provision of information	2.2	15.35	4 breaches were recorded for late or inaccurate submissions	Still exists
Audit trails	2.4	21 of Schedule 15.2	No audit trail for changes made directly in COBRA's database	Cleared
Electrical connection	2.11	10.33A	13 reconnections had expired certification recorded on the registry when they were reconnected	Still exists Improved
Changes to registry	3.3	10 of Schedule 11.1	Late updates of "inactive" and "active" status and trader information	Still exists Improved
Provision of information to the registry manager	3.5	9 of Schedule 11.1	20 late updates to "active" status and incorrect profile for 38 ICPs (solar)	Still exists
ANZSIC codes	3.6	9(1)(k) of Schedule 11.1	4 ICPs had incorrect ANZSIC code recorded in the registry	Still exists
Changes to unmetered load	3.7	9(1)(k) of Schedule 11.1	Unmetered load incorrectly recorded for one ICP	Cleared
Management of "active" status	3.8	17 of Schedule 11.1	5 ICPs with incorrect "active" date	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	10 late RR files for standard switch	Still exists
Non-half hour switch event meter reading - standard switch	4.5	6(3)(a) of Schedule 11.3	17 RR files provided by a gaining trader (AMI reads) within 5 BD were not accepted	Still exists
Gaining trader informs registry of	4.7	9 of Schedule 11.3	Incorrect type of switch used	Still exists

switch request - switch move				
Losing trader must provide final information - switch move	4.10	11 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
Gaining trader changes to switch meter reading - switch move	4.11	12 of Schedule 11.3	16 late RR files for Switch Move	Still exists
NHH meters interrogated annually	6.9	8(1) of Schedule 15.2	100% attainment was not achieved for more than 251 NSPs over 7 months	Still exists
NHH meters 90% read rate	6.10	9(1) of Schedule 15.2	90% attainment was not achieved for 4 months (19 ICPs)	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
HHR interrogation log requirements	6.14	11(3) of Schedule 15.2	No interrogation log created for readings provided by AccuCal (proprietary software is used)	Cleared
Meter data used to derive volume information	9.3	3(5) of Schedule 15.2	Meter data used for reconciliation is truncated or rounded for 65% ICPs	Still exists HHR ICPs
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates information provision to the reconciliation manager	Still exists
Creation of submission information	12.2	15.4	Two breaches were recorded for late provision of submission volumes in Feb'19 and June'19	Cleared
Accuracy of submission information	12.7	15.12	Inaccurate submission for 1000023001BP357 (Barrage export)	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 Improved

Forwards estimates process	12.12	6 of Schedule 15.3	Forward estimates do not meet +/- 15% threshold for 7 balancing areas	Cleared
Historical estimate reporting	13.3	10 of Schedule 15.3	Historical estimates target not met for R3, R7, and R14	Still exists Improved

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

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

Audit commentary

PPPP

The analysis of the LIS files and PR-255 did not show any incorrect information in the registry. We conducted sampling of the CS files, RR files and submissions. More details are in relevant sections.

We did not observe any misleading or deceptive information in submission files. The only area where we observed inaccurate information was in the CS files as described in **section 4.3** and **4.10** (switching).

PUNZ

We identified three places where information provided to participants was incorrect.:

Section 4.3 and **4.10** described that, in some CS files, the flag “E” was used even if the date of the last actual read was in the past, a small number of ICPs had negative daily kWh or due to Gentrack’ rounding process daily kWh was “0”, when in fact it was less than 1.

Section 12.7 we identified incorrect submission volumes for ICP 1000023001BP357

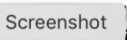
The analysis of the LIS file and PR-255 found the following:

Issue	ICP	Comment
ANZSIC code assigned as T99	0	No ICPs
UML flag “Y”, daily unmetered kWh =1	0000505719DEDE4	Incorrect entry. DUNE did not record UML in the registry, PUNZ corrected registry entry during (BTS) the audit.

No meter	0000177260TP36D 0257351701LC47D 0000008212NTD41	vacant property, no meter 26/06/17 vacant property, no meter since 16/6/19 disconnected since 18/07/17
“active” ICP, no meter details	0119117118LC656	FCLM updated the registry on 20/10/2020, backdating to 31/10/2014
ICP with B Inst Type that do not have a corresponding Injection Register	41 ICPs	
Discrepancy between metering certification date and “active” status	0000511262DED09* 1002108808LCEBA*	Active is from 29/09/19, meter was hung on 5/10/20 Active is from 29/09/19, meter was hung on 8/10/20

* It was discussed during the audit. The status was updated on GT correctly for the correct date, however, the registry file had the incorrect date. It has been raised with the Gentrack team and they are currently investigating the issues around the New Connection process.

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.

A weekly report to check for status mismatch between the registry and Gentrack does not look at historic records. There is a plan to design a new query to address this.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: 11.2; 15.2 From: 01-Nov-19 To: 30-Sep-20	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
The existing reports are part of an ongoing programme of continuous improvement. We have cleared the problems on 4 of these ICPs. Pulse is investigating on rest.		31/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Existing reports will be further enhanced and added to as the opportunity arises, and as we can devise suitable ways to detect errors.		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.

Audit commentary

PPPP

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

PUNZ

We reviewed the breaches described in **section 1.6**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.2 With: 15.35 From: 01-Nov-19 To: 30-Sep-20	PUNZ - one breach was recorded for late or inaccurate submissions. 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 assessed as strong. Audit risk rating is recorded as low because files were late no more than one day therefore the RM was able to process them in time.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse fixed the submission files after being notified by reconciliation manager on 20 th August 2020.		20 th August 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse has fixed the system issue. Additional processes have been put in place to check for similar issues in submission files before submitting.		28 th August 2020	

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 also discussed during the audit.

Audit commentary

All 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.

PPPP

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

Any manual updates of the registry data for PPPP are carried out by Pulse Energy staff using the registry web portal.

PUNZ

AccuCal provides monthly meter readings for 2 ICPs, which are downloaded from their SFTP server.

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

Any manual updates of the registry data for PUNZ are carried out by Pulse Energy staff using the registry web portal.

EDMI provides meter data using email, files are password protected.

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

PPPP

ABSL database is used to store metering data, we reviewed its audit trail. We observed that a source name (file reference) of metering data is not visible on a screen used by operators. It is stored internally in the database; evidence was shown to us. We also identified that ABSL uses only two descriptions of reads, actual and estimated, RR files are not individually identified, which could lead to confusion.

Our recommendation is to store the name of source against each meter reading, similar to how it is implemented in Gentrack.

PUNZ

- Gentrack audit trail was reviewed and we found it compliant.
- VIPER – HHR ICPs submissions – audit trail was reviewed, and we found it compliant.
- 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 reconciliation team created a spreadsheet in which they keep a record of the changes that were made.
- PRADA - data cannot be changed, it is the database which accepts metering data from MEPs and agents

Audit outcome

Compliant

Description	Recommendation	Audited party comment	Remedial action
A source name (file reference) of metering data is not visible on a screen	PPPP - Store the name of the source against each meter reading as a reference	Pulse agrees that this is an area that Pulse can improve on.	Pulse will work with ABSL to add a source file name reference against meter reads that received.

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

PPPP

It trades only category 1 metering installations for which the metering installation is located close to a point of connection

PUNZ

It trades category 1 to 5 metering installations as shown below

Metering Category	08/10/2020
1	79,445
2	180
3	7
4	4
5	3

The company confirmed that traded by them requires the compensation factors.

We sighted category 4 and 5 certifications to confirm.

none of the metering installations application of any error or loss

metering installation

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. Also we reviewed the New Connection process and discussed this with Pulse Energy's staff.

Audit commentary

PPPP

PPPP is not planning to trade new connections. The business model adopted by PPPP is to trade only existing connections with remotely read meters which are treated as pre-pay.

No new connection process is documented.

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. There are exceptions, for example when the NGCM delays the upload of metering data to the registry, Gentrack is not updated therefore reads are rejected and COBRA estimates submission volumes.

Pulse Energy wants 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. It requires some minor changes to Gentrack. The LIS file dated 8/10/2020 shows 6 ICPs with the status (1,12). It was a test run.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

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

Audit observation

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.

Audit commentary

PPPP

PPPP is not planning to trade new connections. The business model adopted by PPPP is to trade only existing connections with remotely read meters which are treated as pre-pay.

No new connection process is documented.

PUNZ

No temporary electrical connections were requested by Pulse Energy.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

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

Audit observation

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

PPPP

PPPP is not planning to trade new connections. The business model adopted by PPPP is to trade only existing connections with remotely read meters which are treated as pre-pay.

No new connection process is documented.

PPPP had a number of disconnections, all of them were done remotely by MEPS. PPPP actively checks if an installation has a valid installation certification before reconnecting. All installations traded by PPPP have valid installation certification.

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 identified one new installation 0000509411CE968 for which the meter was certified after the status was

changed to “active”. It gives the impression that the installation was not certified before being electrically connected.

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 4 ICPs, listed below, which had expired interim certification when they were reconnected. It is identified as non-compliance. Since the last audit Pulse Energy implemented an upgrade to their process to follow up with MEPs to certify installations. The company proactively works with MEPs and customers to upgrade metering. Sometime there are obstacles which are difficult to overcome e.g. a customer refuses access to their property or do not wish to have a smart meter. The company commented that 1.8% of traded installations have expired certification.

ICP	Reconnection date	Metering Installation Certification Expiry Date	MEP	Comment
0036710181PC965	05/10/2020	01/04/2015	NGCM	
0031662626PC707	15/09/2020	07/04/2020	NGCM	
0070119650WM960	07/09/2020	01/04/2015	FCLM	Certified on 01/10/20
0000032743CP97E	12/08/2020	06/08/2019	NGCM	

Bridged meters

Pulse Energy provided a list of 9 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.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.11 With: 10.33A From: 01-Nov-19 To: 30-Sep-20	PUNZ - 4 reconnections had expired certification recorded on the registry when they were reconnected; 0000509411CE968 made active before its installation was certified. 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
Training and procedures have been modified to ensure agents are aware of the need to advise customers when a meter must be recertified. The cases found are related to agent training issue.		01/09/2019	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.		01/01/2021	

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.

Audit commentary

PPPP

PPPP trades on 28 networks. The company stated to have Use System Agreements signed for all networks to which their ICPs are connected to. The agreements are signed as Pulse Energy which trades under two codes.

PPPP uses 5 MEPs to provide metering services. The company confirms they have arrangements with all of them.

PUNZ

PUNZ trades on 37 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 22 MEPs to provide metering services. The company confirms they have arrangements with all of them.

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.

Audit commentary

PPPP

PPPP uses 5 MEPs to provide metering services. The company confirms they have arrangements with all of them.

PUNZ

PUNZ uses 22 MEPs to provide metering services. The company confirms they have arrangements with all of them.

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.

Audit commentary

PPPP

PPPP is not planning to trade new connections. The business model adopted by PPPP is to trade only existing connections with remotely read meters which are treated as pre-pay.

No new connection process is documented.

PUNZ

In **section 2.9**, we described in detail the new connection process which we found compliant. According to the Retail Audit report there were 187 new connections during the audit period.

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.

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

Audit commentary

PPPP

PPPP is not planning to trade new connections. The business model adopted by PPPP is to trade only existing connections with remotely read meters which are treated as pre-pay.

No new connection process is documented.

PUNZ

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

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

The LIS file, EDA file and Audit Compliance report for the audit period were reviewed.

Audit commentary

PPPP

The table below shows the summary of updates in the registry. The first 2 ICPs traded by Pulse Energy using the PPPP code switched on 30/10/19. No trader or status updates were recorded prior this audit.

Status update	Year	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)	2020	176	109	67	6.8	61.9%
Change to electrically disconnected vacant property – (1,4)	2020	1	1	0	2	100%
Change to electrically disconnected by AMI meter (1,7)	2020	39 ²⁾	29	10	5.3	66.7%
Trader (NT updates and MEP nominations are excluded)	2020	8 ³⁾	0	8	18	53%
MEP nomination	2020	34 ¹⁾	27	7	4.1	80%

1) All MEP nomination were for NGCS. They were not accepted because NGCS is a meter owner not the MEP. It was discussed with Pulse Energy. Their comment is below:

“The ABSL developer is currently looking into this, it seems on the front page of the EA website the MEP is listed as NGCM, however at the metering level 4 the meter owners are listed as NGCS. It seems the webservice call the system is using to determine meter owner is at the Meter level we are working on an update for this.”

2) The late update to the status “1,7” was discussed. Their comment is shown below:

“These are manual updates completed with a delay. We have trained more people so that delays do not occur and have updated the system to ensure there is no delay with updates to disconnected which is why you can see from the end of August onwards there should be no issues.”

The review of the EDA file and the Audit Compliance report for Oct’20 confirmed it.

3) Trader changes were related to updates of the type of reconciliation. It was identified as a problem with the ABSL software, the type of reconciliation “moved” from NHH to HHR back to HHR and again NHH. Pulse Energy commented that it was identified that the system was sending the status update with the Y/N values in the incorrect fields for the profile code which caused these issues. This change was updated in the system and released to a production.

PUNZ

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

Status update	Year	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)	2018	782	293	489	25	37%
	01/19	459	286	173	15	62%
	10/19	1,684	1,309	375	10	78%
	2020	1,540	1,384	156	3.3	90%
Change to electrically disconnected vacant property -(1,4)	2018	224	137	87	8	61%
	01/19	186	163	23	20	88%
	10/19	1,882	1,848	34	2	98.2%
	2020	1,613	1,599	614	1	99%
Change to reconcile elsewhere (1,5)	2018	0				
	01/19	1	0	1	6	0%
	10/19	0				
	2020	0				
Change to electrically disconnected ready for decommissioning (1,6)	2018	30	8	22	69	27%
	01/19	66	35	31	51	53%
	10/19	55	23	32	90	42%
	2020	27	16	9	10	60%
Change to electrically disconnected by AMI meter (1,7)	2018	37	37	0	1	100%
	01/19	6	5	1	1	83%
	10/19	64	63	1	0.03	98.4%
	2020	96	96	0	1	100%
Change to electrically disconnected at pole fuse (1,8)	2018	8	3	5	25	38%
	01/19	6	5	3	10	50%
	10/19	179	158	21	23	88.2%
	2020	162	158	4	1.8	97.5%
	2018	5	5	0	2	100%

Change to electrically disconnected due to meter disconnected (1,9)	01/19	6	5	1	3	83%
	10/19	56	52	4	13	92.8%
	2020	26	23	3	3.8	88.4%
Change to electrically disconnected at meter box fuse (1,10)	2018	0				
	01/19	0				
	10/19	16	16	0	2.5	100%
	2020	45	44	1	3.5	97.8%
Change to electrically disconnected at meter box switch (1,11)	2020	20	20	0	2	100%
Change to new connection in progress (1,12)	2018	0				
	01/19	0				
	10/19	1	1	1	154	50%
	2020	4	0	4	10	0%
Trader (NT updates and MEP nominations are excluded)	2018	No data recorded				
	01/19	1,086	453	633	198	42%
	10/19	1,051	790	261	23	75.1%
	2020	1,804	1,592	212	2.75	88%
MEP nomination	2018	4,041	2,394	1647	10	59%
	01/19	1,661	1,319	342	11	79%
	10/19	1,116	861	255	13	77%
	2020	2,514	2,354	160	3	94%

Overall compliance has improved since the last audit in all areas except for updates of the status “new connection in progress”. It was a test run before the implementation of a new process in the future. The status “1,12” was not used previously. PUNZ was updating the ICP status from “ready” to “active” as soon as they received confirmation that installation was electrically connected. If the new process is implemented, a new ICP will have the status “1,12” assigned and an MEP nominated.

The high number of MEP nominations is a result of two factors. The first factor is a replacement of legacy meters with smart meters. The second factor is the confusion caused by the fact that PUNZ was nominating NGCM as the MEP, but they ended up with SMCO as the MEP, therefore for some ICPs a MEP was nominated twice. At the time of the audit, Pulse Energy received an email from AMS stating that on the following networks:

- Top Energy
- Network Tasman
- Main Power
- Alpine Network
- PowerNet Limited (ELIN, TPCO, LLNW, OTPO)

SMCO will be providing MEP services not AMS.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.3 With: 10 of Schedule 11.1 From: 01-Nov-19 To: 30-Sep-20	PUNZ/PPPP - Late updates of “inactive” and “active” status and trader information. 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, 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
New controls have been introduced and are working to contain what was previously a major problem.		01/09/2020	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.		01/03/2020	

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.

Audit commentary

PPPP

All ICPs have a MEP assigned in the registry. No ICPs were tagged as “inactive ready for decommissioning” or “decommissioned”.

PUNZ

We identified 27 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 a meter is installed. Pulse Energy is planning to change this process to nominate an MEP in advance and use the “new connection in progress” status (**section 3.3**).

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 LIS file and the Audit Compliance report were reviewed. Pulse Energy systems and processes were checked and discussed with Pulse Energy staff.

Audit commentary

PPPP

We confirm that the information for ICPs was correct. PPPP trades category 1 residential metering installations only. All information was provided within 5BD of trading.

PUNZ

The Audit Compliance report identified 11 new connections for which the update to “active” status was done later than 5 business days. The percentage of compliance was 85.83%. The same report also identified 4 ICPs for which the ANZSIC code was populated later than 20 BD. 3 ICPs were new connections and the ANZSIC code was corrected for one switched in ICP after 30 BD.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.5 With: 9 of Schedule 11.1 From: 26-Mar-20 To: 26-Aug-20	PUNZ - 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 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; a small number of updates is outside of requirements. 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
Reporting has been introduced, and a regular process instituted to ensure updates are made with minimum delay.		01/04/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We have requested changes in Gentrack functionality that will allow us to maintain profiles directly.		01/09/2021	

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 LIS file and the Audit Compliance report was reviewed and discussed with Pulse Energy staff.

Audit commentary

PPPP

ANZSIC codes for all ICPs are correct.

PUNZ

According to the Audit Compliance report no blank or unknown ANZSIC codes were identified.

There is an ongoing program of checking up on ANZSIC codes that Pulse Energy has reason to believe may be wrong – mostly, where the code is ‘residential’, but the network price category suggests something else. Most often, these turn out to be sheds, garages or other outbuildings that for some reason have separate ICPs from the main property.

We analysed 209 ICPs from an accuracy point of view and we confirm that many sheds, garages, churches, schools etc have a "0" ANZSIC code assigned which is incorrect. Our observation is that there is an effort to have correct ANSIC coding for new installations or gained ICPs, but Pulse Energy does not proactively correct historic ANZSIC codes..

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.6 With: 9(1)(k) of Schedule 11.1 From: 01-Nov-19 To: 30-Sep-20	PUNZ - 209 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	The controls are rated as moderate because there are some improvements that can be made. ANZSIC code is check during a sign-up process. 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
We will develop a report designed to identify suspect ANZSIC errors and introduced a program to check these codes when customers contact us for other reasons.		01/04/2021	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.		01/09/2021	

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.

Audit commentary

PPPP

PPPP policy is not to accept ICPs with UML. The company trades metered ICPs only.

PUNZ

PUNZ trades 4 UML ICPs and 23 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.

One ICP, (0000505719DEDE4) already identified in the previous audit, is a metered supply and is also still being billed for the BTS. It is not BTS anymore. This ICP has never had an unmetered supply recorded by the distributor. The information in the registry was corrected during the audit.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.7 With: 9(1)(f) of Schedule 11.1 From: 01-Nov-19 To: 30-Sep-20	PUNZ -1 ICP had incorrect UML details recorded in the registry Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Strong Breach risk rating:1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as strong. UML details are recorded correctly except for one ICP which was corrected. The audit risk rating is recorded to be low.		
Actions taken to resolve the issue		Completion date	Remedial action status
The has been corrected.		23/11/2020	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
Reporting is now checked regularly, and discrepancies are investigated. However, further procedural changes are needed to ensure that discrepancies are appropriately resolved.		01/02/2020	

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

- *the ICP has only 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 were reviewed.

Audit commentary

PPPP

PPPP was responsible for 770 ICPs on 8/10/2020. All of them had the “active” status assigned. According to the Audit Compliance report ICP 0000056173UN8CB was tagged as remotely disconnected even though the registry says that it is non communicating meter. Closer analyses of the registry information showed that at the time of remote disconnection the meter was communicating.

PUNZ

The Audit Compliance report showed ICP 0002545160CN059 was tagged as remotely disconnected even the registry says that it is non communicating meter. It was discussed with Pulse Energy. ICP 0002545160CN059 was disconnected remotely, it was confirmed by COUP. The flag in the registry is incorrect.

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. The process for disconnection/reconnections was reviewed.

Audit commentary

PPPP

PPPP was responsible for 770 ICPs on 8/10/2020. All of them had the “active” status assigned. According to the Audit Compliance report ICP 0000056173UN8CB was tagged as remotely disconnected even though the registry says that it is non communicating meter. Closer analyses of the registry information showed that at the time of remote disconnection the meter was communicating.

PUNZ

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.

Audit outcome

Compliant

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".

Audit commentary

PPPP

PPPP does not trade new connections.

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.

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 standard switch process was examined to assess compliance. We reviewed the EDA files and the Switch Breach Report for the period 01/11/2019 to 30/09/2020.

Audit commentary

PPPP

During the audit period 730 NTTR were sent using the PPPP code. Once all pre-conditions were met the Sales Team “triggers” the sending of NT files to the registry. Some of the standard switches are backdated up to 6 BD. It was discussed during the audit and the conclusion was that there was insufficient training of the Sales Team. The last backdated switch was mid-August.

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

PUNZ

During the audit period 8,123 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 4 ICPs which were backdated by up to 22 business days. It was discussed during the audit. They were switches created during a door to door campaign and there was possibly insufficient training. Pulse Energy’s policy is not to backdate standard switches.

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.

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 standard switch process was examined to assess compliance. We reviewed the EDA files and the Switch Breach Report for the audit period.

Audit commentary

PPPP

The Switch Breach report did not identify any late AN files. We randomly checked 10 AN files and confirm their format and content were correct.

100% had the event date within 5 business days of the receipt of the NT. Compliance with clause 4 (b) of Schedule 11.3 was met.

PUNZ

PUNZ received 3,87 notices of a standard switch from the registry manager for standard switches. The Switch Breach report did not record late AN files. We sampled 15 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.

Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
Completed TR within 5 days (%)	99%	100%	98%	99%	96%	99%	98%	98%	99%	98%	98%	98%	99%	99%	98%	98%

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 standard switch process was examined to assess compliance. We reviewed the EDA files and the Switch Breach Report for the audit period. The Switch Breach report is run on the registry twice daily to identify files that are due. Pulse is aware that in some cases the switch breach report does not report the correct number of days remaining before a breach and tends to rely on its own due date calculation.

Audit commentary

PPPP

The Switch Breach report is run on the registry daily to identify files that are due. PPPP is aware that in some cases the Switch Breach report does not report the correct number of days remaining before a breach and tends to rely on its own due date calculation.

PPPP sent 401 CS files in response to requests from gaining traders. CS files are automatically generated by ABSL. There are cases where a CS file is sent manually using the registry web interface.

The Switch Breach report recorded 35 CS files which were late. It was discussed during the audit. The company was aware of the non-compliances and already identified that insufficient training was provided to a switching person. The additional training was provided and to confirm that the issue was addressed the Switch Breach report for month October'20 was provided, and no non-compliances were recorded.

We sampled 10 CS files to check if the information in ABSL was transferred correctly. We identified the following problems:

- 50% CS files had incorrect "Last Read Date" which was in the future
- Estimated daily kWh was recorded as the estimated daily consumption for the last 7 days, or the last 7 days billed. The estimated daily kWh should be for the last read to read period, i.e. from the most recent actual read to the previous actual read.

The company is aware of the problems and they are in conversation with developers to address it.

PUNZ

The Switch Breach report is run on the registry twice daily to identify files that are due. Pulse is aware that in some cases the Switch Breach report does not report the correct number of days remaining before a breach and tends to rely on its own due date calculation.

CS files are automatically generated by Gentrack. 3,546 CS files were sent in the audit period. We sampled 15 CS files to check if the information in Gentrack was transferred correctly. We found the format was correct.

The analysis of the CS meter comp and CS install file for the audit period showed us a few problems with the CS files information, as was noted in the previous audit. The problems with the content of the CS files are tabled below:

Issue	Number of ICPs	
	2019	2020
Read type flagged "A" when the last read in the past	8	102
Average daily consumption = 0	149	79
Negative average daily usage	2	2
Average daily consumption greater than 200	16	8 (correct)

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:
 1. '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. Pulse Energy is in discussions with Gentrack to determine if an Excel type of rounding should be used. They asked the Authority for their opinion and they are awaiting a response.

The issues identified in the last audit report were meant to be resolved by 01/04/2020 but this has not happened.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.3</p> <p>With: 5 of Schedule 11.3</p> <p>From: 01-Nov-19</p> <p>To: 30-Sep-20</p>	<p>PPPP - Average daily consumption methodology is incorrect, it calculated for the last 7 days, 50% of CS files had incorrect "Last Read Date"</p> <p>PUNZ - Average daily consumption methodology is incorrect for ICPs where usage is less than 1 kWh. Information for a small number of ICPs is incorrect</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 rated as moderate. Pulse Energy proactively works with Gentrack/ADSL to ensure that information in CS files is correct. There has not been much progress to improve Gentrack's performance. 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
A system fix has been implemented on PPPP. Pulse is still working with Gentrack to address known issues in the CS file data. Some of the issues have been resolved, although some remain.		01/04/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Work is continuing to resolve the remaining areas of noncompliance. The issue of incorrect read quality flags has already been resolved in January.		01/04/2020	

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 standard switch process was examined to assess compliance. The EDA file and the Switch Breach Report for the audit period were analysed.

Audit commentary

PPPP

During the audit period PPPP sent one RR file, which was accepted but later the switch was withdrawn. Other traders sent 2 RR files. The RR files are not specifically identified in ABSL. This information is “hidden” within the database. JC Consulting is notified of any RR sent or received. We followed through 2 RR files and confirm they were used for reconciliation

RR files were sent within the time frame specified by this clause.

PUNZ

The EDA file and the Switch Breach Report for the audit period were analysed. Pulse Energy sent 113 RR files and received 108 files. 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 21 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 and are used for reconciliation. It was confirmed by sampling.

The same cannot be said about RR files received from gaining traders, which are accepted by Pulse Energy. They are recorded in Gentrack and used for billing but 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**. We randomly sampled 37 RR reads, which were accepted by Pulse Energy for both types of switches. Overall Pulse Energy over submitted 874 kWh to the RM.

The Switch Breach Report identified 11 late RR files. It was discussed during the audit. The company provided a detailed explanation for each of them. In many cases delays in sending RR files was caused by a lack of access by meter readers due to COVID-19. RR files needs to be supported by two validated reads.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.4 With:6(1) and 6A of Schedule 11.3 From: 01-Nov-19 To: 31-Aug-20	PUNZ - 11 late RR files for Standard Switch. Lost ICPs do not switch on the same read when RR file accepted 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 strong. The tool used by Pulse Energy to evaluate CS reads from losing traders is highly effective. One of the causes of late RR files was a lack of access by meter readers due to COVID-19. 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.		31/01/2021	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.		01/12/2020	

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 standard switch process was examined to assess compliance. The EDA file and the Switch Breach Report for the audit period was analysed.

Audit commentary

PPPP

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

PUNZ

PUNZ trades mainly NHH ICPs. During the audit period Pulse Energy gained only one HHR ICP as per **section 4.12**.

During the audit period Pulse Energy received 6 RR files from Electric Kiwi. The provided switch event meter reading reads were from AMI meters and provided within 5 business days. Pulse Energy rejected all of them, which is non-compliant. We checked all of them, the difference for each of them was 1 kWh.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.5 With:6(3)(a) of Schedule 11.3 From: 01-Nov-19 To: 06-Feb-20	PUNZ - 6 RR files provided by a gaining trader (AMI reads) within 5 BD were not accepted Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Moderate Breach risk rating:2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate; more training is required. Audit risk rating is recorded as low		
Actions taken to resolve the issue		Completion date	Remedial action status
This issue has been identified as a training issue. All the issues found have been cleared, Training issue. A refresh training was provided in February 2020. There is no other occurrence after the February training session.		28/02/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
This is a training issue, which is in the process of being corrected now.		28/02/2020	

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

PPPP/PUNZ

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 Switch Move process was examined to assess compliance. We reviewed the EDA files and the Switch Breach Report for the period 01/11/2019 to 30/09/2020.

Audit commentary

PPPP

During the audit period 649 NTMI using the PPPP code were sent. Once all pre-conditions are met the Sales Team "triggers" the sending of NT files to the registry. Some of the switch moves are backdated. It was discussed during the audit and we sampled 10 ICPs to check if it was a customer request. In all cases it was late customer notification.

The withdrawal process will be used if the customer changes their mind.

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

PUNZ

During the audit period 6,969 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.

20% of switches using standard switch move 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.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.7 With: 9 of Schedule 11.3 From: 01-Nov-19 To: 30-Sep-20	Incorrect type of switch used Potential impact: Low Actual impact: Unknown Audit history: Multiple times Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak. 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.		01/12/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
See above.		01/12/2019	

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

Audit observation

The Switch Move process was examined to assess compliance. We reviewed the EDA files and the Switch Breach Report for the audit period.

Audit commentary

PPPP

The switch breach report is run on the registry daily to identify files that are due. PPPP are aware that in some cases the switch breach report does not report the correct number of days remaining before a breach and intends to rely on its own due date calculation.

PPPP received 181 NTMI but sent 163 AN confirmations. In some cases, a AN file was not sent confirming the event data proposed by a gaining trader.

According to the process documentation, the switch event date is set to match the gaining trader's proposed event date, unless it is blank or in the past, then it is set to five business days from the date the file is processed. When we checked the Switch Breach report, we noticed that on some occasions AN files were not sent.

The Switch Breach report did not record any late switches which were finalised late.

PUNZ

PUNZ received 8,343 notices of a switch from the registry manager for move switches. The Switch Breach report did not record late AN files. We sampled 15 AN files and confirmed that the response code was correct.

Pulse Energy always sends a response to the switch request by sending AN file. AN file contains the date of the switch event. The analysis of the EDA file showed that Pulse Energy does not always accept the event date proposed by the gaining trader. For about 7% of switches a new event date is specified.

The Switch Breach report did not record any late switches which were finalised late.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.8 With: 5 of Schedule 11.3 From: 01-Nov-19 To: 30-Sep-20	PPPP – AN file not sent for a small number switch moves (approx. 19) Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate; more staff training and follow up is required. No impact on settlement outcomes. Audit risk rating low.		
Actions taken to resolve the issue		Completion date	Remedial action status
It is a staff training issue. Pulse has fixed the problems that we found. We have refreshed training on the staffs.		27/11/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Same as above.		27/11/2020	

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 Switch Move process was examined to assess compliance. We reviewed the EDA files and the Switch Breach Report for the audit period.

Audit commentary

PPPP

Using the EDA file, we compared the event date requested by the losing trader with the date of switch completion. We noted 11 ICPs for which PPPP did not accept the proposed date and the date of switch

completion was moved back by up to 13 BD for 5 ICPs or moved forwards up to 29 BD for 6 ICPs, which constitutes non-compliance.

PUNZ

Pulse Energy always sends a response to the switch request by sending AN file. The AN file contains the date of the switch event. The analysis of the EDA file showed that Pulse Energy does not always accept the event date proposed by the gaining trader. For about 7% of switches a new event date is recorded. The new event date determined by Pulse Energy was no later than 10 business days after the date the losing trader receives notice. We confirmed compliance by the sampling of 7 switches.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.9 With:10(2) of Schedule 11.3 From: 25-Jul-20 To: 30-Sep-20	PPPP – The switch event date was backdated for 5 ICPs Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate; more personnel training is needed. 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
All the occurrences have been cleared. Customers signup to PPPP during weekends and our switch system picked them up only on weekdays.		14 th September 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse is working on a system upgrade to kick off the switching process earlier.		31/01/2021	

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

- *the event date (clause 11(a)); and*

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

Audit observation

The Switch Move process was examined to assess compliance. We reviewed the EDA files and the Switch Breach Report for the audit period.

Audit commentary

PPPP

The Switch Breach report is run on the registry daily to identify files that are due. PPPP is aware that in some cases the Switch Breach report does not report the correct number of days remaining before a breach and tends to rely on its own due date calculation.

PPPP sent 163 CS files in response to requests from gaining traders. CS files are automatically generated by ABSL. There are cases when the CS file is sent manually using the registry web interface.

The Switch Breach report recorded 27 CS files which were late. The most delayed CS file was late by 24 BD.

It was discussed during the audit. The company was aware of non-compliances and already identified that insufficient training was provided to a switching person. The additional training was provided and to confirm that the issue was addressed the Switch Breach report for month October'20 was provided, and no non-compliances were recorded.

We sampled 10 CS files to check if the information in ABSL was transferred correctly. We identified the following problems:

- 50% of CS files had incorrect "Last Read Date" which was in the future
- Estimated daily kWh was recorded as the estimated daily consumption for the last 7 days, or the last 7 days billed. The estimated daily kWh should be for the last read to read period, i.e. from the most recent actual read to the previous actual read.

PUNZ

The Switch Breach report did not record any late CS files.

CS files are automatically generated by Gentrack. 6,746 CS files were sent in the audit period.

We sampled 8 CS files to check if the information in Gentrack was transferred correctly. We found the format was correct.

The analysis of the CS meter comp, CS install files, showed us a few problems with the CS files information as noted in the previous audit. The problems with the content of the CS files are tabled below:

Issue	Number of ICPs	
	2019	2020
Read type flagged "A" when the last read in the past	17	2,275
Average daily consumption = 0	1,623	1,020
Negative average daily usage	37	15
Average daily consumption greater than 200	35	9 (4 entries incorrect)

Overall, the accuracy of information in the CS files has declined.

In **section 4.3** we described the logic used by Gentrack to calculate average daily consumption. 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. Pulse Energy is in discussions with Gentrack to determine if an Excel type of rounding should be used. We asked the Authority for their opinion and we are awaiting a response.

The issues identified in the last audit report were meant to be resolved by 01/04/2020 but this has not happened.

The Switch Breach Report did not record any late CS files.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: 11 of Schedule 11.3 From: 01-Nov-19 To: 30-Sep-20	<p>PPPP - Average daily consumption methodology is incorrect, it calculated for the last 7 days, 50% of CS files incorrect "Last Read Date"</p> <p>PUNZ - 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</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 rated as moderate. Pulse Energy proactively works with Gentrack/ADSL to ensure that information in CS files is correct. There has not been much progress to improve Gentrack's performance. 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
As the auditor has noted, we are working with Gentrack to address known issues in the CS file data. Some of the issues have been resolved, although some remain.		01/04/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Work is ongoing to ensure that all information provided in CS files is fully compliant.		01/04/2021	

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 Switch Move process was examined to assess compliance. We reviewed the EDA files and the Switch Breach Report for audit period.

Audit commentary

PPPP

During the audit period PPPP sent 5 RR files. Other traders sent 5 RR files. The RR files are not specifically identified in ABSL. This information is “hidden” within the database. JC Consulting is notified of any RR files sent or received. We followed through 5 RR files and confirm they were used for reconciliation

RR files were sent within the time frame specified by this clause.

PUNZ

The EDA file and the Switch Breach Report for the audit period were analysed. Pulse Energy sent 171 RR files and received 501 files. 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. Pulse Energy always includes the calculation of the new read in the email, supported by validated reads.

We selected 21 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.

The same cannot be said about RR files received from gaining traders, which are accepted by Pulse Energy. They are recorded in Gentrack and used for billing but 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**. We randomly sampled 37 RR reads, which were accepted by Pulse Energy for both types of switches. Overall Pulse Energy over submitted 874 kWh to the RM.

The Switch Breach Report identified 11 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.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.11 With: 12 of Schedule 11.3 From: 01-Nov-19 To: 31-Aug-20	PUNZ - 11 late RR files for switch move; Lost ICPs do not switch on the same read when RR file accepted 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. The tool used by Pulse Energy to evaluate CS reads from losing traders is highly effective. One of the causes of late RR files was a lack of access by meter readers due to COVID-19. 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.		31/01/2021	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.		01/12/2020	

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.

Audit commentary

PPPP

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

PUNZ

PUNZ gained one ICP (1000023002BPF97) using the gaining trader switch. The NT files for HH switches contained the information required by this clause. The proposed event date was not in the same month as the date on which PUNZ advised the registry manager switch 1000023002BPF97. NT file was sent on 16/04/20, a proposed date event date was 01/02/19 which was accepted by PION. It constitutes non-compliance.

ICP 1000023002BPF97 switched from Pioneer Energy to Pulse Energy. It is the ICP which is a part of Aniwhenua Power Station reconciliation setup. According to the EA this ICP could be decommissioned because it replicates the interconnection point NSP ANI0331 BOPD NP for which Pulse Energy submits NSPVOLS (**section 12.5**). The EA recommendation was to leave this ICP in the registry with the status "1,5". It will allow the allocation of a payment to Pulse Energy in a situation where ANI0331 is disconnected from the grid, which is unlikely. It represents ANI0331 and it is reconciled as a NSP and not as an ICP.

We did not identify any ICPs with meter category 3 or higher, which were requested as transfer switches or switch moves.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.12 With: 14 of Schedule 11.3 From: 01-Feb-19 To: 20-Apr-20	PUNZ - The proposed event date was not in the same month as the date on which Pulse Energy advised the registry manager switch 1000023002BPF97 Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Control are recorded as strong. It was only one ICP and it was a very special set up which is a precaution for a very unlikely situation. No impact on market settlement. Audit risk low.		
Actions taken to resolve the issue		Completion date	Remedial action status
It is a one-off operation to tidy up reconciliation setup of Aniwhenua power station.		01/06/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Same as above		01/06/2020	

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.

Audit commentary

PPPP

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

PUNZ

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

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.

Audit commentary

PPPP

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

PUNZ

PUNZ finalised the 1000023002BPF97 switch within 3 business days, after receiving the valid switch response code from a losing trader.

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)):*
 - *the participant identifier of the trader making the withdrawal request (clause 18(c)(i)); and*
 - *the withdrawal advisory code published by the Authority. (clause 18(c)(ii))*
- *within 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

We examined the process documentation and the registry files.

The Switch Breach report for the audit period was examined.

Audit commentary

PPPP

PPPP sent 144 NW files and received 166 NW files. We examined 10 randomly chosen NW files and the reason code used was correct. 113 NW files used the reason code "CX" which accounts for 78%. It was discussed during the audit. PPPP commented that often a customer has a contract with an existing trader and does not wish to pay a penalty. It is the reason for the high percentage of NWCX.

The Switch Breach report did not record any late NW files

PUNZ

Pulse Energy sent 1,523 NW files and received 1,715 NW files. We examined 10 randomly chosen NW files and the reason code used was correct. 652 NW files used the reason code "CX" which accounts for 42%. 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.

230 NW files used the reason code "WS" which accounts for 15%.

The Switch Breach report identified 6 NW files which were sent later than 2 calendar months after the event date of the switch. 5 late NW files used "WP" reason code.

There were no late AW files in response to NW files from other traders.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.15 With: 17 of Schedule 11.3 From: 01-Feb-19 To: 20-Apr-20	PUNZ -6 late NW files Potential impact: None Actual impact: None Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate, more monitoring and follow up required. Audit risk rating is low because of the small number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse is aware of this issue due to late win-backs.		01/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will investigate on how to manage late win-backs.		01/04/2021	

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.

Audit commentary

PPPP

All meter readings used in the switching process are validated meter readings or permanent estimates. The company understands that it would be their responsibility to obtain any additional read and pay for it.

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.

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

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

Audit commentary

PPPP

PPPP 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.

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.

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.

Audit commentary

PPPP

The review of registry files showed that PPPP has not been trading any unmetered load. PPPP' strategy does not accept either unmetered load ICPs or ICPs with attached unmetered load. PPPP trades only NHH pre-pay ICPs, which are read remotely.

PUNZ

PUNZ trades 11 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.

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.

Audit commentary

PPPP

The review of registry files showed that PPPP has not been trading any unmetered load. PPPP' strategy does not accept either unmetered load ICPs or ICPs with attached unmetered load. PPPP trades only NHH pre-pay ICPs, which are read remotely.

PUNZ

PUNZ trades 26 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.

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.

Audit commentary

PPPP

The review of registry files showed that PPPP has not been trading any unmetered. PPPP' strategy does not accept either unmetered load ICPs or ICPs with attached unmetered load. PPPP trades only NHH pre-pay ICPs, which are read remotely.

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 ICPs where load exceeds 6,000 kWh per annum.

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.

Audit commentary

PPPP

The review of registry files showed that PPPP has not been trading any unmetered load. PPPP' strategy does not accept either unmetered load ICPs or ICPs with attached unmetered load.

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.

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

PPPP

All installations traded by PPP are metered. PPPP does not trade installations with embedded generation. JC Consulting does not use subtraction to determine volume information. The company trades only category 1 metering installations.

PUNZ

Pulse Energy trades 1,705 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	22	245
RPS EG1	20	
RPS PV1	105	1313

We reviewed NHHVOLS for Mar'19 to Sept'20 and confirm that for these installations where profile PV1 or EG1 is recorded in Gentrack the reconciliation team submits volumes to the RM. COBRA pulls the RPS PV1 profile from Gentrack and Gentrack is correct. There appears to be a failing to make sure that the correct profile is recorded in the registry. It does not help having the profiles updated in the registry only once per month.

Cobra processes the information correctly as long as Gentrack is correct.

Analysis of the LIS file showed 20 ICPs where Import/Export is installed but the profile in the registry is still RPS. All meters were installed in Oct'20. Our understanding was that once per month the profile in the registry is updated to reflect the installation of Import/Export meters. Pulse Energy confirmed that there is a backlog of registry updates.

160 ICPs do not have AMI meters, they are read by WELLS. If actual meter reads are not available, the reconciliation team will contact the Pricing team which will approximate volumes and profile based on forecasts and previous months' figures.

Until recently, there has not been a clear demarcation point for which the Pulse Energy team is responsible for making sure that export/import meters are installed, and the correct type of profile is recorded in the registry. Recently there was a meeting between the two teams (switching and reconciliation), and it was decided that the reconciliation team would manage this, with some assistance from the field services team.

We also identified 18 ICPs for which, according to respective network information, have solar panels installed but no Import/Export meter is installed. Therefore, Pulse Energy uses the RPS profile which is correct. Pulse Energy need to investigate.

We identified that for installations with embedded generation, for which losing traders used the RPS profile, Pulse Energy changes the profile to RPS PV1 one day after the switch event date. It was identified as non-compliance in **section 12.7**. According to clause 10.13.(2)(b) the reconciliation manager should be notified. Our recommendation is to enhance a process of assigning PV1 or EG1 profile to installation with embedded generation after a switch is finalised.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.1</p> <p>With: 10.13(2)(b)</p> <p>From: 30-Nov-19</p> <p>To: 30-Sep-20</p>	<p>PUNZ - The profile RPS PV1 is assigned to an ICP one day after the switch event date. RM not notified</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once before</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are recorded as weak. There has not been a clear demarcation point for which the Pulse Energy team is responsible for making sure that export/import meters are installed, and the correct type of profile is recorded in the registry.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
We have cleared all the issues found so far.		01/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

Description	Recommendation	Audited party comment	Remedial action
Distributors assigned embedded generation to 18 ICPs but no Import/ Export meter installed	PUNZ - To contact networks to confirm if embedded generation for 18 ICPs was connected to their network	A new process will be created to notify field service team and reconciliation team of embedded generation.	Pulse is looking to create a daily or weekly process to monitor and identify embedded generation changes.
The profile RPS PV1 is assigned to an ICP one day after the switch event date.	PUNZ - Enhance a process of assigning PV1 or EG1 profile to installation with embedded generation after a switch is finalised.	Pulse will re-assess the current process of handling profile change.	Pulse will redesign the process to ensure compliance requirements are fulfilled.

6.2. 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

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.

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 files, NHHVOLS and HHRVOLS were reviewed to confirm which profiles were used during the audit period.

Audit commentary

PPPP

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

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.

Audit outcome

Compliant

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

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

Metering data is provided by MEPs and agents.

Audit commentary

PPPP

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

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 3 defective meters during the audit period. MEPs were notified and meters were replaced.

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.

Audit commentary

PPPP

Metering data is collected by MEPs (NGCM, IHUN, MTRX, COUP, and ARCS). If data cannot be collected remotely because of communication problems, PPPP asks a customer to switch to PUNZ on a similar plan.

PUNZ

Metering data is collected by MEPs (NGCM, SMCO, MRTX, FCLM, LMGL, and IHUB) and agents (ACCLM, EDM1, and AMCI).

We reviewed the EDM1 and AMCI audit report. No non-compliances were identified relating to the above clause.

The clock synchronisation process was reviewed as a part of the MEPs audit.

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

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. WELLS provide daily NHH reads. The WELLS agent audit report was reviewed.

Audit commentary

PPPP

PPPP only trades remotely read ICPs. If a meter can't be read because of communication issues, PPPP discusses it with the responsible MEP. If the problem cannot be fixed, a customer is asked to switch to PUNZ on similar plan. PPPP does not accept customer reads.

PUNZ

The majority of register reads are provided by WELLS. Reads are received daily. 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.

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.

Audit commentary

PPPP

This clause is not relevant to PPPP's operation.

PUNZ

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

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.

Audit commentary

PPPP

PPPP obtained reads for every ICP traded during the period of supply.

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.

Data was estimated for billing and reconciliation purposes. The ICPs switched away to other retailers. A review of the CS files received by Pulse Energy when the ICPs were gained shows that the previous retailer had the same access problem. Switch Event reads were estimated.

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

PPPP

JC Consulting provides Meter Readings Frequency Report to the Authority on behalf of PPPP. We reviewed the report for the period Nov'19 to Sept'20. The company has not been trading for 12 months yet.

PUNZ

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
Nov-19	181	13	16	99.95%
Dec-19	180	14	15	99.95%
Jan-20	180	10	11	99.95%
Feb-20	181	6	6	99.98%
Mar-20	181	5	5	99.98%
Apr-20	182	6	6	99.98%
May-20	181	12	13	99.95%
June-20	182	10	12	99.96%
July-20	183	11	12	99.96%
Aug-20	183	11	12	99.96%
Sept-20	183	8	9	99.97%

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.

As it was noted in the last audit report Pulse Energy launched a project called “No reads project”, in April’19. Weekly reports are run to monitor which ICPs have been missing reads for 12 months. The stats for the audit period are shown below.

Smart Meters Unread for 12+ Months								
	ARCS SM	COUP SM	FCLM SM	IHUB SM	MTRX SM	NGCM SM	SMCO SM	Smart meter issues Total
2/06/2020	0	0	0	0	0	0	0	0
8/06/2020	0	0	0	0	0	0	0	0
15/06/2020	0	0	0	0	0	0	0	0
25/06/2020	0	0	0	0	0	0	0	0
29/06/2020	0	0	0	0	0	0	0	0
6/07/2020	0	0	0	0	0	0	0	0
13/07/2020	0	0	0	0	0	0	0	0
20/07/2020	0	0	0	0	0	0	0	0
27/07/2020	0	0	0	0	0	0	0	0
3/08/2020	0	0	0	0	0	0	0	0
10/08/2020	0	0	0	0	0	0	0	0
17/08/2020	0	0	0	0	0	0	0	0
24/08/2020	0	0	0	0	0	0	0	0
31/08/2020	0	0	0	0	0	0	0	0
7/09/2020	0	0	0	0	0	0	0	0
14/09/2020	0	0	0	0	0	0	0	0
21/09/2020	0	0	0	0	0	0	0	0
28/09/2020	0	0	0	0	0	0	0	0
5/10/2020	0	0	0	0	0	0	0	0
12/10/2020	0	0	0	0	0	0	0	0
19/10/2020	0	0	0	0	0	0	0	0

Legacy Metering Issues - 12+ Months					
	Gas sites Unread	Sites on Manual	Sites Pending Manual	Non smart issues Total	Grand total
2/06/2020	0	14	0	14	14
8/06/2020	0	13	0	13	13
15/06/2020	2	12	0	14	14
25/06/2020	2	12	0	14	14
29/06/2020	1	10	0	11	11
6/07/2020	2	10	0	12	12
13/07/2020	0	9	0	9	9
20/07/2020	0	9	0	9	9
27/07/2020	0	10	0	10	10
3/08/2020	1	10	0	11	11
10/08/2020	1	9	0	10	10
17/08/2020	1	7	0	8	8
24/08/2020	1	7	0	8	8
31/08/2020	0	6	0	6	6
7/09/2020	0	17	0	17	17
14/09/2020	0	6	0	6	6
21/09/2020	0	5	0	5	5
28/09/2020	0	5	0	5	5
5/10/2020	0	8	0	8	8
12/10/2020	0	6	0	6	6
19/10/2020	0	5	0	5	5

Overall compliance is good. The average attainment of reading is 99.97%, which is not easy to achieve.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.9 With: 8(1) of Schedule 15.2 From: 01-Nov-19 To: 30-Sep-20	PUNZ - 100% attainment was not achieved for more than 8 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 good processes in place. Overall percentage of compliance is 99.97%. 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.		01/12/2020	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.		01/04/2021	

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

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.

Audit commentary

PPPP

John Candy provides the Meter Readings Frequency Report to the Authority on behalf of PPPP. The review of the report for the period Oct'19 to Sept'20 showed that the company had 90% attainment of reads.

PUNZ

Pulse Energy 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 clear records for ICPs which were not read and the reason for it.

Month	Total number of NSPs	Number of NSPs with less than 90%	ICPs unread for 4 months	Overall percentage read
Nov-19	181	1	232	99.59%
Dec-19	180	1	191	99.61%
Jan-20	180	0	232	99.65%
Feb-20	181	0	255	99.59%
Mar-20	181	0	277	99.65%
Apr-20	182	0	395	99.57%
May-20	181	0	542	99.45%
June-20	182	1	584	98.85%
July-20	183	1	493	98.92%
Aug-20	183	1	231	99.11%
Sept-20	183	1	127	99.3%

Smart Meters Unread for 4+ Months								
	ARCS SM	COUP SM	FCLM SM	IHUB SM	MTRX SM	NGCM SM	SMCO SM	Smart meter issues Total
2/06/2020	0	3	11	1	4	72	0	91
8/06/2020	0	3	11	1	4	35	0	54
15/06/2020	0	3	10	0	0	26	0	39
25/06/2020	0	3	9	0	0	22	0	34
29/06/2020	0	2	11	0	3	23	0	39
6/07/2020	0	1	16	1	3	45	0	66
13/07/2020	0	1	15	1	3	40	0	60
20/07/2020	0	1	13	1	3	36	0	54
27/07/2020	0	1	11	1	2	27	0	42
3/08/2020	1	3	17	1	1	50	3	76
10/08/2020	0	3	15	1	1	40	0	60
17/08/2020	0	2	11	0	1	34	0	48
24/08/2020	0	1	11	0	1	27	0	40
31/08/2020	0	1	11	0	1	22	0	35
7/09/2020	0	0	14	0	1	42	0	57
14/09/2020	0	0	13	0	1	35	0	49
21/09/2020	0	0	11	0	0	25	0	36
28/09/2020	0	0	11	0	0	19	0	30
5/10/2020	0	0	10	0	2	27	0	39
12/10/2020	0	0	7	0	2	25	0	34
19/10/2020	0	0	6	0	2	20	0	28

Legacy Metering Issues - 4+ Months					
	Gas sites Unread	Sites on Manual	Sites Pending Manual	Non smart issues Total	Grand total
2/06/2020	96	1161	27	1284	1375
8/06/2020	86	946	44	1076	1130
15/06/2020	74	869	10	953	992
25/06/2020	62	792	0	854	888
29/06/2020	50	576	5	631	670
6/07/2020	65	759	10	834	900
13/07/2020	50	643	0	693	753
20/07/2020	43	522	1	566	620
27/07/2020	29	442	0	471	513
3/08/2020	32	399	2	433	509
10/08/2020	28	357	5	390	450
17/08/2020	25	297	0	322	370
24/08/2020	20	219	4	243	283
31/08/2020	13	172	4	189	224
7/09/2020	24	226	8	258	315
14/09/2020	9	145	6	160	209
21/09/2020	9	104	9	122	158
28/09/2020	6	85	4	95	125
5/10/2020	21	220	10	251	290
12/10/2020	15	193	9	217	251
19/10/2020	11	172	8	191	219

Overall compliance is good. The average attainment of reading is 99.3%, which is not easy to achieve. Good monitoring is set in place to follow up missing reads.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.10 With: 9(1) of Schedule 15.2 From: 01-Nov-19 To: 30-Sep-20	PUNZ - 90% attainment was not achieved for more than one NSP over 4 months 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 good processes in place. Overall percentage of compliance is 99.3%. 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.		01/12/2020	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.		01/04/2021	

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.

Audit commentary

PPPP

PPPP receives NHH data from MEPs only. An assessment of compliance with this clause was conducted during their MEPs.

PUNZ

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

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

PPPP

PPPP trades only NHH ICPs.

PUNZ

At the time of this audit PUNZ was trading 50 ICPs. The company uses the MEP services of 6 companies (ACCM, AMCI, BOPE, FCLM, MTRX, and TRSV). EDM I provides data on behalf of BOPE, TRSV, FCLM 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 compliance during this audit. The company uses proprietary software to read ION and EDM I meters. All meters are read remotely.

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 exception.

Audit observation

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

Audit commentary

PPPP

PPPP trades only NHH ICPs.

PUNZ

At the time of this audit PUNZ was trading 50 ICPs. The company uses the MEP services of 6 companies (ACCM, AMCI, BOPE, FCLM, MTRX, and TRSV). EDMl provides data on behalf of BOPE, TRSV, FCLM and MTRX.

Compliance with this clause was assessed during the EDMl 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 EDMl 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 Sept'20.

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.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.13</p> <p>With: 11(2)(e) of Schedule 15.2</p> <p>From: 01-Nov-19</p> <p>To: 30-Sep-20</p>	<p>PUNZ - No interrogation log is generated by the interrogation software to record details of all interrogations for readings provided by AccuCal</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once previously</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. 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. In the previous audit it was noted that Pulse Energy was planning to use the services of another party to read meters read by AccuCal, but a decision has not been made yet.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>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.</p>		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 I, AMCI, AccuCal, and FCLM.

Audit commentary

PPPP

PPPP trades only NHH ICPs.

PUNZ

At the time of this audit PUNZ was trading 50 ICPs. The company uses the MEP services of 6 companies (ACCM, AMCI, BOPE, FCLM, MTRX, and TRSV). EDM I provides data on behalf of BOPE, TRSV, FCLM and MTRX.

Compliance with this clause was assessed during the EDM I 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 I 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 creates manually HHR interrogation log. The log contains information specified in this clause.

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 EDM, AMCI, AccuCal, and FCLM.

Audit commentary

PPPP

PPPP trades only NHH ICPs.

PUNZ

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

FCLM compliance was confirmed during their audit.

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 EDM, AMCI, AccuCal, and FCLM.

Audit commentary

PPPP

PPPP trades only NHH ICPs.

PUNZ

According to the EDM 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.

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

PPPP

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

PUNZ

PUNZ 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

Processes for correction of NHH meter readings were reviewed.

Audit commentary

PPPP

Daily readings are validated therefore PPPP will identify any errors requiring correction promptly and process corrections as soon as possible.

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 to bridge meters to reconnect.

JC Consulting also validates NHH reads before calculation of submission volumes.

PUNZ

Pulse Energy makes sure it receives daily reads for NHH sites from MEPs or from WELLS. Where errors are detected during the validation process, Pulse may request a check meter reading for meters read by Wells, or review AMI readings for surrounding dates. If an original meter reading cannot be confirmed then an estimated reading is used, which is appropriately labelled.

Multipliers

Weekly report checks multipliers against the PR255 metering installation details report to ensure that they are correctly applied.

Inactive ICPs with consumption

Disconnected ICPs with consumption are identified by the reconciliation team's Cobra checks, and by the revenue assurance team using the vacant consumption report. ICPs with confirmed consumption while

inactive are passed to the field services team. It is intended that any inactive ICPs with consumption will be returned to active status, and re-disconnected if necessary.

Unmetered load

Cobra reports unmetered load based on the registry daily unmetered kWh and active ICP days. JC Consulting reviews unmetered load submissions to ensure that they are accurate prior to submission as discussed in **section 12.3**.

Bridged meters

Pulse provided a list of 11 ICPs where remote disconnection had occurred then the meter had been bridged to reconnect. I reviewed the affected meters and noted that they had all later been unbridged. According to the process volumes should be estimated. Corrections were processed to estimate the consumption during the bridged period for two ICPs, but corrections were not processed for the following ICPs (9):

ICP	Bridged date	Volumes [kWh]	Comment
0000132582TR2F4	11/10/2018 - 31/01/2020	6106	meter replaced 30/01/20
0008048915NV5D7	14/01/2020 - 17/01/2020	no estimates in Gentrack, process not followed	meter replaced 17/01/20
0000548772TPDB3	2/02/2020 - 14/02/2020	no estimates in Gentrack, process not followed	meter replaced 14/02/20
1001303101LC511	24/02/2020 - 27/02/2020	no estimates in Gentrack, process not followed	meter replaced 27/02/20
1002039197LC36A	24/02/2020 - 5/03/2020	no estimates in Gentrack, process not followed	meter replaced 05/03/20
0118900838LC343	24/02/2020 - 27/02/2020	no estimates in Gentrack, process not followed	meter replaced 27/02/20
0004269241CNA95	24/02/2020 - 5/03/2020	no estimates in Gentrack, process not followed	meter replaced 05/03/20
0002361396TP37A	Gain date 20/02/2020 - 16/03/2020	no estimates in Gentrack, process not followed	no meter change
0000248442UNE8A	5/03/2020 - 17/03/2020	1682	no meter change

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.1 With: 19(1) of Schedule 15.2 From: 01-Nov-19 To: 30-Sep-20	PUNZ - 7 corrections for bridged meters have not been processed Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating:3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak as they are unlikely to mitigate the risk of incorrect data. Processes are in place to identify corrections required, but they are not consistently followed through to completion. The impact is difficult to quantify but is estimated to be low based on the corrections reviewed during the audit.		
Actions taken to resolve the issue		Completion date	Remedial action status
All the 7 issues found have been cleared. We have identified these occurrences as training issue. Pulse has provided refreshment training required to our staffs.		27/11/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will work on improving processes on handling bridged meters.		31/01/2021	

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

Pulse Energy trades 50 HHR ICPs. It was discussed during the audit.

Audit commentary

PPPP

PPPP trades NHH ICPs only

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.

Audit outcome

Compliant

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

Code reference

Clause 19(3) Schedule 15.2

Code related audit information

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

Audit observation

Error and loss compensation arrangements were discussed.

Audit commentary

PPPP

PPPP trades category 1 metering installations only. No error compensation or loss compensation are applied.

PUNZ

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

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 raw meter data, 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.

Audit commentary

PPPP

PPPP trades NHH ICPs which are read remotely.

ABSL does not allow the correction of data. If data fails validation, an MEP is contacted and asked for a replacement. JC Consulting confirmed that no data corrections have been made during the audit period.

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.

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

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 data is estimated.

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. Only Metrix provides estimated data, but it is not imported to Gentrack therefore does not flow to COBRA. Pulse Energy also accepts customer reads.

Pulse Energy provided a sample of reads from MEPs and agents. We traced them to Cobra, ABSL, VIPER, and the RM TOOL used by JC Consulting.

Audit commentary

PPPP

PPPP receives data from MEPs, uploads to Cobra and then is transferred to ABSL. JC Consulting receives data from ABSL, which is loaded to the RM TOOL. PPPP provides JC Consulting with actual data only. The data is correctly flagged in the system. Any estimated data conducted by JC Consulting for reconciliation purposes is flagged as estimates.

PUNZ

We reviewed readings in Gentrack, Cobra, and Viper. We followed though 3 readings per MEP and EDMI. We confirm that readings in Cobra are correctly flagged as actual or estimates.

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 Nov'19 to Sept'20.

Audit commentary

PPPP

Volume information provided to the reconciliation manager is calculated by JC Consulting. It is based on validated meter readings or estimates. PPPP does not accept customer reads.

PUNZ

Submission volumes are derived from validated meter readings, estimated readings or permanent estimates.

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 VIPER which validates them. Only validated readings are used to calculate submission volumes.

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 Pulse Energy by FCLM, EDMI, ACCM, and AMCI. The company provided samples of data for analysis.

Audit commentary

PPPP

PPPP trades NHH ICPs only. PPPP provides data to JC Consulting for the calculation of volumes. We reviewed data provided by PPPP with data stored in the RM TOOL. We confirm that meter data is not rounded or truncated from the stored data from the metering installations.

PUNZ

PUNZ mainly trades NHH ICPs (around 70,000). NHH metering data (register reads) is imported to PRADA, no rounding or truncation occurs. Once data is imported to Gentrack and COBRA, the decimal points are truncated.

The HHR meter data is provided by FCLM (1 ICP), EDMI (26 ICPs), AccuCal (3 ICPs), AMCI (21 ICPs).

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

1. AccuCal - data is neither truncated nor rounded

2. AMCI - data is provided in EIEP3 format with 2 DP, which indicates that it is rounded. We asked the company, and it was confirmed
3. FCLM – meter data is provided for one ICP. The company confirmed that data is rounded to 2DP before uploaded to their server to be pick up by Pulse Energy
4. EDM1 – data is provided on behalf of MRTX and TRSV. Meter data is provided in EIEP3 format with 2 DP. It was confirmed by EDM1 that it was rounded. It was identified in their most recent audit report as per screen shot below:
- 5.

Raw unrounded data is retrieved during interrogation and stored in IE2.

The data is extracted from IE2 and sent to participants in their preferred file format. File specifications and a sample of data files were reviewed for each file type, to confirm how data is rounded.

File Format	Rounding
HHRDM	Data is rounded to two decimal places.
EIEP3 ICP	Data is rounded to two decimal places.
EIEP3 Meter	Data is rounded to two decimal places.

EDM1 provides data for one ICP, category 3 metering installation, with 1DP. We checked with AccuCal who certified this installation and confirmed it was correct.

We discussed with EDM1 and FLCM the issue of providing rounded data to Pulse Energy. The data is used to calculate submissions volumes. Both companies commented that they have a backlog of development work and are looking to amend it.

The fact that service providers do not provide raw data as required under clause 1 of Schedule 10.6 makes Pulse Energy non-compliant with this clause, it is a technical breach.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 9.3 With: 3(5) of Schedule 15.2 From: 01-Nov-19 To: 30-Sep-20	PUNZ - Meter data provided by AMCI, FCLM, and EDM I for reconciliation is rounded therefore it results in technical breach for Pulse Energy Potential impact: Medium Actual impact: Unknown Audit history: Once previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Medium	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 medium.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse will engage with AMCI, FCLM, and EDM I to find a solution.		31/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Same as above		31/12/2020	

Description	Issue	Remedial action
Meter data provided by AMCI, FCLM, and EDM I (EIEP3 format) is rounded	PUNZ - Meter data provided by AMCI, FCLM, and EDM I (EIEP3 format) is rounded therefore it results in technical breach for Pulse Energy	Pulse will engage with AMCI, FCLM, and EDM I to find out if they can deliver meter read data before rounding.

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.

Audit commentary

PPPP

PPPP trades NHH ICPs only

PUNZ

VIPER is used to process data and create reconciliation files. The software has a functionality to estimate data if necessary.

The method which is used depends on how many intervals needs to be estimated. If it is only a small number of intervals needing to be estimated, a straight line is used. If one day or more requires estimation, a customer profile is used. Estimated data is labelled as “estimated” against each interval. In both scenarios estimated data is scaled to match the total kWh.

The company provided 4 examples of estimated data. Pulse Energy keeps a detailed record of each estimation in a spreadsheet. The spreadsheet contains ICP, month, volumes estimated and the reason for estimation.

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.

Audit commentary

PPPP

NHH reads are uploaded to PRADA and then transferred 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 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.

Another step of validation of NHH data is conducted by JC Consulting on upload to the RM TOOL.

PUNZ

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	

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

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 meter and data storage device event list. Any event that could have affected the integrity of metering data must be investigated.

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.

Audit commentary

PPPP

All readings are expected to be received from AMI meters, and will be validated in accordance with the NHH validation process as per **section 9.5**. Electronic meter reading information is provided to PPPP by agents and MEPs. Meters are interrogated regularly, and there is little risk that data can be overwritten.

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 for negative consumption between actual reads and zero consumption for more than five days.

JC Consulting additionally validates meter data when imported into the RM TOOL.

PPPP does not receive log files from MEPs therefore they are not reviewed. The company is planning to address this .

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**.

Pulse Energy receives and retains meter event information from its MEPs and agents.

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.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 9.6</p> <p>With: 17(4)(f) of Schedule 15.2</p> <p>From: 01-Nov-19</p> <p>To: 30-Sep-20</p>	<p>PPPP/PUNZ -Meter event information for AMI meters is not reviewed because log files are not provided by MEPs and agents except AccuCal</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
<p>Low</p>	<p>Controls are recorded as moderate because 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.</p> <p>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.</p>		
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		31/01/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Same as above.		31/01/2021	

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

PPPP

PPPP uses the RPS profile for volume submissions to the reconciliation manager. Notice to the reconciliation manager for these profiles is not required.

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.

Audit outcome

Compliant

11.2. Calculation of ICP days (Clause 15.6)

Code reference

Clause 15.6

Code related audit information

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

15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

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

Audit observation

The company provided ICPDAYS files and GR-100 files from the reconciliation manager for analyses. We reviewed Pulse Energy and JC Consulting's reconciliation process. The process was examined by checking 5 NSPs with a small number of ICPs.

ICPDAYS (AV-110) files are submitted on the 4th business day and on the 13th business day of each reconciliation period. On day 13th AV-110 are submitted for a current month and consecutive wash-ups.

Audit commentary

PPPP

ICPDAYS are calculated and submitted to the reconciliation manager by JC Consulting. We reviewed files for Nov'19 to Aug'20. The process for the calculation of ICP days was examined by checking 5 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	Total number of NSPs	R0	R1	R3	R7
Oct-19	3	0.00%	0.00%	0.00%	0.00%
Nov-19	5	0.00%	0.00%	0.00%	0.00%
Dec-19	7	0.00%	0.00%	0.00%	0.00%
Jan-20	7	0.00%	0.00%	0.00%	0.00%
Feb-20	8	0.00%	0.00%	0.00%	0.00%
Mar-20	8	0.00%	0.00%	0.00%	
Apr-20	8	0.00%	0.00%	0.00%	
May-20	11	0.00%	0.00%	0.00%	
June-20	72	-2.39%	0.00%	0.00%	
July-20	92	-0.14%	0.00%		
Aug-20	100	-0.21%	-0.25%		
Sept-20	105	0.01%	0.00%		

PPPP has a very good level of compliance. The negative values were related to backdated switches.

PUNZ

PUNZ calculates ICP days using VIPER and COBRA as part of the submission process. We reviewed files for Nov'19 to Aug'20. The process for the calculation of ICP days was examined by checking 5 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%	
Oct-19	0.000%	0.001%	0.003%	0.001%	
Nov-19	0.000%	0.000%	0.003%	0.000%	
Dec-19	0.004%	0.008%	0.000%	0.001%	
Jan-20	0.005%	0.006%	0.000%	0.000%	
Feb-20	-0.001%	-0.001%	0.000%	-0.001%	
Mar-20	0.001%	-0.003%	0.003%		
Apr-20	0.006%	0.001%	0.003%		
May-20	0.000%	0.000%	-0.002%		
June-20	-0.001%	0.004%	0.000%		
July-20	0.003%	-0.003%			
Aug-20	0.001%	0.002%			
Sept-20	0.003%				

Although the percentages fluctuate, the difference in days is 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.

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

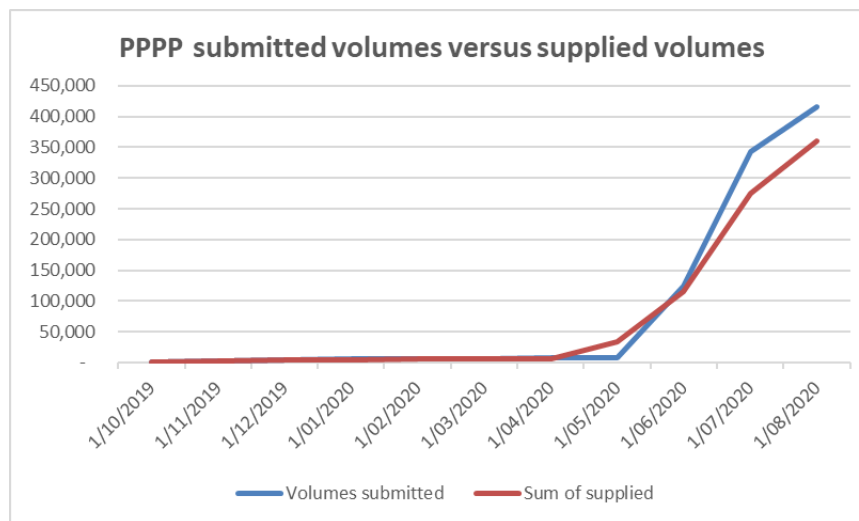
The process for the calculation of electricity supplied was examined. We reviewed the BILLED files.

Audit commentary

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 first file was submitted in November'19.

The graph below shows volumes submitted and supplied (day 14) during the audit period.

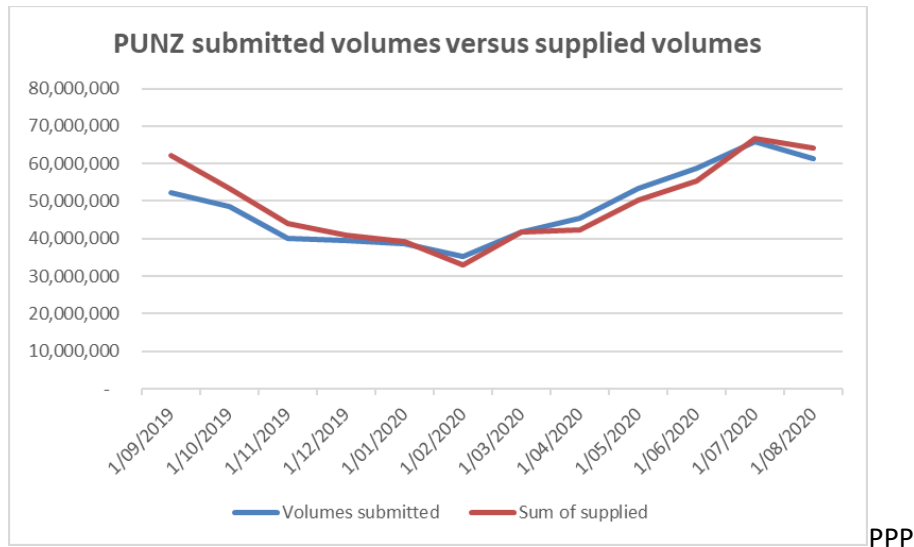


At an aggregate level, submitted volume is 17.9% higher than billed data for the year ended September 2020.

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.



At an aggregate level, submitted volume is 2.01% lower than billed data for the year ended September 2020.

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

PPPP

PPPP trades NHH ICPs only.

PUNZ

At the time of the audit PUNZ was trading 50 HHR ICPs. The data is provided by MEPS and EDM I.

The HHRAGGR (AV-090) files are created in VIPER.

We compared volumes between HHRVOLS and HHRVOLS for June'20 to Sept'20, 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 0138989036LC646, which was not included in revision 3 for July'20. It was discussed with the reconciliation team who commented:

"The ICP switched out but the switch out was backdated, that's why it appeared in the R0 and R1 but not the R3. The switch out has since been reversed and is now back with us, so in R7 we will be submitting it again, it's detailed below in a screenshot from the registry."

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.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 11.4 With: 15.8 From: 01-Nov-19 To: 30-Sep-20	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		01/10/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will continue to submit volume files according to RM specification		01/10/2020	

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 50 HHR ICPs. Data is collected by EDM I, AccuCal (1000023001BP357 and ANI0331 BOPD NP interconnection point), AMCI and MEPS. Compliance with this clause has been demonstrated by EDM I and AMCI as part of its agent audit. As a part of this audit we reviewed compliance with this clause with AccuCal.

Audit commentary

PPPP

PPPP trades NHH ICPs only.

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. The daylight savings adjustment shows as additional trading periods of 49 and 50 where required and 47 and 48 are missing when required. The review showed that the company incorrectly adjusts data when daylight saving begins and when a daylight savings ends. The RM specification states that the trading period which needs to be deleted or duplicated are trading periods 5 and 6.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.1 With: 15.36 From: 01-Nov-19 To: 30-Sep-20	PUNZ -Partly incorrect daylight saving adjustment for NZDT for data provided by AccuCal Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Audit risk rating is recorded as low because interval volumes for Aniwhenua Barrage (1000023001BP357) are low and the interconnection point ANI0331 BOPD NP interval volumes do not vary much therefore impact on settlement outcomes is minor		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse will fix our adjustment program and submit corrected data.		31/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will put in additional daylight-saving checking steps for April and September months.		31/12/2020	

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.

Alleged breaches were reviewed to determine whether any reconciliation submissions were late.

Audit commentary

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.

There were no late file submissions during the audit period.

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 VIPER 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.

As was described in the previous 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, there is a fraction of channels that do 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 it 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 that volumes for all ICPs with correct channels are submitted. He provides a file which shows discrepancies and Pulse Energy addresses them before final NHHVOLS are submitted. The process is described in **section 12.3**.

Audit outcome

Compliant

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

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

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

Audit observation

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 PPP 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.

Before NHHVOLS are submitted on day 3 and day 14 (including revisions), Pulse Energy send 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 a file which shows the discrepancies and Pulse Energy addresses them before final NHHVOLS are submitted.

Audit commentary

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.

The process for the calculation of NHH volumes was examined by checking all ICPs supplied in Jan'20. JC Consulting provided a detailed breakdown of volume for each ICP. NHH volumes aggregation was confirmed to be correct.

A comparison of the NHHVOLS and GR-170NHH for five months and revisions confirmed that the same NSPs were included, and zeroing occurs as required.

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.

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

HHR processes are automated to ensure that volumes are submitted for every NSP with active ICPs, regardless of whether any consumption has been recorded.

Pulse has validation processes to ensure that submissions are correct. HHR and NHH volume 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'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 appropriate (not frequently used see **section 13.3**) and enter estimated readings. As described in **section 12.2**, COBRA has a few issues, which were described in the last audit.

As described in last year's audit report, 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. The JC Consulting review includes:

- ICPs where aggregation factors are inconsistent with the registry
- excessively high consumption
- missing consumption or ICPs
- incorrect unmetered load submissions
- meter record mismatches
- mismatch between POC in the registry and COBRA

Exceptions identified are referred to Pulse Energy's Reconciliation Team for investigation and resolution, and I saw evidence of this process in operation. Pulse Energy 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 Pulse Energy strive to have submission files as accurate as possible.

Pulse also reviews the return files from the reconciliation manager, any anomalies are investigated, and corrections are processed as required.

In the last audit we made the recommendation to document reconciliation processes. During the audit the company showed us two documents which describe the process in detail.

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 Jul'20 to Sept'20 for review.

Audit commentary

PPPP

PPPP does not submit NSP volume information.

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 Jul'20 to Aug'20 to confirm that submitted volumes correspond with the original files.

No late file submissions were recorded.

Audit outcome

Compliant

12.6. Grid connected generation (Clause 15.11)

Code reference

Clause 15.11

Code related audit information

The participant (if a grid connected generator) must deliver to the reconciliation manager for each of its points of connection, the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.11(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.11(b))*

Audit observation

We reviewed the LIS file and confirm that Pulse Energy is not a grid connected generator.

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 of 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 late.

Audit commentary

PPPP

JC Consulting submits revision files. PPPP provides metering data for traded ICPs. JC Consulting loads them to the RM TOOL. The company provided revisions files for our review. We observed very small changes to volumes data between consecutive revisions because actual metering data is provided daily.

No late submissions were noted.

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. As part of the switching review we followed the RR files process and confirm that any accepted RR files sent to losing retailers are recorded in Gentrack and data flows to COBRA. Accepted RR files from winning retailers do not flow to COBRA. It was recorded as a non-compliance in the relevant section.

We reviewed the schedule of reconciliation submissions used by Pulse Energy. Every month, on day 13th, revision files are submitted for the relevant month. The company also provided the GR-170 NHH file from the reconciliation manager.

Submissions are not as accurate as they should be but as per **section 12.3**, Pulse Energy is working together with JC Consulting to address it.

The last audit identified problems with the accuracy of data provided to the reconciliation manager for ICP 1000023001BP357 (Aniwhenua Barrage). The process was reassessed and corrected; revised files were submitted to the reconciliation manager.

This time we identified another issue with the calculation of volumes for 1000023001BP357. BOPE provides the MEP services for this installation which includes uploading information to the registry. According to information provided by AccuCal, who reads meters, the multiplier recorded in the registry is incorrect. At ICP 1000023001BP357 there are two meters installed listed below:

- 214165704 (Barrage Export) – registry multiplier is 100, it should be 80, settlement flag is Y
- 21262189 (Barrage Local services) - registry multiplier is 1, which is correct, settlement flag is N.
It needs to be clarified if the flag is correct. Volumes are not submitted

The table below shows the calculations of Barrage volumes. Pulse Energy, for reconciliation purposes, uses registry information therefore the submitted volumes were higher than expected. At the time of finalising this audit it was still under investigation.

Month	Multiplier as per AccuCal		HHRAGGR file [Multiplier recorded in the registry]		Difference [kWh]	
	Export [kWh]	Import [kWh]	Export [kWh]	Import [kWh]	Export [kWh]	Import [kWh]
Jul – 20	938.4	0	1173	0	+234.6	0
Aug -20	383.28	14574.88	479.1	18218.6	+95.82	+3643.72
Sept – 20	389.84	141.84	487.3	177.3	+97.46	+35.46

We identified other reasons for inaccurate submissions

- RR files received from gaining traders, which are accepted by Pulse Energy, are recorded in Gentrack and used for billing but are not transferred to COBRA. It means they are not used for the calculation of NHHVOLS. We randomly sampled 37 reads (8.5% of RR files) for both types of switches. Overall Pulse Energy over submitted 874 kWh to the RM. We note in the previous audit that it was noted as non-compliance but addressed.
- Volumes not estimated for 9 bridged meters, therefore not submitted, process was not followed.
- The profile RPS PV1 is assigned to an ICP one day after the switch event date. RM not notified (**section 6.1**)

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.7 With: 15.12 From: 01-Nov-19 To: 30-Sep-20	PUNZ - Some submission volumes were inaccurate 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 rated as weak as they are unlikely to mitigate the risk of incorrect data. Processes are in place to identify corrections required, but they are not consistently followed through to completion. Audit risk rating is recorded as low as error identified during the audit are not significant.		
Actions taken to resolve the issue		Completion date	Remedial action status
Pulse is implementing a process to update RR file reads to COBRA.		18/12/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Pulse will continue to improve our processes according to the audit findings.		01/04/2021	

Description	Recommendation	Audited party comment	Remedial action
Possibility of incorrect multiplier applied, and no volumes submitted for Aniwhenua Barrage local services	PUNZ - Audit metering installation for ICP 1000023001BP357	Pulse has contacted the MEP of 1000023001BP357 and confirmed a field visit to the site in 2 weeks.	Pulse will assign AccuCal or other capable MEP for the site and then correct the multiplier for the site.

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 on behalf of Pulse Energy using the PUNZ code.

We reviewed submitted files and GR-170NHH for the audit period (Nov'19 to Sept'20).

Audit commentary

PPPP

PPPP has not been trading for 14 months yet. The first switch was in Oct'19.

PUNZ

We reviewed NHHVOLS rev14 submitted during the audit period. The results are shown below:

Month	Total submission [kWh]	Total Historical estimates [kWh]	Total Forward Estimates [kWh]	HE [%]	No of NSPs for which HE≠0
Aug-18	57,731,337	57,670,346	60,990	0.11%	82
Sept-18	50,327,676	50,261,973	65,702	0.13%	86
Oct18	45,054,527	44,963,975	90,552	0.20%	95
Nov-18	40,882,982	40,794,481	88,501	0.22%	106
Dec-18	38,448,477	38,387,362	61,116	0.16%	94
Jan-19	38,220,536	37,941,365	279,172	0.73%	110
Feb-19	34,311,593	34,263,528	48,065	0.14%	100
Mar-19	38,241,947	38,157,931	84,017	0.22%	105
Apr-19	43,387,514	43,252,972	134,542	0.31%	92
May-19	49,828,026	49,732,270	95,756	0.19%	101
June-19	58,960,393	58,846,248	114,145	0.19%	91
Jul-19	60,700,583	60,664,172	36,411	0.06%	71
Aug-19	60,932,972	60,926,934	6,038	0.01%	17

Overall, the percentage of HE in revision 14 is low but it is spread across many NSPs. In the last audit Pulse Energy stated that they were planning to introduce a system improvement to ensure that permanent estimates are available for all unread meters after 13 months. The enhancement was

implemented but it takes some time to implement and integrate with other affected business processes. The results of the new process are noticeable from rev 14 Aug'19.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.8 With: 4 of Schedule 15.2 From: 01-Nov-19 To: 30-Sep-20	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
A new improved process has been put in place to reduce the number of affected sites		01/11/2020	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.		01/06/2021	

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 for the period 01/11/2019 to 30/09/2020, JC Consulting provided reconciliation files for the same period submitted on behalf of PPPP.

Audit commentary

PPPP

PPPP trades category 1 metering installations. We reviewed NHHVOLS files submitted during the audit period. Compliance was confirmed.

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 profile HHR, RPS, PV1, and EG1 is use, which do not require certified control devices
- UML ICPs are accounted for
- No ICPs with loss or compensation factor
- HHR submissions were correctly aggregated – section 11.4

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 (AV-080) for the audit period.

Audit commentary

PPPP

We confirm that historic estimates were included and identified correctly in NHHVOLS files submitted during the audit period.

PUNZ

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

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 commentary

PPPP

JC Consulting submits NHHVOLS on behalf of PPPP. The number of ICPs traded under the PPPP code is much smaller and the operation is simple in comparison with PUNZ. All meters are read remotely, in most cases, no forward estimates are calculated therefore we asked JC Consulting to provide the calculation for a small number of scenarios.

- ICP gained
- ICP lost
- Reads span a month

The calculations were correct.

PUNZ

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

Test	Scenario	Test expectation	Result	Sample ICP
A	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant	0000028657UN9EF
B	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant	0000163018WEECA
C	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant	0000168379UNDDD
D	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant	0000003566TED32
E	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant	0000119260UNB3C
F	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant	0000222008WE2E6
G	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant	0000152170UN6E7
H	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant	0000252410WA4CA
I	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant	0001141069MLFD0
J	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant	1001134603LC702
K	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant	0000015716CP194
L	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant	0006612512RNA8F

M	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Compliant	0000511432TP3C1
N	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against a set of validated readings from another source	Compliant	0000814759NV434
O	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant	0030280513PCF88

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 situation when no actual read is available.

Audit commentary

PPPP

All meters are read remotely, in most cases, no forwards estimates are calculated. If readings are not provided by Pulse Energy, JC Consulting uses the average daily consumption provided by a losing retailer for new switches. For existing customers, when there is a problem with communication, an average consumption calculated based on previous readings is used.

PPPP does not trade any balancing area with volume greater than 100,000 kWh.

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 Aug'19 and examined the wash up files.

Balancing area	R0 [kWh]	R1 [kWh]	R3 [kWh]	R7 [kWh]	R14 [kWh]
ALLGXPSNPOWG	1,629,371.79	1,631,446.02	1,613,474.89	1,601,875.85	1,713,141.58
ASHBURTEASHG	1,865,320.20	1,908,503.82	1,873,974.18	1,897,431.00	1,894,277.73
AUCKLNDVECTG	7,826,846.94	7,858,931.53	7,922,555.01	7,886,486.89	7,951,310.57
BALANC1TASMG	3,110,550.61	3,186,768.10	3,144,059.74	3,041,638.91	3,148,121.29
BLN0331MARLG	2,067,256.71	2,085,093.62	2,081,686.65	2,032,711.54	2,072,302.13
DUNEDINDUNEG	5,399,558.25	5,435,564.97	5,449,520.07	5,424,622.89	5,512,916.09
MHO0331ELECG	1,082,593.71	1,006,874.04	1,007,920.58	985,227.89	1,011,067.95
NORTHRNUNETG	4,806,292.62	4,844,607.36	4,875,274.93	4,813,642.53	4,872,917.92
PRM0331ELECG	1,838,609.50	1,848,692.89	1,854,100.81	1,835,457.56	1,859,495.30
RNBAL01ORONG	1,810,218.90	1,811,854.55	1,921,644.54	1,833,324.95	1,799,468.11
STK0331NELSG	992,195.26	1,005,413.14	994,749.34	971,266.54	995,845.96

Balancing area	R1/R0	R3/R0	R7/R0	R14/R0
ALLGXPSNPOWG	0.13%	-0.98%	-1.69%	5.14%
ASHBURTEASHG	2.32%	0.46%	1.72%	1.55%
AUCKLNDVECTG	0.41%	1.22%	0.76%	1.59%
BALANC1TASMG	2.45%	1.08%	-2.22%	1.21%
BLN0331MARLG	0.86%	0.70%	-1.67%	0.24%
DUNEDINDUNEG	0.67%	0.93%	0.46%	2.10%
MHO0331ELECG	-6.99%	-6.90%	-8.99%	-6.61%
NORTHRNUNETG	0.80%	1.44%	0.15%	1.39%
PRM0331ELECG	0.55%	0.84%	-0.17%	1.14%
RNBAL01ORONG	0.09%	6.16%	1.28%	-0.59%
STK0331NELSG	1.33%	0.26%	-2.11%	0.37%

The accuracy of forward estimates has improved since the last audit. Non-compliance was recorded. For some balancing areas volumes were higher than 15% in comparison with initial submissions. Pulse Energy reviewed their estimation process and closely monitors consecutive submissions. Any deviation above 5% is analysed.

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.

Audit commentary

PPPP

PPPP uses only the RPS profile for reconciliation submissions.

PUNZ

PUNZ uses HHR, RPS, PV1, and EG1. The most common profile change is from RPS to RPS PV1 or RPS EG1.

Analysis of the EDA file showed that 270 profile changes occurred in the audit period. 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.

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.

JC Consulting creates submissions for NHH PPPP ICPs.

We reviewed NHH files for Nov'19 to Sept'20 for both codes.

Audit commentary

PPPP

Every month JC Consulting submits NNHVOLS, the profile used is RPS. 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

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 VIPER.

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

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.

Audit commentary

PPPP

PPPP provides data to JC Consulting from the ABSL system. The data which is loaded to the RM TOOL does not contain decimal places. PPPP trades NHH ICPs only. When actual data is not available JC Consulting calculates forward estimates, which contains 4 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.

PUNZ

The review of submission files (HHRAGGR, HHRVOLS, NHHVOLS, and BILLED) confirmed that submission data is rounded to two decimal places (2DP).

In **section 9.3** we noted non-compliance because the meter data provided by MEPs and EDM1 contains no more than 2DP.

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 (Nov'19 to Sept'20).

Audit commentary

PPPP

JC Consulting provides NHHVOLS to the reconciliation manager as the agent for PPPP. PPPP switched in the first ICP in Oct'19 therefore only revision 3 and 7 have been submitted.

Analyses of GR-170NHH showed that the company met compliance with this clause with one exception. Rev 3 for ROT0111 in month June 2020. The proportion of historical estimates in submission information for ROT0111 was 44.95% instead 80%. The low percentage of historical estimates was caused by a lack of readings for 0000720919TUD3E. It was one of the first ICP for which IHUB provided MEP services including meter reads. Pulse Energy had to write a new interface to accept readings from IHUB. It resulted in a delay

to pass meter readings to JC Consulting. It was discussed with PPPP and the issues were resolved. JC Consulting provided evidence that IHUG meter readings are passed to him and used to prepare reconciliation files.

PUNZ

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
Aug-19	181	3	7	17
Sept-19	181	5	3	
Oct-19	181	5	0	
Nov-19	181	5	0	
Dec-19	180	3	0	
Jan-20	180	1	0	
Feb-20	181	2	2	
Mar-20	181	1	1	
Apr-20	182	2		
May-20	181	2		
June-20	182	1		
July-20	183	2		

The table below shows the percentage of historical estimates across all NSPs

Month	Total number of NSPs	R3	R7	R14
Nov-19	181	98.3%	96.1%	90.6%
Dec-19	180	97.2%	98.3%	
Jan-20	180	97.2%	100.0%	
Feb-20	181	97.2%	100.0%	
Mar-20	181	98.3%	100.0%	
Apr-20	182	99.4%	100.0%	
May-20	181	98.9%	98.9%	
June-20	182	99.4%	99.4%	
July-20	183	98.9%		

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 13.3</p> <p>With: 10 of Schedule 15.3</p> <p>From: 01-Nov-19</p> <p>To: 30-Sep-20</p>	<p>PPPP - Historical estimates target not met for revision 3 for one NSP</p> <p>PUNZ - Historical estimates target not met for revision 3, 7, and 14 for 4 months</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple time</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 moderate, non-compliance with R3 is and 7 is small (volumes are ever decreasing). More detective controls need to be designed. 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.		01/04/2020	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.		01/06/2021	

CONCLUSION

PARTICIPANT RESPONSE