

ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

PULSE ENERGY ALLIANCE LP (PPPP)
MATERIAL CHANGE

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EXECUTIVE SUMMARY

Pulse Energy Alliance LP (Pulse) intends to begin trading NHH ICPs using its new PPPP code. **John Candy Consulting (JCC)** will complete NHH reconciliation as Pulse's agent.

Clause 2B of Schedule 15.1 requires that the Authority's approval is obtained prior to performing any Reconciliation Participant activities prior to certification being granted. Clause 2A outlines the requirements for certification and stipulates the audit requirements. This report serves two purposes, firstly to provide the Authority with sufficient information in order for them to be satisfied that Pulse has the capability to meet the requirements of Clause 2B(3) of Schedule 15.1 and secondly, to support Pulse's application for certification in accordance with Clause 2A of Schedule 15.1.

The audit examined data in test systems, process documentation and the results of Pulse's testing program.

Three non-compliances were identified, giving an audit risk rating of seven, and nine recommendations are made. The recommendations should be implemented prior to going live to ensure that Pulse meets the requirements of Clause 2B(3) of Schedule 15.1, which are listed below.

- a) be capable of producing submission information accurately;
- b) be capable of performing the functions described in clause 15.38(1)(d);
- c) be capable of switching an ICP in accordance with Schedule 11.3;
- d) be capable of managing an ICP in accordance with Schedule 11.1; and
- e) understand its obligations under this Code.

The matters raised are detailed in the table below.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Audit trails	2.4	21 Schedule 15.2	The RM tool audit trails do not record the operator identifier for the person who completed the activity; there is only one operator identifier for the RM tool.	Strong	Low	1	Identified
Losing trader must provide final information - standard switch	4.3	5 schedule 11.3	The CS creation process does not ensure that estimated daily consumption is correct.	Weak	Low	3	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	The CS creation process does not ensure that estimated daily consumption is correct.	Weak	Low	3	Identified
Future Risk Rating							7

Future risk rating	0	1-3	4-14	16-40	41-55	55+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

RECOMMENDATIONS

Subject	Section	Description	Recommendation
Relevant information	2.1	Registry data validation	Document and test processes to validate ABSL data against the registry, and resolve exceptions.
Providing registry information	3.2	Trader updates	Test processes to complete trader updates, including MEP nominations.
Losing trader must provide final information - standard switch	4.3	CS file content	Conduct further testing to confirm that CS file content is accurate and compliant with the registry functional specification requirements.
Interrogate meters once	6.8	NHH read attainment	Document processes for ICPs where actual reads are unable to be obtained for extended periods due to communications or other metering issues.
NHH meters interrogated annually	6.9	Meter read frequency reporting	Test meter read frequency reporting to the Authority.
Correction of NHH meter readings	8.1	NHH corrections	Document and test correction processes. Ensure that corrections are communicated to JCC, and reads recorded by Pulse and JCC are consistent.
NHH metering information data validation	9.5	NHH data validation	Test and document the process to validate NHH data, including zero consumption and meter events that could affect meter accuracy.
Calculation of ICP days	11.2	AV110 ICP days reporting	Test the AV110 ICP days reporting process for PPPP.
Allocation of submission information	12.3	AV080 NHH reporting	Test the AV080 NHH reporting process for PPPP.

ISSUES

Subject	Section	Description	Issue
	Nil		

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

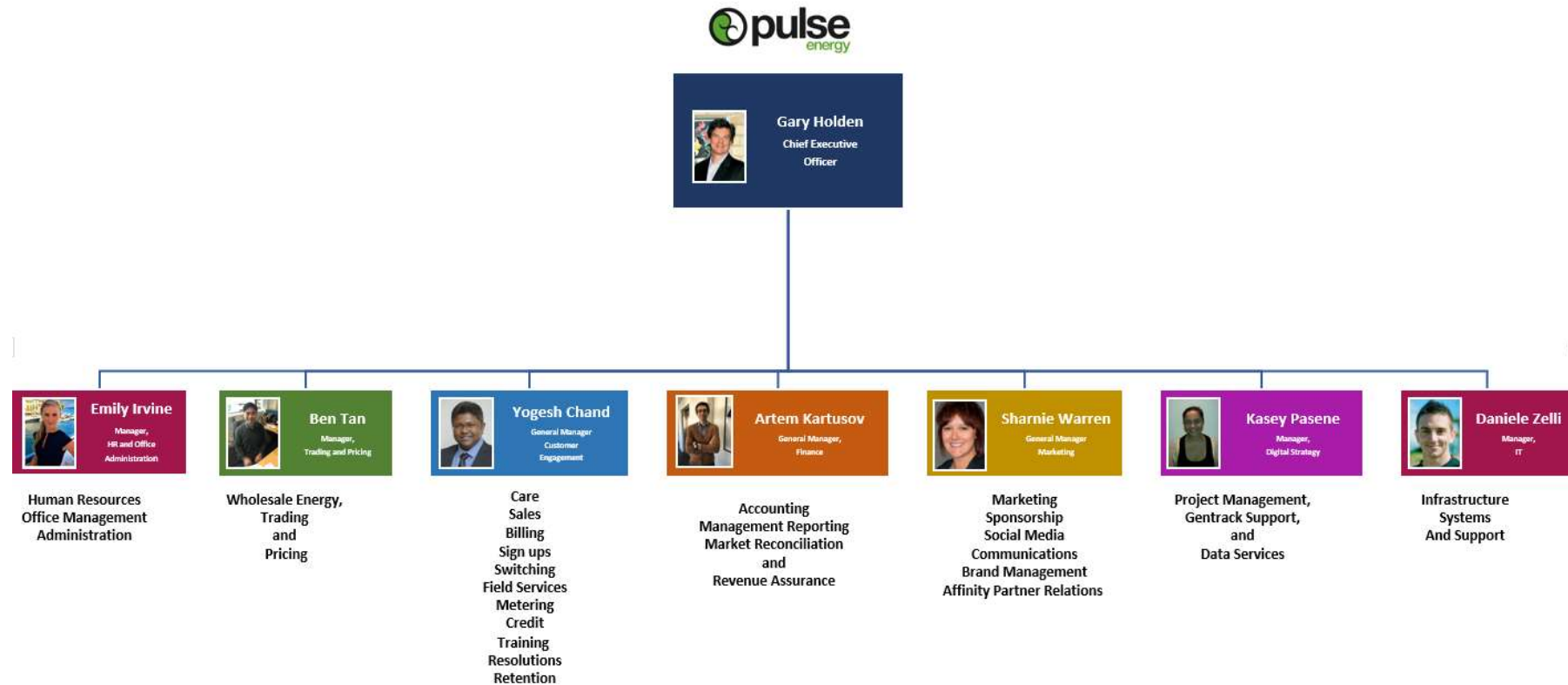
Current code exemptions were reviewed on the Electricity Authority website.

Audit commentary

There are no exemptions in place that are relevant to the scope of this audit.

1.2. Structure of Organisation

Pulse provided their current organisational structure:



1.3. Persons involved in this audit

Auditor:

Name	Company
Tara Gannon	Veritek Limited

Personnel assisting in this audit were:

Name	Title	Company
John Candy	Director	John Candy Consulting
Yogesh Chand	General Manager Customer Engagement	Pulse Energy

1.4. Use of Agents (Clause 15.34)

Code reference

Clause 15.34

Code related audit information

A reconciliation participant who uses an agent

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

Audit observation

Use of agents was discussed.

Audit commentary

JCC will produce NHH consumption and ICP days reporting as Pulse's agent.

NHH data is expected to be received from AMS, FCLM, and Metrix as MEPs.

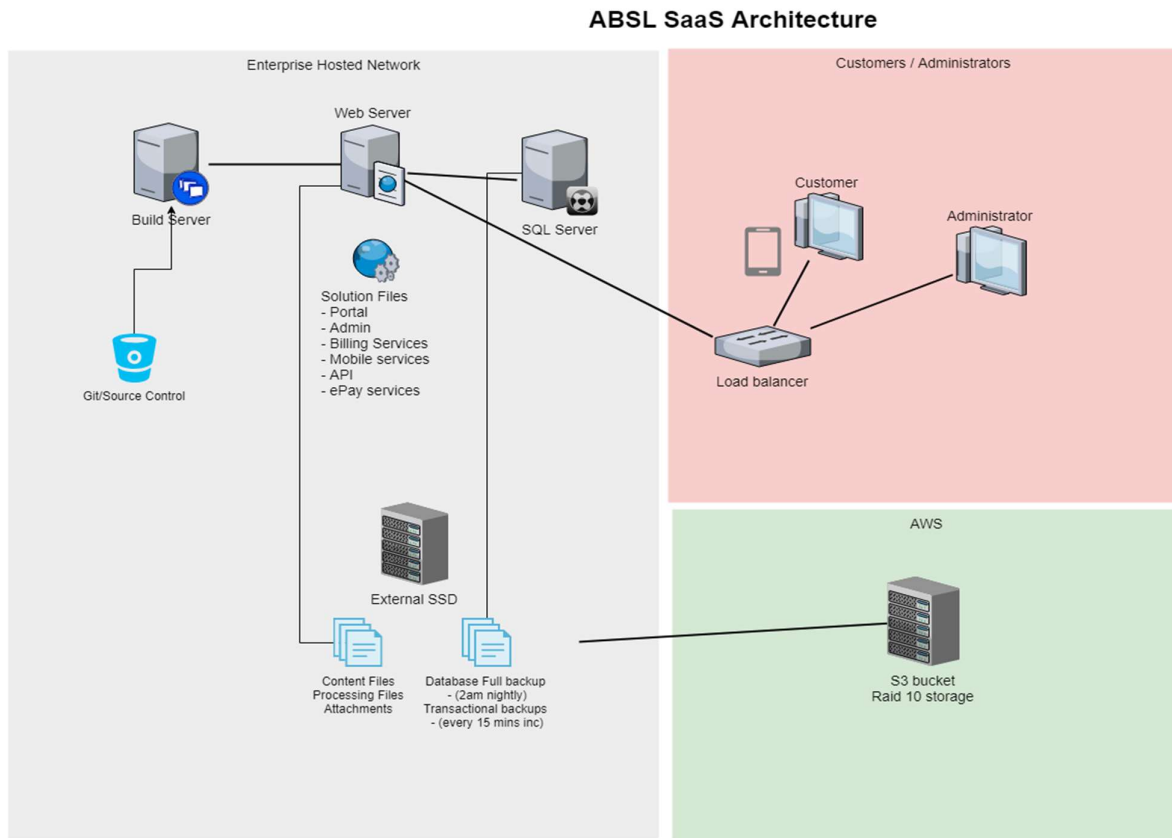
1.5. Hardware and Software

The main systems are as follows:

- ABSL will be used to manage customer, ICP and reading information. Switching files will be created and processed using ABSL. Status and trader updates will initially be conducted manually using the registry interface, and later automated using ABSL.
- JCC will complete NHH consumption and ICP days reporting using their RM tool.

Backup arrangements are in accordance with good industry practice for both Pulse and JCC.

The diagram below sets out the architecture for ABSL:



1.6. Breaches or Breach Allegations

Pulse has no breach allegations recorded by the Electricity Authority that relate to this audit.

1.7. ICP Data

No ICPs are currently supplied by Pulse's PPPP code.

1.8. Authorisation Received

All information required was provided directly by Pulse and JCC.

1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Pulse**, to support their application for certification for their new PPPP code in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2 at Pulse's premises in Auckland on 26/02/19.

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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks		MEP
	HHR	NHH	
(a) Maintaining Registry information and performing switching			
(b) Gathering and storing raw meter data	JC Consulting	JC Consulting	AMS (NHH) FCLM (NHH) Metrix (NHH)
(c)(ii) - Creation and management of NHH volume information	JC Consulting	JC Consulting	
(d) – Calculation of ICP days	JC Consulting	JC Consulting	
(da) - delivery of electricity supplied information under clause 15.7			
(e) Provision of submission information for reconciliation	JC Consulting	JC Consulting	

1.10. Summary of previous audit

This is the first audit for Pulse’s PPPP code.

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

I considered whether any of the systems or processes were likely to result in incorrect or misleading information. I viewed process documentation and test results.

Audit commentary

Pulse's processes will help to ensure that data is complete and accurate:

- Inbound notification and acknowledgement files are imported into ABSL, where they can be reviewed and action taken as necessary. Pulse intends to refine the process so that unsuccessful registry updates and errors are separated out and prioritised.
- Pulse intends to reconcile their data to the registry using discrepancy reporting, which was not available for review during the audit. I recommend that procedures for discrepancy reporting and managing exceptions are tested and documented.
- JCC's routine pre-submission processes include checking submission data against the registry as described in **section 12.3**. Exceptions identified through this process will be investigated and resolved.

I reviewed testing and process documentation during the audit. I identified some potentially inaccurate test CS and RR file content, which could lead to inaccurate information being provided. A recommendation to complete further testing for these files is made in **sections 4.3** and **4.4**.

Description	Recommendation	Audited party comment	Remedial action
Registry data validation	Document and test processes to validate ABSL data against the registry, and resolve exceptions.	Every month a LIS file is produced by PAYGO system in a similar format to the registry LIS file. The PAYGO system file is used to compare data with the Registry LIS file to identify the exceptions. These exceptions are then resolved individually by the admin and an audit trail is created of this activity in the PAYGO system. This is in the Process of being built in PAYGO system.	Identified

Audit outcome

Compliant

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.

Audit commentary

File timeliness depends on people and processes and will be checked during the first audit after go-live.

Audit outcome

Unable to determine

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

Data transmission processes were discussed. Process documentation and test results were reviewed.

Audit commentary

Data transmission from MEPS to Pulse will be via SFTP.

The AMI readings will be received by SFTP and loaded into PRADA. ABSL will provide a full list of ICPs requiring readings to PRADA, which will export readings for those ICPs to the ABSL according to an automated schedule.

A copy of the readings will also be exported from PRADA to JCC, for use in the reconciliation process. The read files will be transferred via FTP.

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 (clause 21(4)(c)).*

Audit observation

Audit trails were tested and the results were observed.

Audit commentary

Appropriate audit trails are in place for all events and edits.

ABSL includes a compliant audit trail. Currently tests are being conducted using the administrator ID. Pulse confirmed that each user will be assigned a user ID, which will be recorded in the audit trails when information changes.

JCC's RM tool contains audit trails, but because the system is set up for one user, the audit trail does not contain an operator identifier that corresponds to an individual user. This is recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.4 With: Clause 21 Schedule 15.2 From: 18-Mar-19 To: 18-Mar-19	The RM tool audit trails do not record the operator identifier for the person who completed the activity; there is only one operator identifier for the RM tool. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as strong and the impact as low. Audit trails are available and contain the required information, but the person who processed the change is not identifiable within the audit trail because there is only one operator identifier.		
Actions taken to resolve the issue		Completion date	Remedial action status
JCC has implemented the new format of Audit Trail as required. Currently the RM tool audit trails successfully record the operator identifier for the person who completes the activity. Each user is identified by their own individual Windows Username Login.		Completed	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
JCC has resolved the issue and provided a permanent solution. PAYGO system also has the in-built Audit trails from the beginning and is an integral part of system for Trader Updates.		Completed	

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

The terms and conditions are compliant with this clause.

Audit commentary

The terms and conditions are compliant with this clause.

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

The terms and conditions are compliant with this clause.

Audit commentary

The terms and conditions are compliant with this clause.

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:

- 1) if practical in the circumstances, ensure that the metering installation is located at a point of connection; or*
- 2) 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

I confirmed the types of ICPs Pulse is expected to supply.

Audit commentary

Pulse intends only to supply NHH mass market ICPs, with meter categories 1 or 2.

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

The terms and conditions are compliant with this clause.

Audit commentary

The terms and conditions are compliant with this clause.

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

Pulse will not deal with new connections.

Audit commentary

Pulse will not deal with new connections.

Audit outcome

Compliant

2.10. Temporary Electrical Connection of an ICP (Clause 10.33(1))

Code reference

Clause 10.33(1)

Code related audit information

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

- *they are recorded in the registry as being responsible for the ICP; and*
- *one or more certified metering installations are in place at the ICP in accordance with Part 10; and*
- *for an ICP that has not previously been electrically connected, the network owner has given written approval.*

Audit observation

Pulse will not deal with new connections.

Audit commentary

Pulse will not deal with new connections.

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:

- *they are recorded in the registry as being responsible for the ICP; and*
- *one or more certified metering installations are in place at the ICP in accordance with Part 10; and*
- *for an ICP that has not previously been electrically connected, the network owner has given written approval.*

Audit observation

The reconnection process was examined to determine whether it was likely to result in any non-compliance.

Pulse will not deal with new connections.

Audit commentary

Pulse confirmed that their reconnection process includes a step to ensure that a certified meter is present.

Audit outcome

Compliant

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

Pulse intends to operate on networks covered by their existing agreements.

Audit commentary

Pulse has arrangements in place with the networks that they intend to trade on.

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

Pulse intends to use AMS, FCLM and Metrix as MEPs. Process documentation and testing was reviewed.

Audit commentary

Pulse has arrangements in place with the MEPs they intend to accept. Eligibility criteria are set out within the process documentation, and applications to supply ICPs without an approved MEP or communicating AMI meter will be rejected.

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

Pulse will not deal with new connections.

Audit commentary

Pulse will not deal with new connections.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

Pulse will not deal with new connections.

Trader and status update processes were discussed, and process and testing documentation was reviewed.

Audit commentary

Pulse will not deal with new connections.

Status and trader updates will be completed manually using the registry interface. Pulse has system jobs in progress which will enable ABSL to produce update files to be sent to the registry.

The process for trader updates on the registry have been mapped. Detailed information and testing for the MEP nomination process was not provided.

Description	Recommendation	Audited party comment	Remedial action
Trader updates	Test processes to complete trader updates, including MEP nominations.	Trader Updates including MEP nominations are implemented in PAYGO system. When these updates are executed the TRM file is generated. The file is then sent to Registry and successfully updates the Registry information as required. However, the values of HHR & NHH submission flags as currently generated are incorrect. This will be rectified and updated soon.	Investigating

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

Timeliness of registry updates relies on processes, which can be checked during the first audit after go-live.

Audit commentary

Status and trader updates will be completed manually using the registry interface. Pulse has system jobs in progress which will enable ABSL to produce update files to be sent to the registry.

Pulse is aware of the requirement to ensure that status and trader updates are processed within five business days of the event date, and intends to process updates on time.

Timeliness of registry updates relies on processes, which can be checked during the first audit after go-live.

Audit outcome

Unable to determine

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

I checked the intended processes in relation to this clause.

Audit commentary

Registry updates will be conducted manually and Pulse's data will be reconciled to the registry as discussed in **section 2.1**. Final interrogations will occur for decommissioned ICPs because data will be provided daily.

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

Timeliness of registry updates relies on processes, which can be checked during the first audit after go-live.

Audit commentary

Status and trader updates will be completed manually using the registry interface. Pulse has system jobs in progress which will enable ABSL to produce update files to be sent to the registry.

Pulse is aware of the requirement to ensure that status and trader updates are processed within five business days of the event date, and intends to process updates on time.

Timeliness of registry updates relies on processes, which can be checked during the first audit after go-live.

Audit outcome

Unable to determine

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

The process documentation was reviewed, and ANZSIC code processes were discussed.

Audit commentary

Appropriate processes are in place to ensure that ANZSIC codes are recorded correctly.

Audit outcome

Compliant

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

Pulse will not deal with unmetered load.

Audit commentary

Pulse will not deal with unmetered load. Review of process documentation confirmed that applications for ICPs with unmetered load connected will be declined.

Unmetered load changes will be identified through the discrepancy reporting processes referred to in **section 2.1**.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

Pulse will not deal with new connections. The reconnection process was discussed, and testing and process documentation was reviewed.

Audit commentary

Pulse will update the ICP status to active once confirmation that the ICP has been reconnected is received from the MEP.

Initially all reconnections will be processed manually in ABSL and on the registry using the registry interface. Pulse intends to automate the reconnection process so that a file is automatically generated for the registry when the status is updated in ABSL.

Pulse is aware of the requirement to ensure that status updates are processed within five business days of the event date, and intends to process updates on time.

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 disconnection process was discussed, and testing and process documentation was reviewed.

Audit commentary

Pulse will update the ICP status to inactive once confirmation that the ICP has been disconnected is received from the MEP.

Initially all disconnections will be processed manually in ABSL and on the registry using the registry interface. Pulse intends to automate the process to disconnect remotely by AMI meter (status 1,7) so that a file is automatically generated for the registry when the status is updated in ABSL. ICPs disconnected with other status codes will continue to be processed manually because they are expected to be used rarely. I confirmed that all the registry statuses and status reasons were available within the test system.

Pulse is aware of the requirement to ensure that status updates are processed within five business days of the event date, and intends to process updates on time.

Vacant and disconnected ICPs will continue to receive readings, which will be transferred to JCC and imported into ABSL. 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.

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

Pulse will not deal with new connections. Any ICPs at new or ready status with Pulse as the expected trader are likely to have been assigned to Pulse in error by the distributor.

Audit commentary

If Pulse is assigned as the proposed trader in error on the registry, Pulse will be alerted by a registry notification file. Pulse intends to review these registry notification files and would query the ICP with the distributor.

If emails are received from distributors querying the status of new or ready ICPs they will be actioned.

Audit outcome

Compliant

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

Code reference

Clause 2 Schedule 11.3

Code related audit information

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

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

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

Audit observation

Process documentation was examined, including testing results.

Audit commentary

Pulse's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are generated by ABSL once all pre-conditions are met and the user initiates the switch. The withdrawal process will be used if the customer changes their mind.

The application requires the customer to enter whether they are moving in, or requesting a switch from their current retailer at the address to Pulse. This information is used to determine the switch type.

The application process does not allow customers to select backdated transfer switches.

Audit outcome

Compliant

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

Code reference

Clauses 3 and 4 Schedule 11.3

Code related audit information

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

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

- *providing a request for withdrawal of the switch in accordance with clause 17 (clause 3(c) of Schedule 11.3).*

When establishing an event date for clause 4, the losing trader must disregard every event date established by the losing trader for a customer who has been with the losing trader for less than two calendar months (clause 4(2) of Schedule 11.3).

Audit observation

Process documentation was examined, including testing results.

Audit commentary

The switch breach report will be 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 intends to rely on its own due date calculation.

The switch event date is set to match the gaining trader's proposed event date, unless it is blank or backdated, in which case it is set to five business days from the date the file is processed. Where the customer and gaining trader both require a backdated transfer switch, it will be considered on a case by case basis.

The AN response code selection process was provided, and should allow AN response codes to be selected compliantly.

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 five business days after the event date, the losing trader must complete the switch by:

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

Audit observation

Process documentation was examined, including testing results.

Audit commentary

The switch breach report will be 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 intends to rely on its own due date calculation.

CS files will be created in ABSL upon initiation by a user. I identified a potential issue with the test CS file content, which could cause future non-compliance.

CS file field	Issue
Estimated daily kWh	<p>Estimated daily kWh will be recorded as the estimated daily consumption for the last seven days, or the last seven 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. If no actual reads have been received during the period of supply, the estimated daily kWh should reflect the value in the incoming CS file.</p> <p>A high proportion of the test CS files had estimated daily kWh of zero, and I recommend these are checked to ensure that the correct value will be included in CS files.</p> <p>The incorrect calculation of estimated daily kWh is likely to cause future non-compliance.</p>

I recommend that the estimated daily consumption calculation is investigated and further testing is conducted prior to go live.

Description	Recommendation	Audited party comment	Remedial action
CS file content	Conduct further testing to confirm that CS file content is accurate and compliant with the registry functional specification requirements.	CS file content has been intensively worked on based on several suggestions from the auditor regarding the individual file contents. It is now compliant with the registry functional specification requirements.	Identified

Pulse has tested scenarios to ensure that customers can switch out and back in on the same customer, and out and back in on different customers.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.3</p> <p>With: Clause 5</p> <p>Schedule 11.3</p> <p>From: 18-Mar-19</p> <p>To: 18-Mar-19</p>	<p>The CS creation process does not ensure that estimated daily consumption is correct.</p> <p>Potential impact: Low</p> <p>Actual impact: Unknown</p> <p>Audit history: None</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>

Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as weak. Based on the testing and information provided they are not sufficient to ensure that CS content will consistently be correct.</p> <p>The impact is assessed to be low. As a new retailer, large numbers of outgoing CS files are not expected.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>The CS daily consumption field is currently summing the individual daily consumption of the last 7 billed reads (actual and estimate) and then dividing this by 7 to get an average daily consumption. Based on feedback from the EA and the auditor we will be putting in a request to have this amended to only use the latest two validated actual readings.</p>		Identified	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We are escalating the change request above and anticipate that due to initial low volumes of switching the change will be implemented quite quickly post launch to ensure minimal impact.</p>		In progress	

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 four calendar months of the actual event date, provide to the losing trader a changed switch event meter reading supported by two validated meter readings.

- *the losing trader can choose not to accept the reading however must advise the gaining trader no later than five 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

Process documentation was examined, including testing results.

Audit commentary

All ICPs switched in will have AMI meters, and are expected to switch in and out on validated readings.

Pulse's billing validation processes will identify differences between switch event readings and later actual readings received, to determine whether an RR request is required. RRs will be created in ABSL upon initiation by a user as soon as two validated readings have been received. Customer readings will not be treated as validated readings. The switch event reads in ABSL will be updated to reflect the outcome of the RR process once the AC file is received.

Pulse will consider RR files issued by other traders, and provide a response file. The switch event reads in ABSL will be updated to reflect the outcome of the RR process once the AC file is sent.

The switch breach report will be 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 intends to rely on its own due date calculation.

Audit outcome

Compliant

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

Process documentation was examined, including testing results.

Audit commentary

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

The process documentation states that start read changes will be accepted if they are received within five working days of the switch completion.

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

Process documentation was examined.

Audit commentary

Pulse intends to resolve any disputed reads through the RR process where possible.

Audit outcome

Compliant

4.7. Gaining trader informs registry of switch request - switch move (Clause 9 Schedule 11.3)

Code reference

Clause 9 Schedule 11.3

Code related audit information

The switch move process applies where a gaining trader has an arrangement with a customer or embedded generator to trade electricity at an ICP using non half-hour metering or an unmetered ICP, or to assume responsibility for such an ICP, and no other trader has an agreement to trade electricity at that ICP, this is referred to as a switch move and the following provisions apply:

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

In the event of a switch move, the gaining trader must advise the registry manager of a switch and the proposed event date no later than two business days after the arrangement comes into effect.

In its advice to the registry manager the gaining trader must include:

- *a proposed event date (clause 9(2)(a)); and*
- *that the switch type is "M1" (clause 9(2)(b)); and*
- *one or more profile codes of a profile at the ICP (clause 9(2)(c)).*

Audit observation

Audit observation

Process documentation was examined, including testing results.

Audit commentary

Pulse's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are generated by ABSL once all pre-conditions are met and the user initiates the switch. The withdrawal process will be used if the customer changes their mind.

The application requires the customer to enter whether they are moving in, or requesting a switch from their current retailer at the address to Pulse. This information is used to determine the switch type.

Audit outcome

Compliant

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

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

Audit observation

Process documentation was examined, including testing results.

Audit commentary

The switch breach report will be 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 intends to rely on its own due date calculation.

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.

The AN response code selection process was provided, and should allow AN response codes to be selected compliantly.

Audit outcome

Compliant

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

If the losing trader determines a different date, the losing trader must also complete the switch by providing to the registry manager as described in sub-clause (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

Process documentation was examined, including testing results.

Audit commentary

Switches are expected to be completed in accordance with this clause.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

Process documentation was examined, including testing results.

Audit commentary

The switch breach report will be 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 intends to rely on its own due date calculation.

CS files will be created in ABSL upon initiation by a user. I identified a potential issue with the test CS file content, which is discussed in **section 4.3** and recorded as non-compliance below.

Pulse has tested scenarios to ensure that customers can switch out and back in on the same customer, and out and back in on different customers.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 Schedule 11.3 From: 18-Mar-19 To: 18-Mar-19	The CS creation process does not ensure that estimated daily consumption is correct. Potential impact: Low Actual impact: Unknown Audit history: None Controls: Weak Breach risk rating: 3

Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as weak. Based on the testing and information provided they are not sufficient to ensure that CS content will consistently be correct.</p> <p>The impact is assessed to be low. As a new retailer, large numbers of outgoing CS files are not expected.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>The CS daily consumption field is currently summing the individual daily consumption of the last 7 billed reads (actual and estimate) and then dividing this by 7 to get an average daily consumption. Based on feedback from the EA and the auditor we will be putting in a request to have this amended to only use the latest two validated actual readings.</p>		Identified	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We are escalating the change request above and anticipate that due to initial low volumes of switching the change will be implemented quite quickly post launch to ensure minimal impact.</p>		In progress	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

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

- *if the switch meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader (clause 12(2)(a)); or*
- *if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch meter reading. In this case, the gaining trader, within four calendar months of the actual event date, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by two validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):*
- *advise the gaining trader if it does not accept the switch event meter reading and the losing trader and the gaining trader must resolve the dispute in accordance with the disputes procedure in clause 15.29 (with all necessary amendments) (clause 12(3)(a)); or*

- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader (clause 12(3)(b)).*

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

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

Audit observation

Process documentation was examined, including testing results.

Audit commentary

All ICPs switched in will have AMI meters, and are expected to switch in and out on validated readings.

Pulse's billing validation processes will identify differences between switch event readings and later actual readings received, to determine whether an RR request is required. RRs will be created in ABSL upon initiation by a user as soon as two validated readings have been received. Customer readings will not be treated as validated readings. The switch event reads in ABSL will be updated to reflect the outcome of the RR process once the AC file is received.

Pulse will consider RR files issued by other traders, and provide a response file. The switch event reads in ABSL will be updated to reflect the outcome of the RR process once the AC file is sent.

The switch breach report will be 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 intends to rely on its own due date calculation.

Audit outcome

Compliant

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

Code reference

Clause 13 Schedule 11.3

Code related audit information

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

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

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

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

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

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

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

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

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

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

Audit observation

Pulse will not deal with any HH switches.

Audit commentary

Pulse will not deal with any HH switches.

Audit outcome

Not applicable

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

Pulse will not deal with any HH switches.

Audit commentary

Pulse will not deal with any HH switches.

Audit outcome

Not applicable

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

Pulse will not deal with any HH switches.

Audit commentary

Pulse will not deal with any HH switches.

Audit outcome

Not applicable

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

Code reference

Clauses 17 and 18 Schedule 11.3

Code related audit information

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

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

- *for each ICP, the trader withdrawing the switch request must provide the registry manager with (clause 18(c)):*
 - o *the participant identifier of the trader making the withdrawal request (clause 18(c)(i));*
 - and*
 - o *the withdrawal advisory code published by the Authority (clause 18(c)(ii))*
- *within five business days after receiving notice from the registry manager of a switch, the trader receiving the withdrawal must advise the registry manager that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal (clause 18(d))*
- *on receipt of a rejection notice from the registry manager, in accordance with clause 18(d), a trader may re-submit the switch withdrawal request for an ICP in accordance with clause 18(c). All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request (clause 18(e))*

- *if the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within two business days after receiving notice from the registry manager in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16 (clause 18(f)).*

Audit observation

Process documentation was examined, including testing results.

Audit commentary

Because ICPs will be billed daily, it is Pulse's preference to avoid switch withdrawals where possible.

The NW code selection process was provided, and should allow NW response codes to be selected compliantly. Pulse intends to evaluate incoming NWs and provide the appropriate response code.

The switch breach report will be 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 intends to rely on its own due date calculation.

Audit outcome

Compliant

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The process documentation was checked.

Audit commentary

Pulse's metering information processes are compliant.

Audit outcome

Compliant

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

Code reference

Clause 11.15AA to 11.15AB

Code related audit information

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

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

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

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

Audit observation

Pulse will not complete winback activity.

Audit commentary

It is intended that Pulse will be switch save protected and will not complete any winback activity.

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

Pulse will not deal with unmetered load.

Audit commentary

Pulse will not deal with unmetered load.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

Pulse will not deal with unmetered load.

Audit commentary

Pulse will not deal with unmetered load.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

Pulse will not deal with unmetered load.

Audit commentary

Pulse will not deal with unmetered load.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 15.3, Clause 15.37B

Code related audit information

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

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

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

Audit observation

Pulse will not deal with unmetered load.

Audit commentary

Pulse will not deal with unmetered load.

Audit outcome

Compliant

6. GATHERING RAW METER DATA

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

Code reference

Clause 10.13, Clause 10.24 and Clause 15.13

Code related audit information

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

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

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

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

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

Audit observation

Process and testing documentation was reviewed.

Audit commentary

Pulse will only deal with ICPs where AMI metering is installed, and does not intend to supply ICPs with distributed generation. Review of process documentation confirmed that applications for ICPs with a load type of B or G will be declined.

No submission information will be determined using subtraction.

Pulse will complete reconnections remotely wherever possible, and does not intend to bridge meters to reconnect.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

- *provide to the grid owner a copy of the metering installation design (before ordering the equipment)*
- *provide at least three months for the grid owner to review and comment on the design*

- *respond within three business days of receipt to any request from the grid owner for additional details or changes to the design*
- *ensure any reasonable changes from the grid owner are carried out.*

The participant responsible for the metering installation must:

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

Audit observation

Pulse does not have responsibility for any GIPs.

Audit commentary

Pulse does not have responsibility for any GIPs.

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

Pulse will not use any profiles requiring control devices.

Audit commentary

Pulse will not use any profiles requiring control devices.

Audit outcome

Compliant

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

Processes to identify defective meters and notify the MEP were reviewed.

Audit commentary

Pulse intends to identify any defective meters as part of the read validation process described in **section 9.5**. The MEP will be notified of any faults identified as part of this process, and jobs raised with the MEP will be tracked using ABSL.

I confirmed that JCC also has consumption validation processes which can identify potential faulty or defective meters, and will report them to Pulse.

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

Pulse will not collect data; this will be provided by the MEP.

Audit commentary

Pulse will not collect data; this will be provided by the MEP.

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

Pulse will not collect data; this will be provided by the MEP.

Audit commentary

Pulse will not collect data; this will be provided by the MEP.

Audit outcome

Compliant

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

Code reference

Clause 6 Schedule 15.2

Code related audit information

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

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

Audit observation

The process of the application of meter readings was examined.

Audit commentary

NHH readings provided will be applied as at 2400hrs, and switch in readings will be appropriately treated as if they have occurred at midnight on the switch in date by JCC.

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

I reviewed the read attainment process. Process documentation and test results were reviewed.

Audit commentary

The application process will reject any ICPs where the AMI communications flag is set to no on the registry, and it is expected that daily readings will be received for all active ICPs.

The read validations process described in **section 9.5** will identify any ICP which has not received an actual read for more than five days. Where an ICP fails this validation, a work order will be raised with the MEP and estimated reads will be applied until communication is restored.

In some cases, the AMI flag may be set to yes on the registry, but the meter may have communications issues preventing reads from being obtained which are difficult to resolve. I recommend that Pulse documents the process for ICPs where the MEP cannot restore communication promptly to help to ensure compliance with the meter interrogation requirements.

Description	Recommendation	Audited party comment	Remedial action
NHH read attainment	Document processes for ICPs where actual reads are unable to be obtained for extended periods due to communications or other metering issues.	Weekly report will be generated to identify ICPs where we have not received actual readings for a period of 5 days and more.	Cleared

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

I reviewed the read attainment process.

Audit commentary

The application process will reject any ICPs where the AMI communications flag is set to no on the registry, and it is expected that daily readings will be received for all active ICPs. Read attainment processes are discussed in **section 6.8**.

Meter reading frequency reporting to the Authority will be generated by JCC on business day 13 of each month, and submitted by Pulse.

Description	Recommendation	Audited party comment	Remedial action
Meter read frequency reporting	Test meter read frequency reporting to the Authority.	Meter Read frequency report is generated by JCC on behalf of PAYGO. The test file was shown for illustrative purposes only, using test data. When we have live data, we will be able to demonstrate the correctness of the figures on request.	Identified

Audit outcome

Compliant

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

I reviewed the read attainment process.

Audit commentary

The application process will reject any ICPs where the AMI communications flag is set to no on the registry, and it is expected that daily readings will be received for all active ICPs. Read attainment processes are discussed in **section 6.8**.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

NHH data will be provided by the MEP and will be compliant with this clause.

Audit commentary

NHH data will be provided by the MEP and will be compliant with this clause.

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

Pulse will not deal with HHR data.

Audit commentary

Pulse will not deal with HHR data.

Audit outcome

Not applicable

6.13. HHR interrogation data requirement (Clause 11(2) Schedule 15.2)

Code reference

Clause 11(2) Schedule 15.2

Code related audit information

The following information is collected during each interrogation:

11(2)(a) - the unique identifier of the data storage device

11(2)(b) - the time from the data storage device at the commencement of the download unless the time is within specification and the interrogation log automatically records the time of interrogation

11(2)(c) - the metering information, which represents the quantity of electricity conveyed at the point of connection, including the date and time stamp or index marker for each half hour period. This may be limited to the metering information accumulated since the last interrogation

11(2)(d) - the event log, which may be limited to the events information accumulated since the last interrogation

11(2)(e) - an interrogation log generated by the interrogation software to record details of all interrogations.

The interrogation log must be examined by the reconciliation participant responsible for collecting the data and appropriate action must be taken if problems are apparent or an automated software function flags exceptions.

Audit observation

Pulse will not deal with HHR data.

Audit commentary

Pulse will not deal with HHR data.

Audit outcome

Not applicable

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

Pulse will not deal with HHR data.

Audit commentary

Pulse will not deal with HHR data.

Audit outcome

Not applicable

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

Pulse will not deal with HHR data.

Audit commentary

Pulse will not deal with HHR data.

Audit outcome

Not applicable

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

NHH data will be provided by the MEP and will be compliant with this clause.

Audit commentary

NHH data will be provided by the MEP and will be compliant with this clause.

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

Pulse will not deal with any non metering information.

Audit commentary

Pulse will not deal with any non metering information.

Audit outcome

Not applicable

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 errors are detected during validation of non-half hour meter readings, one of the following must be undertaken:

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

19(1)(b) - replacement of the original meter reading by another meter reading (even if the replacement meter reading may be at a different date)

19(1)(c) - if the original meter reading cannot be confirmed or replaced by a meter reading from another interrogation, then an estimated reading is substituted and the estimated reading is marked as an estimate and it is subsequently replaced in accordance with clause 4(2).

Audit observation

I checked the correction processes.

Audit commentary

Because daily readings will be validated, Pulse intends to identify any errors requiring correction promptly and process corrections as soon as possible.

Vacant and disconnected ICPs will continue to be 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.

Pulse will complete reconnections remotely wherever possible, and does not intend to bridge meters to reconnect.

Pulse does not yet have a documented procedure to deal with corrections where actual meter register reads are available, but incorrect due to a stopped meter, faulty meter or bridged meter, and to communicate these issues to JCC. I recommend that procedures are documented and tested prior to going live.

Description	Recommendation	Audited party comment	Remedial action
NHH corrections	Document and test correction processes. Ensure that corrections are communicated to JCC, and reads recorded by Pulse and JCC are consistent.	RR files are communicated via the registry and JCC pulls their report from Registry directly. In the event of Meter accuracy issues PAYGO will raise service orders and provide estimated reads where necessary. JCC currently receives a copy of all the Read change files. For Meter inaccuracies PAYGO will create a meter read file for upload to JCC containing the permanent estimate.	Identified

Audit outcome

Compliant

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

If errors are detected during validation of half hour metering information the correction must be as follows:

19(2)(a) - if a check meter or data storage device is installed at the metering installation, data from this source may be substituted

19(2)(b) - in the absence of any check meter or data storage device, data may be substituted from another period if the total of all substituted intervals matches the total consumption recorded on the meter, if available, and the pattern of consumption is considered materially similar to the period in error.

Audit observation

Pulse will not deal with HHR data.

Audit commentary

Pulse will not deal with HHR data.

Audit outcome

Compliant

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

Code reference

Clause 19(3) Schedule 15.2

Code related audit information

If error compensation and loss compensation are carried out as part of the process of determining accurate data, the compensation process must be documented and must comply with audit trail requirements.

Audit observation

Pulse will not deal with any error or loss compensation arrangements.

Audit commentary

Pulse will not deal with any error or loss compensation arrangements.

Audit outcome

Not applicable

8.4. Correction of HHR and NHH raw meter data (Clause 22(1) and (2) Schedule 15.2)

Code reference

Clause 22(1) and (2) 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:

22(2)(a) - the date of the correction or alteration

22(2)(b) - the time of the correction or alteration

22(2)(c) - the operator identifier of the reconciliation participant

22(2)(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

22(2)(e) - the technique used to arrive at the corrected data

22(2)(f) - the reason for the correction or alteration.

Audit observation

I checked the correction process.

Audit commentary

NHH data will be provided by the MEP and retained as required by this clause.

Audit trails are created when data is modified, however some of the audit trails do not contain sufficient information. This is recorded as non-compliance in **section 2.4**.

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

I checked processes to identify readings, and reviewed process and testing documentation.

Audit commentary

Readings are appropriately labelled.

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

Submission data will be prepared by JCC as Pulse's agent.

Audit commentary

Submission data will be based on readings as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

All meter data that is used to derive volume information must not be rounded or truncated from the stored data from the metering installation.

Audit observation

NHH data will be collected by MEPs and compliance is assessed as part of their MEP audits.

Process and testing documentation was reviewed.

Audit commentary

Read data is not rounded or truncated on import into PRADA, and the export process truncates the data to zero decimal places. The MEP retains the raw, unrounded data.

Audit outcome

Compliant

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

Pulse will not deal with HHR data.

Audit commentary

Pulse will not deal with HHR data.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

I reviewed the NHH data validation process.

Audit commentary

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

Checks must also be conducted for meter events that could affect meter accuracy. A process map has been created, and I recommend that processes for these validations should be tested:

Description	Recommendation	Audited party comment	Remedial action
NHH data validation	Test the process to validate NHH data, including meter events that could affect meter accuracy.	The Process to validate NHH data is outlined in the below process descriptions & process maps This is being developed and will be completed this month.	Identified

Exceptions will initially be managed by reviewing reports, but the process will eventually be automated by directing exceptions to work queues.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

I reviewed the AMI data validation process.

Audit commentary

All readings are expected to be received from AMI meters, and will be validated in accordance with the NHH validation process. This process is described in **section 9.5**, and a recommendation to review meter event information has been made.

Audit outcome

Compliant

10. PROVISION OF METERING INFORMATION TO THE PRICING MANAGER 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 pricing manager and 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 does not have responsibilities for the provision of information to the grid owner.

Audit commentary

Pulse does not have responsibilities for the provision of information to the grid owner.

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 pricing manager and 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 pricing manager and 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 does not have responsibilities for the provision of information to the grid owner.

Audit commentary

Pulse does not have responsibilities for the provision of information to the grid owner.

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 does not have responsibilities for the provision of information to the grid owner.

Audit commentary

Pulse does not have responsibilities for the provision of information to the grid owner.

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 the pricing manager or 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 does not have responsibilities for the provision of information to the grid owner.

Audit commentary

Pulse does not have responsibilities for the provision of information to the grid owner.

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

Pulse will only use the RPS profile.

Audit commentary

Pulse will only use the RPS profile; trading notifications will not be 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

JCC will produce the AV110 ICP days submission as Pulse's agent. JCC RM submission process documentation was reviewed.

Audit commentary

JCC will produce the AV110 ICP days submission information based on registry data, which is validated against other submission data to ensure that it is accurate.

Sample AV110 data was provided for Pulse's CPPL code. I recommend that this process is tested for the PPPP code prior to going live.

Description	Recommendation	Audited party comment	Remedial action
AV110 ICP days reporting	Test the AV110 ICP days reporting process for PPPP.	Process has been tested for PPPP and AV110 ICP days sample file attached to the email. JCC manages the process from their end by producing AV110 ICP days report from their database and submitting it to the RM on our behalf	Identified

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

Testing of the AV120 reports was reviewed.

Audit commentary

AV120 reports will be generated from ABSL, and contain the kWh billed during the submission month. A small data set has been tested, and the report format is compliant.

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

Pulse will not deal with HHR data.

Audit commentary

Pulse will not deal with HHR data.

Audit outcome

Not applicable

12. SUBMISSION COMPUTATION

12.1. Daylight saving adjustment (Clause 15.36)

Code reference

Clause 15.36

Code related audit information

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

Audit observation

Pulse will not deal with HHR data.

Audit commentary

Pulse will not deal with HHR data.

Audit outcome

Not applicable

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

This clause relates to the timing of sending of files, which are intended to be sent on time.

Audit commentary

This clause relates to the timing of sending of files, which are intended to be sent on time.

Audit outcome

Unable to determine

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

JCC will produce the AV080 NHH volumes submission as Pulse’s agent. JCC RM submission process documentation was reviewed.

Audit commentary

JCC will produce AV080 NHH volumes submissions using:

- daily reads received from PRADA;
- ICP, meter, and switch event read information retrieved from the registry; and
- SASV from the reconciliation manager portal.

The data is imported into the RM tool, and validated to identify:

- inactive ICPs with consumption;
- negative volumes, and determine whether a meter rollover has occurred;
- missing meter registers and unexpected meter registers;
- missing start or end reads; and
- missing SASV required for calculation.

Submission data will also be compared to previous revisions and months prior to submission to identify any consumption anomalies.

Exceptions and reports are intended to be provided to Pulse for review prior to submission.

Sample AV080 data and validation data was provided for Pulse’s CPPL code. I recommend that this process is tested for the PPPP code prior to going live.

Description	Recommendation	Audited party comment	Remedial action
AV080 NHH reporting	Test the AV080 NHH reporting process for PPPP.	Process has been tested for PPPP and AV080 NHH volume sample file attached to the email. JCC manages the process from their end by producing this file from their database and submitting it to the RM on our behalf	Identified

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 is not a grid owner.

Audit commentary

Pulse is not a grid owner.

Audit outcome

Not applicable

12.5. Provision of NSP submission information (Clause 15.10)

Code reference

Clause 15.10

Code related audit information

The participant (if a local or embedded network owner) must provide to the reconciliation manager for each NSP for which the participant has given a notification under clause 25(1) Schedule 11.1 (which relates to the creation, decommissioning, and transfer of NSPs) the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.10(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.10(b))*

Audit observation

Pulse is not an embedded network owner.

Audit commentary

Pulse is not an embedded network owner.

Audit outcome

Not applicable

12.6. Grid connected generation (Clause 15.11)

Code reference

Clause 15.11

Code related audit information

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

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

Audit observation

Pulse does not have any grid connected generation.

Audit commentary

Pulse does not have any grid connected generation.

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 revision process was checked during the audit to confirm compliance.

Audit commentary

All estimates will be replaced with actual data where it is available and JCC will submit revisions as Pulse's agent.

Audit outcome

Compliant

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).

Volume information created using estimated readings must be subsequently replaced at the earliest opportunity by the reconciliation participant by volume information that has been created using validated meter readings or permanent estimates by, at the latest, the month 14 revision cycle.

A permanent estimate may be used in place of a validated meter reading, but only if, despite having used reasonable endeavours; the reconciliation participant has been unable to obtain a validated meter reading.

Audit observation

Processes for permanence of meter readings were discussed.

Audit commentary

The application process will reject any ICPs where the AMI communications flag is set to no on the registry, and it is expected that daily readings will be received for all active ICPs. It is highly unlikely any ICPs will be supplied for more than 14 months without a permanent estimate reading being received.

Audit outcome

Compliant

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 must comprise the following:

- *half hour volume information for each ICP notified in accordance with clause 11.7(2) for which there is a category 3 or higher metering installation (clause 2(1)(a))*
- *for each ICP about which information is provided under clause 11.7(2) for which there is a category 1 or category 2 metering installation (clause 2(1)(b)):*
 - a) *half hour volume information for the ICP; or*
 - b) *non half hour volumes information calculated under clauses 4 to 6 (as applicable).*
 - c) *unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information. (clause 2(1)(c))*
- *to create non half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):*
 - a) *the certification of the control device is recorded in the registry; or*
 - b) *the metering installation in which the control device is location has interim certification.*
- *to create submission information for a point of connection the reconciliation participant must apply to the raw meter data (clause 2(3)):*
 - a) *for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))*
 - b) *for each NSP the compensation factor that is recorded in the metering installations most recent certification report (clause 2(3)(b)).*

Audit observation

Testing occurred for the relevant parts of this clause. Pulse will only deal with NHH data.

Audit commentary

Compliance with this clause was assessed:

- no ICPs with a meter category of 3 or higher will be supplied;

- no ICPs with unmetered load are expected to be supplied;
- no profiles requiring a certified control device will be used;
- no loss or compensation arrangements are required; and
- aggregation of the AV080 reports is discussed in **section 12.3**.

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

JCC will produce the AV080 NHH volumes submission as Pulse's agent. JCC RM submission process documentation was reviewed.

Audit commentary

JCC completes NHH submissions for another Pulse code, CPPL. As part of Pulse's 2019 reconciliation participant audit, I confirmed that the submission data included forward and historic estimate which was clearly identified.

Sample AV080 data and validation data was provided for Pulse's CPPL code. As recorded in **section 12.3**, I recommend that this process is tested for PPPP prior to going live.

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

JCC will produce the AV080 NHH volumes submission as Pulse's agent. JCC RM submission process documentation was reviewed, and I confirmed that the RM tool and standard processes would be used to calculate submission information for Pulse.

Audit commentary

JCC completes NHH submissions for another Pulse code, CPPL. As part of Pulse's 2019 reconciliation participant audit, I confirmed that the process to calculate historic estimate was compliant.

Sample AV080 data and validation data was provided for Pulse's CPPL code. As recorded in **section 12.3**, I recommend that this process is tested for PPPP prior to going live.

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

JCC will produce the AV080 NHH volumes submission as Pulse's agent. JCC RM submission process documentation was reviewed, and I confirmed that the RM tool and standard processes would be used to calculate submission information for Pulse.

Audit commentary

JCC completes NHH submissions for another Pulse code, CPPL. As part of Pulse's 2019 reconciliation participant audit, I confirmed that the JCC forward estimate process is based on the average daily consumption for the previous read period for each meter register. If previous read period information is not available, the forward estimate consumption is based on the estimated daily consumption provided by the previous retailer in the CS file.

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

Pulse will only use the RPS profile.

Audit commentary

Pulse will only use the RPS profile.

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

Submission information provided to the reconciliation manager must be aggregated to the following level:

- *NSP code (clause 8(a))*
- *reconciliation type (clause 8(b))*
- *profile (clause 8(c))*
- *loss category code (clause 8(d))*
- *flow direction (clause 8(e))*
- *dedicated NSP (clause 8(f))*
- *trading period for half hour metered ICPs and consumption period or day for all other ICPs (clause 8(g)).*

Audit observation

JCC will produce the AV080 NHH volumes submission as Pulse's agent. JCC RM submission process documentation was reviewed.

Audit commentary

JCC completes NHH submissions for another Pulse code, CPPL. As part of Pulse's 2019 reconciliation participant audit, I confirmed that the submission data was correctly aggregated.

Submission data will be validated against registry information prior to submission, and ABSL data will also be validated against the registry.

Sample AV080 data and validation data was provided for Pulse's CPPL code. As recorded in **section 12.3**, I recommend that this process is tested for PPPP prior to going live.

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

Audit observation

JCC will produce the AV080 NHH volumes submission as Pulse's agent. JCC RM submission process documentation was reviewed.

Audit commentary

JCC completes NHH submissions for another Pulse code, CPPL. As part of Pulse's 2019 reconciliation participant audit, I confirmed that the submission data was rounded to zero decimal places.

Sample AV080 data and validation data was provided for Pulse's CPPL code. As recorded in **section 12.3**, I recommend that this process is tested for PPPP prior to going live.

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

I checked whether compliance with this clause was likely to be achieved.

Audit commentary

The application process will reject any ICPs where the AMI communications flag is set to no on the registry, and it is expected that daily readings will be received for all active ICPs. It is likely that the read attainment requirements will be met.

Audit outcome

Compliant

CONCLUSION

Pulse Energy Alliance LP (Pulse) intends to begin trading NHH ICPs using its new PPPP code. **John Candy Consulting (JCC)** will complete NHH reconciliation as Pulse's agent.

Clause 2B of Schedule 15.1 requires that the Authority's approval is obtained prior to performing any Reconciliation Participant activities prior to certification being granted. Clause 2A outlines the requirements for certification and stipulates the audit requirements. This report serves two purposes, firstly to provide the Authority with sufficient information in order for them to be satisfied that Pulse has the capability to meet the requirements of Clause 2B(3) of Schedule 15.1 and secondly, to support Pulse's application for certification in accordance with Clause 2A of Schedule 15.1.

The audit examined data in test systems, process documentation and the results of Pulse's testing program.

Three non-compliances were identified, giving an audit risk rating of seven, and nine recommendations are made. The recommendations should be implemented prior to going live to ensure that Pulse meets the requirements of Clause 2B(3) of Schedule 15.1, which are listed below.

- a) be capable of producing submission information accurately;
- b) be capable of performing the functions described in clause 15.38(1)(d);
- c) be capable of switching an ICP in accordance with Schedule 11.3;
- d) be capable of managing an ICP in accordance with Schedule 11.1; and
- e) understand its obligations under this Code.

PARTICIPANT RESPONSE

Pulse have reviewed this report, and their comments are contained within its body.