ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

POWERSHOP NEW ZEALAND LTD

Prepared by: Tara Gannon

Date audit commenced: 16 July 2019

Date audit report completed: 18 August 2019

Audit report due date: 22 August 2019

TABLE OF CONTENTS

Executive summary 5
Audit summary 6

Non-compliances 6
Recommendations 13
Issues 13

1. Administrative 14

1.1. Exemptions from Obligations to Comply with Code (Section 11) 14
1.2. Structure of Organisation 14
1.3. Persons involved in this audit 14
1.4. Use of Agents (Clause 15.34) 15
1.5. Hardware and Software 15
1.6. Breaches or Breach Allegations 15
1.7. ICP Data 16
1.8. Authorisation Received 17
1.9. Scope of Audit 17
1.10. Summary of previous audit 18

2. Operational Infrastructure 22

2.1. Relevant information (Clause 10.6, 11.2, 15.2) 22
2.2. Provision of information (Clause 15.35) 25
2.3. Data transmission (Clause 20 Schedule 15.2) 26
2.4. Audit trails (Clause 21 Schedule 15.2) 26
2.5. Retailer responsibility for electricity conveyed - participant obligations (Clause 10.4) 27
2.6. Retailer responsibility for electricity conveyed - access to metering installations (Clause 10.7(2),(4),(5) and (6)) 27
2.7. Physical location of metering installations (Clause 10.35(1)&(2)) 28
2.8. Trader contracts to permit assignment by the Authority (Clause 11.15B) 29
2.9. Connection of an ICP (Clause 10.32) 30
2.10. Temporary Electrical Connection of an ICP (Clause 10.33) 30
2.11. Electrical Connection of Point of Connection (Clause 10.33A) 31
2.12. Arrangements for line function services (Clause 11.16) 34
2.13. Arrangements for metering equipment provision (Clause 10.36) 34

3. Maintaining registry information 36

3.1. Obtaining ICP identifiers (Clause 11.3) 36
3.2. Providing registry information (Clause 11.7(2)) 36
3.3. Changes to registry information (Clause 10 Schedule 11.1) 37
3.4. Trader responsibility for an ICP (Clause 11.18) 41
3.5. Provision of information to the registry manager (Clause 9 Schedule 11.1) 42
3.6. ANZSIC codes (Clause 9 (1)(k) of Schedule 11.1) 45
3.7. Changes to unmetered load (Clause 9(1)(f) of Schedule 11.1) 47
3.8. Management of “active” status (Clause 17 Schedule 11.1) 49
3.9. Management of “inactive” status (Clause 19 Schedule 11.1) 51
3.10. ICPs at new or ready status for 24 months (Clause 15 Schedule 11.1) 54

4. Performing customer and embedded generator switching 56

4.1. Inform registry of switch request for ICPs - standard switch (Clause 2 Schedule 11.3) 56

4.2. Losing trader response to switch request and event dates - standard switch (Clauses 3 and 4 Schedule 11.3) 57
4.3. Losing trader must provide final information - standard switch (Clause 5 Schedule 11.3) 58
4.4. Retailers must use same reading - standard switch (Clause 6(1) and 6A Schedule 11.3) 61
4.5. Non-half hour switch event meter reading - standard switch (Clause 6(2) and (3) Schedule 11.3) 64
4.6. Disputes - standard switch (Clause 7 Schedule 11.3) 65
4.7. Gaining trader informs registry of switch request - switch move (Clause 9 Schedule 11.3) ..66
4.8. Losing trader provides information - switch move (Clause 10(1) Schedule 11.3) 67
4.9. Losing trader determines a different date - switch move (Clause 10(2) Schedule 11.3) 69
4.10. Losing trader must provide final information - switch move (Clause 11 Schedule 11.3) 70
4.11. Gaining trader changes to switch meter reading - switch move (Clause 12 Schedule 11.3) ..72
4.12. Gaining trader informs registry of switch request - gaining trader switch (Clause 14 Schedule 11.3) 75
4.13. Losing trader provision of information - gaining trader switch (Clause 15 Schedule 11.3) 76
4.14. Gaining trader to advise the registry manager - gaining trader switch (Clause 16 Schedule 11.3) 76
4.15. Withdrawal of switch requests (Clauses 17 and 18 Schedule 11.3) 77
4.16. Metering information (Clause 21 Schedule 11.3) 79
4.17. Switch saving protection (Clause 11.15AA to 11.15AB) 81

5. Maintenance of unmetered load 82

5.1. Maintaining shared unmetered load (Clause 11.14) 82
5.2. Unmetered threshold (Clause 10.14 (2)(b)) 83
5.3. Unmetered threshold exceeded (Clause 10.14 (5)) 84
5.4. Distributed unmetered load (Clause 11 Schedule 15.3, Clause 15.37B) 84

6. Gathering raw meter data 85

6.1. Electricity conveyed & notification by embedded generators (Clause 10.13, Clause 10.24 and 15.13) 85
6.2. Responsibility for metering at GIP (Clause 10.26 (6), (7) and (8)) 87
6.3. Certification of control devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3) 88
6.4. Reporting of defective metering installations (Clause 10.43(2) and (3)) 89
6.5. Collection of information by certified reconciliation participant (Clause 2 Schedule 15.2) ...89
6.6. Derivation of meter readings (Clause 3(1), 3(2) and 5 Schedule 15.2) 90
6.7. NHH meter reading application (Clause 6 Schedule 15.2) 91
6.8. Interrogate meters once (Clause 7(1) and (2) Schedule 15.2) 94
6.9. NHH meters interrogated annually (Clause 8(1) and (2) Schedule 15.2) 95
6.10. NHH meters 90% read rate (Clause 9(1) and (2) Schedule 15.2) 97
6.11. NHH meter interrogation log (Clause 10 Schedule 15.2) 99
6.12. HHR data collection (Clause 11(1) Schedule 15.2) 99
6.13. HHR interrogation data requirement (Clause 11(2) Schedule 15.2) 100
6.14. HHR interrogation log requirements (Clause 11(3) Schedule 15.2) 100

7. Storing raw meter data 102

7.1. Trading period duration (Clause 13 Schedule 15.2) 102
7.2. Archiving and storage of raw meter data (Clause 18 Schedule 15.2) 102
7.3. Non metering information collected / archived (Clause 21(5) Schedule 15.2) 103

8. Creating and managing (including validating, estimating, storing, correcting and archiving) volume information 104

8.1. Correction of NHH meter readings (Clause 19(1) Schedule 15.2) 104

8.2. Correction of HHR metering information (Clause 19(2) Schedule 15.2) 106
8.3. Error and loss compensation arrangements (Clause 19(3) Schedule 15.2) 107
8.4. Correction of HHR and NHH raw meter data (Clause 19(4) and (5) Schedule 15.2) 108

9. Estimating and validating volume information 109

9.1. Identification of readings (Clause 3(3) Schedule 15.2) 109
9.2. Derivation of volume information (Clause 3(4) Schedule 15.2) 110
9.3. Meter data used to derive volume information (Clause 3(5) Schedule 15.2) 110
9.4. Half hour estimates (Clause 15 Schedule 15.2) 111
9.5. NHH metering information data validation (Clause 16 Schedule 15.2) 113
9.6. Electronic meter readings and estimated readings (Clause 17 Schedule 15.2) 114

10. Provision of metering information to the GRID OWNER in accordance with subpart 4 of Part 13 (clause 15.38(1)(f)) 116

10.1. Generators to provide HHR metering information (Clause 13.136) 116
10.2. Unoffered & intermittent generation provision of metering information (Clause 13.137) 116
10.3. Loss adjustment of HHR metering information (Clause 13.138) 117
10.4. Notification of the provision of HHR metering information (Clause 13.140) 117

11. Provision of submission information for reconciliation 118

11.1. Buying and selling notifications (Clause 15.3) 118
11.2. Calculation of ICP days (Clause 15.6) 118
11.3. Electricity supplied information provision to the reconciliation manager (Clause 15.7) 120
11.4. HHR aggregates information provision to the reconciliation manager (Clause 15.8) 121

12. Submission computation 123

12.1. Daylight saving adjustment (Clause 15.36) 123
12.2. Creation of submission information (Clause 15.4) 123
12.3. Allocation of submission information (Clause 15.5) 124
12.4. Grid owner volumes information (Clause 15.9) 125
12.5. Provision of NSP submission information (Clause 15.10) 126
12.6. Grid connected generation (Clause 15.11) 126
12.7. Accuracy of submission information (Clause 15.12) 127
12.8. Permanence of meter readings for reconciliation (Clause 4 Schedule 15.2) 128
12.9. Reconciliation participants to prepare information (Clause 2 Schedule 15.3) 130
12.10. Historical estimates and forward estimates (Clause 3 Schedule 15.3) 131
12.11. Historical estimate process (Clause 4 and 5 Schedule 15.3) 133
12.12. Forward estimate process (Clause 6 Schedule 15.3) 135
12.13. Compulsory meter reading after profile change (Clause 7 Schedule 15.3) 139

13. Submission format and timing 140

13.1. Provision of submission information to the RM (Clause 8 Schedule 15.3) 140
13.2. Reporting resolution (Clause 9 Schedule 15.3) 141
13.3. Historical estimate reporting to RM (Clause 10 Schedule 15.3) 141

Conclusion 144

Participant response 145

EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Powershop New Zealand Ltd (Powershop),** to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2.

I saw evidence of Powershop's progress with resolving issues and improving processes throughout the audit period.

- I found that the number of late updates and data accuracy issues have decreased over the audit period, with very few exceptions identified towards the end of the period. A number of late updates were caused by data corrections, so that Powershop could meet the requirement to provide complete and accurate data.
- ANZSIC code processes have been improved, and only one exception was identified which has been cleared.
- Processes for distributed generation have improved, and no exceptions were identified.
- Meter reading validation processes have been improved, including new processes for zero consumption and meter condition reporting, which continue to be refined.

Some key areas require improvement:

- Flux's "read dispute process" which determines the reading to be applied for switch events does not allow the user to modify the read type. This caused some incorrect read types to be applied in switch files and Flux. This did not impact on reconciliation, because the reads were all validly used by the historic estimate process.
- There was some inaccurate switch file content, however I found that accuracy improved as the audit period progressed and further training and controls were added. Most content issues had a low impact on other participants. I also found that the estimated daily consumption calculation is not always consistent with the registry functional specification.
- Some inaccurate status updates and read types were recorded, largely due to data entry errors. The number of exceptions has reduced over the audit period.

HHR submission is now being completed for a small number of ICPs, and I confirmed that the HHR profile is applied validly, upgrades are handled correctly, and reporting is accurate. The HHR estimation process requires some further development to achieve compliance and is used rarely.

The audit found 33 non-compliance issues, which is an increase from the previous audit. I note that the number of non-compliances and total audit risk rating is inflated by some very minor non-compliances affecting one or two ICPs which are recorded in several sections of the report. For example, one ICP with an incorrect active date caused non-compliance in three report sections.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and contains a future risk rating score of 51, which results in an indicative audit frequency of six months. Given that:

- Powershop has improved their compliance as the audit period progressed, and intends to continue to do so; and
- some further improvements have already been implemented post audit

I recommend that the next audit is completed in 12 months.

The matters raised are shown in the tables below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	10.6, 11.2, 15.2	One unknown ANZSIC code was recorded and was corrected during the audit. Four shared unmetered ICPs have trader unmetered daily kWh and unmetered load details missing from the registry. One ICP had an incorrect profile start date applied and was corrected during the audit. Some incorrect statuses, status dates are recorded. Some incorrect submission information identified prior to or during the 2018 audit has not been corrected.	Moderate	Low	2	Identified
Electrical Connection of Point of Connection	2.11	10.33A	One new connection was not certified within five business days. 58 reconnections were not certified within five business days.	Strong	Low	1	Identified
Arrangements for metering equipment provision	2.13	10.36	A MEP arrangement is not in place with WEL Networks, and seven active ICPs with WEL Networks meters are supplied.	Strong	Low	1	Disputed
Changes to registry information	3.3	10 Schedule 11.1	Registry not updated within five business days of the event for • 374 status updates to active; • 489 status updates to inactive; • 455 MEP nominations; and • 513 trader updates.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Provision of information to the registry manager	3.5	9 Schedule 11.1	45 late updates to active status. ICP 1002055962LC7E7 had active status applied from 12/11/18 on the registry, instead of 20/02/19.	Strong	Low	1	Identified
ANZSIC codes	3.6	9 (1)(k) of Schedule 11.1	ICP 1002059612LC635 temporarily had a don't know ANZSIC code applied.	Strong	Low	1	Cleared
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	Four ICPs with unmetered load do not have the UNM flag set to Y, and trader unmetered load details and daily unmetered kWh populated on the registry.	Moderate	Low	2	Cleared
Management of "active" status	3.8	17 Schedule 11.1	Six ICPs had incorrect active dates applied in Flux and on the registry. Three have now been corrected.	Strong	Low	1	Cleared
Management of "inactive" status	3.9	19 Schedule 11.1	Ten ICPs had incorrect inactive status dates applied. Two ICPs had an incorrect inactive status reason applied. ICPs 1000026379BP03D and ICP 0005757487RN231 were not corrected to active status for all periods with inactive consumption. The registry does not reflect the correct status for all dates, and some inactive consumption will be excluded from reconciliation submissions.	Moderate	Low	2	Cleared
Inform registry of switch request for ICPs - standard switch	4.1	2 Schedule 11.3	One NT was issued as a transfer switch, when a switch move should have been applied.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	Four late transfer CS files. One transfer CS contained an incorrect read type. Average daily kWh in the CS is not calculated in accordance with the Registry Functional Specification.	Moderate	Low	2	Investigating
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.	Six late RR files for transfer switches. One RR contained the same reading as the CS file and was issued in error. Seven RRs were not supported by two validated actual readings. For five RRs and two ACs, the read type recorded in the system did not reflect the read type for the agreed switch reading.	Moderate	Low	2	Identified
Non-half hour switch event meter reading - standard switch	4.5	6(2) and (3) Schedule 11.3	Six RRs which should have been accepted under clause 6(2) and (3) of schedule 11.3 were invalidly rejected. One was later accepted on reissue.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	Two ANs had proposed event dates before the gaining trader's requested date. Nine ANs had proposed event dates more than ten business days after the NT receipt date and did not match the gaining trader's requested date.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	37 late switch move CS files. One switch move CS contained an incorrect read type. One switch move CS contained an incorrect read type, and a reading which did not reflect the actual reading on the event date. One CS contained an incorrect last actual read date. Average daily kWh in the CS is not calculated in accordance with the Registry Functional Specification.	Moderate	Low	2	Investigating
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	11 late RR files for switch moves. One RR was not supported by two validated actual readings. For four RRs, the read type recorded in the system did not reflect the read type for the agreed switch reading.	Moderate	Low	2	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	89 NWs were issued more than two calendar months after the switch date. NWs were issued in error for two ICPs. Both were detected through Powershop's monitoring processes and the switches were reinstated.	Strong	Low	1	Identified
Metering information	4.16	21 Schedule 11.3	One switch move CS contained an incorrect read type, and a reading which did not reflect the actual reading on the event date.	Strong	Low	1	Identified
Maintaining shared unmetered load	5.1	11.14	Four ICPs with unmetered load do not have the UNM flag set to Y, and trader unmetered load details and daily unmetered kWh populated on the registry.	Moderate	Low	2	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Electricity conveyed & notification by embedded generators	6.1	10.13	While meters were bridged, energy was not metered and quantified according to the code for eight ICPs.	Moderate	Low	2	Identified
NHH meter reading application	6.7	6 Schedule 15.2	Readings provided by Smartco and AMS are not recorded in Flux with the actual read date and time. The read times are rolled forward by one second to ensure that they are correctly applied by the switching and reconciliation processes. Readings provided by Arc, Metrix, and Wells are recorded with the actual read date and time, but readings are not treated as if they have occurred at the end of the read date by the switching process. Consumption between the read time an end of the day is estimated where an ICP switches out. Powershop uses this process to try to increase the accuracy of its switch event readings by capturing consumption after the read time.	Strong	Low	1	Investigating
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	For at least ten ICPs unread during the period of supply, the best endeavours requirements were not met, and exceptional circumstances did not exist.	Weak	Low	3	Investigating
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	For at least six ICPs unread in the previous 12 months, the best endeavours requirements were not met, and exceptional circumstances did not exist.	Moderate	Low	2	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	For at least six ICPs unread in the previous four months, the best endeavours requirements were not met, and exceptional circumstances did not exist.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	ICPs 1000026379BP03D and ICP 0005757487RN231 were not corrected to active status for all periods with inactive consumption. The portion of consumption that falls within the inactive period will be excluded from reconciliation submissions.	Strong	Low	1	Identified
Identification of readings	9.1	3(3) Schedule 15.2	ICP 0000131268UNDE5 had an actual read entered as an estimate. The read type was corrected during the audit. ICP 006665713RN214 did not have a validated actual stop reading recorded on meter removal.	Strong	Low	1	Identified
Half hour estimates	9.4	15 Schedule 15.2	One HHR estimate was not the best estimate of the quantity for the missing periods.	Moderate	Low	2	Investigating
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates file does not contain electricity supplied information.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Accuracy of submission information	12.7	15.12	ICPs 1000026379BP03D and ICP 0005757487RN231 were not corrected to active status for all periods with inactive consumption. The portion of consumption that falls within the inactive period will be excluded from reconciliation submissions. ICP 0000131268UNDE5 had an actual read entered as an estimate. The read type was corrected during the audit. ICP 006665713RN214 did not have a validated actual stop reading recorded on meter removal. Some incorrect submission information identified prior to or during the 2018 audit has not been corrected.	Moderate	Low	2	Identified
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Some estimates are not replaced at R14. Some incorrect labelling of historic estimate as forward estimate.	Moderate	Low	2	Unknown
Historical estimates and forward estimates	12.10	3 Schedule 15.3	Historic estimate is labelled as forward estimate where SASV are not provided for the NSP and profile by the reconciliation manager.	Moderate	Low	2	Investigating
Forward estimate process	12.12	6 Schedule 15.3	The accuracy threshold was not met for January 2019 revision 1.	Strong	Low	1	Cleared
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Strong	Low	1	Investigating
Future Risk Rating						51	

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

RECOMMENDATIONS

Subject	Section	Description	Recommendation
Relevant information	2.1	Registry acknowledgement files	Consider reviewing the registry acknowledgement files, so that failed registry updates can be identified and resolved promptly.
Trader responsibility for an ICP	3.4	MEP nominations	Monitor rejected MEP nominations, and take corrective action as required.
ICPs at new or ready status for 24 months	3.10	Monitoring of new and ready ICPs	I recommend Powershop run a registry list six monthly with: Status: 000 or 999 Proposed trader: PSNZ End date: the day the report is run and compare the results to the ICPs PSNZ expects to be at "new" or "ready" status. Any ICPs which appear to have been assigned to PSNZ in error can then be checked with the distributor.
Losing trader provides information - switch move	4.8	AN proposed event dates set prior to the gaining trader's proposed event date for switch moves	Investigate the ANs issued for 0441465137LC7C7 (event date 14/12/18) and 0000001576TR449 (event date 26/08/18) to determine why early event dates were applied, and determine any action required to prevent recurrence of this issue.
Electricity conveyed & notification by embedded generators	6.1	Generation profiles	Compare the distributor's generation fuel type to the profile applied, to ensure that only solar generation uses the PV1 profile, and other generation uses EG1.
Correction of NHH meter readings	8.1	Inactive consumption	Consider applying permanent estimates (read status medium) for disconnection and reconnection where actual readings are not available on disconnection or reconnection. If permanent estimates are used, checks should be completed to ensure that there is no consumption between the permanent estimate disconnection and reconnection reads.
Half hour estimates	9.4	Calculation of HHR estimates	Develop a process to estimate missing trading periods and days based on the surrounding meter readings and profiles for a similar consumption period, to improve the accuracy of HHR temporary and permanent estimates.

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

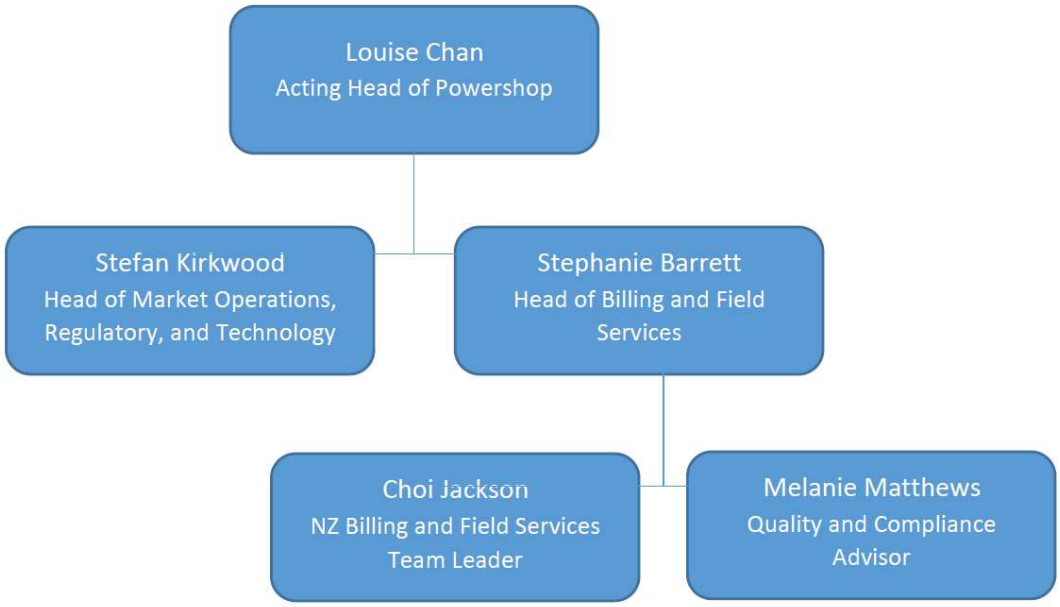
Current code exemptions were reviewed on the Electricity Authority website.

Audit commentary

Powershop has no current exemptions from their obligations to comply with the code.

1.2. Structure of Organisation

Powershop provided their current organisational structure:



1.3. Persons involved in this audit

Auditor:

Name	Company
Tara Gannon	Veritek Limited

Personnel assisting with this audit were:

Name	Title
Stefan Kirkwood	Head of Market Operations, Regulatory and Technology
Stephanie Barrett	Billing and Field Services Manager
Melanie Matthews	Quality and Compliance Advisor

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 with Powershop.

Audit commentary

Powershop has engaged the agents listed in the audit scope section. They understand their obligations and all functions conducted by agents have been subject to audit.

- NHH meter reading data is provided by Wells as an agent.
- NHH AMI data is provided by Arc, AMS, Metrix and Smartco as MEPs, and HHR data is provided by Arc and AMS. No agents are involved in the provision of HHR data, all meters are category 1 or 2.

1.5. Hardware and Software

Flux is used for registry management, switching, and reconciliation. Flux has a mySQL database and the application server layer is Ruby on Rails. The system was originally developed in house by Powershop and is now maintained by Flux Federation.

Hosting is provided by IcoNZ (primary site) and Xtreme Networks (secondary site).

Powershop data is synchronised in real time to a slave database in the currently operational live site, and also synchronised to the current secondary site. In addition to this, backups are taken daily, written to tape, and sent to a secure third party remote location. Backups are periodically tested to ensure successful restore processes.

Access to Flux is restricted using individual logins and passwords.

1.6. Breaches or Breach Allegations

Powershop has no breach allegations recorded by the Electricity Authority from 01/06/18 to 15/05/19.

1.7. ICP Data

All active ICPs are summarised by meter category in the table below.

Metering Category	(2019)	(2018)	(2017)	(2016)
1	72,184	65,041	59,062	57,056
2	1,285	1,133	978	838
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
9	12	5	8	1
Blank	2	3	8	15

Status	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	73,483	66,182	60,056	57,911
Inactive – new connection in progress (1,12)	117	42	47	43
Inactive – electrically disconnected vacant property (1,4)	1,095	880	549	431
Inactive – electrically disconnected remotely by AMI meter (1,7)	2	3	6	3
Inactive – electrically disconnected at pole fuse (1,8)	-	-	-	-
Inactive – electrically disconnected due to meter disconnected (1,9)	-	-	-	-
Inactive – electrically disconnected at meter box fuse (1,10)	1	-	-	-
Inactive – electrically disconnected at meter box switch (1,11)	-	-	1	0
Inactive – electrically disconnected ready for decommissioning (1,6)	7	3	24	25
Inactive – reconciled elsewhere (1,5)	7	-	-	-
Decommissioned (3)	2,135	1,975	1,692	1,439

1.8. Authorisation Received

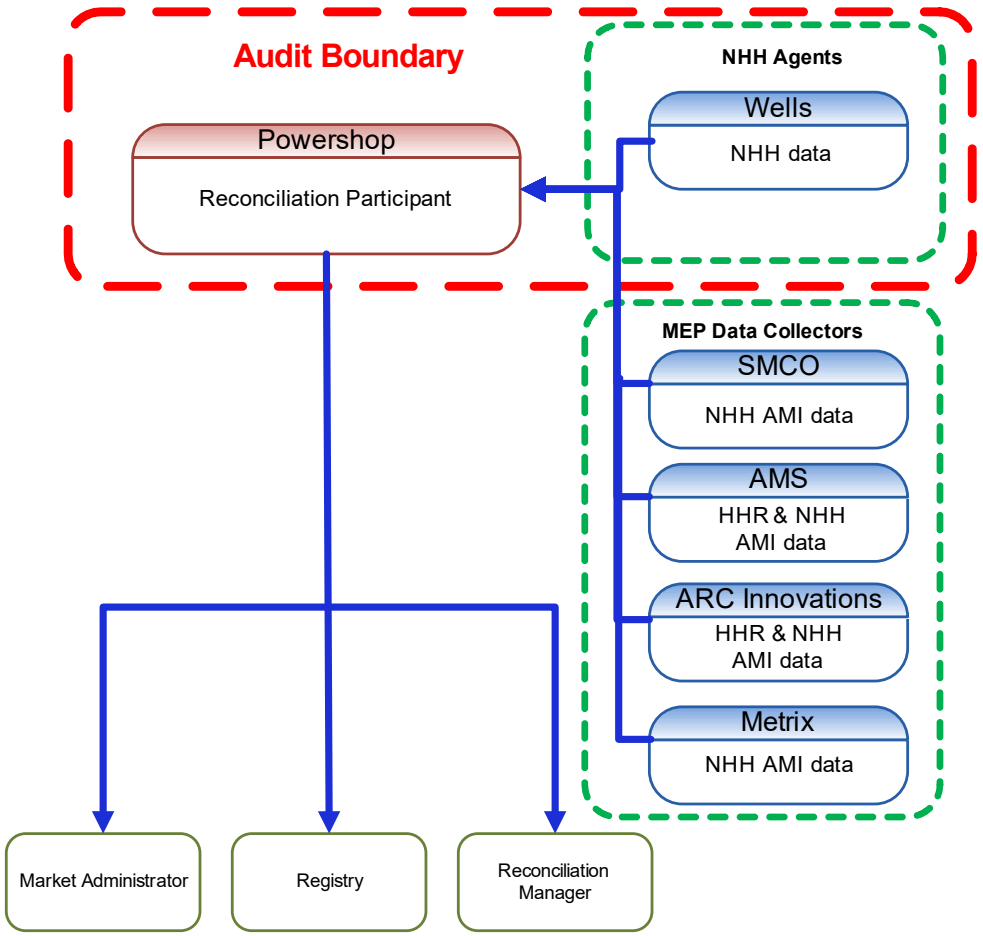
Powershop provided a letter of authorisation.

1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Powershop, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2.

The audit was carried out at Powershop's premises, on 16 - 17 July 2019.

The scope of the audit is shown in the diagram below, with the Powershop audit boundary shown for clarity.



The table below shows the tasks under clause 15.38 of part 15 for which Powershop 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
(a) - Maintaining registry information and performing customer and embedded generator switching	
(b) – Gathering and storing raw meter data	Wells – NHH
(c)(iii) - Creation and management of NHH and HHR volume information	
(d) (i)– Calculation of ICP days	
(d)(ii) - delivery of electricity supplied information under clause 15.7	
(e) – Provision of submission information for reconciliation	

Wells have been audited in accordance with the Guidelines for Reconciliation Participant Audits V7.2.

NHH AMI data is provided by Arc, AMS, Metrix and Smartco as MEPs, and HHR data is provided by Arc and AMS. This activity is conducted by these parties as MEPs not agents, and they are subject to their own audit regime as MEPs.

1.10. Summary of previous audit

Powershop provided a copy of the report for their previous reconciliation participant audit conducted in August 2018 by Steve Woods of Veritek Limited. The summary table below shows the current status of the non-compliances and recommendations raised in audit. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	10.6, 11.2, 15.2	Some registry discrepancies exist. Some submission inaccuracies exist.	Still existing
Access to metering installations	2.6	10.7(2),(4),(5) and (6)	Access not arranged for MEP to conduct time checks.	Cleared
Electrical connection	2.11	10.32	25 reconnected ICPs were not certified within five business days.	Still existing, but improved processed have been put in place

Subject	Section	Clause	Non-compliance	Status
Changes to registry information	3.3	10 of schedule 11.1	Registry not updated within 5 business days of the event for some MEP changes, reconnections and disconnections.	Still existing, but the timeliness of registry updates has improved
Provision of registry information	3.5	9 of schedule 11.1	Some late changes to Active.	Still existing, but the timeliness of registry updates has improved
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	24 active ICPs with no or "Don't know" ANZSIC codes assigned. 12 of 150 ANZSIC codes appear to be incorrect.	One ICP with a don't know ANZSIC code was identified, and the non-compliance has been cleared
Unmetered load	3.7	9(1)(f) of schedule 11.1	2 ICPs with incorrect unmetered load figures.	Cleared, but some new discrepancies were identified
Inactive status	3.9	19 of schedule 11.1	Some ICPs have an incorrect inactive status.	Still existing
Switching	4.2	3 of schedule 11.3	2 late AN files by 1 day and 2 days	Cleared
	4.3	5 of schedule 11.3	5 late CS files. Customer read labelled as an actual for one ICP Daily kWh incorrect for four ICPs	Still existing
	4.4	6 of schedule 11.3	4 late RR files. 1 RR rejected and should have been accepted.	Still existing
	4.8	10(1) Schedule 11.3	One incorrect AN code.	Cleared, but some issues with AN proposed event dates were identified
	4.10	11 of schedule 11.3	50 late CS files. Incorrect daily kWh for six ICPs. Readings in two CS files were from an incorrect date.	Still existing

Subject	Section	Clause	Non-compliance	Status
	4.11	12 (2B)(b) & (3) of schedule 11.3	17 late RR files. 6 late AC files. Some RR files rejected which were for AMI sites and contained actual reads.	Still existing
	4.15	17 of schedule 11.3	39 late NW files and 3 late AW files.	Still existing
Shared unmetered load	5.1	11.14	2 shared unmetered load ICPs without registry populated or submission occurring.	Still existing
Electricity conveyed	6.1	10.13	While meters were bridged, energy was not metered and quantified according to the code for 25 ICPs.	Still existing
Derivation of readings	6.6	5(c) of schedule 15.2	Customer reads from photos used as validation reads in the reconciliation process and in some cases, they are not validated against other reads taken by a meter reader.	Cleared
Meter reading application	6.7	6 Schedule 15.2	Not all meter readings are correctly applied.	Still existing
Interrogate meters once	6.8	7(1) and 7(2) of Schedule 15.2	No process for getting meter readings during the period of supply, where the period of supply is less than 150 days.	Still existing
AMI events	9.6	17 of schedule 15.2	AMI event information not provided by ARC Innovations.	Cleared
Permanence of meter readings	12.8	4 of Schedule 15.2	Some estimates not replaced at R14. Some incorrect labelling of HE as FE.	Still existing
Preparation of submission information	12.9	2 of schedule 15.3	Submission information not reported for some inactive ICPs. Submission did not occur for two unmetered ICPs	Still existing Cleared

Subject	Section	Clause	Non-compliance	Status
Identification of HE	12.10	3 of schedule 15.3	Incorrect labelling of HE as FE.	Still existing
HE reporting	13.3	10 of Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Still existing

Subject	Section	Recommendation	Status
Meter reading events	6.6	Ensure all meter condition notes are loaded and actioned from the Wells file, whether a reading is obtained or not.	Cleared
Electricity supplied	11.3	Check the difference between electricity supplied and submission totals to identify the source of the discrepancy.	Cleared

Powershop provided a copy of the report for their previous reconciliation participant material change audit completed in March 2019 by Steve Woods of Veritek Limited. The summary table below shows the current status of the non-compliance and recommendation raised in the material change audit. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
HHR aggregates	11.4	15.8 of part 15	Aggregates file contains submission information.	Still existing

Subject	Section	Recommendation	Status
Validation	2.1	Ensure validation is in place prior to go-live between the profile, HHR submission and HHR certified fields. Develop a check to ensure NHH readings are available on the day of a profile change.	Cleared

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

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

Audit observation

The process to find and correct incorrect information was examined. The registry validation process was examined in detail in relation to the achievement of this requirement. The registry list as at 06/05/19 was examined to identify any registry discrepancies, and to confirm that all information was correct and not misleading.

Audit commentary

Powershop ensures that registry information is complete and accurate through its daily and weekly discrepancy processes.

Flux's daily discrepancy process imports a registry list and compares it to the current values for the corresponding fields in Flux. Where a field Powershop maintains is different (such as a trader maintained status, or trader details) a status or trader update is automatically created with the appropriate event date and sent to the registry. Where fields held in Flux maintained by another participant are different, including all NSP related information and distributor maintained statuses, the change is imported into Flux with the appropriate event date.

A small number of users have access to update information directly in the registry, and this generally occurs where the registry needs to be updated immediately, or changes may require multiple updates.

Flux's weekly discrepancy process matches ICP, network, and meter details to the registry and generates a suite of exception reports. The exceptions are reviewed by the pricing team, and if further investigation is required by other teams ICP tickets are raised. I viewed a sample of these reports and ICP tickets and noted that discrepancies were investigated.

Unmetered load details are not recorded in Flux. Powershop completes a monthly check between the trader unmetered daily kWh and distributor unmetered load details to identify any changes to unmetered load details. This process is discussed further in **section 3.7**.

Flux does not record the distributor's installation type or generation fuel type. A monthly check is completed to ensure that ICPs with generation have EG registers and correct profiles assigned. This process is discussed further in **section 6.1**.

As recommended in the HHR material change audit, Powershop ensures that only ICPs with certified HHR metering which are receiving daily readings are changed to HHR submission type and profile. The profile change process is discussed further in **section 12.13**.

Registry acknowledgement files are received via FTP but are not routinely reviewed. The weekly discrepancy process should enable Powershop to identify discrepancies which have occurred where updates have failed, but review of the acknowledgements would allow failed updates to be identified more quickly and help to prevent late updates. I recommend Powershop consider reviewing the acknowledgement files for errors.

Description	Recommendation	Audited party comment	Remedial action
Registry acknowledgement files	Consider reviewing the registry acknowledgement files, so that failed registry updates can be identified and resolved promptly.	Powershop intends to improve this process as recommended.	Identified

The list file was analysed, and I found the following:

Issue	2019 Qty	2018 Qty	Comments
Active ICPs with blank ANZSIC codes	-	1	Compliant.
Active ICPs with "T99" series unknown ANZSIC codes	1	23	See **section 3.6.**
Status 1,7 - De-energised remotely	2	3	Compliant, the statuses were corrected to inactive vacant prior to the audit. See **section 3.3**.
Status 1,8 - De-energised at pole fuse	-	-	Compliant.
Status 1,9 - De-energised due to meter disconnected	-	-	Compliant.
Active with UML load = zero	-	-	Compliant.
Active with Incorrect standard UML	-	-	Compliant.
Active with incorrect shared UML	4	2	Four shared unmetered ICPs have trader unmetered daily kWh and unmetered load details missing from the registry. See **sections 3.7** and **5.1.**
Active with no MEP recorded or nominated and UML= "N"	3	-	Compliant because an accepted MEP nomination was made. See **section 2.9**.
Active with meter category 9 or blank and UML= "N"	3	-	Compliant, all were timing differences. See **sections 2.9** and **3.7.**
Active ICPs with distributor unmetered load populated but retail unmetered load is blank and UML flag = N	5	2	See **section 3.7.**

Issue	2019 Qty	2018 Qty	Comments
Active ICPs with retail unmetered load populated but distributor unmetered load is blank	-	2	Compliant.
Incorrect profile or profile date	1	-	ICP 0001145243MLC93 had PV1 profile applied from 28/04/19 instead of 26/04/19 due to a data entry error. It was corrected in Flux and on the registry during the audit. See **section 6.1**.
Incorrect "active" date or status	6	1	Six ICPs had incorrect active status dates applied in Flux and on the registry. Three have now been corrected. See **section 3.8.**
Incorrect "inactive" date or status	14	-	Ten ICPs had incorrect inactive status dates applied. Two ICPs had an incorrect inactive status reasons applied. ICPs 1000026379BP03D and ICP 0005757487RN231 were not corrected to active status for all periods with inactive consumption. See **section 3.9**.

The 2018 audit identified the following data accuracy issues, which were followed up during the audit:

2018 data accuracy issue	2019 finding
Consumption for inactive ICPs is not submitted unless their status is changed to inactive.	Still existing. I identified some inactive consumption which was excluded from submission because the ICP status was not active as discussed in **sections 3.9** and **8.1**.
Consumption for bridged and faulty meters is not always submitted	Cleared for stopped and faulty meters identified during this audit period. Still existing for some of the corrections found to be required during the 2018 audit as discussed in **section 8.1** including: • one correction for a defective meter for 0005433223RN54E; • seven corrections for bridged meters; and • seven corrections for consumption during an inactive period. Powershop does not intend to process the overdue corrections because the 14-month revision has passed.
Electricity supplied information is not accurate	Cleared, as disused in **section 11.3**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.6, 11.2, 15.2 From: 01-Jun-18 To: 17-Jul-19	One unknown ANZSIC code was recorded and was corrected during the audit. Four shared unmetered ICPs have trader unmetered daily kWh and unmetered load details missing from the registry. One ICP had an incorrect profile start date applied and was corrected during the audit. Some incorrect statuses, status dates are recorded. Some incorrect submission information identified prior to or during the 2018 audit has not been corrected. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time. I found that most corrections had been processed as required, and compliance had increased since the 2018 audit. The impact on settlement and participants is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Please refer to appropriate sections for detailed comments.	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Please refer to appropriate sections for detailed comments.	NA	

2.2. Provision of information (Clause 15.35)

Code reference

Clause 15.35

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

2.3. Data transmission (Clause 20 Schedule 15.2)

Code reference

Clause 20 Schedule 15.2

Code related audit information

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

Audit observation

NHH

NHH read data is transferred via SFTP by all agents and MEPs.

To confirm the process, I viewed the SFTP folders for each MEP and agent, and traced reads from the source files to Flux for a diverse sample of 18 NHH ICPs. The sample included all reading providers.

HHR

All ICPs settled as HHR have metering category 1 or 2. HHR AMI data is transferred via SFTP by the MEP.

To confirm the HHR process, I traced a sample of HHR data from HERM files to Flux for each MEP, and then through to the HHR aggregates and volumes submissions.

Audit commentary

All NHH and HHR data is provided by SFTP. The accuracy of the data transfer was confirmed for the sample of data checked.

Audit outcome

Compliant

2.4. Audit trails (Clause 21 Schedule 15.2)

Code reference

Clause 21 Schedule 15.2

Code related audit information

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

The audit trail must include details of information:

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

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

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

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

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

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

Audit observation

A complete audit trail was checked for all data gathering, validation and processing functions. I reviewed audit trails for a small sample of events. Large samples were not necessary because audit trail fields are expected to be the same for every transaction of the same type.

Audit commentary

A complete audit trail was viewed for all data gathering, validation and processing functions. The logs of these activities include the activity identifier, date and time and an operator identifier.

Audit outcome

Compliant

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

Code reference

Clause 10.4

Code related audit information

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

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

Audit observation

I reviewed Powershop's current terms and conditions.

Audit commentary

The terms and conditions include arrangements for meter access and shutdowns, and these clauses extend to agents.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

The trader must use its best endeavours to provide access:

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

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

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

Audit observation

I reviewed Powershop's current terms and conditions and discussed compliance with these clauses.

Audit commentary

Powershop's contract with their customers includes consent to access for authorised parties for the duration of the contract. Powershop confirmed that they have been able to arrange access for other parties when requested.

The 2018 audit identified one instance where access was refused to the MEP. Powershop confirmed there have been no further issues with arranging access for other parties.

Audit outcome

Compliant

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

Code reference

Clause 10.35(1)&(2)

Code related audit information

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

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

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

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

Audit observation

Loss compensation was discussed. The presence of loss compensation factors was also checked by confirming the maximum multiplier for all active category two ICPs on the meter installation details report.

Audit commentary

Powershop is not responsible for any metering installations with loss compensation factors.

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

I reviewed Powershop's current terms and conditions.

Audit commentary

Powershop's terms and conditions contain the appropriate clauses to achieve compliance with this requirement.

Audit outcome

Compliant

2.9. Connection of an ICP (Clause 10.32)

Code reference

Clause 10.32

Code related audit information

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

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

Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The registry list and event detail reports for 01/06/18 to 06/05/19 were analysed to confirm the process is compliant and controls are functioning as expected.

Audit commentary

The new connection process is compliant and contains a step for Powershop to accept responsibility. I checked the records for ten new connections and in all cases, Powershop had accepted responsibility. Responsibility is accepted for each individual ICP, and there are no blanket responsibility acceptances in place.

Powershop has arrangements in place with all MEPs which new connections were completed for.

The list file contained three ICPs with a blank MEP at the time the analysis was conducted, but in all cases an MEP nomination had been made and accepted.

The list file contained three active ICPs where the metering category was 9, indicating that no meters were present, and the unmetered flag was set to no. All were timing differences, and metering details have now been updated on the registry.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

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

Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The registry list as at 06/05/19, meter event details report, and event detail report for 01/06/18 to 06/05/19 were analysed to confirm process compliance and that controls are functioning as expected.

I identified all ICPs certified prior to their active date and reviewed them to determine whether they had been temporarily electrically connected.

Audit commentary

Review of the list and event detail reports did not identify any instances where ICPs had been temporarily electrically connected.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

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

Audit observation

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

The registry list as at 06/05/19, meter installation details report, and event detail report for 01/06/18 to 06/05/19 were analysed to confirm process compliance and that controls are functioning as expected.

Audit commentary

Active ICPs without metering

The registry list contained three active ICPs where the metering category was 9, indicating that no meters were present, and the unmetered flag was set to no. All were timing differences, and metering details have now been updated on the registry.

New connections

Powershop had accepted responsibility for all newly energised ICPs.

Certification details were checked for the 457 new connection records where meter certification details were available on the metering installation details report and/or event detail report, and where the event state was active. Two new connections appeared not to be certified within five business days of electrical connection.

- The certification for ICP 1002055962LC7E7 was not genuinely late, the active date was incorrectly entered as 12/11/18 instead of 20/02/19. The active date has been corrected in Flux but remains incorrect on the registry. The incorrect active date is recorded as non-compliance in **sections 2.1, 3.5** and **3.8**.
- The certification for ICP 1002045718LCEC1 was genuinely late. The ICP was electrically connected on 26/03/18 but was not certified until 19/06/18.

The 2018 audit identified that ICP 0007183706RNEF9 appeared to have late certification, but the active date was incorrectly recorded as 14/12/17 when it should have been 16/01/18. The active date has now been corrected.

Reconnections

Clause 10.33A(2)(a)(iii) requires the reconciliation participant to ensure certification of metering installations occurs within five business days of electrical connection. The Code does not differentiate between new connections and reconnections.

Powershop's policy is to request certification from the MEP where reconnection of an ICP with interim or expired certification is required. This process is initiated manually.

Certification details were checked for the 2,084 reconnection records where meter certification details were available on the metering installation details report and/or event detail report and where the event state was active. 59 reconnections were not certified within five business days of electrical connection, as described in the table below.

Certification status	Quantity		Comment
Certified more than five business days after the reconnection date	9	0.4%	For ICP 0000003308TR7C9, the reconnection date was incorrect, but certification was on time. The incorrect reconnection date is recorded as non-compliance in **section 3.8**. The other eight ICPs had genuine late certification, and in two cases Powershop had asked the MEP to certify the meters.
Expired interim certification	47	2.0%	For 27 of the ICPs Powershop had asked the MEP to recertify the meter.
Expired full certification	3	0.1%	For one of the ICPs Powershop had asked the MEP to recertify the meter.

I rechecked the 25 ICPs which were not certified at the time of the 2018 audit, and found 16 are now fully certified, or have been decommissioned or switched out. The other nine ICPs remain interim certified, and requests for recertification have been sent to the MEP for eight of them.

ICP	Reconnection date	Final Certification date
0000001035EDDF4	14/03/2018	Still interim certified – request sent to MEP
0000054130UN5EE	3/04/2018	Still interim certified – request sent to MEP
0000124165WE23D	3/04/2018	Still interim certified – request sent to MEP
0000138097TRE53	9/04/2018	Still interim certified – request sent to MEP
0000165636TR55B	24/07/2017	Still interim certified – request sent to MEP
0000184683UNCA3	1/03/2018	Still interim certified – request sent to MEP

ICP	Reconnection date	Final Certification date
0000195177TR125	9/05/2018	Still interim certified – request sent to MEP
0001400122UN534	23/12/2014	Still interim certified – request sent to MEP
0030128207PCC71	9/02/2018	Still interim certified – no request sent to MEP

Bridged meters

Powershop confirmed seven ICPs were bridged to reconnect during the audit period and were later unbridged. The meters were recertified by the MEP on unbridging.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: Clause 10.32 From: 25-Sep-18 To: 06-May-19	One new connection was not certified within five business days. 58 reconnections were not certified within five business days. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are strong because there are processes in place to request meter certification for both new connections and reconnections. The MEPs do not always complete certification on request, and some ICPs did not have requests for certification sent due to an oversight. Uncertified metering installations are likely to be less accurate than certified metering installations, so there could be a minor impact on settlement. The audit risk rating is recorded as low because the number and proportion of connections affected is low.

Actions taken to resolve the issue	Completion date	Remedial action status
In regards to the new connection no action is required as the installation is now certified.	NA	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Post the audit in 2018, Powershop implemented a new process to identify and notify the MEP's of their metering equipment requiring certification. There has been a significant improvement in this area. Powershop believes that compliance should be obtained once reasonable attempts have been made to notify the MEP of their non-compliance. Powershop recommends that the Authority reviews this clause with pragmatism.	NA	

2.12. Arrangements for line function services (Clause 11.16)

Code reference

Clause 11.16

Code related audit information

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

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

Audit observation

The process to ensure an arrangement is in place before trading commences on a Network was examined. The registry list as at 06/05/19 was reviewed to identify any new networks which Powershop began trading on during the audit period.

Audit commentary

Networks must be recorded in Flux before ICPs can be assigned to them. If a user attempts to load an ICP on a network which is not recorded in Flux, an inbound exception is created because the network is not supported.

Powershop confirmed the existence of either a UoSA or other trading arrangement for all networks it trades 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

The process to ensure an arrangement is in place with the MEP before an ICP is created or switched in was checked. The registry list as at 06/05/19 was reviewed to identify any new MEPs which Powershop began using during the audit period.

Audit commentary

MEPs must be recorded in Flux before ICPs can be assigned to them. If a user attempts to load an ICP with an MEP which is not recorded in Flux, an inbound exception is created.

The new connection process contains a step that requires nomination of an MEP. There were three MEP nomination rejections, which are discussed in **section 3.4**.

Powershop does not have arrangements meeting the requirements of clause 10.36 in place for WEL Networks. Powershop currently supplies seven active ICPs with WEL Networks meters. WEL networks meters are normally displaced as soon as possible and are read manually in the meantime.

Intellihub confirmed that their meters are covered under Powershop's MEP agreement with Metrix. Powershop intends to treat the meters as non-AMI and read them manually until Intellihub is able to provide AMI readings. The arrangements in place meet the requirements of clause 10.36.

Compliant arrangements are in place for all other MEPs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.13 With: Clause 10.36 From: 06-Sep-18 To: 17-Jul-19	A MEP arrangement is not in place with WEL Networks, and seven active ICPs with WEL Networks meters are supplied. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong and the impact as low. Arrangements are in place for all MEPs except WEL Networks, and there is a process to displace WEL Networks meters. Six of the active ICPs which currently have WEL Networks meters have been supplied for less than six months, and the seventh has been supplied for less than 11 months.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop believes that an arrangement is in place with WEL Networks and therefore rejects this non-compliance.	NA	Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	
No comment	NA	

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

This requirement is well managed and understood by Powershop. The process is detailed in **section 2.9**.

There were no connections to networks identified without ICPs.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

The new connection process was examined in detail. The registry list as at 06/05/19 and event detail report for 01/06/18 to 06/05/19 were analysed to evaluate registry updates for new connections. This clause links directly to **section 3.5** below, which assesses the timeliness of registry updates.

Audit commentary

The new connection process is detailed in **sections 2.9** and **3.5**. The process in place ensures that trader information is populated as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

Status and trader updates (including MEP nominations) are processed in Flux and transferred to the registry through the daily discrepancy process described in **section 2.1**. Registry updates are occasionally processed directly on the registry using the web interface.

The process to manage status changes is discussed in detail in **sections 3.8** and **3.9**.

In this section I have examined the event detail report for 01/06/18 to 06/05/19, to identify all late status updates, MEP nominations, and trader updates. I used the extreme case methodology to examine a sample of the 20 late updates (or the whole population if there were less than 20) that were updated greater than 30 days from the event date for each of the event type.

Audit commentary

The event detail report was examined to confirm whether the registry is updated within five business days when information referred to in clause 9 of schedule 11.1 changes. In general, the timeliness of registry updates has improved during the audit period.

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Status updates						
Changes to active - reconnections	2015	1,587	1,084	503	11.3	68%
	2015	499	311	188	10.0	62%
	2016	486	363	123	11.3	75%
	2016	350	273	77	7.38	78%
	2017	431	353	78	6.4	82%

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
	2018	979	691	288	11	71%
	2019	**2,094**	**1,720**	**374**	**4.0**	**82%**
Change to de-energised vacant (1,4)	2015	923	698	225	8.1	76%
	2016	391	327	64	8.1	84%
	2017	143	96	47	118.7	67%
	2018	1,182	1,036	146	13	88%
	2019	**4,526**	**4,202**	**324**	**4.5**	**93%**
Change to de-energised ready for decommissioning (1,6)	2015	123	45	78	66.8	36%
	2016	69	38	31	18.4	55%
	2017	23	5	18	137.4	22%
	2018	15	1	14	65	1%
	2019	**257**	**100**	**157**	**3**	**39%**
Change to de-energised electrically disconnected remotely by AMI meter (1,7)	**2019**	**8**	**5**	**3**	**12**	**63%**
Change to de-energised electrically disconnected at pole fuse (1,8)	**2019**	**3**	**1**	**2**	**107**	**33%**
Change to de-energised electrically disconnected due to meter disconnected (1,9)	**2019**	**1**	**0**	**1**	**9**	**0%**
Change to de-energised electrically disconnected at meter box fuse (1,10)	**2019**	**2**	**1**	**1**	**7**	**50%**

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Change to de-energised electrically disconnected at meter box switch (1,11)	**2019**	**5**	**4**	**1**	**4**	**80%**
Trader updates						
Change of MEP	2018	1020	860	160	5	84%
	2019	**1,610**	**1,155**	**455**	**8**	**72%**
Trader updates (excluding MEP nominations and NT updates)	**2019**	**1,209**	**696**	**513**	**76**	**58%**

Reconnections

1,720 of the 2,094 reconnections were completed on time. 357 of the late updates were completed within 30 business days of the event date, and the other 17 late updates were completed within 253 business days.

A check of all 17 reconnections over 30 days found:

- the two latest updates were caused by an incorrect event date being applied, and the updates were made on time in relation to the correct reconnection date, the inaccurate reconnection dates are recorded as non-compliance in **section 3.8;**
- three late updates were status corrections following the identification of inactive consumption; and
- 12 late updates were caused by backdated switches, because the status could not be updated until the CS was received, for five of these ICPs, the user requested a reconnection without selecting the "inbound override tab", which initiates an NT, which resulted in a delay in the NT being issued.

Disconnections

Late updates to each inactive status were checked.

Status	Comments
1,4	4,202 of the 4,526 updates to inactive vacant status were on time. The percentage of updates on time and average days to update have improved from 88% and 13 business days in 2018, to 93% and 4.5 business days. 324 updates were late, and 56 of those were more than 30 business days late. A sample of ten late updates over 30 business days were checked: • seven had an incorrect event date applied, which is recorded as non-compliance in **section 3.9;** • the other three were delayed by late paperwork, and late processing of the paperwork.

Status	Comments
1,6	100 (39%) of the 257 updates to ready for decommissioning status were on time. 157 updates were late, and 25 of those were more than 30 business days late. A sample of ten late updates over 30 business days were checked. Nine were delayed because of late confirmation of decommissioning being received by the network, and one was delayed by late processing by Powershop.
1,7	Five of the eight updates to electrically disconnected remotely by AMI meter were on time. Two updates were 13 business days late and one was 52 business days late. All eight records were later corrected to inactive vacant status. The late update over 30 business days was checked and found to be caused by a correction after the original event was accidentally reversed.
1,8	One of the three updates to electrically disconnected at pole fuse was on time. One update was 34 business days late and one was 70 business days late. The two late updates over 30 business days were checked, both were caused by late confirmation that the sites were disconnected.
1,9	One update to electrically disconnected due to meter disconnected was completed nine business days after the event date and was later corrected to inactive vacant.
1,10	One of the two updates to electrically disconnected at meter box fuse was on time. The other update was completed nine business days after the event date.
1,11	Five of the six updates to electrically disconnected at meter box switch were on time, and one was one business day late.

Change of MEP

The nomination date was compared to the metering event effective date to identify any ICPs that were not nominated within five business days. I found 455 MEP nominations (18%) were late, and 50 were more than 30 business days late.

A sample of 20 MEP nominations made more than 30 business days after the event date were checked. The nominations were late for the following reasons:

1. when meters changed ownership, the new MEP provided late notification that an MEP nomination was required;
2. the user raised a service order to replace a meter, but did not raise an MEP nomination at the same time, additional training and support has been provided to users, and the latest event in the sample affected by this issue occurred in February 2019;
3. backdated customer applications; and
4. corrections to previous nominations, and one nomination had an incorrect date applied.

Trader updates

696 (58%) of the 1,209 trader updates were on time. 513 updates were late, and 179 of those were more than 30 business days late. A check of a sample of 20 updates over 30 business days found they all related to corrections to trader data. In some cases multiple late updates occurred for one ICP as staff attempted to correct records on the registry. Further training has now been provided to prevent this.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 Schedule 11.1 From: 01-Jun-18 To: 17-Jul-18	Registry not updated within five business days of the event for • 374 status updates to active; • 489 status updates to inactive; • 455 MEP nominations; and • 513 trader updates. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate, timeliness has improved during the audit period and a large proportion of the late updates occurred early in the period or delays were contributed to by other parties. There was a minor effect on settlement; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
All updates have now been made on the Registry	13/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Post our 2018 audit, Powershop has implemented more rigid controls and this has shown vast improvement over the audit period.	Ongoing	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process was discussed and the registry list as at 06/05/19 was examined to determine whether all active ICPs have an MEP recorded. This analysis found three active ICPs that did not have an MEP recorded in the registry and have the unmetered flag set to no.

Three MEP nomination rejections were identified on the event detail report, and all were reviewed.

ICP Decommissioning

The process for the decommissioning of ICPs was examined. A typical sample of ten ICPs was checked to ensure a process was in place to obtain a final meter reading.

Audit commentary

Retailers Responsibility to Nominate and Record MEP in the Registry

Three active ICPs with no MEP were identified through analysis of the registry list. In all cases Powershop had made an MEP nomination, which was accepted.

MEP nomination rejections are not actively monitored, and Powershop advised that MEPs normally contact them where nominations are rejected. Three MEP nomination rejections were identified on the event detail report. One had an incorrect MEP nominated and was reissued to the correct MEP. The other two nominations were not required and were not reissued.

I recommend that MEP nomination rejections should be monitored, so that corrective action can be taken as required.

Description	Recommendation	Audited party comment	Remedial action
MEP nominations	Monitor rejected MEP nominations, and take corrective action as required.	Powershop intends on developing a process to identify and then reverse any rejected nominations.	Identified

ICP Decommissioning

Powershop continues with their obligations under this clause. ICPs that are vacant and active, or inactive are still maintained in the database.

160 ICPs were decommissioned during the audit period. For the sample of ten ICPs checked, the MEP was notified and Powershop attempted to obtain a final reading. For two of the ICPs the meter was removed before Powershop became aware of the decommissioning and it was not possible to obtain an actual reading.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

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

The trader must provide information specified in (a) to (j) above within 5 business days of trading (clause 9(2)).

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

Audit observation

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

The registry list as at 06/05/19, meter installation details report, and event detail report for 01/06/18 to 06/05/19 were analysed to confirm process compliance and that controls are functioning as expected.

All late updates to inactive new connection in progress and a sample of ten late updates to active were checked.

I checked all registry records for possible discrepancies, using a standard set of queries.

Audit commentary

All new connections were NHH. Powershop does not intend to complete HHR new connections, as they intend to supply only category 1 and 2 meters. A change to HHR submission type may occur post connection for ICPs which meet the requirements of the HHR profile.

The event detail report was examined to confirm whether the registry is updated within five business days.

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Changes to active - new connections	2015	313	138	175	12.9	44%
	June - Sept 2015	146	83	63	7.9	57%
	Oct 2015 - Feb 2016	108	91	17	3.7	84%

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
	March to May 2016	65	63	2	2	97%
	2017	90	86	4	2.4	96%
	2018	89	76	13	5	85%
	2019	**466**	**421**	**45**	**4**	**90%**
Change to de-energised new connection in progress (1,12)	2015	116	80	36	15.4	69%
	2016	297	274	23	3.3	92%
	2017	111	101	10	2.4	96%
	2018	147	92	55	15	63%
	2019	**681**	**545**	**136**	**2**	**80%**

Timeliness of updates

The timeliness of updates was reviewed.

Update	Comments
Active status	421 (90%) of the 466 reconnections were completed on time. 45 updates were late, 42 were within 30 business days of the event date, and three were 32-68 business days after the event date. A sample of ten late updates were checked and found to be caused by delays in receiving paperwork from the contractor, and delays in processing the paperwork once it was received.
New connection in progress status	545 (80%) of the 681 updates to new connection in progress status were on time. 136 were made more than five business days after the event date. All late updates were checked and confirmed to have occurred prior to the ICP being electrically connected and are therefore compliant.
MEP nominations	MEP nominations are discussed in **section 3.3**.

Accuracy of updates

The active date for new connections was matched to the initial energisation date and meter certification date for the 457 new connections which became active during the audit period. I identified 14 ICPs which had date discrepancies and found that Powershop's active dates were correct apart from ICP 1002055962LC7E7. The active date should have been 20/02/19, but the record was manually entered on the registry with 12/11/18 (the same date as the previous status record). This is recorded as non-compliance below.

The 2018 audit identified that ICP 0007183706RNEF9 had an active date recorded as 14/12/17 when it should have been 16/01/18. The active date has now been corrected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 Schedule 11.1 From: 12-Nov-18 To: 06-May-19	45 late updates to active status. ICP 1002055962LC7E7 had active status applied from 12/11/18 on the registry, instead of 20/02/19. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	This area has strong controls and the late updates identified were generally caused by late receipt of information. The audit risk rating is low, because the impact on settlement is minor.

Actions taken to resolve the issue	Completion date	Remedial action status
All updates have been made.	13/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied that is process improvements have made a significant impact on code compliance and will continue to refine the process in order to further improvements.	Ongoing	

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

The process to capture and manage ANZISC codes was examined.

The registry list as at 06/05/19 was reviewed to check ANZSIC codes. To confirm the validity of the ANZSIC codes I checked a diverse sample of 80 active ICPs across the 20 different ANZSIC codes. Each of the ANZSIC codes applied to at least 0.2% of the total ICPs.

Audit commentary

As part of the customer application process, business customers are asked to provide information on their industry. If an ICP is domestic, the ANZSIC code is not required to be entered in Flux and the 000000 (residential) ANZSIC code is automatically applied for any trader updates. If an ICP is

commercial, Flux notifies the user that an ANZSIC code is required, but population of the code is not mandatory in the system. Users cannot select T99 series codes in Flux.

The accuracy of ANZSIC codes is reviewed approximately every six months by checking the ANZSIC codes for a random sample of active ICPs. Any discrepancies found through this process are corrected.

The registry list was reviewed and found one T99 series ANZSIC code and no blank ANZSIC codes:

Issue	2019	2018	2017
T99 series unknown ANZSIC	1	23	189
Blank ANZSIC	-	1	-
Total unknown	**1**	**24**	**189**

ICP 1002059612LC635 temporarily had a T994 (don't know) ANZSIC code and was corrected to L671 (property operators) during the audit. The issue occurred because the ICP was created as a commercial site, and the ANZSIC code was not entered. Users have been provided further training to ensure that they enter ANZSIC codes for all commercial ICPs in future, and do not ignore the system prompt.

I checked a sample of 80 active ICPs across ten different ANZSIC codes which made up more than 0.2% of the total ICPs. All 80 were confirmed to be correct.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: Clause 9 (1)(k) of Schedule 11.1 From: 23-Apr-2019 To: 19-Jul-2019	ICP 1002059612LC635 temporarily had a don't know ANZSIC code applied. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	There are strong controls in place: T99 series codes cannot be selected by a user, and the system prompts users to enter ANZSIC codes for commercial ICPs. Only one exception was identified, and it has occurred because the user did not comply with the system prompt. There is no impact on settlement outcomes from incorrect ANZSIC codes but there is a minor impact on the Electricity's reporting accuracy, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
The ANZSIC code of this single ICP has now been updated	19/07/2019	Cleared

Preventative actions taken to ensure no further issues will occur	Completion date	
An incorrect ANZSIC code has no impact on the market so the Breach Risk Rating should be 0. As stated in previous years, the absence of an impact level of "none" being available to auditors is farcical.	NA	

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

the code ENG - if the load is profiled through an engineering profile in accordance with profile class 2.1 (clause 9(1)(f)(i)); or

the daily average kWh of unmetered load at the ICP - in all other cases (clause 9(1)(f)(ii)).

Audit observation

The process to manage unmetered load was examined. The registry list as at 06/05/19 was examined to identify any ICPs where:

- unmetered load is identified by the distributor, but none is recorded by Powershop; and
- Powershop's unmetered load figure does not match with the Distributor's figure (where it was possible to calculate this if the Distributor is using the recommended format).

Audit commentary

Management of unmetered load information

Monthly, Powershop compares their trader unmetered load details and daily unmetered kWh to the distributor's values. Any discrepancies are investigated, and updates are made as required.

ICPs with unmetered load will not be moved from NHH to HHR submission. If unmetered load is identified for a HHR ICP it will be changed back to NHH.

Active ICPs with no metering or unmetered load recorded by Powershop

As discussed in **section 2.9**, the list file contained three active ICPs where the metering category was 9, indicating that no meters were present, and the unmetered flag was set to no. All were timing differences, and metering details have now been updated on the registry.

Trader and distributor unmetered load details discrepancies

Five ICPs have unmetered load details recorded by the distributor but not by Powershop. I found that Powershop had recorded unmetered load for four of the ICPs, but the details were not up to date on the registry:

ICP	Unmetered load details - Distributor	Shared ICP list	Findings
0005049342RN2B9	0028;11.7;1/2 of 55W Street Light 12A Winton St	0007184062RNB61	Trader unmetered load to be added on the registry

ICP	Unmetered load details - Distributor	Shared ICP list	Findings
0006420133RND2A	0015;11.7;1/4 of 60W St Light 3 Moran Ln	0007187635RNA45	Trader unmetered load to be added on the registry
0006833535RN86B	0015;11.7;1/4 of 60W St Light 3 Moran Ln	0007187635RNA45	Trader unmetered load to be added on the registry
0007032439RNE19	0014;11.7;1/4 of 55W St Light 124C St Johns St	0007187631RNB4F	Trader unmetered load to be added on the registry
0007186816RNC7B	0192;08.0;Builders temporary supply		Powershop's records are correct, and the distributor unmetered load details are incorrect

All ICPs with unmetered load details recorded by Powershop also have unmetered load details recorded by the distributor.

Discrepancies identified in the 2018 audit were rechecked, and I found that the issues had been cleared.

Accuracy of trader unmetered daily kWh

Powershop supplies 96 ICPs with unmetered load recorded, and all had a value recorded in the daily unmetered kWh field.

For 75 ICPs, the distributor had populated the unmetered load details in a format that allowed recalculation of the unmetered load. In all cases the recalculated value was within 0.1 kWh of Powershop's value.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 08-Oct-18 To: 17-Jul-19	Four ICPs with unmetered load do not have the UNM flag set to Y, and trader unmetered load details and daily unmetered kWh populated on the registry. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but did not identify the missing unmetered load details on the registry. There is a minor impact, because some trader unmetered load details are incorrectly recorded on the registry, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
These ICPs have now been updated on the Registry	13/08/2019	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
No comment	NA	

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

- *the ICP has only 1 customer, embedded generator, or direct purchaser (clause 17(2)(a))*
- *the electricity consumed is quantified by a metering installation or a method of calculation approved by the Authority (clause 17(2)(b)).*

Audit observation

The connection and reconnection processes were examined. The event detail report for 01/06/18 to 06/05/19 was analysed.

- The timeliness and accuracy of data for new connections is assessed in **section 3.5**.
- The timeliness of data for reconnections is assessed in **section 3.3**, and a sample of 17 updates were checked for accuracy.

The list file as at 06/05/19 was analysed to identify ICPs at new connection in progress status which had an initial electrical connection date populated. All were checked.

Audit commentary

The status of an ICP is only changed to "active" once confirmation has been received by a contractor. Submission information is provided for all "active" ICPs, even if they are vacant.

ICPs are updated to "active" status in Flux, and an event date is applied. This information is transferred to the registry the following morning using the process described in **section 2.1**.

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

<u>New connections</u>

The list file as at 06/05/19 was analysed and found three ICPs at new connection in progress status which had an initial electrical connection date populated. All were timing differences and had been updated to active after the registry list was run, and before the on-site audit.

As recorded in **section 3.5**, Powershop's active date was incorrect for 1002055962LC7E7. The active date should have been 20/02/19, but the record was manually entered on the registry with 12/11/18 (the same date as the previous status record). This is recorded as non-compliance below.

The 2018 audit identified that ICP 0007183706RNEF9 had an active date recorded as 14/12/17 when it should have been 16/01/18. The active date has now been corrected.

Reconnections

Flux automatically marks ICPs as "active" on switch in date, and users must manually update the status to "inactive" if an ICP is not reconnected on switch in. ICPs which have been assigned an "active" status early are normally identified and corrected when reconnection paperwork is received and processed, or through the meter reading validation process. The process to automatically change ICP status to "active" on switch in is being reviewed to determine whether it could be improved.

Four reconnected ICPs were found to have incorrect "active" dates during the audit:

ICP	Applied active date	Correct active date	Comments
0000003308TR7C9	10/09/2018	25/01/2019	Flux updated the ICP to active effective from the switch in date, but the ICP remained inactive until it was reconnected when a new meter was installed on 25/01/19.
0006734790RND26	29/06/2018	06/09/2018	Flux updated the ICP to active effective from the switch in date, but the ICP remained inactive until 06/09/18. The event date was corrected during the audit but replaced with an incorrect record the following day.
0006883613RN9BB	12/03/2018	12/03/2019	The active date was mis-keyed as 2018 instead of 2019 and was corrected during the audit.
0000127880TR8B8	11/03/2018	11/03/2019	The active date was mis-keyed as 2018 instead of 2019 and was corrected during the audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 Schedule 11.1 From: 29-Jun-18 To: 20-Feb-19	Six ICPs had incorrect active dates applied in Flux and on the registry. Three have now been corrected. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating
Low	This area has strong controls and the late updates identified relate to isolated circumstances. The audit risk rating is low, because the impact on settlement is minor.

Actions taken to resolve the issue	Completion date	Remedial action status
These ICPs have now been updated in the Registry	13/08/2019	Cleared where possible
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied that its process improvements have made a significant impact on code compliance and will continue to refine the process in order to further improvements	Ongoing	

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

Code reference

Clause 19 Schedule 11.1

Code related audit information

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

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

Audit observation

The disconnection process was discussed. The event detail report for 01/06/18 to 06/05/19 was analysed to identify all disconnections during the period.

A typical sample of 38 inactive status updates, including at least ten ICPs at each inactive status (or all ICPs if less than ten were available) were checked using the typical characteristics methodology.

The list file was examined to identify any ICPs that had been at the Inactive - new connection in progress for greater than 24 months or with an initial electrical connection date populated.

The process to identify inactive ICPs with consumption was checked, including reviewing a sample of inactive ICPs with consumption to determine whether the correct status was applied.

Findings on the timeliness of inactive status updates are recorded in **section 3.3**.

Audit commentary

The status of an ICP is only changed to "inactive" once confirmation has been received by a contractor. Submission information is not calculated for periods where an ICP is inactive.

ICPs are updated to "inactive" status in Flux, and an event date is applied. This information is transferred to the registry the following morning using the process described in **section 2.1**.

Powershop normally only uses the "electrically disconnected vacant property", "electrically disconnected ready for decommissioning" and "inactive new connection in progress" statuses for inactive ICPs.

A sample of 38 updates were checked to confirm whether the correct status and date was applied, including all updates to inactive statuses not normally applied by Powershop. I identified nine discrepancies in the sample which had not been identified and corrected by Powershop prior to the audit:

ICP	Applied inactive date	Correct inactive date	Applied inactive status reason	Correct inactive status reason	Comments
0006883613RN9BB	14/07/2017	11/03/2019	4	4	Incorrect date applied
0000127880TR8B8	24/12/2017	11/03/2019	4	4	Incorrect date applied
0001520677TG08F	18/01/2018	01/01/2019	4	4	Incorrect date applied
1001281244LC1F1	9/03/2018	09/03/2019	4	4	Incorrect date applied
0000003147DE862	23/01/2018	09/01/2019	4	4	Incorrect date applied
0198081626LC1B1	16/03/2018	30/11/2018	4	4	Incorrect date applied
0000173026TR4D1	30/09/2018	13/03/2019	4	4	Incorrect date applied
1002051491LC8B8	16/07/2018	-	10	12	New connection in progress, an incorrect status was applied
0000158712CK5A9	22/06/2018	-	11	12	New connection in progress, an incorrect status was applied

For a further three ICPs changed to "inactive - ready for decommissioning", an incorrect status date was applied in Flux. The ICPs were updated to "inactive - ready for decommissioning" (1,6) effective from the day after the ICP became inactive vacant (1,4) but should have been updated from the day they became inactive vacant.

ICP	Registry status and date	Flux status and date
0003720160WF340	1,4 08/02/18 and 1,6 09/02/18	1,6 09/02/18
0003721011WF2FC	1,4 07/02/18 and 1,6 08/02/18	1,6 08/02/18
0003721240WFCB6	1,4 04/02/18 and 1,6 05/02/18	1,6 05/02/18

The list file as at 06/05/19 was analysed and found three ICPs at "new connection in progress" status which had an initial electrical connection date populated. All were timing differences and had been updated to "active" after the registry list was run and prior to the on-site audit. No ICPs had "new connection in progress" status for more than 24 months.

A report was provided of 22 ICPs with consumption while inactive. All 15 with consumption over 10 kWh were checked:

- two were confirmed not to have genuine inactive consumption;
- six switched out and were reconnected by the gaining trader prior to the switch being completed, and the consumption occurred after the switch event date;

- two had very small volumes of inactive consumption caused by a creeping meter and were confirmed to be disconnected;
- three are currently being investigated by the revenue assurance team to confirm whether the consumption is genuine; and
- two ICPs were corrected to "active" status so that the consumption would be reported. ICP 1000026379BP03D was not corrected to "active" for all periods with consumption. The read history shows movement between the 18/03/19 and 15/04/19 readings, but the ICP remains inactive from 04/04/19 to 14/04/19, so some of this consumption will be apportioned to an inactive period.

During the checks of historic estimate scenarios in **section 12.11**, I found that ICP 0005757487RN231 had 5.61 kWh of consumption which fell within the inactive period from 18/01/19 to 27/01/19. This consumption was not included in the historic estimate calculation because it fell within the inactive period, but the ICP would have been connected for at least part of the inactive period.

Nine corrections for inactive consumption not completed by the time of the 2018 audit were followed up. I found two corrections had been resolved, but seven had not been processed because the 14 month revision had already been completed. This is recorded as non-compliance in **section 2.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 04-Feb-18 To: 17-Jul-19	Ten ICPs had incorrect inactive status dates applied. Two ICPs had an incorrect inactive status reason applied. ICPs 1000026379BP03D and ICP 0005757487RN231 were not corrected to active status for all periods with inactive consumption. The registry does not reflect the correct status for all dates, and some inactive consumption will be excluded from reconciliation submissions. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because there are processes in place which mitigate risk most of the time, but there is room for improvement. The impact is low, because the impact on settlement and participants is minor and a small number of ICPs are affected.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop has now updated the ICPs that they still hold	13/08/2019	Cleared where possible

Preventative actions taken to ensure no further issues will occur	Completion date	
Powershop has reminded agents of the importance of applying the correct status updates	13/08/2019	

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

Code reference

Clause 15 Schedule 11.1

Code related audit information

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

Audit observation

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

I analysed a registry list of ICPs with "new" or "ready" status and Powershop as the proposed trader, and reviewed processes to monitor new connections.

Audit commentary

ICP ticket workflows are used to manage and monitor new connections at "new", "ready", and "inactive new connection in progress" statuses. Items in these workflows have review dates set and will appear in the assigned user's work queue for review on the review date.

Powershop occasionally receive emails from distributors requesting information on ICPs which have been at "new" or "ready" status for more than two years. These are handled on a case by case basis as they are received. I reviewed two examples of these requests and found one had been responded to, and Powershop was in the process of gathering information to respond to the other request.

Analysis of the registry list identified two ICPs at "ready" status for more than 24 months, and four ICPs at "new" status for more than 24 months. For all six ICPs, a customer had not signed up with Powershop. I recommend that Powershop periodically runs a registry list to identify ICPs that have been assigned to them in error and advises the distributor.

Description	Recommendation	Audited party comment	Remedial action
Monitoring of new and ready ICPs	I recommend Powershop run a registry list six monthly with: Status: 000 or 999 Proposed trader: PSNZ End date: the day the report is run and compare the results to the ICPs PSNZ expects to be at "new" or "ready" status. Any ICPs which appear to have been assigned to PSNZ in error can then be checked with the distributor.	Powershop intends to implement this recommendation	Identified

Audit outcome

Compliant

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

Code reference

Clause 2 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The switch gain process was examined to determine when Powershop deem all conditions to be met. A typical sample of five ICPs were checked to confirm that NTs were provided within two business days, and that the correct switch type was selected.

Audit commentary

Powershop's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met, and the withdrawal process is used if the customer changes their mind.

Transfer switch type is applied where a customer is transferring between retailers at an address. This information is collected as part of the customer application process.

The five NT files checked were sent within two business days of pre-conditions being cleared. One NT was incorrectly requested as a transfer switch when the customer had indicated that they were moving in, and the other four NTs had the correct switch type applied.

No transfer switches were requested for ICPs with a metering category of three or above.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: Clause 2 Schedule 11.3 From: 06-Dec-18 To: 06-Dec-18	One NT was issued as a transfer switch, when a switch move should have been applied. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, because the process is compliant, and one exception occurred due to a data processing error. The impact is assessed to be low. The switch was completed as requested, and there would be a very minor impact on the Authority's reporting on switch types.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop is unable to resolve this without reversing the switch which would have a material impact on other parties and the customer.	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Post the 2018 audit, Powershop implemented more controls and education to staff around this. This risk has significantly decreased since previous audit.	Ongoing	

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

Code reference

Clauses 3 and 4 Schedule 11.3

Code related audit information

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

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

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

Audit observation

An event detail report for 01/06/18 to 06/05/19 was reviewed to identify AN files issued by Powershop during the audit period, and:

- a sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied; and
- assess compliance with the requirement to meet the setting of event dates requirement.

The switch breach report was examined for the audit period.

Audit commentary

AN timeliness

ANs are issued automatically by Flux, and the switch breach report is monitored to ensure ANs are sent on time.

The switch breach report recorded one late AN file for a transfer switch. It was not genuine, because a withdrawal request was processed instead of an AN.

AN content

Flux applies AN codes according to a hierarchy. The AA (accept and acknowledge) code is only used where no other codes apply. I checked the AN codes for eight transfer switches issued by Powershop, and found the correct codes were applied.

The event detail report was reviewed for all 7,483 transfer ANs to assess compliance with the setting of event dates requirements.

- 7,482 (99.99%) had a proposed event date within five business days of the NT receipt date.
- All had proposed event dates within ten business days of the NT receipt date.

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

An event detail report for 01/06/18 to 06/05/19 was reviewed to identify CS files issued by Powershop during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of 12 files. The content checked included:

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

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

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

Audit commentary

CS timeliness

CS files are issued automatically by Flux, once all information required to complete the switch is available. The switch breach report is also monitored to ensure CS files are sent on time, with a focus on CS breaches.

The switch breach history report contained 15 breaches for late transfer CS files. I recalculated the days overdue and found four breaches were genuine. The breaches occurred due to a miscalculation of when transfer CS files are due. Powershop has since checked the switching rules and confirmed the acceptable timeframes for transfer switches.

CS content

The registry functional specification requires estimated daily kWh to be based on the average daily consumption for the last read to read period. Flux calculates the estimated daily kWh based on the last two reads with a "verified" status. For the purpose of this calculation validated reads include validated customer and estimate readings in Flux, as well as validated actual readings. Disconnected ICPs have an estimated daily consumption of zero applied.

Analysis estimated daily kWh on the event detail report identified:

Count of transfer CS files	Estimated daily kWh
Negative	-
Zero	87
More than 200 kWh	109

A sample of ten of these ICPs were checked (five with zero and the five highest with more than 200 kWh). I found that the consumption appeared reasonable based on the read history but did not always reflect the consumption between the last two validated actual reads.

Flux records read dates and times for all reads. CS event reads are entered with a time of 23.59.57 and are based on actual or estimate readings. The process to determine CS event reads varies depending on the date and time of the reads recorded in Flux.

Provider	Read date and time recorded in Flux	CS event read process
AMS	A read time is not provided in AMS' read files. Where no read time is provided, Flux applies 00.00.00 on the read date. To manage this, Powershop requested AMS roll forward their read time by one second	The read time is rolled back 3 seconds from 00.00.00 to 23.59.57 on Powershop's last day of responsibility to create the switch event reading. If the actual reading is within 5 seconds of the switch event date and time, the switch event read

Provider	Read date and time recorded in Flux	CS event read process
	from 23.59.59 on the day of the reading, to 00.00.00 on the day after the reading. This means that a 23.59.59 read on 01/06 would be recorded as having occurred on 02/06 in AMS' file, and applied at 00.00.00 on 02/06 in Flux. If this adjustment did not occur Flux would incorrectly apply the reading at 00.00.00 on 01/06.	is expected to be classified as a validated actual reading. If an actual midnight reading is not available, a CS reading will be estimated.
Smartco	Smartco's file provides readings as at 23.59.59 on the read date. These reads are rolled forward by one second in Flux to be recorded as 00.00.00 the day after the read date.	The read time is rolled back 3 seconds from 00.00.00 to 23.59.57 on Powershop's last day of responsibility to create the switch event reading. If the actual reading is within 5 seconds of the switch event date and time, the switch event read will be classified as a validated actual reading. If an actual midnight reading is not available, a CS reading will be estimated.
Arc Metrix Wells	Arc, Metrix, and Wells provide a read date and time in their files, which varies from ICP to ICP. Flux records the read date and time provided.	An estimated switch reading is created which captures estimated consumption between the last actual reading time and 23.59.57 on Powershop's last day of responsibility. This process does not ensure that the reading on the event date is treated as if it has occurred at the end of the day and is non-compliant. Powershop uses this process to try to increase the accuracy of its switch event readings by capturing consumption after the read time. If an actual midnight reading is not available, a CS reading will be estimated.

The accuracy of the content of CS files was confirmed by checking a sample of 12 transfer switches. In addition to the estimated daily consumption not always being calculated based on the last two validated actual reads, the following discrepancy was identified:

ICP	CS event date	Content issue
1099575889CN019	03/10/2018	Estimate read type was used, when an actual read at 12am on 03/10/18 was pulled back 3 seconds to become the midnight switch event reading. The reading was taken at 23.59.59 on Powershop's last day of responsibility and was expected to be treated as an actual reading.

Read types are sometimes incorrectly recorded as part of Flux's "read dispute" process. Where there is a difference between the last read billed to the customer and the read Flux has designated as the switch event read, a "read dispute" is created. These "read disputes" must be checked and resolved by confirming which read should be applied before the CS can be issued. Users confirm the reading to be applied using the "change final readings" box, but this only allows the user to change the read value not the read type. This means that if an estimate is replaced with an actual or vice versa, the read type will not be correctly recorded. Flux superusers can change the read type, but access to these logins is restricted to a very small number of users in the management team.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 Schedule 11.3 From: 15-Jun-18 To: 16-Apr-19	Four late transfer CS files. One transfer CS contained an incorrect read type. Average daily kWh in the CS is not calculated in accordance with the Registry Functional Specification. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate because they mitigate risk most of the time. Most CS files were on time, only one incorrect read type was identified, and the average daily kWh appeared reasonable. The incorrect CS content occurred early in the audit period. There is no impact on settlement and a minor impact on other participants. The audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
The CS files have been sent	13/08/2019	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop will hold off reviewing its calculation of the average daily kWh value as the recent Switching reform sessions indicated that very few (maybe only 1) participants utilise this value and the recommendation from this industry wide group was to remove this value.	NA	

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

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

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

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

- *the gaining trader may dispute the switch meter reading if the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more. (clause 6(b)).*

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

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

Audit observation

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

The event detail report for 01/06/18 to 06/05/19 was analysed to identify all read change requests and acknowledgements during the audit period. Ten RR files issued by Powershop, and ten AC files issued by Powershop were checked (including all acceptances and five rejections).

I also checked a sample of five estimated CS files provided by other traders where no RR was issued to determine whether the correct readings were recorded.

The switch breach report was reviewed to identify late RR and AC files.

Audit commentary

Timeliness of RR and AC files

The switch breach report recorded six late RRs for transfer switches. Five files were delayed while Powershop obtained actual readings to support the RR files, and one was delayed by late processing of the read change. The number of days late ranged from four to 88. Whilst these are technically late Powershop are compliant with the requirement to provide complete and accurate information.

The switch breach report did not record any late AC files. Flux contains a "replacement reads" list which shows ICPs that RRs have been received for. This is compared to the switch breach report to confirm due dates, and notes are recorded showing any action taken.

Content and handling of RR and AC files

In cases where Powershop is the gaining trader and they dispute the switch meter reading because the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more, they attempt to negotiate a changed switch meter reading which is supported by validated meter readings.

Powershop issued 373 RR files for transfer switches. 278 were accepted and 95 were rejected. I checked a sample of five acceptances and five rejections and found that the content was correct, the RR was supported by at least two actual readings, and Flux reflected the outcome of the RR process except for the following exceptions:

Issue	ICPs and RR event dates affected
RR contained the same readings as the CS file.	0000027382UN587 (07/08/18) - rejected
RR was not supported by two validated actual readings.	0000018151CEA5A (15/10/18) - rejected 0000027382UN587 (07/08/18) - rejected

Issue	ICPs and RR event dates affected
Typically one or both of the readings used to support the RR were customer or customer photo readings, or only one actual reading was obtained.	0000092496WW4FE (21/08/18) - rejected 0000128074TR0C8 (03/02/19) - rejected 0000001615DECAD (08/12/18) - accepted 0000016666TR166 (11/11/18) - accepted 0000016892HRE02 (15/01/19) - accepted
An incorrect read type was recorded in Flux (VE instead of VA). The incorrect read type has no impact on settlement, because all switch event readings are treated as permanent estimate. As discussed in **section 4.3**, read types are sometimes incorrectly recorded as part of Flux's "read dispute" process. When adjusting a read to reflect the outcome of the RR process the user cannot change the read type.	0000001615DECAD (08/12/18) 0000010491ML1D3 (22/11/18) 0000015263TR2C8 (30/01/19) 0000016666TR166 (11/11/18) 0000016892HRE02 (15/01/19)

Powershop issued 759 AC files for transfer switches. 685 were accepted and 74 were rejected. A sample of five AC rejections and five acceptances were checked. All rejections were for valid reasons, and the correct switch event reading was recorded in Flux for all ten ACs. Two ICPs had an incorrect read type recorded in Flux (VA instead of VE): 0000037878TR636 (09/06/18) and 0005582253RNBD6 (09/11/18).

Review of five switch move CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Powershop's systems.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 6(1) and 6A Schedule 11.3 From: 07-Jul-18 To: 21-Mar-19	Six late RR files for transfer switches. One RR contained the same reading as the CS file and was issued in error. Seven RRs were not supported by two validated actual readings. For five RRs and two ACs, the read type recorded in the system did not reflect the read type for the agreed switch reading. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	The controls are rated as moderate overall. Most RRs were on time, but a relatively high proportion were not supported by two validated actual readings. The impact on settlement and other participants is minor. • A small number of RRs were issued late. • All of the RRs were supported by some readings and are likely to be correct. • The incorrectly recorded read types in Flux have no impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
The issues that can be resolved have been	13/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Post the 2018 audit, there has been improvement in this space. Powershop has compliance training planned to reduce further risk of non-compliance.	Ongoing	

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report for the period from 01/06/18 to 06/05/19 was reviewed to identify all read change requests and acknowledgements where clause 6(2) and (3) of schedule 11.3 applied.

Audit commentary

These RR requests are processed in the same way as those received for greater than 200 kWh. Each request is evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

Powershop did not issue any read change requests where clause 6(2) and (3) of schedule 11.3 applied.

I identified 419 RR files issued to Powershop within five business days of CS completion where the NT specified a HHR profile. 403 were accepted and 16 were rejected. I checked the rejected files and confirmed that five were validly rejected because the CS file did not contain estimated reads. The other 11 were checked.

- For four RRs Powershop had AMI data which confirmed that the read contained in the RR was not the AMI meter reading for the event date. The RRs were rejected because they contained incorrect information, and one of the RRs was accepted on reissue with different readings.
- One was rejected to allow the switch to be withdrawn instead.
- Six RRs were rejected because the user did not realise that acceptance of these RRs was mandatory. One was accepted on reissue. The latest invalidly rejected RR occurred in August 2018 and further training has been provided to prevent recurrence of this issue. The Quality and Compliance Advisor has implemented monthly reporting to check that RRs issued under clause 6(2) and (3) of schedule 11.3 have been treated correctly.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.5 With: Clause 6(2) and (3) Schedule 11.3 From: 15-Jun-18 To: 06-Aug-18	Six RRs which should have been accepted under clause 6(2) and (3) of schedule 11.3 were invalidly rejected. One was later accepted on reissue. Potential impact: Low Actual impact: Low Audit history: none Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are currently rated as strong, because no invalid rejections occurred after August 2018, after further preventative and detective controls were implemented. The impact on settlement and other participants is minor, because of the small volume of RRs affected.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop is unable to resolve this without reversing the switch which would have a material impact on other parties and the customer.	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with the controls implemented back in Aug 2018 to minimise breach	NA	

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

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

Audit commentary

Powershop confirmed that no disputes have needed to be resolved in accordance with this clause.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.3

Code related audit information

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

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

In the event of a switch move, the gaining trader must advise the registry manager of a switch and the proposed event date no later than 2 business days after the arrangement comes into effect.

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

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

Audit observation

The switch gain process was examined to determine when Powershop deem all conditions to be met. A typical sample of five ICPs were checked to confirm that NTs were provided within two business days, and that the correct switch type was selected.

Audit commentary

Powershop's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met, and the withdrawal process is used if the customer changes their mind.

Switch move is applied where a new customer is moving into an address. This information is collected as part of the customer application process.

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

No switch moves were requested for ICPs with a metering category of three or above.

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

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

Audit observation

An event detail report for 01/06/18 to 06/05/19 was reviewed to identify AN files issued by Powershop during the audit period, and:

- a sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied; and
- assess compliance with the requirement to meet the setting of event dates requirement.

The switch breach report was examined for the audit period.

Audit commentary

AN timeliness

ANs are issued automatically by Flux, and the switch breach report is monitored to ensure ANs are sent on time.

The switch breach report recorded one late AN file for a switch move. It was not genuine, because a withdrawal request was processed instead of an AN.

AN content

Flux applies AN codes according to a hierarchy. The AA (accept and acknowledge) code is only used where no other codes apply. I checked the AN codes for nine switch moves issued by Powershop, and found the correct codes were applied.

The event detail report was reviewed for all 14,503 switch move ANs to assess compliance with the setting of event dates requirements.

- 14,486 (99.88%) had proposed event dates within ten business days of the NT receipt date.

- 15 ICPs had proposed event dates more than ten business days after the NT receipt date.
  For six of these, the AN proposed date matched the gaining trader's requested date.
  For the other nine ICPs, Powershop's customer had confirmed that they were moving out later than the gaining trader's requested date. Withdrawal requests were issued by Powershop for all nine ICPs and accepted for eight. The switch for the ICP with the rejected withdrawal was completed with Powershop's AN date.
- Two ICPs had proposed event dates two days before the gaining trader's requested date, but the switches were completed with compliant dates. The event dates applied matched the date that the AN was processed on the registry, and the date that Powershop was advised that the customer account was to be finalled. Powershop intends to investigate to determine why invalid event dates were selected, and a recommendation is raised to ensure visibility.

Description	Recommendation	Audited party comment	Remedial action
AN proposed event dates set prior to the gaining trader's proposed event date for switch moves	Investigate the ANs issued for 0441465137LC7C7 (event date 14/12/18) and 0000001576TR449 (event date 26/08/18) to determine why early event dates were applied, and determine any action required to prevent recurrence of this issue.	Powershop have investigated these cases but have not been able to identify the specific issue. Powershop will endeavour to investigate if any further examples are identified.	Investigating

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) Schedule 11.3 From: 10-Jul-18 To: 07-Mar-19	Two ANs had proposed event dates before the gaining trader's requested date. Nine ANs had proposed event dates more than ten business days after the NT receipt date and did not match the gaining trader's requested date. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating
Low	The controls are strong. For the nine ICPs with event dates more than ten business days after NT receipt, Powershop believed that the date requested by the gaining trader was incorrect, and also issued a withdrawal. The two ICPs with event dates before the gaining trader's requested date were only two days early, and the switch completion dates were compliant. The impact is assessed to be low, because ten of the 11 affected switches were withdrawn or completed with compliant dates. One switch was completed with Powershop's late proposed event date where the gaining trader refused a withdrawal request.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop is unable to resolve the remaining issue as the gaining trader has already rejected a withdrawal request.	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with its current controls.	NA	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

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

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

Audit observation

An event detail report for 01/06/18 to 06/05/19 was reviewed to identify AN files issued by Powershop during the audit period, and assess compliance with the requirement to meet the setting of event dates requirement.

Audit commentary

Analysis found all switch move ANs had a valid switch response code.

As discussed in **section 4.8**, proposed event dates for switch moves were compliant apart from:

- nine ICPs with event dates more than ten business days after the NT receipt date, eight were withdrawn, and the switch for ICP 1000558542PC44D was completed with the AN proposed event date within ten business days of receiving the NT; and
- two ICPs had proposed event dates before the gaining trader's requested date but both switches were completed with compliant dates within ten business days of receiving the NT.

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

An event detail report for 01/06/18 to 06/05/19 was reviewed to identify CS files issued by Powershop during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of 11 files. The content checked included:

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

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

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

Audit commentary

<u>CS timeliness</u>

CS files are issued automatically by Flux, once all information required to complete the switch is available. The switch breach report is also monitored to ensure CS files are sent on time, with a focus on CS breaches.

The switch breach history report contained 142 breaches for late switch move CS files. I recalculated the days overdue and found that 98 of the files were on time, and 44 were late. I checked all 15 files more than three business days late and found seven had withdrawals processed before the CS was provided and were compliant. The remaining eight were late because:

1. the NT was issued early by the gaining retailer, and the CS needed to be held until the event date was reached so that the switch event meter reading could be provided; and
2. there was a difference between the last read billed to the customer and the switch event read selected by Flux, which creates a "read dispute" which must be checked and resolved before Flux issues the CS.

CS content

As discussed in **section 4.3**, the registry functional specification requires estimated daily kWh to be based on the average daily consumption for the last read to read period. Flux calculates the estimated daily kWh based on the last two reads with a "verified" status. For the purpose of this calculation validated reads include validated customer and estimate readings in Flux, as well as validated actual readings. Disconnected ICPs have an estimated daily consumption of zero applied.

Analysis estimated daily kWh on the event detail report identified:

Count of switch move CS files	Estimated daily kWh
Negative	-
Zero	440
More than 200 kWh	43

A sample of ten of these ICPs were checked (five with zero and the five highest with more than 200 kWh). I found that the consumption appeared reasonable based on the read history but did not always reflect the consumption between the last two validated actual reads.

As discussed in **section 4.3**, Flux records read dates and times for all reads. CS event reads are entered with a time of 23.59.57 and are based on actual or estimate readings. The process to determine CS event reads varies depending on the date and time of the reads recorded in Flux.

The accuracy of the content of CS files was confirmed by checking a sample of 11 switch moves. In addition to the estimated daily consumption not always being calculated based on the last two validated actual reads, the following discrepancies were identified:

ICP	CS event date	Content issue
0005703530RN1B9	06/06/18	Actual read type was applied instead of estimate. The estimated read appeared reasonable.
0000042725DEB24	03/07/18	Actual read type was applied instead of estimate. The readings related to the last reading billed to a customer on 17/05/18 and passed 3,506 kWh of vacant consumption between the 17/05/18 and 02/07/18 readings to the gaining retailer. This practice was ceased shortly after the 2018 audit, and I did not find any other examples of this issue.
0000005548TE63C	16/05/18	The last actual read date was recorded as 29/04/18 but should have been 15/05/18.

As discussed in **section 4.3**, read types are sometimes incorrectly recorded as part of Flux's "read dispute" process. Users confirm the reading to be applied using the "change final readings" box, but this only allows the user to change the read value not the read type. This means that if an estimate is replaced with an actual or vice versa, the read type will not be correctly recorded.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 Schedule 11.3 From: 11-Jun-18 To: 02-May-19	37 late switch move CS files. One switch move CS contained an incorrect read type. One switch move CS contained an incorrect read type, and a reading which did not reflect the actual reading on the event date. One CS contained an incorrect last actual read date. Average daily kWh in the CS is not calculated in accordance with the Registry Functional Specification. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate because they mitigate risk most of the time. The incorrect CS content occurred early in the audit period, and the policies for vacant consumption have since been changed. The average daily kWh appeared reasonable. There is no impact on settlement and a minor impact on other participants. The audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop is unable to resolve these issues without reversing the switches which would have a material impact on other parties and the customer.	NA	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Please see comments in section 4.3 regarding average daily kWh values	NA	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

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

The event detail report for 01/06/18 to 06/05/19 was analysed to identify all read change requests and acknowledgements during the audit period. Ten RR files issued by Powershop, and ten AC files issued by Powershop were checked (including all acceptances and five rejections).

I also checked a sample of five estimated CS files provided by other traders where no RR was issued to determine whether the correct readings were recorded.

The switch breach report was reviewed to identify late RR and AC files.

Audit commentary

Timeliness of RR and AC files

The switch breach report recorded 18 late RRs for transfer switches, and seven of these were not genuine. The late RRs were primarily caused by:

1. reissue of RRs where they had initially been rejected by the other trader; and
2. delays while two actual readings were obtained to support the RR.

The number of days late ranged from eight to 124. Whilst these are technically late Powershop are compliant with the requirement to provide complete and accurate information.

The switch breach report did not record any late AC files. Flux contains a "replacement reads" list which shows ICPs that RRs have been received for. This is compared to the switch breach report to confirm due dates, and notes are recorded showing any action taken.

Content and handling of RR and AC files

In cases where Powershop is the gaining trader and they dispute the switch meter reading because the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more,

they attempt to negotiate a changed switch meter reading which is supported by validated meter readings.

Powershop issued 1,159 RR files for switch moves. 853 were accepted and 306 were rejected. I checked a sample of five acceptances and five rejections and found that the content was correct, the RR was supported by at least two actual readings and Flux reflected the outcome of the RR process except for the following exceptions:

Issue	ICPs and RR event dates affected
RR was not supported by two validated actual readings. One actual reading and one customer reading were used to support the RR.	0000010872TR90A (12/01/19) - accepted
An incorrect read type was recorded in Flux (VE instead of VA). The incorrect read type has no impact on settlement, because all switch event readings are treated as permanent estimate. As discussed in **section 4.3**, read types are sometimes incorrectly recorded as part of Flux's "read dispute" process. When adjusting a read to reflect the outcome of the RR process the user cannot change the read type.	0000002062CP640 (09/01/19) 0000009405TC97A (21/08/18) 0000010872TR90A (12/01/19) 0000011964DE25B (07/11/18)

Powershop issued 916 AC files for transfer switches. 810 were accepted and 106 were rejected. A sample of five AC rejections and five acceptances were checked. All rejections were for valid reasons, and the correct switch event reading was recorded in Flux for all ten ACs.

Review of five switch move CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Powershop's systems.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 6(1) and 6A Schedule 11.3 From: 21-Aug-18 To: 11-Apr-19	11 late RR files for switch moves. One RR was not supported by two validated actual readings. For four RRs, the read type recorded in the system did not reflect the read type for the agreed switch reading. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	The controls are rated as moderate overall. Most RRs were on time, and one RR was not supported by two validated actual readings. The impact on settlement and other participants is minor. • A small number of RRs were issued late. • All RRs checked were supported by at least one actual reading and are likely to be correct. • The incorrectly recorded read types in Flux have no impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
Please see comments in section 4.4	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Please see comments in section 4.4	NA	

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

Code reference

Clause 14 Schedule 11.3

Code related audit information

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

- *the gaining trader will trade electricity through a half hour metering installation that is a category 3 or higher metering installation; or*
- *the gaining trader will trade electricity through a non-AMI half hour metering installation and the losing trader trades electricity through a non-AMI non half hour metering installation; or*
- *the gaining trader will trade electricity through a non-AMI non half hour metering installation and the losing trader trades electricity through anon-AMI half hour metering installation*

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

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

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

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

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

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

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

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

Audit observation

The event detail report for 01/06/18 to 06/05/19 was analysed to identify all HH NTs issued during the audit period.

Audit commentary

Powershop did not send any HH switch requests during the audit period. No NTs were issued for ICPs with metering category 3 or higher.

Powershop intends to supply only category 1 and 2 meters, which will be requested as transfer switches or switch moves depending on whether the customer is moving into the address. If they meet the criteria to do so, they will be moved to HHR submission type and profile at a later date.

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

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

15(a) - provide to the registry manager a valid switch response code as approved by the Authority; or

15(b) - provide a request for withdrawal of the switch in accordance with clause 17.

Audit observation

The event detail report for 01/06/18 to 06/05/19 was analysed to identify all HH ANs issued during the audit period.

Audit commentary

Powershop did not issue any HH ANs during the audit period.

Powershop does not intend to supply ICPs with a meter category of 3 or above and does not expect to issue HH ANs.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

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

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

> *16(a)- give the losing trader or MEP for the ICP an opportunity to interrogate the metering installation immediately before the ICP is electrically disconnected or the metering equipment is removed; or*
>
> *16(b)- carry out an interrogation and, no later than 5 business days after the metering installation is electrically disconnected or removed, advise the losing trader of the results and metering component numbers for each data channel in the metering installation.*

Audit observation

The event detail report for 01/06/18 to 06/05/19 was analysed to identify all HH CS files issued during the audit period.

Audit commentary

Powershop did not issue any HH CS files during the audit period.

Powershop intends to supply only category 1 and 2 meters, which will be requested as transfer switches or switch moves depending on whether the customer is moving into the address. If they meet the criteria to do so, they will be moved to HHR submission type and profile at a later date.

Audit outcome

Compliant

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

Code reference

Clauses 17 and 18 Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

An event detail report for 01/06/18 to 06/05/19 was reviewed to:

- identify all switch withdrawal requests issued by Powershop, the content of a sample of at least two (or all) ICPs from the event detail report for each withdrawal code, including 12 withdrawal requests rejected by other traders;
- identify all switch withdrawal acknowledgements issued by Powershop, a sample of ten rejections were checked; and
- confirm timeliness of switch withdrawal requests, as this is not currently being identified in the switch breach report.

The switch breach reports were checked for any late switch withdrawal requests or acknowledgements.

Audit commentary

NW timeliness

The switch breach report recorded two late NW files. One was genuinely late, because another retailer issued an NT for a Powershop ICP which was previously decommissioned. There was a delay while Powershop determined how to resolve the issue, then the switch was withdrawn so that the status could be corrected and the switch re-requested.

Analysis of the event detail report found 89 (2.2%) of the 4,007 NWs were issued more than two calendar months after the switch date. 66 (74.1%) of these late withdrawals used the code for wrong premises, and I note that this issue often does not become apparent for an extended period after a switch completes. A sample of the ten latest files were reviewed and were caused by:

- delays in identifying the issue, and investigating to determine whether the NW was required; and
- two old switch events being withdrawn in error, one because the wrong event was accidentally selected, and one because the user thought that an earlier event genuinely needed to be reversed to process a meter replacement, these issues occurred during a period with a large number of staff changes and further training has since been provided, and the switches have been reinstated.

The switch breach report recorded two breaches for not completing the withdrawal cycle within ten business days. Both were delayed by confusion over whether the switch request had been issued for the correct ICP and were resolved one and two business days late.

AW timeliness

The switch breach report did not record any late AW files.

Flux maintains a list of ICPs which RRs have been received for. This is compared to the switch breach report to confirm due dates, to ensure that AWs are processed on time.

Content and handling of NW and AW

The content of 14 NW files was compared to details in Powershop's records, and in all cases, the withdrawal reasons provided by Powershop were accurate.

As described under NW timeliness, two switches were withdrawn in error because the user selected the wrong switch event to be reversed. Both switches were later reinstated.

All NW rejections by Powershop were based on sound information.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clauses 17 and 18 Schedule 11.3 From: 05-Jun-18 To: 06-May-19	89 NWs were issued more than two calendar months after the switch date. NWs were issued in error for two ICPs. Both were detected through Powershop's monitoring processes and the switches were reinstated. 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. The sample of late NWs checked found that in most cases the delay was due to an investigation being completed prior to issuing the withdrawal request. Further training has been provided to prevent invalidly issued withdrawals, and I did not see any evidence of invalid withdrawal requests after February 2019. The audit risk rating is low. There was a minor impact on settlement due to the correction of consumption information. There was also only a minor impact on the customer.

Actions taken to resolve the issue	Completion date	Remedial action status
These issues cannot be resolved	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with the controls in place since implementing further process change and training. This has seen significant improvement over the last 7 months.	Ongoing	

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The meter reading process in relation to meter reads for switching purposes was examined.

Audit commentary

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

As discussed in **section 4.10**, the switch event reading for 0000042725DEB24 (03/07/18) did not reflect the actual reading (or best estimate of consumption) on the switch event date. This is recorded as non-compliance below.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.16 With: Clause 21 Schedule 11.3 From: 03-Jul-18 To: 03-Jul-18	One switch move CS contained an incorrect read type, and a reading which did not reflect the actual reading on the event date. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, because the process has been changed to prevent inactive consumption from being passed on to the gaining trader. There was a small impact on the customer and other participants. The audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop is unable to resolve this issue	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with the controls in place since implementing further process change and we will continue to focus on this area	Ongoing	

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

The Electricity Registry switch save protected retailer list was examined to confirm that Powershop is not a save protected retailer.

Win-back processes were examined to determine whether they are compliant.

I checked the event detail report for 01/06/18 to 06/05/19 to identify all withdrawn with a CX code applied prior to the switch completion date in relation to any switch save protected retailers.

Audit commentary

Powershop maintains a list of save protected retailers, and win-backs are only initiated if the gaining retailer is not save protected.

Review of the event detail report identified three NWs issued with a CX withdrawal reason code prior to completion of the switch. One was issued to a retailer who is save protected, but Powershop was the gaining retailer and therefore had not attempted to win-back the customer.

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

The process to identify and monitor unmetered load was discussed. The registry list for 06/05/19 was reviewed to identify all shared unmetered load. I checked the accuracy of the unmetered daily kWh.

Audit commentary

Monthly, Powershop compares their trader unmetered load details and daily unmetered kWh to the distributor's values. Any discrepancies are investigated, and updates are made as required.

ICPs with unmetered load will not be moved from NHH to HHR submission. If unmetered load is identified for a HHR ICP it will be changed back to NHH.

56 ICPs have shared unmetered load recorded and a daily unmetered load value populated by Powershop. The distributor had populated the unmetered load details in a format that allowed recalculation of the unmetered load, and in all cases the recalculated value was within 0.0 kWh of Powershop's value.

As discussed in **section 3.7**, four ICPs with shared unmetered load recorded by the distributor did not have shared unmetered load recorded by Powershop. This is recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: Clause 11.14 From: 08-Oct-18 To: 17-Jul-19	Four ICPs with unmetered load do not have the UNM flag set to Y, and trader unmetered load details and daily unmetered kWh populated on the registry. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but did not identify the missing unmetered load details on the registry. There is a minor impact, because some trader unmetered load details are incorrectly recorded on the registry, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Please see comment in section 3.7	NA	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Please see comment in section 3.7	NA	

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

The registry list for 06/05/19 was reviewed to identify all unmetered load over 3,000 kWh per annum.

Audit Commentary

Examination of the list file found no active ICPs with unmetered load greater than 6,000 kWh per annum. There are four ICPs with consumption between 3,000 and 6,000 kWh per annum and they are all approved lighting loads.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

The registry list for 06/05/19 was reviewed to identify all unmetered load over 3,000 kWh per annum.

Audit Commentary

Examination of the list file found no active ICPs with unmetered load greater than 6,000 kWh per annum. There are four ICPs with consumption between 3,000 and 6,000 kWh per annum and they are all approved lighting loads.

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

Powershop does not have any distributed unmetered load.

Audit commentary

Powershop does not have any distributed 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

Processes to ensure metering is installed and unmetered load is quantified were examined.

The process to manage distributed generation was examined. The registry list as at 06/05/19 was analysed and all ICPs where the Distributor has indicated distributed generation were identified. This was further broken down to identify any ICPs with a non-distributed generation profile. The metering configuration for these ICPs was analysed to confirm whether an EG register was present.

Powershop's records showed seven remotely disconnected ICPs where meters had been bridged as a means of reconnecting during the audit period.

Audit commentary

Metering installations installed

Powershop's new connection process includes a check that metering is installed before energisation occurs, or that any unmetered load is quantified.

The registry list contained three ICPs with a blank MEP at the time the analysis was conducted, but in all cases an MEP nomination had been made and accepted.

The list file contained three active ICPs where the metering category was 9, indicating that no meters were present, and the unmetered flag was set to no. All were timing differences, and metering details have now been updated on the registry.

Determining submission information by subtraction

There are no ICPs where subtraction occurs.

Distributed generation

A trader must ensure that for each energised ICP that electricity is conveyed is in accordance with the code.

Flux has the capability to record a profile against each meter register. Where the meter register's profile is blank, RPS is applied by default. All ICPs switch in with a blank profile, and a weekly process identifies any ICPs with EG registers and updates the profile to PV1. A trader update with the new profile is sent to the registry the following day, according to the process described in **section 2.1**. I recommend Powershop check the generation fuel type that the distributor has populated on the registry and compare it to their profile, to ensure that any ICPs with generation that is not solar are correctly recorded with EG1 rather than PV1 profile. All ICPs with generation fuel types recorded on the registry list as at 06/05/19 had solar generation.

Description	Recommendation	Audited party comment	Remedial action
Generation profiles	Compare the distributor's generation fuel type to the profile applied, to ensure that only solar generation uses the PV1 profile, and other generation uses EG1.	Powershop will consider this recommendation	Investigating

Flux does not record the distributor's installation type, and treats all ICPs as if they have installation type L. A monthly query is run to identify all ICPs which do not have an installation type of L on the registry. ICPs with EG registers are excluded from the results to identify ICPs which may need EG registers installed. These ICPs are followed up with the customer and distributor to confirm whether generation is present, and the MEP to arrange for EG metering to be installed if generation is confirmed. AMI ICPs with possible generation are also identified through review of the meter event detail reports, which is discussed in **section 9.6**.

The list file contained 246 active ICPs with distributed generation recorded by the Distributor. 234 of these had a PV1 profile recorded and generation metering installed. 12 had RPS profile recorded; nine of those had generation metering installed and three did not. All 12 ICPs with RPS profiles were timing differences, and generation metering was installed and PV1 profiles were applied by the time of the on-site audit. One profile was applied from an incorrect start date on the registry and was corrected during the audit. This is recorded in **section 2.1**.

The 2018 audit identified seven ICPs which did not have generation metering installed or a distributed generation profile. These were re-checked and found to be cleared.

ICP	2019 comment
0000011395HR4A6	Cleared. The distributor generation details have been removed.
0000159351UN210	Cleared. The distributor generation details have been removed.
0000163273UN9A8	Cleared. Generation metering has been installed and the PV1 profile is applied.
0003063704AL3D9	Cleared. The distributor generation details have been removed.
0006403914TPA47	Cleared. Generation metering has been installed and the PV1 profile is applied.
0007163329RND0E	Cleared. Generation metering has been installed and the PV1 profile is applied.
0050133330WR9CD	Cleared. Generation metering has been installed and the PV1 profile is applied.
0000051354MLE44	Cleared. The distributor generation details have been removed.
0006694055ALC5F	Cleared. Generation metering has been installed and the PV1 profile is applied.

The 2018 audit recorded that Powershop did not quantify electricity generated where they had not agreed to purchase it from their customer. This issue has been resolved, and I found all ICPs with generation indicated by the generator on the registry had generation metering installed and correct profiles.

Bridged meters

Powershop confirmed seven ICPs were bridged to reconnect during the audit period and were later unbridged. Consumption was not quantified by the meter during this period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13 From: 12-Jun-18 To: 30-Mar-19	While meters were bridged, energy was not metered and quantified according to the code for seven ICPs. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate as they are sufficient to reduce the risk most of the time. The audit risk rating is low. Bridging only occurs where a soft reconnection cannot be performed after hours and the customer urgently requires their energy supply for health and safety reasons. All bridged meters reviewed had corrections processed to capture consumption during the bridged period.

Actions taken to resolve the issue	Completion date	Remedial action status
All ICPs have now been fixed	13/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop will continue to enhance the process for bridged meters and supply further training across the team	Ongoing	

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

Code reference

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

Code related audit information

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

- *provide to the grid owner a copy of the metering installation design (before ordering the equipment)*

- *provide at least three months for the grid owner to review and comment on the design*
- *respond within three business days of receipt to any request from the grid owner for additional details or changes to the design*
- *ensure any reasonable changes from the grid owner are carried out.*

The participant responsible for the metering installation must:

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

Audit observation

The NSP table was reviewed.

Audit commentary

Review of the NSP table confirmed that Powershop is not responsible 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

A registry list for 01/06/18 to 06/05/19 was reviewed to confirm the profiles used by Powershop.

The registry list was matched with the metering installation details report, to confirm the profiles and metering present for each ICP. This was then compared with the approved profiles.

Audit commentary

Powershop has applied the RPS, PV1, POD, and PON profiles during the audit period.

The POD PON profile may be applied to category C and E meters, where the load is measured by a multi register meter and is not required to be controlled by a certified control device.

RPS and PV1 profiles do not require certification of control devices.

The profiles were compliantly applied.

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 relating to defective metering were examined.

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

Audit commentary

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

I reviewed examples of potential defective meters, including seven bridged meters and two stopped meters. In all cases a field services job was raised, and the MEP advised.

Corrections are discussed in **sections 8.1** and **12.7**.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

> *2(2) - The reconciliation participant must collect raw meter data used to determine volume information from the services interface or the metering installation or from the MEP.*
>
> *2(3) - The reconciliation participant must ensure the interrogation cycle is such that is does not exceed the maximum interrogation cycle 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

Powershop's agents and MEPs are responsible for the collection of HHR and AMI data. Collection of data and clock synchronisation were reviewed as part of their agent and MEP audits.

Audit commentary

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

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

Agents are to advise Powershop of clock synchronisation discrepancies and adjustments. I reviewed a sample of notifications from Metrix and AMS, confirming that these notifications are being received by Powershop. No action was required for the examples reviewed.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined.

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

Processes for customer and photo reads were reviewed.

Audit commentary

Wells readings

Wells' data collection processes were reviewed as part of their agent audit and found to be compliant.

Wells provides information on meter condition along with the daily reads, and a monthly summary of ICPs with missing and broken seals. The meter condition information has been imported into Flux since December 2018, along with all other notes provided by Wells, and is reviewed as part of the meter reading validation process. There are large quantities of notes, and the process to review them is still being refined.

I reviewed examples of different meter registers found by Wells, missing and broken seals, and signs of tampering or damage, and found that investigation and corrective actions were either completed or underway. No examples of phase failure or electrically unsafe ICPs were identified.

I checked a sample of readings provided by Wells for nine ICPs and confirmed that they are loaded into Powershop's system as actual readings and are validated.

Customer and photo readings

If Wells obtains a customer reading, a no read is recorded, and the customer reading is provided as a note in the reading file. One example of a customer supplied reading was obtained during Wells' agent audit, and I confirmed that this reading was not used by Powershop.

Readings and photo readings provided by customers are consistently entered as customer readings. Each reading is assigned a read status in Flux (invalidated, unverified, verified, or medium). This determines how the readings are treated by the switching and historic estimate processes. Verified and medium readings are treated as validated actuals and permanent estimates respectively. Invalidated readings are ignored, and unverified readings are treated as estimates.

Customer and photo readings are assigned "unverified" status unless they can be validated against a set of readings from another source. I checked a sample of customer readings with "medium" read status used in the switching and reconciliation processes and confirmed that they had been appropriately validated before "medium" status was applied.

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.

To confirm the process, I traced reads from the source files to Flux for a diverse sample of 18 NHH ICPs. The sample included all reading providers.

Audit commentary

Flux records the read date and time for each reading. Start, stop, and estimated reads are recorded with the following times:

Recorded time	Read type
23.59.59	Stop reads (including meter removals and decommissions)
23.59.57	Switch out reads
23.59.55	Billing estimate reads
00.00.00	Start reads (including new connections, meter installations and switches in)

The switching process takes the read date and time into account and will estimate consumption if the reading did not occur at the end of the last day of Powershop's responsibility.

The reconciliation process treats readings as if they have occurred at the end of the day, apart from start reads which are treated as if they have occurred at the beginning of the day. This allows consumption on the first day of supply to be captured.

Meter readings provided by MEPs and Wells are recorded as follows:

Provider	Read time	Outcome
AMS	A read time is not provided in AMS' read files. Where no read time is provided, Flux applies 00.00.00 on the read date. To manage this, Powershop requested AMS roll forward their read time by one second from 23.59.59 on the day of the reading, to 00.00.00 on the day after the reading. This means that a 23.59.59 read on 01/06 would be recorded as having occurred on 02/06 in AMS' file and applied at 00.00.00 on 02/06 in Flux. If this adjustment did not occur Flux would incorrectly apply the reading at 00.00.00 on 01/06.	The read date and time recorded in Flux is technically incorrect but ensures that the read is treated as if it occurred at the correct time by the switching and reconciliation processes.
Smartco	Smartco's file provides readings as at 23.59.59 on the read date. These reads are rolled forward by one second in Flux to be recorded as 00.00.00 the day after the read date.	The read date and time recorded in Flux is technically incorrect but ensures that the read is treated as if it occurred at the correct time by the switching and reconciliation processes.
Arc	Arc, Metrix, and Wells provide a read date and time in their files, which vary from ICP to ICP. Flux records the read date and time provided.	The read date and time recorded in Flux, and treatment of the
Metrix		

Provider	Read time	Outcome
Wells	The readings are correctly treated as if they have occurred at the end of the day by the reconciliation process. If the ICP switches out, Powershop will estimate consumption from the time that the read occurred until the end of the day.	readings by the reconciliation process is compliant. The treatment of the readings for switching is non-compliant and is discussed further in **sections 4.3** and **4.10**.

Non-compliance is recorded because not all meter readings are correctly applied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.7 With: Clause 6 Schedule 15.2 From: 01-Jun-18 To: 17-Jul-19	Readings provided by Smartco and AMS are not recorded in Flux with the actual read date and time. The read times are rolled forward by one second to ensure that they are correctly applied by the switching and reconciliation processes. Readings provided by Arc, Metrix, and Wells are recorded with the actual read date and time, but readings are not treated as if they have occurred at the end of the read date by the switching process. Consumption between the read time an end of the day is estimated where an ICP switches out. Powershop uses this process to try to increase the accuracy of its switch event readings by capturing consumption after the read time. Potential impact: Low Actual impact: Low Audit history: Once 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. While AMS and Smartco reads are not recorded in Flux with the MEP's recorded read date and time, Powershop's process ensures that reads are treated correctly for submission. For Arc, Metrix, and Wells reads, the process to estimate consumption to the end of the last day of responsibility is intended to increase the accuracy of switch readings.

Actions taken to resolve the issue	Completion date	Remedial action status
The read time in the Flux system matches the time in the provided file from the MEP therefore Powershop rejects this non-compliance As noted the estimate of consumption to the end of the last day of responsibility increases the accuracy of switch readings and should be acceptable. Powershop openly accepts non-compliance on this but believes that the current wording in the Code is outdated and need to be reviewed as it promotes inaccuracy.	13/08/2019	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	NA	

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was examined, including review of reports used in the process and individual unread ICPs.

A report of ICPs unread during the period of supply was reviewed to determine the action taken to obtain a read, and whether exceptional circumstances existed.

Audit commentary

Powershop has processes in place to obtain meter readings. The meter reading access process starts at 150 days for residential ICPs and 60 days for commercial ICPs, therefore any ICPs that switch in and out within a short period will not always have a meter reading.

Powershop's meter readers can leave key packs where the meter cannot be accessed. Staff can manually initiate emails to be sent to the customer regarding access and add alert banners to the customer's account to remind any staff member who has contact with the customer to discuss access to the meter with them. Where there are persistent access issues, the customer will be phoned, or a letter couriered.

If AMI readings cannot be obtained, and the MEP has advised that the communication issues will be difficult to resolve, Powershop will move the ICP to a manual reading route.

A report of 99 ICPs unread during the period of supply where the period of supply ended between June 2018 and May 2019 was reviewed.

Period of supply	1-29 days	30-59 days	60-89	90-149 days	150 days +
Count of ICPs	40	10	20	11	18

I checked ten ICPs supplied for more than 150 days and five supplied for less than 150 days.

- For four ICPs the best endeavours requirements were met, or exceptional circumstances existed.
- For ten ICPs the best endeavours requirements were not met, and exceptional circumstances did not exist.
- One ICP had received an actual disconnection read, but it was entered with an incorrect read type which made it appear as an estimate. The read type was corrected during the audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 02-Jul-18 To: 20-Feb-19	For at least ten ICPs unread during the period of supply, the best endeavours requirements were not met, and exceptional circumstances did not exist. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	A process is not in place for ICPs supplied by Powershop for a short period. If the period is longer the controls are moderate. The impact on settlement from an estimate for a short period is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Once an ICP has left Powershop there is no way to comply if a read has not yet been obtained.	NA	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with the controls in place	Ongoing	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

The meter reading process was examined. Monthly reports for November 2018 to March 2019 were provided and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2.

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

Audit commentary

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
Nov 2018	226	77	257	99.4%
Dec 2018	226	78	263	99.4%
Jan 2019	227	79	259	99.5%
Feb 2019	233	84	262	99.5%
Mar 2019	240	84	290	99.4%

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

I reviewed ten ICPs not read in the previous 12 months ended 30/04/19 determine whether exceptional circumstances exist, and if Powershop had used their best endeavours to obtain readings.

- For six ICPs the best endeavours requirements were met.
- For four ICPs the best endeavours requirements were not met, and exceptional circumstances did not exist.

I reviewed meter reading reports for November 2018 to March 2019 and confirmed that they met the meter reading frequency report requirements and were submitted by the 20th business day of the month following the report period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: Clause 8(1) and (2) Schedule 15.2 From: 01-May-18 To: 30-Apr-19	For at least six ICPs unread in the previous 12 months, the best endeavours requirements were not met, and exceptional circumstances did not exist. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are assessed to be moderate. A process is in place, but customer contact is manually initiated, and is not consistently applied for each affected ICP. The impact is assessed to be low. The use of estimates may have a minor impact on settlement, and overall read attainment is high.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop is unable to resolve these instances of non-reads as it is now outside the 12 months period	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Post this 2019 audit, Powershop have implemented a new process for obtaining readings within the 12 month period. This process has already seen an improvement and we will endeavour to continuously improve.	Ongoing	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The meter reading process was examined. Monthly reports for November 2018 to March 2019 were provided and reviewed.

A sample of ten ICPs not read in the previous four months connected to NSPs where less than 90% of ICPs were read were reviewed to determine whether exceptional circumstances existed and if Powershop had used their best endeavours to obtain readings.

Audit commentary

The monthly meter reading report provided was reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
Nov 2018	250	15	892	98.5%
Dec 2018	254	16	945	98.5%
Jan 2019	256	18	967	98.4%
Feb 2019	262	17	1,039	98.4%
Mar 2019	270	18	1,021	98.4%

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

A sample of ten ICPs not read in the previous four months connected to NSPs where less than 90% of ICPs were read were reviewed to determine whether exceptional circumstances existed and if Powershop had used their best endeavours to obtain readings.

- Four of the ICPs were disconnected.
- For six ICPs the best endeavours requirements were not met, and exceptional circumstances did not exist. There was insufficient time to complete the read attainment process.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.10 With: Clause 9(1) and (2) Schedule 15.2 From: 01-Jan-19 To: 30-Apr-19	For at least six ICPs unread in the previous four months, the best endeavours requirements were not met, and exceptional circumstances did not exist. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are assessed to be moderate. A process is in place, but the best endeavours requirements are not usually met within four months. The impact is assessed to be low. The use of estimates may have a minor impact on settlement. Only NSPs with very small numbers of customers do not achieve 90% read attainment, and overall read attainment is high.

Actions taken to resolve the issue	Completion date	Remedial action status
Powershop is unable to resolve these instances of non-reads as it is now outside the 4 month period	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Post this 2019 audit, Powershop have implemented a new process for obtaining readings within the 4 month period. This process has already seen an improvement and we will endeavour to continuously improve.	Ongoing	

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

Data is collected by agents and MEPs. Compliance is discussed in their own audit reports.

Audit commentary

The MEP and agent audit reports record compliance.

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

Review of a registry list as at 06/05/19 confirmed that Powershop had not supplied any ICPs with submission type HHR.

A walk through of HHR data management processes was conducted for ICPs that were transferred to HHR submission type after the registry list was run.

Audit commentary

All HHR ICPs have metering category 1 and 2 and data is provided by Arc and AMS as MEPs. Compliance with these clauses has been demonstrated as part of their MEP audits.

Audit outcome

Compliant

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

Code reference

Clause 11(2) Schedule 15.2

Code related audit information

The following information is collected during each interrogation:

> *11(2)(a) - the unique identifier of the data storage device*
>
> *11(2)(b) - the time from the data storage device at the commencement of the download unless the time is within specification and the interrogation log automatically records the time of interrogation*
>
> *11(2)(c) - the metering information, which represents the quantity of electricity conveyed at the point of connection, including the date and time stamp or index marker for each half hour period. This may be limited to the metering information accumulated since the last interrogation*
>
> *11(2)(d) - the event log, which may be limited to the events information accumulated since the last interrogation*
>
> *11(2)(e) - an interrogation log generated by the interrogation software to record details of all interrogations.*

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

Audit observation

Review of a registry list as at 06/05/19 confirmed that Powershop had not supplied any ICPs with submission type HHR.

A walk through of HHR data management processes was conducted for ICPs that were transferred to HHR submission type after the registry list was run.

Audit commentary

All HHR ICPs have metering category 1 and 2 and data is provided by Arc and AMS as MEPs.

Audit outcome

Compliant

6.14. HHR interrogation log requirements (Clause 11(3) Schedule 15.2)

Code reference

Clause 11(3) Schedule 15.2

Code related audit information

The interrogation log forms part of the interrogation audit trail and, as a minimum, must contain the following information:

11(3)(a)- the date of interrogation

11(3)(b)- the time of commencement of interrogation

11(3)(c)- the operator identification (if available)

11(3)(d)- the unique identifier of the meter or data storage device

11(3)(e)- the clock errors outside the range specified in Table 1 of clause 2

11(3)(f)- the method of interrogation

11(3)(g)- the identifier of the reading device used for interrogation (if applicable).

Audit observation

Review of a registry list as at 06/05/19 confirmed that Powershop had not supplied any ICPs with submission type HHR.

A walk through of HHR data management processes was conducted for ICPs that were transferred to HHR submission type after the registry list was run.

Audit commentary

All HHR ICPs have metering category 1 and 2 and data is provided by Arc and AMS as MEPs.

Audit outcome

Compliant

7. STORING RAW METER DATA

7.1. Trading period duration (Clause 13 Schedule 15.2)

Code reference

Clause 13 Schedule 15.2

Code related audit information

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

Audit observation

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

Audit commentary

All HHR ICPs have metering category 1 and 2 and data is provided by Arc and AMS as MEPs. Compliance with these clauses has been demonstrated as part of their MEP audits.

Audit outcome

Compliant

7.2. Archiving and storage of raw meter data (Clause 18 Schedule 15.2)

Code reference

Clause 18 Schedule 15.2

Code related audit information

A reconciliation participant who is responsible for interrogating a metering installation must archive all raw meter data and any changes to the raw meter data for at least 48 months, in accordance with clause 8(6) of Schedule 10.6.

Procedures must be in place to ensure that raw meter data cannot be accessed by unauthorised personnel.

Meter readings cannot be modified without an audit trail being created.

Audit observation

Processes to archive and store raw meter data were reviewed.

Audit commentary

Compliance with this clause has been demonstrated by the MEPs and agents.

When this data reaches Powershop's systems, the level of security is robust, and data cannot be accessed by unauthorised personnel.

Powershop has retained reading data since they began trading, and I viewed NHH data from 2012 during the audit. All HHR data to date has been retained.

Compliance with clause 18.3 of schedule 15.2 was examined, which requires that "…..meter readings cannot be modified without an audit trail being created." Readings cannot be modified without an audit trail being created, and the original data is retained. I viewed these audit trails, and they are discussed in further detail in **section 2.4**.

Audit outcome

Compliant

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

Code reference

Clause 21(5) Schedule 15.2

Code related audit information

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

Audit observation

Processes to record non-metering information were discussed.

Audit commentary

Powershop does not deal with any non-metering information.

Audit outcome

Compliant

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

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

Code reference

Clause 19(1) Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

Processes for correction of NHH meter readings were reviewed, including examining a sample of corrections. This included checking that updated consumption data flowed through to revision reconciliation submissions.

Audit commentary

Where errors are detected during validation of non-half hour meter readings, a check reading is performed, or surrounding AMI readings are reviewed. If an original meter reading cannot be confirmed it is invalidated.

Defective meters

Where a meter is found to be stopped or faulty it is replaced. Unmetered consumption is calculated based on the consumption on the replacement meter, or historic consumption prior to the stopped or faulty period. The unmetered consumption is added to a dummy meter register, which is billed and included in reconciliation submissions.

A sample of two defective meters were checked, and I found corrections were appropriately processed.

Corrections for two stopped and faulty meters were not processed at the time of the 2018 audit. Both were rechecked.

- No correction was processed for 0005433223RN54E and revision 14 has passed. Based on consumption for a period similar to the stopped period, under submission of up to 650 kWh may have occurred. This is recorded as non-compliance in **section 2.1**.
- A correction is still to be processed for 0000200107TU01B. A revenue assurance service order is open and Powershop is working to replace the meter so that a correction can be processed.

Bridged meters

When AMI meters have been bridged, unmetered consumption is calculated for the bridged period based on the consumption after unbridging, or historic consumption prior to the bridged period. The unmetered

consumption is added to a dummy meter register, which is billed and included in reconciliation submissions.

A sample of seven bridged meters were checked, and I found corrections were appropriately processed.

Corrections for 14 bridged meters were not processed at the time of the 2018 audit. All were rechecked:

- five ICPs have now had corrections processed; and
- seven ICPs have not been corrected because they were outside the 14-month revision period, and/or Powershop had decided not to invoice the customer for the unmetered load due to the delay in processing the correction, this is recorded as non-compliance in **section 2.1**.

Incorrect multipliers

Multipliers are stored against the meter and applied to the readings to produce the aggregate volume. Where a multiplier correction is required reads must be invalidated and re-entered after the correct multiplier is applied, so that the aggregate consumption can be recalculated. The customer can be rebilled as needed, but billing is independent of the aggregate consumption correction process.

A sample of seven multiplier corrections were checked and confirmed to be processed correctly.

Consumption while inactive

Consumption will only be calculated and reported where an ICP is active. Where disconnection and reconnection reads are available, they are entered into Flux and used to calculate historic estimate. Otherwise, historic estimate will be calculated for only the active portion of each read period using the readings available.

Powershop does not routinely enter permanent estimate reads where actual disconnection and reconnection reads are not available. I recommend that the use of permanent estimates should be considered for disconnections and reconnections where actual reads are not obtained to ensure that all consumption is captured and reported within active periods.

Description	Recommendation	Audited party comment	Remedial action
Inactive consumption	Consider applying permanent estimates (read status medium) for disconnection and reconnection where actual readings are not available on disconnection or reconnection. If permanent estimates are used, checks should be completed to ensure that there is no consumption between the permanent estimate disconnection and reconnection reads.	Powershop intends to review this area within the next 9 months	Investigating

A report was provided of 22 ICPs with consumption while inactive. All 15 with consumption over 10 kWh were checked, and the findings are discussed in detail in **section 3.9**. One issue was identified: ICP 1000026379BP03D was not corrected to active for all periods with consumption. The read history shows movement between the 18/03/19 and 15/04/19 readings, but the ICP remains inactive from 04/04/19 to 14/04/19, so some of this consumption will be apportioned to an inactive period.

During the checks of historic estimate scenarios in **section 12.11**, I found that ICP 0005757487RN231 had 5.61 kWh of consumption which fell within the inactive period from 18/01/19 to 27/01/19. This consumption was not included in the historic estimate calculation because it fell within the inactive period.

Nine corrections for inactive consumption not completed by the time of the 2018 audit were followed up. I found, two corrections had been resolved and the remaining seven had not been processed because the 14-month revision had already been completed. This is recorded as non-compliance in **section 2.1**.

Transposed meters

When a meter reading is found to be transposed, Powershop swaps the readings between registers. If switch event reads are affected, a read renegotiation will be processed as required.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.1 With: Clause 19(1) Schedule 15.2 From: Jan-19 To: May-19	ICPs 1000026379BP03D and ICP 0005757487RN231 were not corrected to active status for all periods with inactive consumption. The portion of consumption that falls within the inactive period will be excluded from reconciliation submissions. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong because appropriate processes for correction are in place, and most corrections checked were accurately processed. The impact is assessed to be low, based on the number of corrections and volume affected.

Actions taken to resolve the issue	Completion date	Remedial action status
The active status of ICPs has now been updated	13/08/2019	Cleared where possible
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with the controls in place	Ongoing	

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

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

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

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

(i) The total of all substituted intervals matches the total consumption recorded on a meter, if available; and

(ii) The reconciliation participant considers the pattern of consumption to be materially similar to the period in error

Audit observation

Review of a registry list as at 06/05/19 confirmed that Powershop has not supplied any ICPs with submission type HHR.

A walk through of HHR correction processes was conducted for ICPs that were transferred to HHR submission type after the registry list was run.

Audit commentary

No HHR corrections for metering issues or data errors were completed during the audit period. Corrections will be based on the best information available, and if Powershop is unsure of the total consumption for the affected period the ICP will be changed to NHH submission.

Estimates are replaced with actual data if it becomes available at a later date, by loading a replacement data file. I viewed one example and found estimated data was replaced with actual data when it became available.

Raw meter data is not overwritten as part of this process and is retained.

Audit outcome

Compliant

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

Code reference

Clause 19(3) Schedule 15.2

Code related audit information

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

Audit observation

A discussion was held regarding knowledge of any ICPs with loss compensation present. The presence of loss compensation factors was also checked by confirming the maximum multiplier for all active category two ICPs on the meter installation details report.

Audit commentary

Powershop confirmed that no error or loss compensation arrangements are in place.

Audit outcome

Compliant

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

Code reference

Clause 19(4) and (5) Schedule 15.2

Code related audit information

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

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

19(5)(a)- the date of the correction or alteration

19(5)(b)- the time of the correction or alteration

19(5)(c)- the operator identifier for the person within the reconciliation participant who made the correction or alteration

19(5)(d)- the half-hour metering data or the non half hour metering data corrected or altered, and the total difference in volume of such corrected or altered data

19(5)(e)- the technique used to arrive at the corrected data

19(5)(f)- the reason for the correction or alteration.

Audit observation

Corrections are discussed in **sections 8.1** and **8.2**, which confirmed that raw meter data is not overwritten as part of the correction process. Audit trails are discussed in **section 2.4**.

Raw meter data retention for MEPs was reviewed as part of their MEP audits.

Audit commentary

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

Audit outcome

Compliant

9. ESTIMATING AND VALIDATING VOLUME INFORMATION

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

Code reference

Clause 3(3) Schedule 15.2

Code related audit information

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

Audit observation

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

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

Correct identification of estimated reads, and review of the estimation process was completed in **sections 8.1**, **8.2** and **9.4**.

Audit commentary

Readings are clearly identified as required by this clause.

NHH readings reviewed during the audit were correctly classified, apart from:

- **ICP 0000131268UNDE5**: Powershop had received an actual disconnection read, but it was entered with an incorrect read type which made it appear as an estimate. The read type was corrected during the audit, and Powershop intends to add instructional notes to the "new reading" screen to assist users to select the correct read type.
- **ICP 006665713RN214**: An incorrect read type was entered for a meter change, which resulted in forward estimate being calculated on the removed meters. Meter removals require a verified stop read to be entered at 23.59.59 to prevent forward estimate from being calculated.

A process walkthrough confirmed that HHR readings are identified at trading period level, not at a daily level.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.1 With: Clause 3(3) Schedule 15.2 From: Jun-17 To: Jan-19	ICP 0000131268UNDE5 had an actual read entered as an estimate. The read type was corrected during the audit. ICP 006665713RN214 did not have a validated actual stop reading recorded on meter removal. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong and the risk as low, because these appear to be isolated data processing errors. Revised submission information will be washed up.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**
These issues have now been resolved		13/08/2019	Identified
Preventative actions taken to ensure no further issues will occur		**Completion date**	
Powershop will provide compliance training to reduce the risk of future non-compliance.		Ongoing	

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

A sample of submission data was reviewed in **sections 11** and **12**, to confirm that volume was based on readings as required.

I conducted a walk-through of the processes from data provision to submission for HHR.

Audit commentary

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

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

Audit outcome

Compliant

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

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

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

Audit observation

A sample of submission data was reviewed in **sections 11** and **12**, to confirm that volume was based on readings as required.

NHH data is collected by MEPs and agents. Compliance was assessed as part of their MEP and agent audits.

Review of a registry list as at 06/05/19 confirmed that Powershop had not supplied any ICPs with submission type HHR. A walk through of HHR data processes was conducted for ICPs that were transferred to HHR submission type after the registry list was run.

Audit commentary

NHH

The MEPs retain the raw, unrounded data, and Wells do not record digits for their meter readings. Compliance with this clause has been demonstrated by Powershop's agents and MEPs as part of their own audits.

Flux allows the number of digits to be recorded for each meter register, for example "5" for a meter with five digits and no decimal places, or "5.3" for a meter with five digits and three decimal places. Digit information is normally taken from the registry, or meter installation paperwork.

Reads are imported into Flux based on this digit information, with any additional digits truncated. For example, if a reading is 12345.6789, a "5" digit meter will record 12345, and a "5.3" digit meter will record 12345.678.

HHR

All HHR meters have meter category 1 or 2, and the HHR data is provided by MEPs. The MEPs retain the raw, unrounded data.

I traced a sample of HHR data from HERM files to Flux for each MEP, and then through to the HHR aggregates and volumes submissions. Data is rounded to the appropriate level in the submission files.

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

Review of a registry list as at 06/05/19 confirmed that Powershop has not supplied any ICPs with submission type HHR. A walk through of HHR estimation processes was conducted.

Audit commentary

Flux's current HHR estimation process estimates 0.42 kWh per trading period. The quantity of estimate is monitored by the commercial team, and where data is missing for more than one day the ICP will be swapped back to NHH submission. Estimates are replaced with actual data if it becomes available at a later date, by loading a replacement data file.

I viewed one example of a temporary estimation and found that one missing day was estimated at 0.42 kWh per trading period, and the data was replaced with actual when it became available. The difference between the estimate and actual consumption was 789.68 kWh, and 20.16 kWh was originally estimated. Because the estimate was not based on the consumption history for the ICP or readings surrounding the missing trading periods it is not considered to be Powershop's best estimate of consumption. This is recorded as non-compliance below.

I recommend Powershop develops a process to estimate based on readings on each side of the missing period, and profiles for a similar period, to ensure that permanent and temporary estimates are the "best estimate of the quantity" as required by the code. This change should be implemented before Powershop begins estimating for longer periods. It is possible for estimates to be manually calculated based on surrounding reads and imported into Flux as a file.

Description	Recommendation	Audited party comment	Remedial action
Calculation of HHR estimates	Develop a process to estimate missing trading periods and days based on the surrounding meter readings and profiles for a similar consumption period, to improve the accuracy of HHR temporary and permanent estimates.	Powershop currently has this development on its roadmap.	Investigating

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.4 With: Clause 15 Schedule 15.2 From: 01-Jun-19 To: 30-Jun-19	One HHR estimate was not the best estimate of the quantity for the missing periods. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	The controls are rated as moderate and the impact is low. Actual data has been provided and revised information was provided to the RM. Where periods longer than one day are to be estimated, the ICP will be moved to NHH submission type. Before moving an ICP to HHR submission type, Powershop confirms that there is a reliable stream of HHR data and communications are reliable, reducing the likelihood that estimates will be required.

Actions taken to resolve the issue	Completion date	Remedial action status
The estimated volumes were replaced with actuals in the R1.	01/08/2019	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop intends on developing a better estimation methodology.	30/04/2020	

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

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

Audit commentary

Data validation for NHH metering information occurs at multiple levels.

Meter reader validation

For manually read meters, Wells performs a localised validation within their hand-held devices to ensure the reading is within expected high/low parameters. This is described in the Wells audit report. Wells also provide information on meter condition, where it could affect meter accuracy or safety. This is discussed further in **section 6.6**.

Read import validation

Read import validation occurs when the reads are imported into Flux, and includes:

- meter and register number match;
- missing readings;
- invalid dates and times;
- consumption more than 500% of that expected; and
- readings lower than the previous reading.

Transposed reads are identified through the checks for high and negative consumption.

Any exceptions are reviewed and approved, or the reading is invalidated.

Billing validation

Billing validation occurs during the invoicing process and includes:

- long billing period (over 60 days);
- short billing period (less than ten days);
- high consumption (over 3000 kWh or 300% of expected volume); and
- low consumption (-$50 or 25% of expected volume)

Any exceptions are reviewed and approved, or the reading is invalidated.

Zero consumption

Zero consumption is monitored through the low consumption exceptions, and cross checked against meter event information provided by MEPs and meter reading, condition and no read information provided by Wells. Instances of zero consumption are investigated, and outbound calls, check readings and site visits are organised as necessary.

A weekly discrepancy report is being developed to identify meters with zero consumption, and work is underway to refine the report to make it easier to review.

Consumption while inactive

Disconnected vacant sites are checked weekly using the disconnected vacancies report. The report provides a full list of disconnected ICPs and highlights any consumption that has occurred since disconnection.

Powershop investigates the discrepancies, including determining whether an NT has been received, or asking the MEP whether another retailer has requested reconnection. If another retailer has requested a reconnection without sending an NTMI, Powershop follows up with the other retailer.

If it does not appear to be a reconnection associated with a switch, Powershop will arrange for the ICP to be disconnected again. If unauthorised reconnection occurs again, a site investigation will be carried out.

Powershop also updates the ICP status to active once they have confirmed that the ICP is connected.

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 and observed the AMI data validation processes, including checking a sample of data validations. I viewed AMI event logs where they were available, and I observed the associated correspondence related to specific issues.

A walk through of HHR validation processes was conducted.

Audit commentary

AMI meters

All AMI readings undergo the NHH validation described in **section 9.5**.

Event information is received from Metrix, AMS and Smartco and it is in a usable format. Arc provides meter event information if events that could affect meter accuracy occur.

The AMI event information is manually reviewed. Events affecting accuracy are investigated and field services jobs are raised as required.

HHR meters

All HHR readings undergo the NHH validation described in **section 9.5**, and meter event information is reviewed using the same process as for AMI meters.

The commercial team uses SQL queries to identify missing trading period data and will move the ICPs to NHH submission type if more than one day needs to be estimated. This has not occurred to date.

Audit outcome

Compliant

10. PROVISION OF METERING INFORMATION TO THE GRID OWNER IN ACCORDANCE WITH SUBPART 4 OF PART 13 (CLAUSE 15.38(1)(F))

10.1. Generators to provide HHR metering information (Clause 13.136)

Code reference

Clause 13.136

Code related audit information

The generator (and/or embedded generator) must provide to the grid owner connected to the local network in which the embedded generator is located, half hour metering information in accordance with clause 13.138 in relation to generating plant that is subject to a dispatch instruction:

- *that injects electricity directly into a local network; or*
- *if the meter configuration is such that the electricity flows into a local network without first passing through a grid injection point or grid exit point metering installation.*

Audit observation

The NSP table on the registry was reviewed.

Audit commentary

Powershop is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

Audit outcome

Not applicable

10.2. Unoffered & intermittent generation provision of metering information (Clause 13.137)

Code reference

Clause 13.137

Code related audit information

Each generator must provide the relevant grid owner half-hour metering information for:

- *any unoffered generation from a generating station with a point of connection to the grid 13.137(1)(a)*
- *any electricity supplied from an intermittent generating station with a point of connection to the grid. 13.137(1)(b)*

The generator must provide the relevant grid owner with the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of that generator's volume information. (clause 13.137(2))

If such half-hour metering information is not available, the generator must provide the pricing manager and the relevant grid owner a reasonable estimate of such data. (clause 13.137(3))

Audit observation

The NSP table on the registry was reviewed.

Audit commentary

Powershop is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

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

The NSP table on the registry was reviewed.

Audit commentary

Powershop is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

Audit outcome

Not applicable

10.4. Notification of the provision of HHR metering information (Clause 13.140)

Code reference

Clause 13.140

Code related audit information

If the generator provides half-hourly metering information to a grid owner under clauses 13.136 to 13.138, or 13.138A, it must also, by 0500 hours of that day, advise the relevant grid owner.

Audit observation

The NSP table on the registry was reviewed.

Audit commentary

Powershop is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

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

A registry list with history was reviewed for 01/06/18 to 06/05/19 to determine the profiles assigned by Powershop, and whether trading notifications were required.

Audit commentary

Powershop's system will not allow a customer to be established in an area without a trading notification. If a submission file included a profile where a trading notification had not been provided, it would fail the reconciliation manager's "file checker" and could not be sent until a notification was made.

Powershop has applied the RPS, PV1, POD and PON profiles during the audit period. The POD and PON profiles require trading notifications to be issued if Powershop begins or ceases using them at an NSP. Analysis of the registry list for 01/06/18 to 06/05/19 confirmed that Powershop did not begin or cease trading using POD or PON at any NSPs during the period.

Audit outcome

Compliant

11.2. Calculation of ICP days (Clause 15.6)

Code reference

Clause 15.6

Code related audit information

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

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

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

Audit observation

The process for the calculation of ICP days was examined by checking:

- NHH ICP days for 187 NSPs for March 2019; and
- HHR ICP days for all NSPs for June 2019.

I reviewed variances for 16 months of GR100 reports and investigated any large discrepancies.

Audit commentary

The process for the calculation of NHH ICP days was examined by checking 187 NSPs for March 2019, and compliance was confirmed. I note that the process to calculate ICP days is initiated before the reports are run, and the reports retrieve these calculations to generate the AV110. This can result in minor timing differences where a switch is processed between the calculation being performed and the report being generated.

The process for the calculation of HHR ICP days was examined by checking all NSPs for June 2019, and compliance was confirmed.

The following table shows the ICP days difference between Powershop's AV110 submissions and the RM return file (GR100) for all available revisions for 15 months. Negative percentage figures indicate that the Powershop AV110 ICP days figures are higher than those contained on the registry and conversely a positive number indicates that the Registry's figures are higher than Powershop's AV110 ICP days. The table indicates that there are no large discrepancies present.

Month	Ri	R1	R3	R7	R14
Nov 2017	0.05%	0.00%	-	0.00%	0.00%
Dec 2017	0.04%	0.02%	0.00%	0.00%	0.00%
Jan 2018	0.04%	0.00%	-0.01%	0.00%	0.00%
Feb 2018	0.02%	0.00%	0.00%	0.00%	0.00%
Mar 2018	0.04%	0.03%	0.00%	0.00%	-
Apr 2018	0.01%	0.00%	0.00%	0.00%	-
May 2018	0.00%	0.00%	0.00%	0.00%	-
Jun 2018	-0.01%	0.00%	0.00%	-0.01%	-
Jul 2018	0.01%	0.00%	0.00%	0.00%	-
Aug 2018	0.02%	0.02%	0.00%	0.00%	-
Sep 2018	0.04%	0.02%	0.00%	0.00%	-
Oct 2018	0.01%	0.01%	-0.01%	-	-
Nov 2018	0.01%	0.01%	0.00%	-	-

Month	Ri	R1	R3	R7	R14
Dec 2018	0.00%	0.01%	0.00%	-	-
Jan 2019	0.02%	0.02%	0.01%	-	-

I reviewed five NSP level differences remaining at R7 and R14 to determine the causes. I found that three differences related to switch timing, and two differences at WTS0011 related to an incorrect inactive date being applied on the registry, which is recorded as non-compliance in **sections 2.1** and **3.9**.

Audit outcome

Compliant

11.3. Electricity supplied information provision to the reconciliation manager (Clause 15.7)

Code reference

Clause 15.7

Code related audit information

A retailer must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each NSP, aggregated by invoice month, for which it has provided submission information to the reconciliation manager, including revised submission information for that period as non- loss adjusted values in respect of:

> *15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs to confirm the AV120 calculation was correct.

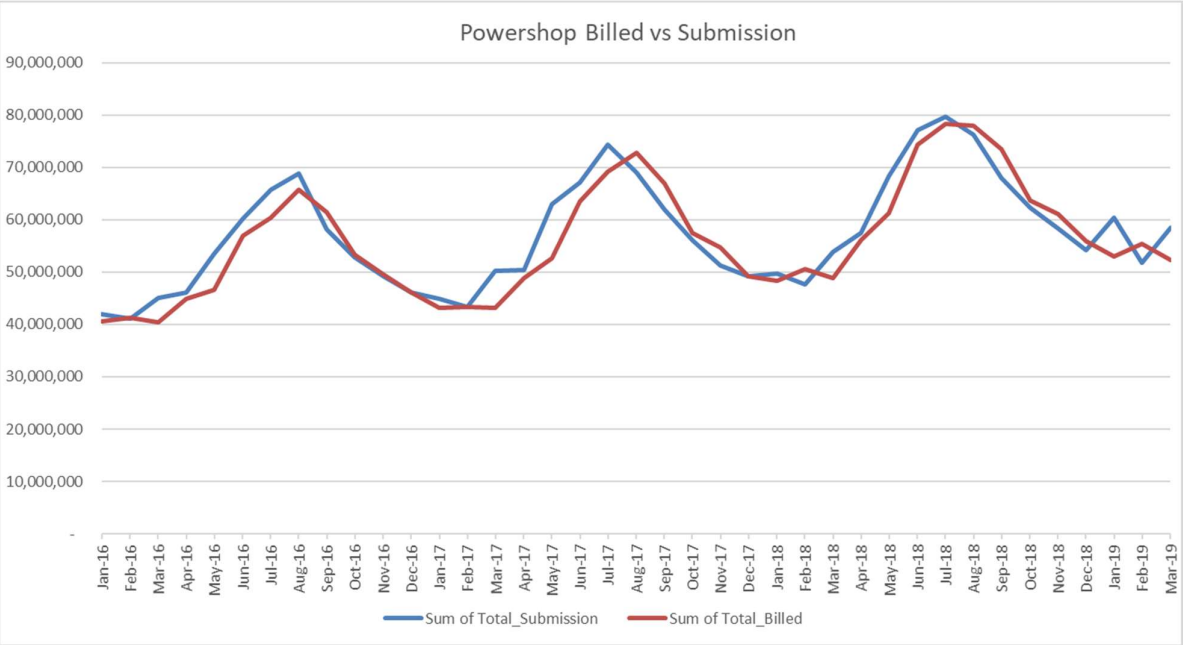
GR130 reports for January 2016 onwards were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

Audit commentary

The accuracy of the NHH and HHR electricity supplied information was confirmed by examining five NSPs with a small volume and checking all invoices in Powershop's system.

The chart below shows a comparison between submission and billed volumes. At an aggregate level, submitted data is 1.3% higher than billed data for the year ended March 2019 and 1.4% higher than billed data for the two years ended March 2019. This is an improvement from a 3.7% difference between billed and submitted data found in the 2018 audit. Investigation following the 2018 audit found that the AV120 report was including invoices generated before the last day of the submission month, instead of including the last day of the submission month. The change was released into production on 17/08/18 and revision submissions have been provided.

I checked the spike in submission for January 2019 and found it related to one ICP which switched in with a very high switch read. The billed data was correct, and the difference in submission data has now been washed up following a read renegotiation.



Differences between billed and submission data are monitored as part of the pre submission checks described in **section 12.3**.

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

A walk through of HHR data submission processes was conducted, and June 2019 submissions and GR090 ICP missing files were reviewed.

Audit commentary

Powershop's HHR aggregates report contains submission information, not electricity supplied information as specified under clause 15.8. Although the reports Powershop produces are consistent with the Reconciliation Manager Functional Specification, this is recorded as non-compliance below.

I confirmed that the submission data provided was accurate by:

- tracing a sample of HHR data from HERM files to Flux for each MEP, and then through to the HHR aggregates and volumes submissions for June 2019;
- confirming the aggregates and volumes files for June 2019 were consistent;
- confirming all ICPs in the June 2019 aggregates file met the requirements for HHR profile;
- confirming all ICPs in the June 2019 aggregates file had the correct profiles and submission types recorded on the registry; and
- the GR090 ICP missing files for June 2019 were reviewed and found to be empty.

Audit outcome

Compliant

Non-compliance	Description
Audit Ref: 11.4 With: Clause 15.8 of part 15 From: 01-May-19 To: 17-Jul-19	HHR aggregates file does not contain electricity supplied information. Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The issue relating to content of the aggregates file is an error in the code, Powershop is providing submission information as expected.

Actions taken to resolve the issue	Completion date	Remedial action status
This is outside the control of Powershop. It is not a new issue and the Authority have known about it for many years yet have failed to implement a Code change	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
No comment	NA	

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

Review of a registry list as at 06/05/19 confirmed that Powershop had not supplied any ICPs with submission type HHR.

A walk through of daylight savings processes was conducted for ICPs that were transferred to HHR submission type after the registry list was run.

Audit commentary

Powershop began submitting some ICPs as HHR in May 2019, after daylight savings ended.

Daylight savings processes for MEPs were reviewed as part of their audits.

Audit outcome

Compliant

12.2. Creation of submission information (Clause 15.4)

Code reference

Clause 15.4

Code related audit information

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

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

Audit observation

The process to create submissions was reviewed.

A sample of submission data was checked, and correction processes were checked in **sections 8.1** and **8.2**.

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

Audit commentary

No breaches had been recorded for late provision of submission information. Data is reviewed prior to submission as discussed in **section 12.3**.

NHH

Powershop prepares reconciliation submissions using reconciliation consumption generated by Flux. A sample of NHH ICPs were checked to make sure they are handled correctly, including vacant ICPs with consumption, disconnected ICPs with consumption, ICPs with distributed generation, and ICPs with standard or shared unmetered load.

- A sample of the six ICPs with the most vacant consumption were checked and found to be correctly reported.
- A sample of ICPs with consumption while disconnected were checked. I found consumption is reported if the ICP status is returned to active for the period with consumption. Non-compliance is recorded in **section 8.1** for two ICPs with consumption during inactive periods.
- A sample of five ICPs with distributed generation were checked and found to be correctly reported.
- A sample of ten ICPs with unmetered volumes were checked, including standard unmetered and shared unmetered. Correct consumption was submitted.

Further information on calculation of historic estimate is recorded in **section 12.11**, and aggregation of the AV080 report was found to be compliant in **section 12.3**.

HHR

HHR submissions were reviewed in **section 11.4** and found to be compliant.

Audit outcome

Compliant

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

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

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

Audit observation

Processes to ensure that information used to aggregate the reconciliation reports is consistent with the registry were reviewed in **section 2.1**. The processes to ensure that submissions are accurate were discussed and observed, including review of reports used in the process.

The process for aggregating the AV080 was examined by checking six aggregation lines with a small number of ICPs. The GR170 to AV080 files for nine months and revisions were compared, to confirm zeroing occurs.

HHR submissions were reviewed in **section 11.4**.

Audit commentary

NHH

The AV080 aggregation check confirmed that the report is correctly aggregated, and review of GR170 and AV080 files for nine months and revisions confirmed zeroing occurs as required.

Sound validations are in place to identify issues. The validations include variance between revisions, variance to previous month, and the difference between billed and submission volumes. Data can be viewed at total, NSP, ICP and meter register level and can be filtered and sorted to easily determine the largest kWh and percentage changes.

HHR

HHR submissions were reviewed in **section 11.4**. Each AV140 and AV090 is reviewed for completeness and accuracy prior to submission, and the GR090 ICP missing reports are reviewed to identify ICPs missing from the aggregates or volumes submissions.

Powershop began HHR submission in May 2019. As more history is obtained, submissions will be compared to previous months and revisions.

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

The NSP table on the registry and registry list were reviewed.

Audit commentary

Powershop is not responsible for any GIPs; compliance was not assessed.

Audit outcome

Not applicable

12.5. Provision of NSP submission information (Clause 15.10)

Code reference

Clause 15.10

Code related audit information

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

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

Audit observation

The registry list and NSP table were reviewed.

Audit commentary

Powershop is not a local or embedded network owner; compliance was not assessed.

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

The registry list and NSP table were reviewed.

Audit commentary

Powershop is not a grid connected generator; compliance was not assessed.

Audit outcome

Not applicable

12.7. Accuracy of submission information (Clause 15.12)

Code reference

Clause 15.12

Code related audit information

If the reconciliation participant has submitted information and then subsequently obtained more accurate information, the participant must provide the most accurate information available to the reconciliation manager or participant, as the case may be, at the next available opportunity for submission (in accordance with clauses 15.20A, 15.27, and 15.28).

Audit observation

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **section 8.1** and **8.2**.

Review of a registry list as at 06/05/19 confirmed that Powershop had not supplied any ICPs with submission type HHR.

A walk through of HHR data management processes was conducted for ICPs that were transferred to HHR submission type after the registry list was run.

Audit commentary

Review of alleged breaches confirmed that no reconciliation submissions were made late.

NHH

Powershop has processes in place to identify and correct errors in submission data, and overall, I found that submission data was accurate. The following exceptions were identified.

- ICPs 1000026379BP03D and ICP 0005757487RN231 were not corrected to active status for all periods with inactive consumption. The portion of consumption that falls within the inactive period will be excluded from reconciliation submissions. This is discussed further in **section 8.1**.
- Non-compliance is recorded in **section 9.1** for two actual readings which were incorrectly classified, and subsequently ignored by the historic estimate calculation process.
- In some cases, historic estimates calculated from actual validated readings are recorded as forward estimates. This is recorded as non-compliance in **section 12.10**.

Corrections not processed at the time of the 2018 audit were followed up:

2018 data accuracy issue	2019 finding
Consumption for inactive ICPs is not submitted unless their status is changed to inactive.	Still existing. I identified some inactive consumption which was excluded from submission because the ICP status was not active as discussed in **sections 3.9** and **8.1**.
Consumption for bridged and faulty meters is not always submitted	Cleared for stopped and faulty meters identified during this audit period. Still existing for some of the corrections found to be required during the 2018 audit as discussed in **section 8.1** including: • one correction for a defective meter for 0005433223RN54E. • seven corrections for bridged meters. • seven corrections for consumption during an inactive period. Powershop does not intend to process the overdue corrections because the 14-month revision has passed.

Electricity supplied information is not accurate	Cleared, as disused in **section 11.3**.

HHR

The walkthrough of the HHR correction and estimation processes confirmed compliance, and that corrections will flow through to the relevant submission files.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 01-Jun-18 To: 17-Jul-19	ICPs 1000026379BP03D and ICP 0005757487RN231 were not corrected to active status for all periods with inactive consumption. The portion of consumption that falls within the inactive period will be excluded from reconciliation submissions. ICP 0000131268UNDE5 had an actual read entered as an estimate. The read type was corrected during the audit. ICP 006665713RN214 did not have a validated actual stop reading recorded on meter removal. Some incorrect submission information identified prior to or during the 2018 audit has not been corrected. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time. I found that most corrections had been processed as required, and compliance had increased since the 2018 audit. The impact on settlement and participants is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
These issues are covered in other sections (15.12 and 9.1)	NA	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
These issues are covered in other sections (15.12 and 9.1)	NA	

12.8. Permanence of meter readings for reconciliation (Clause 4 Schedule 15.2)

Code reference

Clause 4 Schedule 15.2

Code related audit information

Only volume information created using validated meter readings, or if such values are unavailable, permanent estimates, has permanence within the reconciliation processes (unless subsequently found to be in error).

The relevant reconciliation participant must, at the earliest opportunity, and no later than the month 14 revision cycle, replace volume information created using estimated readings with volume information created using validated meter readings.

If, despite having used reasonable endeavours for at least 12 months, a reconciliation participant has been unable to obtain a validated meter reading, the reconciliation participant must replace volume information created using an estimated reading with volume information created using a permanent estimate in place of a validated meter reading.

Audit observation

Three AV080 14-month revisions were reviewed to identify any forward estimate still existing. A sample of 10 NSPs were reviewed to determine why forward estimate remained.

Review of a registry list as at 06/05/19 confirmed that Powershop has not supplied any ICPs with submission type HHR for more than 14 months. A walk through of HHR processes was conducted.

Audit commentary

NHH

Review of the 14-month AV080 submissions for November 2017 to January 2018 showed that some forward estimate remained at revision 14.

Month	Forward estimate at revision 14
Nov-17	121,817.13
Dec-17	95,181.7
Jan-18	112,983.05
Total	329,981.88

Powershop does not have a process to routinely enter permanent estimates where an actual validated reading has not been obtained by revision 14. Permanent estimate reads can be entered into Flux, by selecting a read status of “medium" when the read is validated. Read statuses are explained in more detail in **section 12.10**.

I reviewed nine AV080 aggregation lines where some forward estimate remained.

- Where seasonal adjusted shape files (SASV) are not provided for the NSP and profile by the reconciliation manager, the historic estimate calculated is labelled as forward estimate. This typically occurs for NSPs with PV1 profile. The only exception to this is where reads are recorded on the last day of the month before the reconciliation period and the last day of the reconciliation period, which results in the consumption being classified as “actual” and reported as historic estimate.
- Some ICPs did not receive a reading within the previous 14 months, and no permanent estimate was applied.
- An incorrect read type was entered for a meter change, which resulted in forward estimate being calculated on the removed meters. Meter removals require a verified stop read to be entered at 23.59.59 to prevent forward estimate from being calculated.

HHR

The HHR ICPs supplied by Powershop all have metering category 1 or 2 and will be returned to NHH status if readings cannot be obtained.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 of Schedule 15.2 From: Nov-17 r14 to Jan-18 r14	Some estimates are not replaced at R14. Some incorrect labelling of historic estimate as forward estimate. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are considered moderate because meter reading processes are strong leading to a very small proportion of FE still existing at 14 months. The audit risk rating is low because the use of estimates may have a minor impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
No comment	NA	Unknown
Preventative actions taken to ensure no further issues will occur	**Completion date**	
No comment	NA	

12.9. Reconciliation participants to prepare information (Clause 2 Schedule 15.3)

Code reference

Clause 2 Schedule 15.3

Code related audit information

If a reconciliation participant prepares submission information for each NSP for the relevant consumption periods in accordance with the Code, such submission information for each ICP must comprise the following:

- *half hour volume information for the total metered quantity of electricity for each ICP notified in accordance with clause 11.7(2) for which there is a category 3 or higher metering installation (clause 2(1)(a))for each ICP about which information is provided under clause 11.7(2) for which there is a category 1 or category 2 metering installation (clause 2(1)(b)):*
  a) any half hour volume information for the ICP; or
  b) any non half hour volumes information calculated under clauses 4 to 6 (as applicable).

c) *unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information (clause 2(1)(c))*

- *to create non half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):*
  a) *the certification of the control device is recorded in the registry; or*
  b) *the metering installation in which the control device is location has interim certification.*
- *to create submission information for a point of connection the reconciliation participant must apply to the raw meter data (clause 2(3):*
  a) *for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))*
  b) *for each NSP the compensation factor that is recorded in the metering installations most recent certification report (clause 2(3)(b)).*

Audit observation

Aggregation and content of reconciliation submissions was reviewed, and the registry list as at 06/05/19 was reviewed.

Audit commentary

Compliance with this clause was assessed:

- there are no ICPs with meter category 3 or higher;
- unmetered load submissions were checked in **section 12.2** and found to be correct;
- no profiles used require certified control devices, as discussed in **section 6.3;**
- no loss or compensation arrangements are required; and
- aggregation of the AV080, AV110, AV090 and AV140 submissions are covered in **sections 13.2, 11.2,** and **11.4** respectively.

The two issues with the completeness of submission information identified during the 2018 audit were followed up:

- consumption for inactive ICPs is only submitted if active status is applied for the period with consumption so non-compliance is recorded in sections **2.1**, **3.8**, **3.9**, and **8.1** for some status corrections which have not been processed; and
- the issue related to the two unmetered load ICPs is cleared.

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

Nine AV080 submissions for revisions 3 to 14 were reviewed, to confirm that historic estimates are included and identified.

Permanence of meter readings is reviewed in **section 12.8**. The methodology to create forward estimates is reviewed in **section 12.12**.

Audit commentary

I reviewed nine AV080 submissions for a diverse sample of months and revisions and confirm that forward and historic estimates are included and identified as such.

As discussed in **section 12.8**, where SASV are not provided for the NSP and profile by the reconciliation manager, the historic estimate calculated is labelled as forward estimate. This typically occurs for NSPs with PV1 profile. The only exception to this is where reads are recorded on the last day of the month before the reconciliation period and the last day of the reconciliation period, which results in the consumption being classified as "actual" and reported as historic estimate.

Where read types are incorrectly entered, historic estimate may not be correctly calculated or labelled. Non-compliance is recorded in **section 9.1** for two actual readings which were incorrectly classified, and subsequently ignored by the historic estimate calculation process.

Read are recorded in Flux with a combination of:

1. reading type (e.g. customer, actual, estimated);
2. reading status of the read (e.g. invalidated, unverified, verified, or medium);
3. reading source (e.g. a file from an MEP or meter reader, or API for customer reads); and
4. reading function, if necessary (e.g. switch gain, switch loss, stop, start).

Certain reading types and statuses are expected to be used together, for instance: any switch read is expected to be verified, estimated reads are expected to be unverified unless they become permanent estimates, and customer reads are expected to be unverified unless they have been validated against a set of readings from another source. For example:

- ICP 0002004970EN101 had estimated reads entered with medium status, and the estimated reads were used to calculate historic estimate for the period from August 2018 to May 2019, the estimated readings had been validated against a set of actual verified readings on 03/01/18 and 03/07/18, and as a result were able to be treated as permanent estimates; and
- ICP 0000004235NT65E had customer and estimate reads entered with a medium status between December 2018 and May 2019, the customer and estimated readings had been validated against a set of actual readings on 02/02/18 and 30/05/18, and as a result were able to be treated as permanent estimates and validated customer readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.10 With: Clause 3 of schedule 15.3 From: 01-Jun-18 To: 17-Jul-19	Historic estimate is labelled as forward estimate where SASV are not provided for the NSP and profile by the reconciliation manager. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. There is no impact on settlement, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
As noted in our 2018 audit, a system fix has been sized by Powershop's system provider and its cost is more than would be considered reasonable given the absence of any impact. The RM has advised Powershop that they do not even utilize the HE data therefore the impact should be "none" rather than low	NA	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
No comment	NA	

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

Powershop provided examples of historic estimate calculations, which were reviewed. The check of calculations included confirming that readings and Seasonal Adjusted Shape Values (SASV) were applied correctly.

Audit commentary

Powershop provided examples of historic estimate calculations, which were reviewed. Compliance is recorded in this section because where the scenarios had occurred, I found that historic estimate calculations were correct, and the correct SASV (seasonal adjusted shape values) were applied.

SASV are retrieved from the RM portal and loaded into Flux using an automated process. Flux monitors these automated upload processes and notifies Powershop if they fail to run.

Read dates and times are recorded in Flux and are taken into account when calculating historic estimate.

- Reads recorded at 00.00.00 are treated as if they have occurred at the beginning of the read date by the historic estimate process.
- All other read times are treated as if they have occurred at the end of the read date (i.e. 23.59.59) by the historic estimate process, regardless of the read time recorded.

Section 6.7 explains in more detail how read times are determined and recorded in Flux.

If any inputs into the calculation are incorrect, such as ICP statuses, read types, or read statuses, the result of the calculation would be incorrect. This is discussed further in **sections 8.1**, **12.7** and **12.10**.

Test	Scenario	Test expectation	Compliance
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant *Consumption is only reported where the ICP is active during the period where consumption occurs.*
c	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant *Consumption is only reported where the ICP is active during the period where consumption occurs.*
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant *Historic estimate will be calculated for switch event reads which have a status of verified or medium.*
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant *Historic estimate will be calculated for switch event reads which have a status of verified or medium.*
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant

Test	Scenario	Test expectation	Compliance
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Has not occurred
l	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate.	Compliant *Historic estimate will be calculated for customer reads if they have a validation status of verified or medium.*
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate.	Has not occurred *Historic estimate be calculated for photo reads if they have a validation status of verified or medium.*
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant

Audit outcome

Compliant

12.12. Forward estimate process (Clause 6 Schedule 15.3)

Code reference

Clause 6 Schedule 15.3

Code related audit information

Forward estimates may be used only in respect of any period for which an historical estimate cannot be calculated.

The methodology used for calculating a forward estimate may be determined by the reconciliation participant, only if it ensures that the accuracy is within the percentage of error specified by the Authority.

Audit observation

The process to create forward estimates was reviewed.

Forward estimates were checked for accuracy by analysing the GR170 file for variances between revisions over the audit period.

Audit commentary

Powershop's forward estimate process is based on a "straight line" forward standard estimate methodology, and where no historical information is available a "forward default' estimate of 25 units per day is used.

The forward standard methodology is based on the following:

- daily consumption from the "admin" field (based on previous validated meter readings);
- daily consumption from the switch in CS file; or
- daily consumption from the customer at the time of registration.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000 kWh. Powershop met this accuracy requirement for most balancing areas for the 15 months selected.

Quantity of Balancing Areas with Differences Over 15% and 100,000 kWh

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Nov 2017	0	0	0	0	164
Dec 2017	0	0	0	0	168
Jan 2018	0	0	0	0	168
Feb 2018	0	0	0	-	173
Mar 2018	0	0	0	-	180
Apr 2018	0	0	0	-	181
May 2018	0	0	0	-	180
Jun 2018	0	0	0	-	186
Jul 2018	0	0	0	-	184

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Aug 2018	0	0	0	-	191
Sep 2018	0	0	-	-	192
Oct 2018	0	0	-	-	193
Nov 2018	0	0	-	-	203
Dec 2018	0	0	-	-	206
Jan 2019	1	0	-	-	210

Total Variation between Revisions

Month	Revision 1	Revision 3	Revision 7	Revision 14
Nov 2017	0.39%	0.97%	1.13%	1.11%
Dec 2017	1.37%	2.45%	2.68%	2.70%
Jan 2018	0.00%	1.11%	1.33%	1.35%
Feb 2018	-0.19%	0.36%	0.54%	-
Mar 2018	0.23%	0.96%	1.13%	-
Apr 2018	-0.36%	-0.16%	-0.08%	-
May 2018	-0.38%	-0.44%	-0.42%	-
Jun 2018	-0.18%	-0.39%	-0.39%	-
Jul 2018	-0.26%	-0.08%	-0.06%	-
Aug 2018	0.22%	0.48%	0.46%	-
Sep 2018	0.02%	1.34%	-	-
Oct 2018	0.60%	0.99%	-	-

Month	Revision 1	Revision 3	Revision 7	Revision 14
Nov 2018	0.57%	0.85%	-	-
Dec 2018	0.91%	1.99%	-	-
Jan 2019	-9.96%	0.38%	-	-

I checked the balancing area difference over the threshold, which occurred in January 2019. The difference related to one ICP, which switched in with a very high switch read. The initial allocation reported forward estimate, and the r1 value was calculated as historic estimate using the switch in read and next actual reading. Powershop identified that an RR was required, and the issue was resolved through the read renegotiation process prior to revision three.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.12 With: Clause 6 Schedule 15.3 From: Jan 19 r1	The accuracy threshold was not met for January 2019 revision 1. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong, as they are sufficient to ensure data is within the accuracy threshold most of the time. The difference over the threshold was caused by an inaccurate switch event read provided by another trader and was appropriately resolved through the read renegotiation process. The revision one data was washed up once the read renegotiation was complete.

Actions taken to resolve the issue	Completion date	Remedial action status
Using the total volume within a file to determine the accuracy of only the FE is flawed as it assumes that the HE must never change and therefore all variances are attributed to FE. The single ICP (0005886791RN99B) that caused the total volumes to be outside the threshold contained no FE estimations in the R1 and R3. It was the HE (which was calculated correctly at all times) that caused the total volume to shift outside the set thresholds. The accuracy of the R0 (100% FE) to R0 (100% HE) is within 3.9%	NA	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
No comment	NA	

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

Review of the event detail report for 01/06/18 to 06/05/19 identified 71 ICPs which had a change of profile, including reversal and replacement of previous profiles.

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

The NHH to HHR and HHR to NHH profile change processes were reviewed.

Audit commentary

Powershop uses a validated meter reading on the day that the profile change is effective. Profile changes usually either have metering change on the effective date of the new profile (e.g. where import/export metering is installed and PV1 profile is added), or AMI metering is in place and daily reads are received.

Powershop ensures that there is a reliable source of daily reading and HHR data prior to moving an ICP from NHH to HHR profile. If a HHR ICP later has a fault which prevents regular readings and HHR data from being obtained, it will be returned to NHH profiles from the effective date of the last reading received.

Audit outcome

Compliant

13. SUBMISSION FORMAT AND TIMING

13.1. Provision of submission information to the RM (Clause 8 Schedule 15.3)

Code reference

Clause 8 Schedule 15.3

Code related audit information

For each category 3 of higher metering installation, a reconciliation participant must provide half hour submission information to the reconciliation manager.

For each category 1 or category 2 metering installation, a reconciliation participant must provide to the reconciliation manager:

- *Half hour submission information; or*
- *Non half hour submission information; or*
- *A combination of half hour submission information and non half hour submission information*

However, a reconciliation participant may instead use a profile if:

- *The reconciliation participant is using a profile approved in accordance with clause Schedule 15.5; and*
- *The approved profile allows the reconciliation participant to provide half hour submission information from a non half hour metering installation; and*
- *The reconciliation participant provides submission information that complies with the requirements set out in the approved profile.*

Half hour submission information provided to the reconciliation manager must be aggregated to the following levels:

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *trading period*

The non half hour submission information that a reconciliation participant submits must be aggregated to the following levels:

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *consumption period or day*

Audit observation

Processes to ensure that information used to aggregate the reconciliation reports is consistent with the registry were reviewed in **section 2.1**.

AV080 submissions were reviewed in **sections 12.2** and **12.3**.

HHR submissions were reviewed in **section 11.4**.

Audit commentary

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level:

- NSP code;
- reconciliation type;
- profile;
- loss category code;
- flow direction;
- dedicated NSP; and
- consumption period.

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

If the digit to the right of the second decimal place is less than five, the second digit is unchanged.

Audit observation

I reviewed the rounding of data on the AV080, AV090 and AV140 and reports as part of the aggregation checks.

Audit commentary

Review of nine AV080 non half hour volumes reports confirmed that submission data is rounded to two decimal places.

Review of one AV090 HHR volumes report and one AV140 HHR aggregates report confirmed that submission data is rounded to two decimal places.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.3

Code related audit information

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

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

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

Audit observation

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

I reviewed nine months of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

The quantity of historical estimates is contained in the submission file and is not a separate report. The proportion of HE in the revision files was checked for nine separate months, and the table below shows that compliance has not been achieved in all instances. The overall percentages of historic estimate are high.

Quantity of NSPs where revision targets were met.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Nov 2017	-	-	153	252
Dec 2017	-	-	163	254
Jan 2018	-	-	155	254
Jun 2018	-	265	-	273
Jul 2018	-	265	-	272
Aug 2018	-	272	-	277
Sep 2018	277	-	-	280
Oct 2018	281	-	-	283
Nov 2018	283	-	-	289

The table below shows that the percentage HE at a summary level is below the required targets.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Nov 2017	-	-	99.76%
Dec 2017	-	-	99.81%

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jan 2018	-	-	99.77%
Jun 2018	-	99.79%	-
Jul 2018	-	99.71%	-
Aug 2018	-	99.77%	-
Sep 2018	99.54%	-	-
Oct 2018	99.47%	-	-
Nov 2018	99.40%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: Nov-Dec 17 (r14), Jun-Aug 18 (r7), Sep-Nov 18 (r3)	Historic estimate thresholds were not met for some revisions. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Strong controls are in place to get actual or customer readings to derive submission information. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Please see comments in section 12.10	NA	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Please see comments in section 12.10	NA	

CONCLUSION

I saw evidence of Powershop's progress with resolving issues and improving processes throughout the audit period.

- I found that the number of late updates and data accuracy issues have decreased over the audit period, with very few exceptions identified towards the end of the period. A number of late updates were caused by data corrections, so that Powershop could meet the requirement to provide complete and accurate data.
- ANZSIC code processes have been improved, and only one exception was identified which has been cleared.
- Processes for distributed generation have improved, and no exceptions were identified.
- Meter reading validation processes have been improved, including new processes for zero consumption and meter condition reporting, which continue to be refined.

Some key areas require improvement:

- Flux's "read dispute process" which determines the reading to be applied for switch events does not allow the user to modify the read type. This caused some incorrect read types to be applied in switch files and Flux. This did not impact on reconciliation, because the reads were all validly used by the historic estimate process.
- There was some inaccurate switch file content, however I found that accuracy improved as the audit period progressed and further training and controls were added. Most content issues had a low impact on other participants. I also found that the estimated daily consumption calculation is not always consistent with the registry functional specification.
- Some inaccurate status updates and read types were recorded, largely due to data entry errors. The number of exceptions has reduced over the audit period.

HHR submission is now being completed for a small number of ICPs, and I confirmed that the HHR profile is applied validly, upgrades are handled correctly, and reporting is accurate. The HHR estimation process requires some further development to achieve compliance and is used rarely.

The audit found 33 non-compliance issues, which is an increase from the previous audit. I note that the number of non-compliances and total audit risk rating is inflated by some very minor non-compliances affecting one or two ICPs which are recorded in several sections of the report. For example, one ICP with an incorrect active date caused non-compliance in three report sections.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and contains a future risk rating score of 51, which results in an indicative audit frequency of six months. Given that:

- Powershop has improved their compliance as the audit period progressed, and intends to continue to do so; and
- some further improvements have already been implemented post audit

I recommend that the next audit is completed in 12 months.

PARTICIPANT RESPONSE

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