ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

For

POWERSHOP NEW ZEALAND LTD

Prepared by: Steve Woods

Date audit commenced: 21 July 2020

Date audit report completed: 19 August 2020

Audit report due date: 22 August 2020

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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.

The audit identified 29 non-compliances and five recommendations are made.

Changes were made to the date and time stamping of AMI meter readings during the audit period, leading to more accurate switch readings. There are still some issues with incorrect labelling of readings.

Most of the issues found relate to registry and switching, and all have a low audit risk rating. There is still an issue with some historic estimates being labelled as forward estimates where shape files are not available.

NHH meter reading attainment processes are currently being improved to ensure compliance with the "best endeavours" requirements of the Code.

There is an issue with ARC Innovations meters when used for HHR settlement. The on-site setup is that a meter pulses into a data storage device, which counts the pulses and "stores" them every 200 pulses which equals 0.1 kWh. There is only one decimal place, so the smallest increment of consumption is 0.1. The issue is made worse for installations with a compensation factor, for example if the compensation factor is 100, the smallest increment per interval is 10 kWh, which means the accuracy per interval is very poor. Unfortunately for Powershop, this means the HHR data derived from ARC meters is not considered to be accurate in accordance with Clause 15.2.

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 46, which results in an indicative audit frequency of six months. I recommend that the next audit is completed in 12 months to provide sufficient time to make the required improvements.

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	A small number of registry discrepancies were identified. HHR ICPs do not have the HHR profile recorded. Four unmetered ICPs do not have registry details populated. Three ICPs with fuel type of "other" have the PV1 profile. HHR data from ARC meters is not compliant.	Moderate	Low	2	Identified
Electrical Connection of Point of Connection	2.11	10.33A	64 reconnections were not certified within five business days.	Strong	Low	1	Unknown
Changes to registry information	3.3	10 Schedule 11.1	Registry not updated within five business days of the event for status and trader updates.	Moderate	Low	2	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	61 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
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. One ICP has the incorrect daily kWh.	Moderate	Low	2	Cleared
Management of "active" status	3.8	17 Schedule 11.1	Two ICPs have incorrect active dates applied in Flux and on the registry.	Strong	Low	1	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	Four ICPs had incorrect inactive status dates applied.	Strong	Low	1	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Inform registry of switch request for ICPs - standard switch	4.1	2 Schedule 11.3	Two NTs were issued as transfer switches, when a switch move should have been applied. One NT had the incorrect switch date.	Strong	Low	1	Identified
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	One transfer CS contained an incorrect read type. One transfer CS had the incorrect reading, one day too early. Average daily kWh in the CS is not calculated in accordance with the Registry Functional Specification.	Moderate	Low	2	Identified
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.	Two late RR files for transfer switches. Three RR files had estimates labelled as actuals.	Moderate	Low	2	Investigating
Gaining trader informs registry of switch request - switch move	4.7	Clause 9 Schedule 11.3	One late NT file.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	Five 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
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	Five late switch move CS files. One switch move CS contained an incorrect read type. One switch move CS contained an incorrect read type, and an incorrect date of last reading. Average daily kWh in the CS is not calculated in accordance with the Registry Functional Specification.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	17 late RR files for switch moves. Three RR files had estimates labelled as actuals. Four RR files from HHR only traders were incorrectly rejected.	Moderate	Low	2	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	49 NWs were issued more than two calendar months after the switch date. Two incorrect NW codes used.	Strong	Low	1	Identified
Metering information	4.16	21 Schedule 11.3	Two CS files had an incorrect switch readings.	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. One ICP with incorrect daily kWh.	Moderate	Low	2	Cleared
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 19 ICPs.	Moderate	Low	2	Identified
Derivation of meter readings	6.6	3(2) of Schedule 15.2	Customer readings supplied by Wells labelled as "Verified, Actual".	Strong	Low	1	Identified
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	For at least 12 ICPs unread during the period of supply, the best endeavours requirements were not met, and exceptional circumstances did not exist.	Weak	Low	3	Identified
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. January 2020 meter read frequency report sent late.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
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
Identification of readings	9.1	3(3) Schedule 15.2	Actual readings labelled as estimates for three ICPs. Estimated readings labelled as actuals for Six ICPs.	Moderate	Low	2	Identified
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates file does not contain electricity supplied information.	Strong	Low	1	Unknown
Allocation of submission information	12.3	15.5	ICP 0006886795RN35A had submission against the incorrect NSP for July and August 2019.	Strong	Low	1	Identified
Accuracy of submission information	12.7	15.12	Unmetered load incorrectly submitted for ICP 0007188620RN4C7.	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	Investigating
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	Identified
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Strong	Low	1	Identified
Future Risk Rating						46	

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
MEP arrangements	2.13	Arrangement with WEL networks	Obtain written confirmation from WEL Networks that there is a verbal arrangement in place including the requirements of clause 10.36.
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.
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.
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

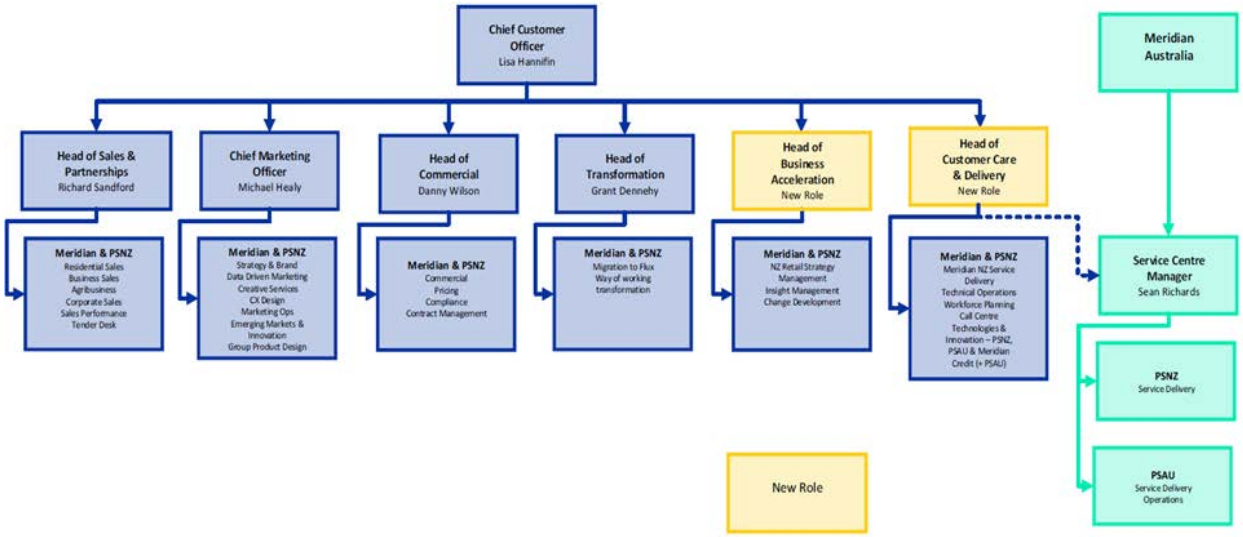
Current code exemptions were reviewed on the Electricity Authority website.

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
Steve Woods	Veritek Limited

Personnel assisting with this audit were:

Name	Title
Amy Cooper	Compliance Officer
Helen Youngman	Energy Data Analyst
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

The Flux system is used for registry management, switching, and reconciliation and is provided and maintained by Flux Federation. Flux Federation operates an Information Security Management System (ISMS), supporting the design, development, provision, operation and maintenance of the Flux system, that has been certified as compliant with the requirements of ISO/IEC 27001:2013.

1.6. Breaches or Breach Allegations

Powershop has no breach allegations recorded by the Electricity Authority for the audit period.

1.7. ICP Data

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

Metering Category	(2020)	(2019)	(2018)	(2017)
1	75,820	72,184	65,041	59,062
2	1,290	1,285	1,133	978
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
9	8	12	5	8
Blank	-	2	3	8

Status	Number of ICPs (2020)	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)
Active (2,0)	77,118	73,483	66,182	60,056
Inactive – new connection in progress (1,12)	62	117	42	47
Inactive – electrically disconnected vacant property (1,4)	1,041	1,095	880	549
Inactive – electrically disconnected remotely by AMI meter (1,7)	3	2	3	6
Inactive – electrically disconnected at pole fuse (1,8)	1	-	-	-
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
Inactive – electrically disconnected ready for decommissioning (1,6)	2	7	3	24
Inactive – reconciled elsewhere (1,5)	-	7	-	-
Decommissioned (3)	2,230	2,135	1,975	1,692

1.8. Authorisation Received

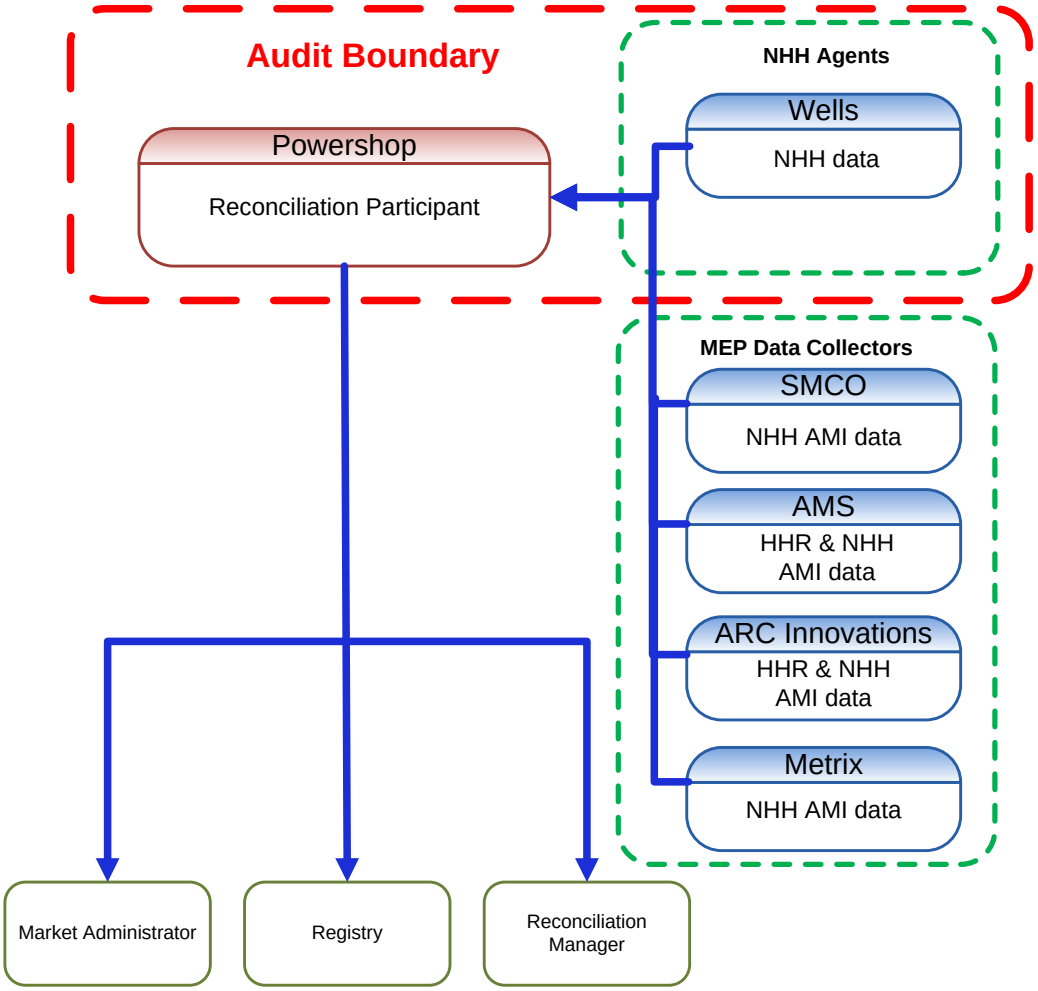
Powershop provided a letter of authorisation.

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 on 21 - 22 July 2020.

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 July 2019 by Tara Gannon 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	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.	Still existing
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.	Still existing
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.	Cleared
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.	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Still existing
ANZSIC codes	3.6	9 (1)(k) of Schedule 11.1	ICP 1002059612LC635 temporarily had a don't know ANZSIC code applied.	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.	Still existing
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.	Still existing
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.	Still existing
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.	Still existing
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.	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Still existing
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.	Cleared
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.	Still existing
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.	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Still existing
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.	Still existing
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.	Still existing
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.	Still existing
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.	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Cleared
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.	Still existing
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.	Still existing
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.	Still existing
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.	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Still existing
Half hour estimates	9.4	15 Schedule 15.2	One HHR estimate was not the best estimate of the quantity for the missing periods.	Still existing
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates file does not contain electricity supplied information.	Still existing
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.	Still existing
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.	Still existing
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.	Still existing

Subject	Section	Clause	Non-compliance	Status
Forward estimate process	12.12	6 Schedule 15.3	The accuracy threshold was not met for January 2019 revision 1.	Cleared
Historical estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Still existing

Subject	Section	Recommendation	Status
Relevant information	2.1	Consider reviewing the registry acknowledgement files, so that failed registry updates can be identified and resolved promptly.	Cleared
Trader responsibility for an ICP	3.4	Monitor rejected MEP nominations, and take corrective action as required.	Still existing
ICPs at new or ready status for 24 months	3.10	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.	Still existing
Losing trader provides information - switch move	4.8	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.	Cleared
Electricity conveyed & notification by embedded generators	6.1	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.	Still existing
Correction of NHH meter readings	8.1	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.	Cleared
Half hour estimates	9.4	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.	Still existing

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

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

Audit observation

The process to find and correct incorrect information was examined. The registry validation process was examined in detail in relation to the achievement of this requirement. The registry list as at 03/06/20 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.

The weekly discrepancy process enables Powershop to identify discrepancies which have occurred where updates have failed.

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

Issue	2020 Qty	2019 Qty	Comments
Active ICPs with blank ANZSIC codes	-	-	Compliant.
Active ICPs with "T99" series unknown ANZSIC codes	1	1	See **section 3.6.**
Active with UML load = zero	-	-	Compliant.
Active with Incorrect standard UML	-	-	Compliant.
Active with incorrect shared UML	5	4	Four shared unmetered ICPs have trader unmetered daily kWh and unmetered load details missing from the registry. One ICP with an incorrect daily kWh. See **sections 3.7** and **5.1.**
Active with no MEP recorded or nominated and UML= "N"	2	3	Compliant because an accepted MEP nomination was made. See **section 2.9**.
Active with meter category 9 or blank and UML= "N"	1	3	Compliant, was a timing difference. See **sections 2.9** and **3.7.**
Active ICPs with distributor unmetered load populated but retail unmetered load is blank and UML flag = N	4	5	See **section 3.7.**
Active ICPs with retail unmetered load populated but distributor unmetered load is blank	-	-	Compliant.
Incorrect profile or profile date	46	1	43 HHR ICPs still have RPS profile. Three ICPs with fuel type of "other" have the PV1 profile.
Incorrect "active" date or status	2	6	See **section 3.8.**
Incorrect "inactive" date or status	1	14	See **section 3.9**.

There is an issue with ARC Innovations meters when used for HHR settlement. The on-site setup is that a meter pulses into a data storage device, which counts the pulses and "stores" them every 200 pulses which equals 0.1 kWh. There is only one decimal place, so the smallest increment of consumption is 0.1. The issue is made worse for installations with a compensation factor, for example if the compensation factor is 100, the smallest increment per interval is 10 kWh, which means the accuracy per interval is very poor. Unfortunately for Powershop, this means the HHR data derived from ARC meters is not considered to be accurate in accordance with Clause 15.2.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.6, 11.2, 15.2 From: 01-Aug-19 To: 21-Jul-20	A small number of registry discrepancies were identified. HHR ICPs do not have the HHR profile recorded. Four unmetered ICPs do not have registry details populated. Three ICPs with fuel type of "other" have the PV1 profile. HHR data from ARC meters is not compliant. Potential impact: Medium 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. 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
Unmetered ICPs - Corrections have been processed for the 4 ICP identified. Further information is noted in sections 3.7 and 5.1.	Complete	Identified
HHR Profile – ICPs being submitted as HHR will be reverted back to NHH submission and RPS profile from 1st September 2020.	1 Sept 2020	
Fuel type "other" with PV1 profile – these ICPs are solar DG with back up storage battery. We understand PV1 is the correct profile for these ICPs.	N/A	
Arc HH meters - we are following up with Arc regarding this issue and impact on the HH certification of these meters. ICPs being submitted as HHR will be reverted back to NHH from 1st September 2020.	1 Sept 2020	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Prior to HH settlement of ICPs in the future we will; 1) ensure process/systems are in place to update the Registry with the HHR profile. 2) Confirm HH certification status for any Arc meters	1 May 2021	

2.2. Provision of information (Clause 15.35)

Code reference

Clause 15.35

Code related audit information

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

Audit observation

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

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

I checked HHR data, AMI data and manual meter readings from source files to Flux to ensure the transmission methodology was compliant.

Audit commentary

All NHH and HHR data is provided by SFTP. The accuracy of the data transfer was confirmed by checking a sample of data from MEPs and from Wells.

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.

Powershop confirmed there have been no 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 audit compliance report, registry list and event detail reports for 01/08/19 to 03/06/20 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 for which new connections were completed.

The audit compliance report contained two ICPs with a blank MEP. In both cases an MEP had been nominated but there was a delay in the MEP updating the registry.

The audit compliance report contained two active ICPs where the metering category was blank and one 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 03/06/20, meter event details report, audit compliance report, and event detail report for 01/08/19 to 03/06/20 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

A 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 03/06/20, meter installation details report, audit compliance report, and event detail report for 01/08/19 to 03/06/20 were analysed to confirm process compliance and that controls are functioning as expected.

Audit commentary

Active ICPs without metering

The registry list contained one active ICP where the metering category was 9, indicating that no meters were present, and the unmetered flag was set to no. This was a timing difference, 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 520 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. In both cases the MEP was late in updating the registry and the certification date matched the active date once the registry was populated.

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.

The audit compliance report showed that metering installations for 64 reconnected ICPs were not certified within five business days of electrical connection. 55 of the 64 are still showing as interim certified.

Bridged meters

Powershop confirmed 18 ICPs were bridged to reconnect during the audit period or were bridged at the time the ICP switched in 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: 01-Aug-19 To: 25-Jul-20	64 reconnections were not certified within five business days. Potential impact: Medium Actual impact: Low Audit history: Twice 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. 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
Powershop is not able to resolve the certification of the reconnected ICPs.	N/A	Unknown
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop will continue with its controls in this area	Ongoing	

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 03/06/20 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 03/06/20 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**.

The previous audit report recorded that Powershop did not have an arrangement in place meeting the requirements of clause 10.36 for WEL Networks. Powershop currently supplies 21 active ICPs with WEL Networks meters. WEL networks meters are normally displaced as soon as possible and are read manually

in the meantime. Powershop has advised that a verbal arrangement is in place, which includes the requirements of clause 10.36. I recommend Powershop gets WEL Networks to provide written confirmation that the verbal arrangement includes all of the requirements of clause 10.36.

Recommendation	Description	Audited party comment	Remedial action
10.36	Obtain written confirmation from WEL Networks that there is an arrangement in place including the requirements of clause 10.36.	The current metering arrangements with WEL will be reviewed and written confirmation of the current arrangement obtained if it is to continue.	Identified

Compliant arrangements are in place for all other MEPs.

Audit outcome

Compliant

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

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 03/06/20 and event detail report for 01/08/19 to 03/06/20 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 01/08/19 to 03/06/20, 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. The inactive updates have been combined into one row and the trader updates have also been combined into one row.

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	2017	431	353	78	6.4	82%
	2018	979	691	288	11	71%
	2019	2,094	1,720	374	4.0	82%
	2020	**2,967**	**2,505**	**462**	**4.8**	**84%**

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Change to de-energised	**2020**	**4,427**	**4,226**	**201**	**2.2**	**95.5%**
Trader updates						
Change of trader fields	**2020**	**1,970**	**1,202**	**768**	**21.24**	**61%**

Reconnections

84% reconnections were completed on time. 462 of the updates were later than five business days. 31 updates were later than 30 days. I checked 19 of the 31 updates over 30 days and found the following:

- six were due to backdated switches where the registry contained the incorrect status at the time of the switch,
- seven were due to the processing errors where a step was missed in the process to ensure the registry was updated,
- four ICPs were disconnected by Powershop but meter readings showed consumption at the ICPs and it is likely the customer or their agent reconnected the ICPs themselves,
- one update had an incorrect event date which made it appear that the update was backdated but it was actually compliant, and
- a retailer changed the status for a period of prior ownership, making the status incorrect for the period of Powershop ownership.

Disconnections

95.5% of inactive updates were within five business days. 201 updates were late and 42 of these were over 30 business days. I checked 16 of these and found the following:

- the incorrect event date was used for four ICPs,
- nine were due to the processing errors where a step was missed in the process to ensure the registry was updated, and
- three ICPs were disconnected without Powershop's knowledge.

Trader updates including MEP nomination

61% of trader updates were on time. 126 updates were greater than 30 business days. I checked 30 examples including all trader fields and I found:

- there were 10 changes to ANZSIC codes or profiles as a result of the 2019 audit findings - the event date was not changed for any of these updates, which in most cases is correct because the change is valid back to the date of the previous change, but for two ICPs, the change was made for a period of prior ownership by Powershop when the event date should have been changed to match the switch in date for the most recent period of ownership,
- 13 changes to unmetered, ANZSIC code, profile and MEP fields were made as a result of findings from the regularly run audit compliance report - four of the unmetered load updates had the incorrect event date, meaning that unmetered load submission was incorrect for these ICPs, however the dates are now correct and unmetered load submissions will be corrected in the next revision,
- six late updates were due to processing issues, and
- one MEP update was due to late notification of a meter change.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 Schedule 11.1 From: 01-Aug-19 To: 25-Jul-20	Registry not updated within five business days of the event for status and 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 incorrect event dates identified have been corrected.	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
With regard to processing errors where a step was missed to update the Registry – these were as a result of a process change that some agents had not been made aware of. All agents have been trained on the additional process step required.	Complete	
Work to automate job processing including update of the Registry is scheduled to begin in October 2020. This will eliminate the requirement for a manual process step and potential for human error in this process.	April 2021	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

- *another trader is recorded in the registry as accepting responsibility for the ICP (clause 11.18(2)(a)); or*
- *the ICP is decommissioned in accordance with clause 20 of Schedule 11.1 (clause 11.18(2)(b)).*
- *if an ICP is to be decommissioned, the trader who is responsible for the ICP must (clause 11.18(3)):*
    - *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 03/06/20 was examined to determine whether all active ICPs have an MEP recorded. This analysis found two active ICPs that did not have an MEP recorded in the registry and have the unmetered flag set to no.

Five 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 five 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

Two active ICPs with no MEP were identified through analysis of the registry list. In both 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. Five MEP nomination rejections were identified on the event detail report. In all five cases, the MEPs had notified Powershop that the nomination was incorrect.

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.	Review of MEP rejections has been added to our monthly monitoring processes.	Cleared

ICP Decommissioning

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

174 ICPs were decommissioned during the audit period. For the sample of five ICPs checked, the MEP was notified and Powershop attempted to obtain a final reading. For one 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 03/06/20, meter installation details report, audit compliance report and event detail report for 01/08/19 to 03/06/20 were analysed to confirm process compliance and that controls are functioning as expected.

A sample of 19 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 audit compliance 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	2017	90	86	4	2.4	96%
	2018	89	76	13	5	85%
	2019	466	421	45	4	90%
	2020	**520**	**459**	**61**	**4**	**88.27**

Timeliness of updates

I checked 19 of the 61 late updates, six of which were later than 30 days. I found the following issues:

- there was confusion regarding who was the nominated retailer for five ICPs,
- late field notification caused nine late updates,
- two ICPs had incorrect event dates,
- one ICP had the incorrect MEP nominated,
- one ICP was electrically connected without Powershop's knowledge, and
- one ICP did not have a customer to sign up, delaying the registry update.

Accuracy of updates

The audit compliance report contained four ICPs where the status event date was different to the IECD. In all four cases, Powershop's date was correct based on a check of paperwork.

During the last audit, ICP 1002055962LC7E7 was found to have an incorrect status event date of 12/11/18 instead of 20/02/19. This has not been corrected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 Schedule 11.1 From: 01-Aug-19 To: 25-Jul-20	61 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
The incorrect event dates have been corrected for the 2 ICPs identified this audit. We are working through correction of ICP 1002055962LC7E7.	31 Aug 2020	Choose an item.
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with controls in this area.	N/A	

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 03/06/20 was reviewed to check ANZSIC codes. To confirm the validity of the ANZSIC codes I checked a diverse sample of 80 active ICPs across 20 different ANZSIC codes.

Audit commentary

As part of the customer application process, business customers are asked to provide information on their industry. If an ICP is residential, 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, but ICPs can switch in with one of these codes.

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 audit compliance report was reviewed and found one T99 series ANZSIC code and no blank ANZSIC codes. The one ICP with T994 was just a timing issue; by the time of the on-site audit this had been changed to N72.

I checked a sample of 80 active ICPs across ten different ANZSIC codes. All 80 were confirmed to be correct.

Audit outcome

Compliant

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

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

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

Audit observation

The process to manage unmetered load was examined. The registry list and audit compliance report as at 03/06/20 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 one active ICP where the metering category was 9, indicating that no meters were present, and the unmetered flag was set to no. This was a timing difference, 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 in Flux for four of the ICPs, but the details were not up to date on the registry. The table below shows the five ICPs.

ICP	Unmetered load details - Distributor	Shared ICP list	Findings
0006161073RN16D	0014;11.7;1/4 of 55W St Light 207C Hoon Hay Rd	0007193151RN5DC	Correct in Flux, registry event keeps getting reversed overnight.
0006420133RND2A	0015;11.7;1/4 of 60W St Light 3 Moran Ln	0007187635RNA45	Correct in Flux, present last year, registry event keeps getting reversed overnight.
0006833535RN86B	0015;11.7;1/4 of 60W St Light 3 Moran Ln	0007187635RNA45	Correct in Flux, present last year, registry event keeps getting reversed overnight.

ICP	Unmetered load details - Distributor	Shared ICP list	Findings
0005607892RNEC7	0014;11.7;1/4 of 55W St Light 207C Hoon Hay Rd	0007193151RN5DC	Correct in Flux, registry event keeps getting reversed overnight.
0015729112ELB25	x1217464592		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.

Accuracy of trader unmetered daily kWh

Powershop supplies 96 ICPs with unmetered load recorded. The audit compliance report contained one ICP where the daily unmetered load figure was incorrect. ICP 0005189683RNCCA has 0.05 kWh and should have 0.1755.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 01-Aug-19 To: 25-Jul-20	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. One ICP has the incorrect daily kWh Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time. 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
Corrections have been processed for all ICPs identified.	Complete	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

The failed Registry updates were identified as a result of human error when attempting to process the corrections for the ICPs and was not systemic. This has now been resolved. Review of UML discrepancies is now included in monthly compliance monitoring processes.	Complete Ongoing	

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The connection and reconnection processes were examined. The audit compliance report for 01/08/19 to 03/06/20 was analysed in relation to timeliness and accuracy of active status updates.

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 audit compliance report as at 03/06/20 was analysed and it contained one ICP at "new connection in progress" status which had an initial electrical connection date populated. This was a timing difference and had been updated to "active" before the on-site audit.

As recorded in **section 3.5**, Powershop's active date was correct for all ICPs.

During the last audit, ICP 1002055962LC7E7 was found to have an incorrect status event date of 12/11/18 instead of 20/02/19. This has not been corrected.

<u>Reconnections</u>

Flux used to automatically mark ICPs as "active" on switch in date, and users had to manually update the status to "inactive" if an ICP was not reconnected on switch in. This automatic functionality is no longer in place and users now update the registry manually.

ICP 0000530696TU89C has an incorrect active event date of 21/08/14 and it should be 16/08/19.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 Schedule 11.1 From: 01-Aug-19 To: 25-Jul-20	Two ICPs have incorrect active dates applied in Flux and on the registry. Potential impact: Low Actual impact: Low Audit history: Twice 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
ICP 0000530696TU89C is corrected and we are working through correction of ICP 1002055962LC7E7	31 Aug 2020	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Review of active date discrepancies is included in monthly compliance monitoring processes. Work to automate job processing including update of the Registry is scheduled to begin in October 2020. This will eliminate the requirement for a manual process step and potential for human error in this process.	Ongoing April 2021	

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 audit compliance report for 01/08/19 to 03/06/20 was analysed to identify all disconnections during the period.

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 16 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 four 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
0003342009ML76A	08/01/2019	07/01/2020	4	4	Incorrect date applied, not corrected and has switched away
0000502628HB33D	29/04/2019	07/01/2020	4	4	Incorrect date applied, not corrected and has switched away
0001541440PC37B	18/04/2019	11/12/2019	4	4	Incorrect date applied, now corrected
0000127880TR8B8	24/12/2017	Unknown	4	4	Incorrect date applied, not corrected

The list file as at 03/06/20 was analysed and found one ICP at "new connection in progress" status which had an initial electrical connection date populated. This was a timing difference 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 20 ICPs with consumption while inactive. All 20 were checked:

- 17 had the consumption accounted for by either a "vacant write off" or by an adjustment to switch readings, and
- three had very small volumes of inactive consumption caused by a creeping meter and were confirmed to be disconnected.

During the previous audit, it was 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. The active status has been re-instated for the period in question and submission has occurred. Also, 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 remained inactive from 04/04/19 to 14/04/19, so some of this consumption was not apportioned to an inactive period. This has also been corrected by adjusting the status in the registry and submission has occurred.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 01-Aug-19 To: 25-Jul-20	Four ICPs had incorrect inactive status dates applied. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls have been strengthened during the audit period to ensure all status changes are appropriate so that submission occurs. Some manually updated status changes had incorrect event dates and controls require improvement in this area. 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
Corrections have been processed for the 4 ICPs with incorrect inactive dates identified.	Complete	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Work to automate job processing including update of the Registry is scheduled to begin in October 2020. This will eliminate the requirement for a manual process step and potential for human error in this process.	April 2021	

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 receives 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.

Analysis of the registry list identified nine ICPs at "ready" status for more than 24 months. For one ICP the customer intends to go with a different trader. One ICP has now been decommissioned. The other seven ICPs are on the Counties Network and they exist because Counties has many ICPs with more than one physical connection to their network and they wish to create additional ICPs so there is one for each point of connection. Powershop did not agree to be the trader for these additional ICPs and intends to notify Counties that these ICPs should be decommissioned.

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.	Running of ad-hoc LIS files can cause problems within Powershop due to automated scheduled processes within the Flux system that import and use these files. We will consider this recommendation when these issues are resolved.	Investigating

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. I checked all three ICPs where the NT was backdated.

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.

Two NT files were incorrectly requested as transfer switches when the customer had indicated that they were moving in, and one of these had the incorrect switch date of 2019 instead of 2020.

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: 26-Aug-19 To: 23-Apr-20	Two NTs were issued as transfer switches, when a switch move should have been applied. One NT had the incorrect switch 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 rated as strong, because the process is compliant, and three exceptions 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
The incorrect switch types are unable to be resolved now without withdrawing the switches which would impact the customer.	N/A	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Incorrect switch type is generally a result of human error when a pre-selected variable is not updated during the sign-up process. Currently this variable is pre-selected to one which triggers a TR switch by default. A system change has been requested to change this so there is no default selection on this variable prompting agents to have to confirm and select which variable applies rather than skip the step.	April 2021	

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 01/08/19 to 03/06/20 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 did not record any late AN files.

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 transfer ANs to assess compliance with the setting of event dates requirements. 100% were within five business days.

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 01/08/19 to 03/06/20 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 five files for all fields and 15 files or average daily consumption.

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 did not contain any breaches for late transfer CS files.

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.

I checked 10 ICPs with zero average daily consumption and they were all correct.

In previous audit reports it was recorded that AMS and SMCO AMI reads were date and time stamped as 00.00 on the day after the "midnight" read was taken, rather than the industry standard of 23.59.59 on the day the "midnight" read was taken. This has now changed, and all AMI midnight reads are stamped as 23.59.53 on date the "midnight" read was taken. Previous audit reports also recorded that when a reading was taken that was not a "midnight" read, it was estimated up until the end of the day based on the number of hours left in the day. This estimation no longer occurs.

The accuracy of the content of CS files was confirmed by checking a sample of five transfer switches. 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
0000000069DED48	18/02/2020	Actual reading labelled as an estimate
0000000774DE7BC	6/03/2020	Reading was for midnight on 04/03/2020 and was labelled as an actual. An estimated reading for the end of 05/03/2020 should have been provided.

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: 01-Aug-19 To: 21-Jul-20	One transfer CS contained an incorrect read type. One transfer CS had the incorrect reading, one day too early. Average daily kWh in the CS is not calculated in accordance with the Registry Functional Specification. 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 because they mitigate risk most of the time, but some improvements are required. 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 the issues identified without withdrawing the switches which would have a material impact on other parties and the customer.	N/A	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
A change to time stamping for AMS/SMCO reads has resolved the previously identified issue regarding use of reads one day prior to the switch being used as the switch event meter read.	26 April 2020	
We will review the functionality in Flux to enable correction of the read type when amending a switch read.	April 2021	
While differing in some instances from the functional specification we consider calculation of average daily kWh in our CS files is materially accurate. Given this and the recommendation from the switching reform technical group to remove this field from switching files we intend to hold off reviewing this calculation for the time being.	N/A	

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

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

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

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

If the gaining trader disputes a switch meter reading because the switch event meter reading provided by the losing trader differs by 200 kWh or more, the gaining trader must, within four calendar months of the 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 two validated meter readings.

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

Audit observation

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

The event detail report for 01/08/19 to 03/06/20 was analysed to identify all read change requests and acknowledgements during the audit period. I checked the following files:

- three RR files sent by Powershop which were accepted,
- four RR files sent by Powershop which were rejected, and
- five RR files sent by other traders which were rejected by Powershop.

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 two late RRs for transfer switches. In both cases the need for an RR file wasn't identified until actual reads were obtained which was already after the 4-month deadline. 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 263 RR files for transfer switches. 212 were accepted and 51 were rejected. Of the three samples two of the accepted RR files sent had readings calculated from two or more actual reads. One RR file had reads based on reads provided by the other trader during negotiation. All reads were labelled as actuals, but they were all estimates.

I checked four ICPs where the other trader had rejected Powershop's RR. In all cases, Powershop correctly used the original readings in the CS files.

Powershop issued 149 AC files for transfer switches. 139 were accepted and 10 were rejected. A sample of five AC rejections were checked and they were all for valid reasons, and the correct switch event reading was recorded in Flux for all ACs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 6(1) and 6A Schedule 11.3 From: 01-Aug-19 To: 21-Jul-20	Two late RR files for transfer switches. Three RR files had estimates labelled as actuals. 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. The impact on settlement and other participants is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
		Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop has strengthened controls in relation to the RR process though monthly monitoring of all RR's sent and follow up training where needed. The RR process in Flux will be reviewed with respect to the recording of the read type	Ongoing April 2021	

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report for the period from 01/08/19 to 03/06/20 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 one example where an RR file from a HHR trader was sent within five business days and was rejected by Powershop. I found that Powershop's CS reading was correct.

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

I confirmed with 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 sample of ten ICPs where the NT was backdated were checked to confirm that NTs were provided within two business days of agreement with the customer, 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.

Nine of the ten NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected. ICP 0000031924UNB3C was sent late due to a processing error.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.7 With: Clause 9 Schedule 11.3 From: 01-Aug-19 To: 03-Jun-20	At least one late NT file. 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 recorded as strong because they mitigate risk to an acceptable level. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
The NT file was sent as soon as the processing issue was identified.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

Powershop is satisfied with controls in this area		

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

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

Audit observation

An event detail report for 01/08/19 to 03/06/20 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 did not contain any late AN files.

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 six switch moves issued by Powershop, and found the correct codes were applied.

The event detail report was reviewed to identify non-compliant event dates. Five ICPs had event dates set more than ten business days after the NT date. In all cases NW files were sent immediately after. Powershop has not changed this process so that NW files are sent instead of AN files.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) Schedule 11.3 From: 01-Aug-19 To: 21-Jul-20	Five 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: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are strong. For the five 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 impact is assessed to be low, because all affected switches were withdrawn.

Actions taken to resolve the issue	Completion date	Remedial action status
Withdrawals were issued for all ICPs following the AN		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with existing controls in this area		

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 01/08/19 to 03/06/20 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 five ICPs with event dates more than ten business days after the NT receipt date. All five were withdrawn.

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 01/08/19 to 03/06/20 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 five files for all fields and 15 files for average daily consumption.

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 five late switch move CS files.

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.

I checked 10 ICPs with zero average daily consumption and they were all correct.

In previous audit reports it was recorded that AMS and SMCO AMI reads were date and time stamped as 00.00 on the day after the "midnight" read was taken, rather than the industry standard of 23.59.59 on the day the "midnight" read was taken. This has now changed, and all AMI midnight reads are stamped as 23.59.53 on date the "midnight" read was taken. Previous audit reports also recorded that when a reading was taken that was not a "midnight" read, it was estimated up until the end of the day based on the number of hours left in the day. Powershop advised this estimation no longer occurs and no examples were identified.

The accuracy of the content of CS files was confirmed by checking a sample of five move switches. 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
0000000627CE46B	04/03/2020	Actual readings labelled as estimates
0000000629TE1AA	14/03/2020	Actual readings labelled as estimates and date of last read incorrect.

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: 4.10 With: Clause 11 Schedule 11.3 From: 01-Aug-19 To: 21-Jul-20	Five late switch move CS files. One switch move CS contained an incorrect read type. One switch move CS contained an incorrect read type, and an incorrect date of last reading. 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 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.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

A change to time stamping for AMS/SMCO reads has resolved the issue re use of reads one day prior to the switch being used as the switch event meter read.	April 2020	
We will review the functionality in Flux to be able to correct the read type if required when amending a switch read.	April 2021	
While differing in some instances from the functional specification we consider calculation of average daily kWh in our CS files is materially accurate. Given this and the recommendation from the switching reform technical group to remove this field from switching files we intend to hold off reviewing this calculation for the time being.	N/A	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

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

The event detail report for 01/08/19 to 03/06/20 was analysed to identify all read change requests and acknowledgements during the audit period. I checked the following files:

- three RR files sent by Powershop which were accepted,
- three RR files sent by Powershop which were rejected, and
- 20 RR files sent by other traders which were rejected by Powershop.

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 17 late RRs for move switches. The late RRs were primarily caused by access issues preventing the gaining of meter readings.

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 919 RR files for switch moves. 655 were accepted and 264 were rejected. All of sample of three RR files sent, which were accepted, had readings calculated from two or more actual reads. For two files the reads were labelled as actuals, but they were estimates.

I checked three ICPs where the other trader had rejected Powershop's RR. In all cases, Powershop correctly used the original readings in the CS files. One of these RR files had estimates labelled as actuals.

Powershop issued 561 AC files for transfer switches. 516 were accepted and 45 were rejected. A sample of 20 AC rejections were checked and I found the following issues:

- ICP 0000165428UNCB2 had an incorrect read in the CS file; a HHR only trader sent an RR with the correct read but it was rejected because the it was not sent within five business days, and
- ICPs 0000539296NR462, 0005390940RN473, 0007114607RN81C and 0030420779PCF61 had RRs sent within five business days by a HHR only trader, which were incorrectly rejected; the total kWh difference between the RR reads and the incorrect CS reads was 47 kWh.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 6(1) and 6A Schedule 11.3 From: 01-Aug-19 To: 21-Jul-20	17 late RR files for switch moves. Three RR files had estimates labelled as actuals. Four RR files from HHR only traders were incorrectly rejected. 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 overall because there is room for improvement with the labelling of readings and ensuring that valid RRs are not rejected. The impact is low because the incorrect kWhs for the incorrectly rejected RRs was only 47 kWh. There is a minor impact on customers and other traders.

Actions taken to resolve the issue	Completion date	Remedial action status
Late RR's were issued with valid reason and for the benefit of our customer to ensure they were correctly billed. The cause of the incorrectly rejected RR's was identified as a training issue in relation to a single agent and this was addressed with the agent at the time when identifies through monthly monitoring.	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop has strengthened controls in relation to the RR process though monthly monitoring of all RR's sent and follow up training provided where needed. The RR process in Flux will be reviewed with respect to the recording of the read type	Ongoing April 2021	

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 three business days after the arrangement comes into effect.

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

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

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

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

> *14(4)(a) – the proposed event date is in the same month as the date on which the gaining trader advised the registry manager; or*
>
> *14(4)(b) – the proposed event date is no more than 90 days before the date on which the gaining trader advises the registry manager and this date is agreed between the losing and gaining traders.*

Audit observation

The event detail report for 01/08/19 to 03/06/20 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 01/08/19 to 03/06/20 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 three business days, after receiving the valid switch response code, by advising the registry manager of the event date.

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

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

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

Audit observation

The event detail report for 01/08/19 to 03/06/20 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 01/08/19 to 03/06/20 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,
- identify all switch withdrawal acknowledgements issued by Powershop, a sample of 15 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 49 late NW files. One of the common issues leading to late NWs is that the first NW is rejected, and it is not until another NW is sent for the same reason that it is accepted.

The switch breach report recorded one breach for not completing the withdrawal cycle within ten business days.

AW timeliness

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

Flux maintains a list of ICPs which NWs 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 16 NW files was compared to details in Powershop's records, and in 14 cases, the withdrawal reasons provided by Powershop were accurate. There were two incorrect NW reason codes but this didn't have any impact on the process. One NW for "MI" should have been an RR instead.

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: 01-Aug-19 To: 21-Jul-20	49 NWs were issued more than two calendar months after the switch date. Two incorrect NW codes used. Potential impact: Low Actual impact: Low Audit history: Three times 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 or other traders rejecting valid withdrawals. 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
The late NW's were issued with valid reason		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with its existing controls in this area.		

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 4.3**, ICP 0000000774DE7BC had an incorrect switch reading.

As discussed in **section 4.11**, the switch event reading for ICP 0000165428UNCB2 was incorrect.

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: 01-Aug-19 To: 21-Jul-20	Two CS files had an incorrect switch readings. 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, because they ensure errors are at an acceptable level. 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
Refer comment in sections 4.3 and 4.10 re actions taken to address accuracy of switch reads in the CS file.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

Code reference

Clause 11.15AA to 11.15AB

Code related audit information

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

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

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

Audit observation

I checked the event detail report for 01/08/19 to 03/06/20 to identify all withdrawn with a CX code applied after 31st March 2020.

Audit commentary

Review of the event detail report identified 62 NWs issued with a CX withdrawal reason code after 31/03/20. I discussed the process and checked five examples to confirm save or winback activity was not being conducted.

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 03/06/20 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.

58 ICPs have shared unmetered load recorded and a daily unmetered load value populated by the distributor.

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.

ICP 0005189683RNCCA has the incorrect daily unmetered load figure. Powershop has used 0.05 kWh instead of 0.1755 kWh.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: Clause 11.14 From: 01-Aug-19 To: 21-Jul-20	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. One ICP with incorrect daily kWh. 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
Corrections have been processed for all ICPs identified.	Complete	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The failed Registry updates were identified as a result of human error when attempting to process the corrections for the ICPs and was not systemic. This has now been resolved. Review of UML discrepancies is now included in monthly compliance monitoring processes.	Complete Ongoing	

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 03/06/20 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 five 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 03/06/20 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 five 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 03/06/20 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 19 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 audit compliance report contained two ICPs with a blank MEP. In both cases an MEP had been nominated but there was a delay in the MEP updating the registry.

The audit compliance report contained two active ICPs where the metering category was blank and one 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. ICPs 0000725220TU0B9, 0007178480RN343 and 0007180835RN82E have fuel types as "other" but the profile is PV1.

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.	We will consider this recommendation however note that is some instances "other" is recorded where there is solar DG with a storage battery – in this case it is unclear what profile is "correct"	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 audit compliance report.

The list file contained 357 active ICPs with distributed generation recorded by the Distributor. 345 of these had a PV1 profile. 13 had RPS profile recorded; three of those had generation metering installed and ten did not. Powershop recorded that generation was not installed for all ten ICPs where the RPS profile only was used. Nine of the ten have generation types of "other" and the other has a generation type of solar. The three with generation metering were timing differences and are now showing as PV1

Bridged meters

Powershop confirmed 19 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: 01-Aug-19 To: 21-Jul-20	While meters were bridged, energy was not metered and quantified according to the code for 19 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 meters have been unbridged.	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Bridging of metering to restore a customer's power will continue to occur where this is necessary. Processes in place to ensure meters are unbridged and account for consumption used during any bridged period will continue.	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 01/08/19 to 03/06/20 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 or 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 19 bridged meters and four 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 MEPs, 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 is imported into Flux, along with all other notes provided by Wells, and is reviewed as part of the meter reading validation process.

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 three 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. During the Covid-19 lockdown period, Wells conducted outbound calling to obtain customer readings and these were provided to Powershop for 41 ICPs. All meter readings were labelled as "actual, verified" even if they were not validated against prior actual reads.

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

Non-compliant

Non-compliance	Description
Audit Ref: 6.6 With: Clause 3(2) of Schedule 15.2 From: 09-Apr-20 To: 09-Apr-20	Customer readings supplied by Wells labelled as "Verified, Actual". Potential impact: Medium 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. This was a one-off issue during exceptional circumstances. The audit risk rating is low. Validation occurred in the Wells hand-held devices and in Flux.

Actions taken to resolve the issue	Completion date	Remedial action status
As reported, customer reads obtained by Wells were validated prior to use through both Wells systems and Flux including against any other actual reads previously obtained. Powershop does not intend to re classify these readings given the low risk and one-off nature of the event.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop will ensure that if customer reads are obtained using a similar process in the future for any reason that these are reported as customer reads rather than actual reads.		

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 conducted a walk through of the identification methods for all data providers.

Audit commentary

Previous audits have recorded issues with the application of meter readings, including the date and time stamping of some reads at 00.00 the day after the read and some readings were "estimated" up until the end of the day. No examples of estimates to the end of the day were identified and Powershop advised this practice had stopped. AMI reads are now all date stamped the day of the midnight read.

Audit outcome

Compliant

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was examined, 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 is currently changing the meter reading access processes to align with the Meridian processes. This change, in conjunction with disruption caused by Covid-19 meant that the usual meter reading access steps were not always in place during the last few months.

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 45 ICPs unread during the period of supply where the period of supply ended between January 2020 and May 2020 was reviewed. The table below shows a breakdown of the duration of the period of supply

Period of supply	1-29 days	30-59 days	60-89	90-149 days	150 days +
Count of ICPs	16	11	7	5	6

I checked 10 ICPs supplied for more than 100 days and five supplied for less than 150 days. Best endeavours were met for three ICPs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 01-Aug-19 To: 21-Jul-20	For at least 12 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
As ICPs have switched away no action is able to be taken. We have re-instated the manual processes for following up instances of continued no reads which had lapsed for a period.	N/A July 2020	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is working with Meridian and Flux to implement "no read" processes within the Flux system that meet best endeavours requirements.	April 2021	

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 January 2020 to April 2020 were provided and reviewed to determine whether they met the requirements of clauses 8 and 9 of schedule 15.2.

A sample of 20 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 current read attainment percentage for April 2020 is 99.89%

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

I reviewed 20 ICPs not read in the previous 12 months ended 31/05/2020 determine whether exceptional circumstances exist, and if Powershop had used their best endeavours to obtain readings.

- For 14 ICPs the best endeavours requirements were met.
- For six ICPs the best endeavours requirements were not met, and exceptional circumstances did not exist.

I reviewed meter reading reports for January 2020 to April 2020 and confirmed that they met the meter reading frequency report requirements. The January 2020 report was not sent until 18/03/2020.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: Clause 8(1) and (2) Schedule 15.2 From: 01-Aug-19 To: 21-Jul-20	For at least six ICPs unread in the previous 12 months, the best endeavours requirements were not met, and exceptional circumstances did not exist. January 2020 meter read frequency report sent late. 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 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
We have re-instated the manual processes for following up instances of continued no reads which had lapsed for a period. The sending of the Jan 2020 meter reading report was missed due to human error and was provided as soon as the issue was identified.	July 2020 18 March 2020	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is working with Meridian and Flux to implement "no read" processes within the Flux system that meet best endeavours requirements.	April 2021	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The meter reading process was examined. The monthly report for April 2020 was examined.

A sample of 17 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
April 2020	346	24	1,494	98.09%

A sample of 17 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.

- Readings have since been obtained for two ICPs.
- For six ICPs the best endeavours requirements were not met, and exceptional circumstances did not exist.
- Suitable attempts were made for five ICPs.
- Four ICPs are vacant and three of these are disconnected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.10 With: Clause 9(1) and (2) Schedule 15.2 From: 01-Apr-20 To: 30-Apr-20	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: Once 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
We have re-instated the manual processes for following up instances of continued no reads which had lapsed for a period.	July 2020	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is working with Meridian and Flux to implement "no read" processes within the Flux system that meet best endeavours requirements.	April 2021	

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

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 03/06/20 confirmed that Powershop had supplied 43 ICPs with submission type HHR.

A walk through of HHR data management processes was conducted for HHR ICPs.

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 03/06/20 confirmed that Powershop had supplied 43 ICPs with submission type HHR.

A walk through of HHR data management processes was conducted for HHR ICPs.

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 03/06/20 confirmed that Powershop had supplied 43 ICPs with submission type HHR.

A walk through of HHR data management processes was conducted for HHR ICPs.

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 2016 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 by conducting a walkthrough.

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.

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

Compliant

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

Review of a registry list as at 03/06/20 confirmed that Powershop has supplied 43 ICPs with submission type HHR.

A walk through of HHR correction processes was conducted.

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. This process was confirmed during the audit.

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 and the following issues were identified in the switching process:

Actual readings labelled as estimates	Estimated readings labelled as actuals
0000000069DED48	0000003786CEBD5
000000627CE46B	0000006047NTAC1
0000000629TE1AA	0000006072NT076
	0000001030ED0BB
	0000001117ED920
	0000003691CE5B6

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: 01-Aug-19 To: 21-Jul-20	Actual readings labelled as estimates for three ICPs. Estimated readings labelled as actuals for Six ICPs. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate because it appears there are many examples of incorrect labelling of readings in the RR process. The risk as low, because the readings were correct but there is a small impact on other traders.

Actions taken to resolve the issue	Completion date	Remedial action status
Refer comments in sections **4.3**, **4.4**, **4.10** and **4.11**.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop will review the functionality in Flux to be able to correct the read type if required when amending reads in the switching process.	April 2021	

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 03/06/20 confirmed that Powershop has supplied 43 ICPs with submission type HHR. A walk through of HHR data processes was conducted.

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.

Data from ARC Innovations only has one decimal place, which does not achieve compliance with Clause 15.2. This matter is discussed further in **Sections 2.1 and 12.7**.

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 03/06/20 confirmed that Powershop has supplied ICPs with submission type HHR. HHR estimation processes were discussed.

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.

There were no examples of estimation during the audit period; however 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. 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 will review the HH estimation process before scaling the use of HH settlement which is currently limited to a small group of ICPs for a short number of months.	Identified

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

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.

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 MEPs and it is in a usable format.

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 01/08/19 to 03/06/20 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 01/08/19 to 03/06/20 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 the ICP level data against the ICP days report for May 2020 for four NSPs.

I also reviewed the GR090 reports for the audit period for any HHR discrepancies.

Audit commentary

The ICP days file matched the ICP days details per ICP in Flux for four NSPs with NHH only ICPs.

The ICPMISS reports for the audit period contained two discrepancies. ICP 1002057415UN32C had the incorrect submission flags (both were "Y") leading to it appearing in the report. The ICP days were correct and the submission flag is now corrected. ICP 0006886795RN35A had submission against the incorrect NSP for July and August 2019, therefore the ICP days was also against the incorrect NSP. This clause requires the ICP days to match the participant's database, therefore compliance is confirmed in this section. This matter is discussed further in **sections 12.3 and 12.7**.

Audit outcome

Compliant

11.3. Electricity supplied information provision to the reconciliation manager (Clause 15.7)

Code reference

Clause 15.7

Code related audit information

A retailer must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each NSP, aggregated by invoice month, for which it has provided submission information to the reconciliation manager, including revised submission information for that period as non- loss adjusted values in respect of:

> *15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

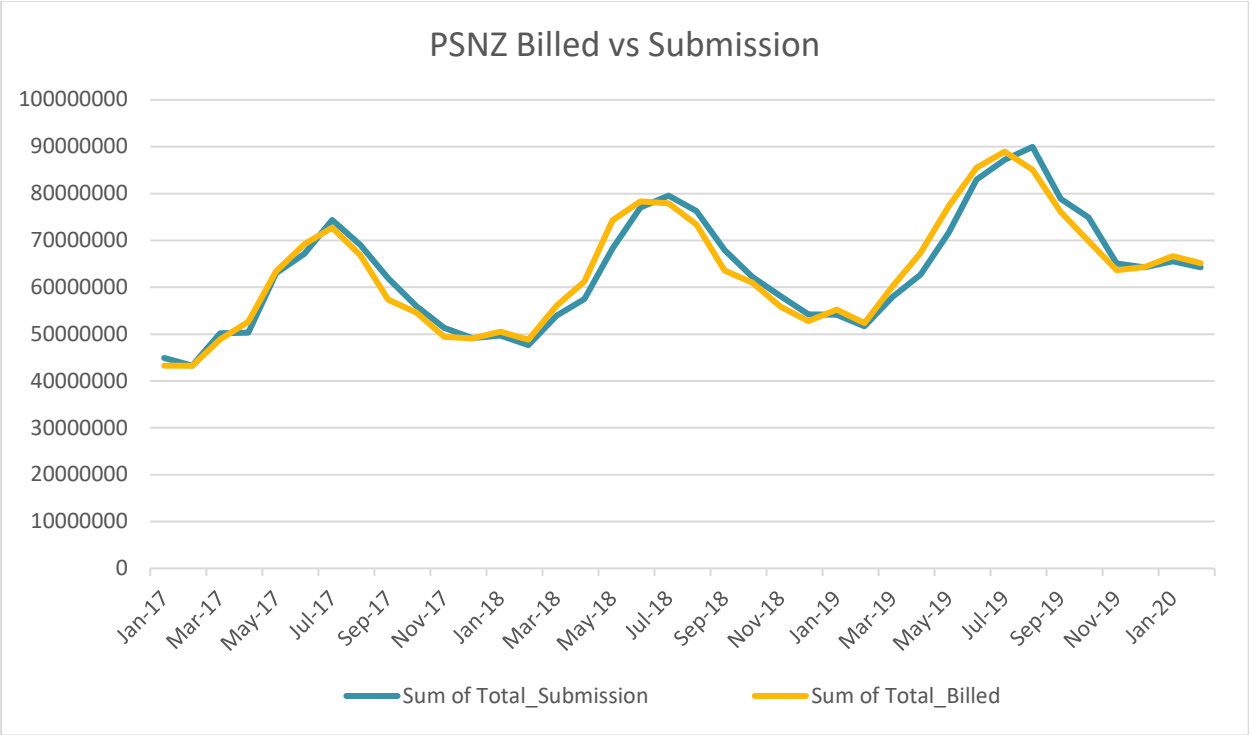
The process for the calculation of electricity supplied was examined by checking three NSPs with a small number of ICPs to confirm the AV120 calculation was correct.

GR130 reports for January 2017 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 three 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 0.1% higher than billed data for the period shown in the chart.



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 recent 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 checking the ICPs in June 2020 HHR aggregates file against the registry to ensure there was a match for profile and submission type. I also checked the ICPMISS reports for the audit period. As mentioned in **section 11.2**, one ICP had the incorrect submission flag and one had the incorrect NSP during 2019. Both of these issues are now resolved. The ICPs contained in the aggregates file all have a HHR submission flag, but the profile is still RPS. This is recorded as non-compliance in **section 2.1**.

The aggregates file matched the HHR vols file at an aggregate level.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.4 With: Clause 15.8 of part 15 From: 01-Aug-19 To: 21-Jul-20	HHR aggregates file does not contain electricity supplied information. Potential impact: None Actual impact: None Audit history: Once 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
Powershop will not be taking any action in relation to this technical non-compliance. We understand a Code change is progressing to resolve this.		Unknown
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 03/06/20 confirmed that Powershop has supplied ICPs with submission type HHR.

A walk through of daylight savings processes was conducted for ICPs.

Audit commentary

Daylight savings adjustment is conducted by MEPs and I confirmed the adjustment by chedking the HHR vols file.

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.

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.

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. No issues were identified.

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.

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 NSP information is accurate were checked by conducting a walkthrough of the aggregation steps.

Gifting of generation was examined to confirm if there were any examples.

Audit commentary

NHH

Registry validation is robust and ensures NSP information is correct. A sample of three NSPs were checked to confirm correct NSPs were used.

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. As discussed in **section 11.2**, ICP 0006886795RN35A had submission against the incorrect NSP for July and August 2019.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.3 With: Clause 15.5 From: 01-Jul-19 To: 31-Aug-19	ICP 0006886795RN35A had submission against the incorrect NSP for July and August 2019. 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 recorded as strong because they mitigate risk to an acceptable level, The impact on settlement and participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**
The NSP for ICP 0006886795RN35A will be corrected on submission of the R14 for Jul and Aug 19.		Oct 2020	Identified
Preventative actions taken to ensure no further issues will occur		**Completion date**	
Powershop is satisfied with existing controls in this area.			

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**.

A walk through of HHR data management processes was conducted.

Audit commentary

The following issues were identified during the audit.

Arc Innovations meters settled as HHR

There is an issue with ARC Innovations meters when used for HHR settlement. The on-site setup is that a meter pulses into a data storage device, which counts the pulses and "stores" them every 200 pulses which equals 0.1 kWh. There is only one decimal place, so the smallest increment of consumption is 0.1. The issue is made worse for installations with a compensation factor, for example if the compensation factor is 100, the smallest increment per trading period is 10 kWh, which means the accuracy per interval is very poor. Unfortunately for Powershop, this means the HHR data derived from ARC meters is not considered to be accurate in accordance with Clause 15.2. The total kWh per month will be accurate, but If volumes are not recorded and reported against the correct trading period, Powershop may not be charged at the wholesale rate that applied during the trading period when the electricity was consumed. Non-compliance is recorded in **section 2.1** due to information not being complete and accurate. Compliance is recorded in this section, because Powershop is unable to obtain more accurate information.

HHR

The walkthrough of the HHR correction and estimation processes confirmed compliance, and that corrections will flow through to the relevant submission files.

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 four defective meters were checked, and I found corrections were appropriately processed.

The previous audit recorded that a correction was still to be processed for 0000200107TU01B. Further investigation found this was not a stopped meter but was being estimated as zero. It's now had an actual reading.

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.

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.

There were no multiplier corrections during the audit period.

Consumption while inactive

A report was provided of 20 ICPs with consumption while inactive. In all cases the consumption was correctly submitted.

Unmetered load

ICP 0007188620RN4C7 is a metered supply but it still has an unmetered builder's temporary supply incorrectly recorded in Flux and in the registry. Submission of 1.536 kWh per day is still occurring.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 01-Jun-18 To: 21-Jul-20	Unmetered load incorrectly submitted for ICP 0007188620RN4C7 Potential impact: Medium 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. I found that most corrections had been processed as required. 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
Removal of UML for this ICP, which was present on switch in, will be confirmed with the distributor and corrected.	30 Sept 2020	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Powershop is satisfied with existing controls in this area.		

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 17 NSPs were reviewed to determine why forward estimate remained.

Audit commentary

Review of the 14-month AV080 submissions for December 2018 and January 2019 showed that some forward estimate remained at revision 14.

Month	Forward estimate at revision 14
Dec-18	84,087
Jan-19	91,520
Total	175,607

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 17 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.
- Two NSPs had 3% or 4% FE across all ICPs at the NSP. It is not clear why this occurred.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 of Schedule 15.2 From: 01-Dec-18 To: 31-Jan-19	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
Powershop will investigate solutions for use of permanent estimates where reads can have not been obtained within 14 months. Powershop will investigate the other instances of FE still existing at 14 months identified and determine if any further changes feasible.	July 2021 July 2021	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 03/06/20 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.

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.

Reads 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.

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 12.10
With: Clause 3 of schedule 15.3

From: 01-Aug-19
To: 21-Jul-20</td><td colspan="3">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</td></tr>
<tr><th>Audit risk rating</th><th colspan="3">Rationale for audit risk rating</th></tr>
<tr><td>Low</td><td colspan="3">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.</td></tr>
<tr><th colspan="2">Actions taken to resolve the issue</th><th>Completion date</th><th>Remedial action status</th></tr>
<tr><td colspan="2">As noted in previous audits a system fix to label volumes calculated without SASV as HE has been sized by Powershop's system provider (Flux) and its cost is more than would be considered reasonable given the absence of any impact.</td><td></td><td rowspan="3">Choose an item.</td></tr>
<tr><th colspan="2">Preventative actions taken to ensure no further issues will occur</th><th>Completion date</th></tr>
<tr><td colspan="2"></td><td></td></tr>
</table>

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.

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.*

Test	Scenario	Test expectation	Compliance
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
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.	Compliant *Historic estimates are 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 14 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
Dec 2018	0	0	0	0	168
Jan 2019	1	0	0	0	168
Feb 2019	0	0	0	-	173
Mar 2019	0	0	0	-	180
Apr 2019	0	0	0	-	181

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
May 2019	0	0	0	-	180
Jun 2019	0	0	0	-	186
Jul 2019	0	0	0	-	184
Aug 2019	0	0	0	-	191
Sep 2019	0	0	-	-	192
Oct 2019	0	0	-	-	193
Nov 2019	0	0	-	-	203
Dec 2019	0	0	-	-	206
Jan 2020	1	0	-	-	210

Total Variation between Revisions

Month	Revision 1	Revision 3	Revision 7	Revision 14
Dec 2018	0.91%	1.99%	2.00%	2.05%
Jan 2019	-9.96%	0.38%	0.36%	0.40%
Feb 2019	-0.24%	0.03%	0.02%	0.06%
Mar 2019	0.36%	1.27%	1.32%	-
Apr 2019	-0.60%	-0.57%	-0.42%	-
May 2019	-0.31%	-0.02%	0.00%	-
Jun 2019	-0.83%	-0.88%	-0.95%	-
Jul 2019	-0.11%	0.23%	0.20%	-
Aug 2019	0.05%	0.28%	0.22%	-

Month	Revision 1	Revision 3	Revision 7	Revision 14
Sep 2019	4.23%	5.21%		-
Oct 2019	0.86%	1.33%	-	-
Nov 2019	0.93%	1.37%	-	-
Dec 2019	0.48%	1.37%	-	-
Jan 2020	-0.37%	0.55%	-	-

The only example over the threshold was one balancing area in January 2019. This was investigated and recorded as non-compliance in the 2019 audit. There were no further examples to examine.

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 15.3

Code related audit information

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

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

Audit observation

I checked a sample of five ICPs where profile changes had occurred.

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 a NHH profile 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
Dec 2018	-	-	204	268
Jan 2019	-	-	199	274
Jun 2019	-	277	-	283
Jul 2019	-	279	-	284
Aug 2019	-	281	-	286
Sep 2019	283	-	-	288
Oct 2019	289	-	-	293
Nov 2019	277	-	-	293
Dec-2019	293			301

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
Dec 2018	-	-	99.84%
Jan 2019	-	-	99.83%

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jun 2019	-	99.67%	
Jul 2019	-	99.77%	-
Aug 2019	-	99.81%	-
Sep 2019	99.57%		-
Oct 2019	99.51%	-	-
Nov 2019	99.39%	-	-
Dec-2019	99.35%	-	-

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: 01-Dec-18 To: 31-Dec-19	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**
			Identified
Preventative actions taken to ensure no further issues will occur		**Completion date**	
Powershop has strong controls in place that will continue. See also comments outlined in sections **6.9** and **12.8** that relate to the proportion of HE remaining at 14 mths.			

CONCLUSION

The audit identified 29 non-compliances and five recommendations are made.

Changes were made to the date and time stamping of AMI meter readings during the audit period, leading to more accurate switch readings. There are still some issues with incorrect labelling of readings.

Most of the issues found relate to registry and switching, and all have a low audit risk rating. There is still an issue with some historic estimates being labelled as forward estimates where shape files are not available.

NHH meter reading attainment processes are currently being improved to ensure compliance with the "best endeavours" requirements of the Code.

There is an issue with ARC Innovations meters when used for HHR settlement. The on-site setup is that a meter pulses into a data storage device, which counts the pulses and "stores" them every 200 pulses which equals 0.1 kWh. There is only one decimal place, so the smallest increment of consumption is 0.1. The issue is made worse for installations with a compensation factor, for example if the compensation factor is 100, the smallest increment per interval is 10 kWh, which means the accuracy per interval is very poor. Unfortunately for Powershop, this means the HHR data derived from ARC meters is not considered to be accurate in accordance with Clause 15.2.

PARTICIPANT RESPONSE

Powershop's responses to non-compliance identified and recommendations made are contained in the body of this report.