ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

For

OCTOPUS ENERGY LIMITED

NZBN: 9429048437370

Prepared by: Bernie Cross

Date audit commenced: 25 March 2024

Date audit report completed: 23 July 2024

Audit report due date: 21-Jul-24

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EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Octopus Energy Limited (Octopus),** 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 7.1.

Octopus is an HHR trader for 7,239 ICPs. There has been a steady increase in active ICP numbers during the audit period from 5,730 in 2023. During this period of steady growth, Octopus have made improvements where they have identified inefficiencies or inaccuracies in the registry and switching processes. A number of the issues identified within this report had been identified by Octopus prior to the audit and process improvements implemented. The team was very helpful during the audit and showed willingness to learn from the audit process and make improvements.

Switching

Switching processes are automated using the robotron*esales system. Non-compliance still exists with some switching processes, specifically the timeliness of a small number of switch files, responses and compliance with the average daily consumption requirements.

Registry

The Octopus registry management processes are largely manual. Some inaccurate registry data was identified, and these were not updated as soon as practicable. Exception monitoring performed between robotron*esales and the registry does not identify exception types. Non compliances were identified around shared unmetered load set up and ICPs with distributed generation recorded by the distributor where these have not been followed to up arrange for appropriate metering to be installed.

Submission

There has been an overall increase in the number of non-compliances recorded, and some recommendations are made regarding improvements to the effectiveness of controls. The following main issues were identified:

- correction has not been conducted for one bridged correction,
- ongoing issues around revising estimates where revised data has been received either from the AMI MEPs or via the switch read amendment pro,
- consumption on inactive ICPs has not been submitted in all instances, and
- NHH submission of shared unmetered load had not been performed between December 2023 and June 2024 for one ICP,
- AMI event logs and time difference reports are not actively monitored.

Where ICP level and meter data setups were found to be incorrect during the audit, corrections have been applied within robotron*esales and are expected to flow through to the submission revision process.

This audit identified 23 non-compliances and makes eight recommendations.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. Based on the audit risk rating of 40, the indicative next audit date is in 12 months. I have considered this in conjunction with Octopus Energy's actions undertaken during the audit to resolve issues and improve process documentation and also the responses provided which indicate that the issues are being investigated and are expected to be resolved. I recommend that the next audit is completed in 12 months.

The matters raised are shown in the tables below.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	11.2	Some inaccurate data is recorded and was not updated as soon as practicable. Some submission data was inaccurate and was not corrected at the next available opportunity.	Moderate	Low	2	Identified
Physical location of metering installations	2.17	10.35(1)&(2)	ICP 0000929796TU717 was bridged by Octopus Energy's field service agent and the MEP was not notified within one business day.	Moderate	Low	2	Identified
Changes to registry information	3.3	10 Schedule 11.1	22 late status updates. Six late trader updates relating to backdated MEP nominations. 54 late ANZSIC code updates.	Moderate	Low	2	Identified
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	Eight incorrect ANZSIC codes identified from a sample of 15.	Strong	Low	1	Identified
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) missing a daily kWh value populated in the registry	Moderate	Low	2	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	Six ICPs with consumption recorded during inactive periods resulting in under submission of 7,635 kWh. One ICP (0000500615CEEC5) with incorrect inactive status reason code.	Moderate	Low	2	Identified
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	The CS file for two ICPs was sent more than five business days after the proposed switch date The method to calculate average daily consumption is not consistent with the average consumption for the last read to read period.	Strong	Low	1	Investigating
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	HHR estimated volumes not rescaled for ICP 0044241000PC6AA on receipt of an accepted amended read from an incoming RR file resulting in an over submission of 3,436 kWh.	Moderate	Low	2	Identified

			Three RR breaches were recorded during the audit period.				
Losing trader provides information - switch move	4.8	10 of schedule 11.3	11 T2 breaches.	Moderate	Low	2	Identified
Losing trader must provide final information - switch move	4.10	11 of schedule 11.3	The method to calculate average daily consumption is not consistent with the average consumption for the last read to read period.	Strong	Low	1	Investigating
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	Three SR breaches. One AW Breach	Strong	Low	1	Identified
Maintaining shared unmetered load	5.1	11.14	ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) was not correctly recorded in the registry with a daily kWh value, UML flag set to Y, NHH submission type set to Y or a NHH profile being recorded.	Moderate	Low	2	Cleared
Electricity conveyed & notification by embedded generators	6.1	10.13, 10.24 and 15.13	Submission had not occurred for three HHR ICPs with distributed generation and the RM was not notified of gifting. For one ICP (0000929796TU717) the meter was bridged during the audit period meaning volumes were not quantified in accordance with the code.	Moderate	Low	2	Identified
Reporting of defective metering installations	6.4	10.43(2) and (3)	ICP 0000929796TU717 was bridged by an Octopus field service agent on 17 May 2023 and the MEP was not notified that the meter was defective until 19 April 2024	Moderate	Low	2	Investigating
Collection of information by certified reconciliation participant	6.5	2 Schedule 15.2	ICP 0087050055WE1E3 not interrogated within the maximum interrogation cycle.	Moderate	Low	2	Investigating
Correction of HHR metering information	8.2	19(2) Schedule 15.2	Corrections for four sampled meter changes did not ensure all consumption recorded by the removed meter was included in the volume correction. Correction not applied for ICP 0044241000PC6AA where a switch event read amendment was accepted but the estimated HHR data was not corrected to align with this revised switch event reading.	Moderate	Low	2	Identified

			Initial estimation of missing HHR volumes is not corrected when a partial replacement of missing HHR volumes with actual HHR volumes occurs to ensure overall HHR volumes still aligns with the difference between register reads either side of the estimated period.				
Half hour estimates	9.4	15 Schedule 15.2	Corrections for four sampled meter changes did not ensure all consumption recorded by the removed meter was included in the volume corrections (148 kWh). Correction not applied for the bridged period for ICP 0000929796TU717. Correction not applied for ICP 0044241000PC6AA where a switch event read amendment was accepted but the estimated HHR data was not corrected to align with this revised switch event reading.	Moderate	Low	2	Identified
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	Event logs not routinely reviewed across all AMI providers.	Moderate	Low	2	Investigating
Calculation of ICP days	11.2	15.6	ICP days values were not provided for ICPs three ICPs (0000009610CPA7E – Oct 2022 R14 & May 2023 R7, 0000111580WEFC5 – Jan 2023 R7 & May 2023 R3, 0000057086TR7EF – Oct 2022 R3) where volumes were present in AV-090 and AV-140.	Strong	Low	1	Identified
Creation of submission information	12.2	15.4	HHR estimated volumes not rescaled for ICP 0044241000PC6AA on receipt of an accepted amended read from an incoming RR file resulting in an over submission of 3,436 kWh. Six ICPs with consumption recorded during inactive periods resulting in under submission of 7,635 kWh HHR volumes for day of disconnection not included in submission. HHR generation kWh not submitted at the earliest opportunity for three ICPs.	Moderate	Low	2	Identified

			Corrections for four sampled meter changes did not ensure all consumption recorded by the removed meter was included in the volume correction. NHH unmetered load submissions not performed from December 2023 for ICP 0007021534RN247.				
Accuracy of submission information	12.7	15.12	Some submission data was inaccurate and was not corrected at the next available opportunity. Arc provides interval data to one decimal place, which is not considered to be sufficiently accurate.	Moderate	Low	2	Identified
Reconciliation participants to prepare information	12.9	2 Schedule 15.3	ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) is not included in the submission process	Moderate	Low	2	Identified
Provision of submission information to the RM	13.1	8 Schedule 15.3	NHH submission files not submitted since December 2023 relating to one ICP with shared unmetered load	Strong	Low	1	Identified
Future Risk Rating						38	

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

RECOMMENDATIONS

Subject	Section	Description	Recommendation
Management of "inactive" status	3.9	Develop a decision matrix of disconnection methods to inactive status reason codes.	Recommend that Octopus develop a decision matrix of disconnection methods to inactive status reason codes to ensure the appropriate reason code is applied where the disconnection occurs at the meter.
Retailers must use same reading - standard switch	4.4	Requirement to provide complete and accurate information	Octopus amends its process for following up RR rejections with losing traders, or not submitting an RR where the period of time between CS delivery and availability of AMI data to enable the read comparison to be made exceeds five business days.
Losing trader provides information - switch move	4.8	Review process to monitor switch transaction timeliness	Review the monitoring of switch transaction timeliness and consider implementing the registry breach current detail report into the process.
Gaining trader to advise the registry manager - gaining trader switch	4.15	Improve accuracy of NW advisory code selection	Octopus reviews its process to generate NW request to include a matrix of common reasons to withdrawal a switch that is linked to the correct advisory code
Collection of information by certified reconciliation participant	6.5	Review AMI time difference reports	Develop a process to ensure all time difference reports and alerts are actively checked to ensure that where any differences exceed the maximum permissible errors that may have impacted the HHR data, that a HHR data correction has been applied.
Electronic meter readings and estimated readings	9.6	Process documentation to support meter event log monitoring	Develop robust process documentation for meter event log monitoring to ensure users consistently investigate and follow up with the AMI MEP where required to resolve issues with meter data integrity.
HHR aggregates information provision to the reconciliation manager	11.4	Ensure alignment between HHRVOLS and HHRAGGS	Review process that produces the AV-090 (HHRVOLS) and AV-140 (HHRAGGS) to reduce likelihood of data changes occurring between the creation of each submission file.
Accuracy of submission information	12.7	Develop and implement NSP level comparison of HHR submission volumes	Develop and implement NSP level comparison of HHR submission volumes to previous consumption month for initial submission and previous revisions for wash up submissions to ensure submission accuracy at a lower level to file total volumes.

ISSUES

Subject	Section	Description	Issue
		Nil	

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

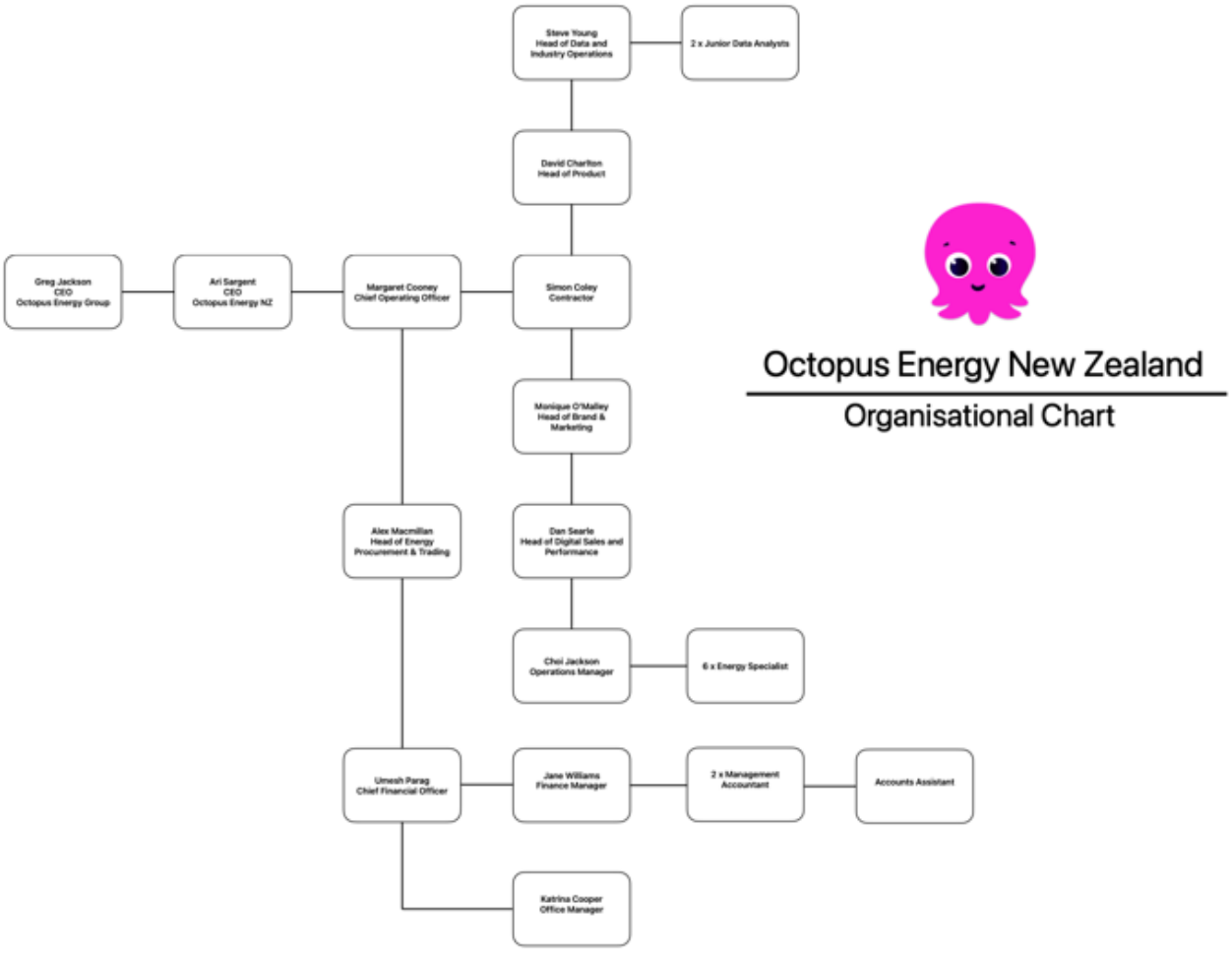
Audit observation

Current code exemptions were reviewed on the Electricity Authority website.

Audit commentary

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

1.2. Structure of Organisation



1.3. Persons involved in this audit

Auditor:

Bernie Cross

Crosshaven Consulting Limited

Electricity Authority Approved Auditor

Octopus roles assisting in this audit were:

Role
Operations Manager
Head of Energy Procurement and Trading
Energy Specialist
Head of Data and Industry Operations

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 Octopus.

Audit commentary

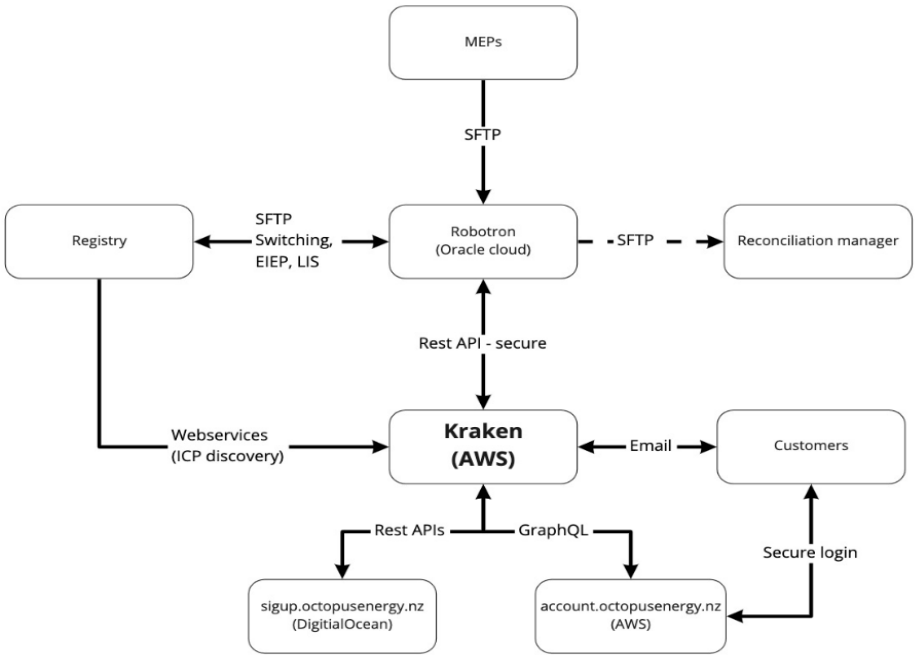
HHR data is provided by Bluecurrent (for NGCM and Smartco), IntelliHUB (for Metrix, BOPE, IntelliHUB and Counties Power), Arc, WASN and FCLM as MEPs. All ICPs have category 1 meters.

HHR data is also provided for Bluecurrent (AMCI) metering installation category 3 ICP.

1.5. Hardware and Software

Octopus is using the robotron*esales system by Robotron for most Code functions and Kraken for billing and customer information gathering.

The table below lists the systems used to meet the Octopus reconciliation participant obligations. Access to systems is restricted using logins and passwords, and back-up services for Kraken are via Amazon Web Services and Google Cloud and for Robotron are via a Sydney data centre with multiple logical sites to ensure segregated infrastructure within an availability domain. On and offsite back-ups are retained for 30 days both in Sydney and Melbourne and can be restored via a Cloud web console.



1.6. Breaches or Breach Allegations

The EA confirmed that there were no alleged breaches during the audit period relating to Octopus.

1.7. ICP Data

Active ICPs are summarised by meter category in the table below.

Metering Category	April 2024	January 2023	November 2021
1	7,239	5,730	6
2		0	0
3	1	0	0
4		0	0
5		0	0
9		0	0

Status	2024 Qty	2023 Qty	2021 Qty
Active (2,0)	7,240	5,730	6
Inactive – new connection in progress (1,12)			
Inactive – electrically disconnected vacant property (1,4)	8	1	
Inactive – electrically disconnected remotely by AMI meter (1,7)	11	5	
Inactive – electrically disconnected at pole fuse (1,8)	1	1	
Inactive – electrically disconnected due to meter disconnected (1,9)			

Status	2024 Qty	2023 Qty	2021 Qty
Inactive – electrically disconnected at meter box fuse (1,10)			
Inactive – electrically disconnected at meter box switch (1,11)	1		
Inactive – electrically disconnected ready for decommissioning (1,6)			
Inactive – reconciled elsewhere (1,5)			
Decommissioned (3)	7		

1.8. Authorisation Received

A letter of authorisation was provided.

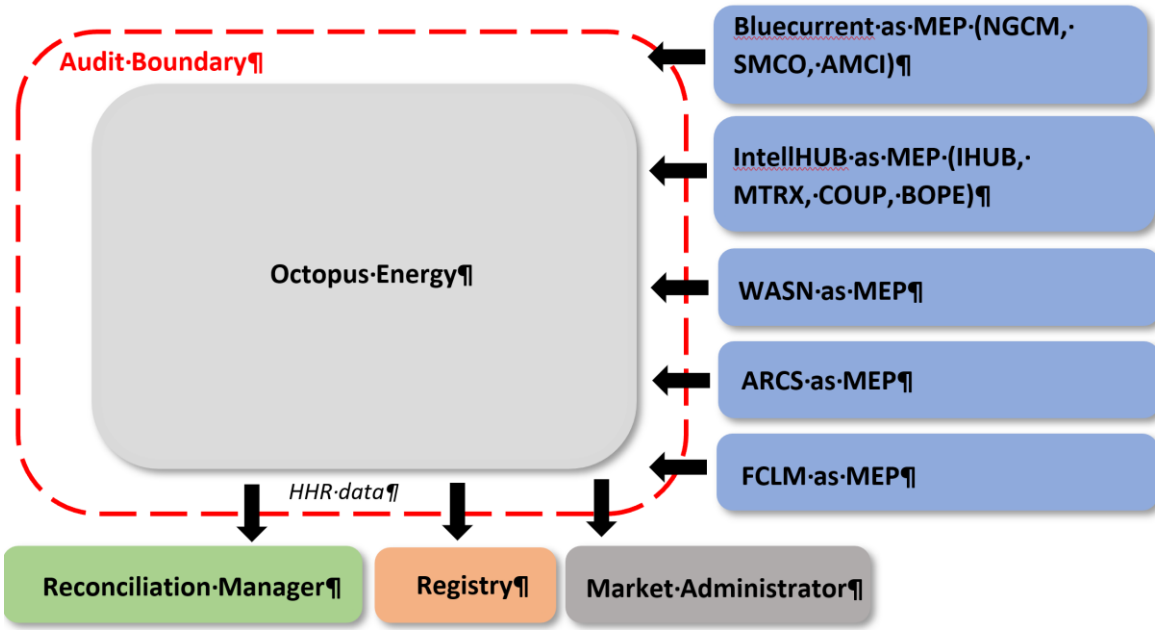
1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Octopus, 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 V7.1.

The audit was carried out at the Octopus premises in Wellington on 20 June 2024.

As part of the audit, I examined registry list, event detail reports for 1 April 2023 to 15 April 2024, audit compliance reports for 1 April 2023 to 15 April 2024, and the meter installation details report for 15 April 2024.

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



The table below shows the tasks under clause 15.38 of part 15 for which Octopus requires certification.

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs Providing AMI data
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data		Bluecurrent – HHR (C&I) Bluecurrent – HHR (AMI) Arc – HHR (AMI) FCLM – HHR (AMI) IntelliHUB – HHR (AMI) WASN – HHR (AMI)
(c)(i) - Creation and management of volume information		Bluecurrent – HHR (C&I) Bluecurrent – HHR (AMI) Arc – HHR (AMI) FCLM – HHR (AMI) IntelliHUB – HHR (AMI) WASN – HHR (AMI)
(d) – Calculation of ICP days		
(da) - delivery of electricity supplied information under clause 15.7		
(db) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8		
(e) – Provision of submission information for reconciliation		

HHR data is provided by Bluecurrent (for NGCM, AMCI, ARCS and SMCO), IntelliHUB (for MTRX, BOPE, IHUB and COUP), WASN and FCLM as MEPs. 7,239 ICPs have category 1 metering and one ICP has category 3 metering.

1.10. Summary of previous audit

Octopus provided a copy of their previous audit conducted in April 2023 by Bernie Cross of Veritek. The summary tables below show the status of the non-compliances and recommendations raised in the previous audit. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	11.2	Some inaccurate data is recorded and was not updated as soon as practicable. Some submission data was inaccurate and was not corrected at the next available opportunity.	Still existing
Changes to registry information	3.3	10 Schedule 11.1	14 late updates to "active" status. One late update to "inactive" status. Seven late trader updates relating to backdated MEP nominations.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	Nine incorrect ANZSIC codes; five have now been corrected.	Still existing
Inform registry of switch request for ICPs - standard switch	4.1	Clause 2 Schedule 11.3	NT file sent late after preconditions were met for ICP 0241220041LCBBD (from a sample of five).	Cleared
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	Two CS breaches recorded during the audit period. The method to calculate average daily consumption is not consistent with the average consumption for the last read to read period.	Still existing
Retailers must use same reading - standard switch	4.4	Clause 6(1) and 6A Schedule 11.3	Incorrect readings used for two ICPs sampled where Octopus settle as HHR, the CS read was estimated, and no read request change was sent to ensure the transfer read is accurate across the change of trader and submission types resulting in an over submission of 218 kWh. Incorrect readings used for three ICPs sampled where Octopus settle as HHR, the CS read was estimated, and the read request change was rejected by the losing trader but not followed up by Octopus to ensure the transfer read is accurate across the change of trader and submission types resulting in an over submission of 16 kWh.	Still existing
Gaining trader informs registry of switch request - switch move	4.7	Clause 9 Schedule 11.3	NT files sent late after preconditions were met for three ICPs (of a sample of eight).	Cleared
Losing trader provides information - switch move	4.8	10 of schedule 11.3	Three T2 breaches.	Still existing
Losing trader must provide final information - switch move	4.10	11 of schedule 11.3	The method to calculate average daily consumption is not consistent with the average consumption for the last read to read period for ICP 0006086349RNA76.	Cleared

Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	Incorrect readings used for ICP 1001274604UN7FD sampled where Octopus settle as HHR, the CS read was estimated, and no read request change was sent to ensure the transfer read is accurate across the change of trader and submission types resulting in an over submission of 8 kWh. Incorrect readings used for three ICPs sampled where Octopus settle as HHR, the CS read was estimated, and the read request change was rejected by the losing trader but not followed up by Octopus to ensure the transfer read is accurate across the change of trader and submission types resulting in an over submission of 55 kWh. HHR estimated volumes not rescaled for ICP 0007113141RN054 on receipt of an accepted amended read from an incoming RR file resulting in an over submission of 198 kWh.	Still existing
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	Nine NA breaches. One SR breach.	Still existing
Correction of HHR metering information	8.2	Clause 19(2) Schedule 15.2	Corrections for one sampled meter change (ICP 0000283321MP942) did not ensure all consumption recorded by the removed meter was included in the volume correction. Correction not applied for ICP 0007113141RN054 where a switch event read amendment was accepted but the estimated HHR data was not corrected to align with this revised switch event reading. Initial estimation of missing HHR volumes is not corrected when a partial replacement of missing HHR volumes with actual HHR volumes occurs to ensure overall HHR volumes still aligns with the difference between register reads either side of the estimated period.	Still existing
Half hour estimates	9.4	Clause 15 Schedule 15.2	Corrections for one sampled meter change (ICP 0000283321MP942) did not ensure all consumption recorded by the removed meter was included in the volume correction. Correction not applied for ICP 0007113141RN054 where a switch event read amendment was accepted but the estimated HHR data was not corrected to align with this revised switch event reading.	Still existing
Calculation of ICP days	11.2	Clause 15.6	ICP days values were not provided for ICPs 0000102561TR5A2, 0015702380EL86D for multiple submissions where volumes were present in AV-090 and AV-140.	Still existing

Creation of submission information	12.2	15.4	HHR Initial submission files for June 2022 was provided late to the Reconciliation Manager. HHR estimated volumes not rescaled for ICP 0007113141RN054 on receipt of an accepted amended read from an incoming RR file resulting in an over submission of 198 kWh. HHR volumes for day of disconnection not included in submission.	Still existing
Accuracy of submission information	12.7	15.12	Some submission data was inaccurate and was not corrected at the next available opportunity. Arc provides interval data to one decimal place, which is not considered to be sufficiently accurate.	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 processes to find and correct incorrect information was examined. The registry validation processes were examined in detail in relation to the achievement of this requirement.

The registry list and AC020 reports were examined to identify any registry discrepancies, and to confirm that all information was correct and not misleading.

Audit commentary

Robotron*esales monitors the registry notification (NOT/NMR) files on a daily basis and requests detail EDA files to keep attributes up to date. In addition, an end of month snapshot check of the LIS file report is used to make sure that all factors are correct for submissions.

The Audit Compliance Report is used to monitor compliance with specific clauses of the Code. A number of these checks are performed manually on a regular twice a month basis and prior to creating market submission data on BD4 and BD13. Current Octopus reports are listed below:

- Standard RM file reporting,
- Consumption on “inactive” ICP,
- Missing HH meter data,
- Data received for an ICP which is not in robotron*esales,
- Negative meter data values,
- Zero daily consumption for an ICP,
- Threshold report for RM files,
- ICP days details (per ICP),
- LIS file check to compare ICP in robotron*esales vs. Registry,
- End of month LIS file check to find differences to Registry regarding (NSP, Recon. Submission, MEP, Profile, Loss Code, Installation Type, NSP Dedication, Recon. Type, Network),
- Expired meters, and
- Unmetered load.

There are additional checks for RM files.

- Missing submission value,
- Check 0 < daily sum < 10,000 kWh, and
- Deviation to previous month < 100%.

The analysis of the list file and AC020 report returned the following findings:

Issue	2024 Qty	2023 Qty	2021 Qty	Comments
ICP is at "ready" or "inactive" new connection in progress status but is ICP is connected	-	-	-	Octopus does not complete new connections**.**
Active date variance with Initial Electrical Connection Date	-	-	-	Octopus does not complete new connections.
Incorrect "active" date	-	-	-	Compliant
Active with no MEP and unmetered flag = N	-	-	-	Compliant.
Incorrect submission flag	1		-	See **section 5.1**.
Incorrect Profile code	-	1	-	Compliant.
Active with ANZSIC blank, "T999" not stated or "T994" don't know	-	-	-	Compliant.
Active with an incorrect ANZSIC code	8	11		See **section 3.6.**
Category 9 but "active" with MEP and UML "N"	-	-	-	Compliant.
ICPs with Distributor unmetered load details populated but retail unmetered load details are blank	1	-	-	See **section 5.1**.
ICPs with unmetered load flag Y but load is recorded as zero	-	-	-	Compliant.
ICPs with incorrect shared unmetered load	1	-	-	See **section 5.1.**
ICPs with Distributed Generation indicated but I flow metering not installed	3	-	-	See **section 6.1.**

Some late status updates and trader updates were also recorded.

Read and volume data accuracy.

Processes for validation of read and volume data are compliant. Review of a sample of data confirmed that errors and meter accuracy issues are being detected and appropriately corrected. The following submission accuracy issues were identified.

Subject	Section	Comments
Arc Meters	2.1, 12.7	Octopus supplies six "active" ICPs with HHR settled Arc meters. 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. Unfortunately for Octopus, 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, Octopus may not be charged at the wholesale rate that applied during the trading period when the electricity was consumed
Application of CS readings	2.1, 12.7	For ICP 0044241000PC6AA Octopus did not receive any HHR data for the period of supply and the entire period was estimated within robotron*esales. Once the revised transfer read was accepted by Octopus and it was not entered into robotron*esales and there was no re estimation of the HHR data to rescale the volumes to the amended read. The volume impact of the estimated HHR data not being rescaled to align with the mended read was assessed to be 3,436 kWh.
Consumption while inactive	2.1, 3.9, 12.2, 12.7	A list of nine ICPs were provided by Octopus where inactive consumption was recorded at an ICP since April 2023. • for three ICPs the inactive consumption was from a generator supplying three ICPS after a fire had damaged the incoming power supply to an apartment complex. • for ICP 0000133477TR708 the inactive status event date was incorrectly applied 12 months prior (17 January 2023) to the actual disconnection date (17 January 2024). The status event date was corrected on 12 June 2024 however the delay in correcting the inactive status event date was that this ICP was not included in the final revisions (R14) for January, February and March 2023. • For five ICPs had inactive consumption recorded due to incorrect event dates being applied or rejected registry status events.
Unmetered load	2.1, 5.1, 12.2, 12.7, 13.1	ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) was not correctly recorded in the registry with a daily kWh value, UML flag set to Y, NHH submission type set to Y or a NHH profile being recorded.
Bridged meters	2.1,	Two ICPs were found to have been bridged during the audit period: • ICP 0001541100PC4DB switched (MI switch type) to Octopus on 2 September 2023 where the meter had been bridged during the previous trader's tenue. A HHR volume correction has been applied and will be included in the next available revision. • ICP 0000929796TU717 switched (MI switch type) to Octopus on 15 May 2023 and a reconnection was required to be performed. The technician that attended the site could not contact the MEP to arrange a remote reconnection so bridged the meter. The paperwork returned to Octopus advised that the meter had been bridged, however this information was not acted on. This ICP was eventually identified in the Octopus zero consuming report on 18 April 2024 and was unbridged on 10 May 2024. A HHR volume correction has been applied and will be included in the next available revision.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11.2 & 15.2 From: 01-May-23 To: 15-Apr-24	Some inaccurate data is recorded and was not updated as soon as practicable. Some submission data was inaccurate and was not corrected at the next available opportunity. Potential impact: Medium 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 at the time of the audit because the validation reporting is not sufficiently robust to identify all common types of exceptions. Some submission issues identified are not resolved in a timely manner. The impact is assessed to be low based on the minor impact on submission accuracy.

Actions taken to resolve the issue	Completion date	Remedial action status
ARC Meters ARC meters are currently in the process of being displaced. On 17 July there were only two remaining OCTO held ICPs with these meters. As per instructions from Bluecurrent we nominated NGCM as the new MEP in June 2024 so they will be replaced in the near future. UML Strong monitoring in place. Submissions up-to-date for all but two months. See sections 3.7 Changes to unmetered load and 5.4 Maintaining shared unmetered load for full details. CS Reads HHR volume corrections have been applied for 0044241000PC6AA. Switch in read in details were adjusted according to the RR accepted. Data has already begun to be included in revisions.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As detailed above	Ongoing	

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 several 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

HHR data is provided by Bluecurrent (for AMCI, NGCM, ARCS and SMCO), IntelliHUB (for MTRX, BOPE, IHUB and COUP), WASN and FCLM as MEPs via SFTP. To confirm the transmission process, I traced a sample of reads and volumes for a diverse sample of 13 HHR ICPs from the source files to robotron*esales and HHR aggregates submissions. The sample included all data providers.

Audit commentary

All read and volume data is transferred to Octopus via SFTP. I traced a sample of data for 13 HHR ICPs from the raw data files to robotron*esales and the HHR aggregates files and confirmed that the readings and volumes recorded were consistent with the raw data for all 13 ICPs sampled.

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 traced a sample of HHR volumes for 13 ICPs from the source files to robotron*esales.

Audit commentary

Audit trails 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 the Octopus current customer terms and conditions which are available on their website.

Audit commentary

The Octopus terms and conditions include consent to access for authorised parties for the duration of the contract.

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 the Octopus current customer terms and conditions which are available on their website.

Audit commentary

The Octopus Energy terms and conditions include consent to access for authorised parties for the duration of the contract. Octopus confirmed that they have been able to arrange access for other parties when requested.

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

The physical meter location point is not specifically mentioned in Octopus Energy's terms and conditions, but the existing practices in the electricity industry achieve compliance. The registry list was reviewed.

Review of a registry list with history confirmed that Octopus do not supply any ICPs with metering category 2 or above.

Audit commentary

Octopus only supplies one ICP with a metering installation category of 2 or above. There is currently no error or loss compensation arrangements in place for this single metering installation category 3 ICP.

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 the Octopus current terms and conditions.

Audit commentary

The Octopus 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

New connections were discussed. The registry list, event detail report and audit compliance report for the audit period were examined to determine whether any new connections were completed during the audit period.

Audit commentary

Octopus does not accept residential new connections and they have no intention of conducting any in the immediate future. Only established residential installations are traded.

Octopus competed one metering installation category 3 new connection during the audit period. Metering as installed prior to electrical connection and the registry was populated within five business days of the ICP becoming active.

If any ICP needs to be reconnected Octopus will follow processes setup by MEPs (Bluecurrent, SmartCo, Intellihub and Influx). They will update the registry with the reconnected status once the MEP has confirmed the reconnection.

The AC020 report did not record any active ICPs with metering category 9, null, or zero.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

- *for a point of connection to the grid – the grid owner has approved the connection,*
- *for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection.*
- *for a point of connection that is an ICP, but is not as NSP:*

- *the trader is recorded in the registry as the trader responsible for the ICP or has an arrangement with the customer and initiates a switch within 2 business days of electrical connection,*
- *if the ICP has metered load, 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

New connections were discussed. The registry list, event detail report and audit compliance report for the audit period were examined to determine whether any new connections were completed during the audit period.

Audit commentary

One metering installation category 3 new connection was completed during the audit period. No temporary connection was identified for this new connection.

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

Audit observation

New connection, reconnection and meter bridging processes were discussed. The residential new connection process is mapped but it has not been used yet.

The registry list, event detail report and audit compliance report for the audit period were examined to determine compliance.

Audit commentary

Active ICPs without metering.

Review of the registry list and AC020 reports confirmed that all "active" ICPs have an MEP recorded.

Reconnections.

Octopus does not have a process to notify the MEP if reconnection of an uncertified meter is required.

Octopus does monitor expired certified metered ICPs and escalates these to the relevant MEP on a regular basis. No ICPs with expired certified meters were reconnected during the audit period.

Bridged meters.

Two ICPs were found to have been bridged during the audit period. These were recertified at the time the meters were unbridged

Audit outcome

Compliant

2.12. Arrangements for line function services (Clause 11.16)

Code reference

Clause 11.16

Code related audit information

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

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

Audit observation

The process to ensure an arrangement is in place before trading commences on a network was examined, along with the application process. The registry list was examined to confirm the networks Octopus trades on.

Audit commentary

Octopus has agreements in place for line function services for all networks that they are currently trading on. Octopus also have agreements in place for a number of additional networks in preparation for further expansion into other supply regions in the future.

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 metering equipment provider before an ICP can be created or switched in was checked. The registry list was examined to confirm the MEPs for the Octopus ICPs.

Audit commentary

Octopus has confirmed that agreements are currently in place with Bluecurrent (NGCM, AMCI, ARCS), IntelliHUB (IHUB, MTRX, BOPE) Counties Metering (COUP), Influx (FCLM), SmartCo (SMCO) and Wel Network Metering (WASN). The process to accept a customer includes that the metering must be with a MEP that Octopus have an agreement with. If the need arises Octopus will enter into agreements with other MEPs.

Audit outcome

Compliant

2.14. Connecting ICPs then withdrawing switch (Clause 10.33A(5))

Code reference

Clause 10.33B

Code related audit information

If a trader connects an ICP it is in the process of switching and the switch does not proceed or is withdrawn the trader must:

- *restore the disconnection, including removing any bypass and disconnecting using the same method the losing trader used,*
- *reimburse the losing trader for any direct costs incurred.*

Audit observation

The process for reconnecting ICPs during switch in was discussed.

The event detail report was reviewed to identify reconnections for switch ins where the switch was withdrawn, and the ICP was no longer supplied by the trader.

Audit commentary

If an ICP was reconnected as part of the switching process and the switch was later withdrawn, Octopus would restore the disconnection and reimburse the losing trader for any direct costs incurred if requested.

Review of the event detail report identified 35 ICPs reconnected as part of the switching process; all the switches were completed and not withdrawn.

Audit outcome

Compliant

2.15. Electrical disconnection of ICPs (Clause 10.33B)

Code reference

Clause 10.33B

Code related audit information

Unless the trader is recorded in the registry or is meeting its obligation under 10.33A(5) it must not disconnect or electrically disconnect the ICP or authorise the metering equipment provider to disconnect or electrically disconnect the ICP.

Audit observation

The disconnection process was examined.

Traders are only able to update the ICP status for event dates where they are responsible for the ICP on the registry. The event detail reports were reviewed to identify all ICPs which were disconnected during the audit period where an NT was received from another trader during the audit period. I checked a sample of these ICPs where the disconnection event date was after the NT receipt date and/or NT event date to determine compliance.

Audit commentary

The Octopus policy is not to disconnect any ICP in the process of switching out.

73 ICPs were disconnected during the audit period, and 66 of those had NT files issued by other traders. In all cases the NT event date and NT receipt date were after Octopus had completed the disconnection.

Audit outcome

Compliant

2.16. Removal or breakage of seals (Clause 48(1C), 48 (1D), 48 (1E), 48 (1F) of Schedule 10.7)

Code reference

Clause 48(1C), 48 (1D), 48 (1E), 48 (1F) of Schedule 10.7

Code related audit information

A trader can remove or break a seal without authorisation from the MEP to:

- *reset a load control switch, bridge or un-bridge a load control switch – if the load control switch does not control a time block meter channel,*
- *electrically connect load or generation, of the load or generation has been disconnected at the meter,*
- *electrically disconnect load or generation, if the trader has exhausted all other appropriate methods of electrical disconnection,*
- *bridge the meter.*

A trader that removes or breaks a seal in this way must:

- *ensure personnel are qualified to remove the seal and perform the permitted work and they replace the seal in accordance with the Code,*
- *replace the seal with its own seal,*
- *have a process for tracing the new seal to the personnel,*
- *update the registry (if the profile code has changed)*
- *notify the metering equipment provider.*

Audit observation

This was discussed during the audit.

I checked ICPs where work had been conducted which could have resulted in seals being removed or broken, to determine compliance.

Audit commentary

All activities which could result in seals being removed or broken are completed by the MEP or their subcontractors. The MEPs are required to ensure that only qualified personnel perform work and manage and trace seals.

Octopus receives work completion paperwork from the MEPs and uses this information to confirm the correct ICP attributes including status and update the registry. The MEPs do not usually provide details of seals in their job completion paperwork.

I checked ICPs where work had been conducted which could have resulted in seals being removed or broken:

- all AMI disconnections and reconnections were conducted remotely or using a handheld device that enabled the meter relay to be closed, and no seals were broken in the process, and
- Two bridged meters were identified and both ICPs were unbridged, resealed and recertified by the MEP.

Audit outcome

Compliant

2.17. Meter bridging (Clause 10.33C and 2A of Schedule 15.2

Code reference

Clause 10.33C and 2A of Schedule 15.2

Code related audit information

A trader, or a distributor or MEP which has been authorised by the trader, may only electrically connect an ICP in a way that bypasses a meter that is in place ("bridging") if, despite best endeavours:

- *the MEP is unable to remotely electrically connect the ICP,*
- *the MEP cannot repair a fault with the meter due to safety concerns,*
- *the consumer will likely be without electricity for a period which would cause significant disadvantage to the consumer.*

If the trader bridges a meter, the trader must:

- *determine the quantity of electricity conveyed through the ICP for the period of time the meter was bridged,*
- *submit that estimated quantity of electricity to the reconciliation manager,*
- *within 1 business day of being advised that the meter is bridged, notify the MEP that they are required to reinstate the meter so that all electricity flows through a certified metering installation.*

The trader must determine meter readings as follows:

- *by substituting data from an installed check meter or data storage device*
- *if a check meter or data storage device is not installed, by using half hour data from another period where the trader considers the pattern of consumption is materially similar to the period during which the meter was bridged,*
- *if half hour data is not available, a non-half hour estimated reading that the trader considers is the best estimate during the bridging period must be used.*

Audit observation

Processes for bridged meters were discussed, and events that have resulted in meter bridging or caused by meter bridging were reviewed.

Audit commentary

Octopus only supplies HHR meters, which are disconnected and reconnected remotely. Octopus does not normally allow meters to be bridged.

Two ICPs were found to have been bridged during the audit period:

- ICP 0001541100PC4DB switched (MI switch type) to Octopus on 2 September 2023 where the meter had been bridged during the previous trader's tenue. The customer notified Octopus on

4 October 2023 that the meter display stated meter was disconnected, however the customer had power. Octopus raised a work request to the MEP and the meter was unbridged on 3 November 2023. A HHR volume correction has been applied and will be included in the next available revision.

- ICP 0000929796TU717 switched (MI switch type) to Octopus on 15 May 2023 and a reconnection was required to be performed. The technician that attended the site could not contact the MEP to arrange a remote reconnection so bridged the meter. The paperwork returned to Octopus advised that the meter had been bridged, however this information was not acted on. This ICP was eventually identified in the Octopus zero consuming report on 18 April 2024 and was unbridged on 10 May 2024. A volume correction has now been applied by Octopus.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.17 With: Clause 2A of Schedule 15.2 From: 15-May-23 To: 10-May-24	ICP 0000929796TU717 was bridged by Octopus Energy's field service agent and the MEP was not notified within one business day. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are moderate as while there was reporting in place to monitor zero consuming ICPs, this was not being consistently reviewed. The audit risk rating is low as only one ICP is identified and the affected ICP is metering installation category 1, so the affected volumes are quite small

Actions taken to resolve the issue	Completion date	Remedial action status
HHR volume corrections have been applied. Estimates were created using the actual data received once the meters were unbridged. Submission data is already being included for 0001541100PC4DB and data for 0000929796TU717 will be included in the next revisions.	19 July 2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Monitoring via dashboards has been put in place to identify ICPs where there is a potential bridged meter or where inactive meters are recording consumption. The documentation around these processes has been further developed and the team now has a more frequent schedule for working on these.	18 July 2024	

2.18. Use of ICP identifiers on invoices (Clause 11.30)

Code reference

Clause 11.30

Code related audit information

Each trader must ensure the relevant ICP identifier is printed on every invoice or document relating to the sale of electricity.

Audit observation

The process to ensure that the ICP identifier is printed on every invoice or document relating to the sale of electricity was discussed, and the invoice format was reviewed.

Audit commentary

Octopus provided an invoice copy and confirmed that the ICP field is displayed.

Audit outcome

Compliant

2.19. Provision of information on dispute resolution scheme (Clause 11.30A)

Code reference

Clause 11.30A

Code related audit information

A retailer must provide clear and prominent information about Utilities Disputes:

- *on their website*
- *when responding to queries from consumers*
- *in directed outbound communications to consumers about electricity services and bills.*

If there are a series of related communications between the retailer and consumer, the retailer needs to provide this information in at least one communication in that series.

Audit observation

The process to ensure that information on Utilities Disputes is provided to customers was discussed. Invoices, emails, and the Octopus website were reviewed to determine whether clear and prominent information on Utilities Disputes is provided.

Audit commentary

Clear and prominent information on Utilities Disputes is provided:

- on the Octopus website's contact page - there is information about Utilities Disputes including a link to their telephone number and website,
- in the Octopus current terms and conditions,
- on each Octopus invoice, and
- as part of the email footer for directed outbound emails where the interaction with the customer relates to a dispute or compliant.

Outbound communications to customers are normally via email. Octopus uses a communications tool called Ink to track all email communications with their customers. Automated email footers are not part of Ink's email format and where the communication relates to a customer compliant or dispute the user copies and pastes the UDL content from the Octopus Website and includes this as the email footer in

the email communication. Octopus have developed a shortcut key within the Ink system that users can manually use to add a standard email footer to the Ink emails that will include the UDL content. Octopus continue to look into how an automatic footer can be applied to Ink emails that contains both UDL information.

Audit outcome

Compliant

2.20. Provision of information on electricity plan comparison site (Clause 11.30B)

Code reference

Clause 11.30B

Code related audit information

A retailer that trades at an ICP recorded on the registry must provide clear and prominent information about Powerswitch:

- *on their website*
- *in outbound communications to residential consumers about price and service changes*
- *to residential consumers on an annual basis*
- *in directed outbound communications about the consumer's bill.*

If there are a series of related communications between the retailer and consumer, the retailer needs to provide this information in at least one communication in that series.

Audit observation

The process to ensure that information on Powerswitch is provided to customers was discussed. Invoices and the Octopus website were reviewed to determine whether clear and prominent information on Powerswitch is provided.

Audit commentary

Clear and prominent information on Powerswitch is provided:

- on the Octopus website's homepage - there is a button which links to Powerswitch,
- in the Octopus current terms and conditions, and
- on each Octopus invoice, which customers receive weekly.

Octopus meets the annual requirement to provide information on Powerswitch through including this information on its weekly invoices.

Octopus has yet to undertake a price review and change for their customers. Any communications to customers regarding price and service changes will be via email and this communication will include information on Powerswitch.

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 connection process was discussed. The registry list, event detail report and audit compliance report for the audit period were examined to determine whether any new connections were completed during the audit period.

Audit commentary

Octopus does not currently process residential new connections. Review of the registry reports confirmed that one metering installation category 3 new connection was completed during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

The new connection, disconnection, reconnection, MEP nomination, and switching processes were examined. This clause links directly to **sections 3.3** below, where findings on the timeliness of updates are recorded.

The audit compliance report for the audit period was analysed in relation to updating of the registry.

Audit commentary

Octopus does not accept residential new connections and they have no intention of conducting any in the immediate future. Only established residential installations are traded.

Octopus competed one metering installation category 3 new connection during the audit period. Metering as installed prior to electrical connection and the registry was populated within five business days of the ICP becoming active.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

The processes to manage status changes are discussed in detail in **sections 3.8** and **3.9** below. The processes to manage MEP nominations and trader updates were discussed. All late updates were reviewed to determine why they were delayed.

Audit commentary

Status updates

Octopus uses robotron*esales to create maintenance files and make changes to the registry by sending files via SFTP server.

The audit compliance report was examined to confirm whether the registry is notified within five business days when information referred to in clause 9 of schedule 11.1 changes.

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	Nov 2021		N/A	N/A
	Jan 2023	21	79.38%	3.33
	April 2024	**14**	**85.86%**	**3.73**

Status	Review period end	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Inactive	Nov 2021		N/A	N/A
	Jan 2023	1	96.97%	0.88
	April 2024	**8**	**94.81%**	**3.48**

Five of the late updates to active status were made more than 30 business days after the event date, and the latest update was 249 business days after the event date. I checked 17 of the 21 late updates made more than five business days after the event date and found the following:

- two updates[1] were due to human error where the incorrect event date was applied by the user,
- there were nine examples[2] of internal processing delays updating the registry status.
- Six late updates relating to three ICPs[3] (active and inactive events) were due to a fire at an apartment complex which damage the meter board for 4 ICPs. Octopus were notified late by the distributor of the supply isolation (supplied by standalone generator) and reconnection for the affected period.

Trader updates and MEP nominations

Event	Year	ICPs Notified Greater Than 5 Days	Percentage Compliant	Average Notification Days
Trader updates	Nov 2021			
	Jan 2023	9	82.69%	2.83
	April 2024	**33**	**62.92%**	**7.06**

Trader updates including MEP nominations are processed manually using the registry user interface once the correct values and event date have been confirmed. Five of the late MEP nominations were made more than 30 business days after the event date, and the latest update was 81 business days after the event date

A sample of ten late MEP nominations were reviewed and found:

- one was to replace an incorrect MEP nomination due to user error selecting the incorrect MEP participant code
- Four related to overlapping MEP event dates where the outgoing MEP had applied an event to provide an event reading (removed read) for the same day as the required MEP nomination date that Octopus needed to use for the incoming MEP. Octopus arranged for the outgoing MEP to correct their MEP event to enable the MEP nomination to apply from the correct date, and
- Five were MEP Nominations where the MEP or their field service agent had provided incorrect information on the paperwork resulting in an initial incorrect MEP nomination. The late MEP nominations were corrections to the initial MEP nomination.

[1] ICPs 1002058378LCFF1, 0000133477TR708.
[2] 0010402232ELBB8, 0000623391UN40D, 0000131634TR02A, 0457480645LCA52, 0000204540DE511, 0013558420EL505, 0001443623UNF06, 0000031603DE6A3.
[3] 1001146577LC9AF, 1001146583LC8B2, 1001146529LC23C.

ANZSIC code population

The audit compliance report identified 54 ANZSIC codes updated more than 20 business days after trading commencing. Octopus have implemented a monthly process to contact non residential consumers to check the ANZSIC code against the consumers advised operational use of the ICP. 30 of the 54 late ANZSIC code updates relate to a clean up project undertaken by Octopus as part of the remedial actions from the previous audit.

The accuracy of the ANZSIC code population is discussed further in **section 3.6**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 Schedule 11.1 From: 01-May-23 To: 15-Apr-24	22 late status updates. Six late trader updates relating to backdated MEP nominations. 54 late ANZSIC code updates Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate. The manual nature of the current process to update status events can lead to delays where resourcing is low and there is a risk some updates are missed. The impact on settlement and participants is minor. While the 22 late status updates were for HHR submitted ICPs, the late updates have impacted the Reconciliation Managers calculation of seasonal shapes for all NHH retailers, the overall number of updates exceeding one consumption period is small, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
The query that generates the "TRM" update file for both ANZSIC and MEP nominations has been changed to utilise the date we identify the need to update the code or nominate the MEP – previously we were incorrectly backdating the update date to the date we gained the ICP. We have also added a system hold for previously non-resi ANZSIC ICPs at the point of switch-in and trained our team on finding out and updating the current status.	June 2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above: TRM update file corrected. System hold to stop non-resi ICPs slipping through. Additional staff training completed.	June 2024	

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

The new connection, MEP nomination and decommissioning processes were reviewed, and the registry list and audit compliance reports were examined to confirm process compliance.

Audit commentary

Octopus understands that they are responsible for the ICP while they are the trader noted on the registry until such time as an ICP switches out or becomes decommissioned. The process notes that all information must be complete and accurate and discusses critical elements for maintaining registry processes.

Retailers Responsibility to Nominate and Record MEP in the Registry

Octopus ensures that ICPs have a communicating AMI meter before they switch in, and MEP changes are not expected.

Review of the AC020 report confirmed that all "active" ICPs have a valid MEP and at least one meter channel recorded in the registry. Backdated MEP nominations are recorded as non-compliance in **section 3.3**.

ICP Decommissioning

Review of the event detail report identified seven ICPs were decommissioned during the audit period. Octopus is aware of their responsibility to notify the MEP where an ICP is decommissioned, and to obtain a final reading.

The seven ICPs that were decommissioned during the audit period were reviewed and found that for all ICPs the MEP was advised by Octopus prior to the decommissioning of the ICP to retrieve their metering assets and final readings were obtained.

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

New connections were discussed. The registry list, event detail report and audit compliance report for the audit period were examined to determine whether any new connections were completed during the audit period.

Audit commentary

Review of the registry reports confirmed that Octopus has completed one new connection during the audit period.

Octopus uses robotron*esales to create maintenance files and make changes to the registry by sending files via SFTP server.

No late updates or discrepancies relating to new connections were identified on the registry list, event detail report or audit compliance report.

Audit outcome

Compliant

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 and AC020 reports were reviewed. ANZSIC codes were checked for a sample of ICPs to determine compliance.

Audit commentary

ANZSIC codes are set based on information provided on the customer application, and appropriate processes are in place to ensure that ANZSIC codes are confirmed with the customer during the onboarding process and are recorded correctly.

No "active" ICPs have blank or T99 (unknown) series ANZSIC codes, and one ICPs has a metering installation category recorded as two or higher.

The Octopus products are focused on residential customers and the sign-up process is web based where business customers are encouraged to contact Octopus outside of the automated onboarding process which enables Octopus to determine if there is a suitable product available for the potential business customer and also enables the correct ANZSIC code to be assigned. Octopus have also implemented a monthly process since the previous audit that to contact non residential consumers to check the ANZSIC code against the consumers advised operational use of the ICP

I checked ANZSIC codes for a sample of 15 ICPs with the most frequently applied codes by comparing them to google street view and registry property name information. Also, all ICPs with a residential ANZSIC code were compared to non residential distributor price category codes and the registry property name information. Where the correct ANZSIC code could not be confirmed I checked the customer information held by Octopus against the ANZSIC code. Eight were found to be incorrect where Octopus updated the previously accurate ANZSIC code to incorrectly record the residential ANZSIC code. All eight ICPs have now been corrected.

Octopus have extended their monitoring of ANZSIC codes to now review recently gained ICPs on non residential ANZSIC codes to ensure these exceptions are followed up with the consumer to confirm the correct ANZSIC code.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: Clause 9 (1(k) of Schedule 11.1 From: 01-May-23 To: 15-Apr-24	Eight incorrect ANZSIC codes identified from a sample of 15. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong as there is a process to confirm ANZSIC with consumers as part of the onboarding process based on consumer name and also Where the ANZSIC code was non residential prior to switching to Octopus. The impact is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We have also added a hold for previously non-resi ANZSIC ICPs at switch-in. There is then a process for our team to contact the customer to find out the correct code.	June 2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Staff training is ongoing and the new onboarding process (with an automated system-hold) is in place. Monthly database checks continue to look for non-residential price category codes, business names, and the ICP's ANZSIC history.	Ongoing	

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 processes to manage unmetered load were examined. The registry list audit and audit compliance reports were examined to identify ICPs where unmetered load was recorded by the distributor and/or Octopus.

Audit commentary

It is the Octopus policy to only accept applications from customers who do not have unmetered load connected.

Customers may be asked to try another trader or meter the UML.

If UML does slip through their validation or it is backdated by a distributor update, robotron*esales is capable of using the daily kWh from the registry to calculate volume.

A review of the registry list and audit compliance reports identified one ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day). The assignment of shared unmetered load by the distributor occurred during Octopus's tenure as retailer for the ICP.

Octopus have updated the registry with the correct unmetered load details as part of this audit.

During the audit Octopus implemented an automated monitoring process that consumes the network event notification file and presents an exception to the operations team dashboard and overall retail dashboard ensuring full oversight by the operations team and management. The test results from this new UML exception monitoring process were reviewed as part of the audit and confirmed as operating as expected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 14-Dec-23 To: 24-May-24	ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) missing a daily kWh value populated in the registry Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because there was no process to monitor potential new unmetered load or changes to UML during the full audit period. The new automated process has been tested and will clearly identify UML exceptions going forward. The impact on settlement and participants is low; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Our system prevents ICPs with UML from signing up. In light of the situation outlined above by the auditor, strong automated monitoring and alerting of UML has been put in place and our team is fully-versed in how to handle these situations in the future. The monitoring includes a UML indicator on our reporting dashboard and automated Slack alerts from this if any ICPs with UML are identified. We also run the Audit Compliance Report twice a month (as part of our Business Day 4 and 13 checking processes prior to the RM submissions). The ICP concerned has now switched out and with the controls in place we are confident that any future similar situations will be resolved very promptly. We have submitted data to the market for the UML that we missed between Dec 2023 and June 2024. To-date data has been provided in the washup files for all but two months (Jan and Feb 2024). These will be done with the appropriate BD13 washup files over the next couple of months.	June to August 2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above, strong monitoring is in place.	17 July 2024	

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

As discussed in **sections 2.9** and **3.5** Octopus does not complete residential new connections. A review of the event detail report and AC020 report confirmed this.

The reconnection process was examined using the AC020 and event detail reports. The timeliness of data for reconnections is assessed in **section 3.3**, and a sample of ten updates were checked for accuracy.

Audit commentary

Status events are entered directly into the registry by users as part of a manual review of disconnection/ reconnection/new connection paperwork. robotron*esales is updated from the registry each day.

The expectation is that all ICPs will be switched in with an "active" status. Where this is not the case, Octopus have a process in their documentation to investigate why the status is not "active", if it is expected to be. Octopus also have a consumption on inactive ICPs process where every 4 working days for each inactive ICP is checked to see if inactive consumption (if so, it is investigated), to monitor potential incorrect registry status values.

Reconnection information accuracy

100 ICPs had status changes to "active" on the event detail report. All had fully certified metering installations in place. A sample of ten of the 100 reconnections on the event detail report were checked and found:

- all had the correct status, and
- nine had the correct status date applied.
- The status event date for ICP 1002058378LCFF1 was initially incorrectly entered for the wrong event date but was corrected on the same day.

Some late status changes to "active" are recorded as non-compliance in **section 3.3**.

One new connection was completed during the audit period, and the AC020 did not record any discrepancies relating to this new connection.

Audit outcome

Compliant

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

Code reference

Clause 19 Schedule 11.1

Code related audit information

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

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

Audit observation

The disconnection process was examined using the AC020 and event detail reports. The timeliness of data for disconnections is assessed in **section 3.3**, and a sample of eight updates were checked for accuracy.

Octopus does not complete residential new connections. Review of the registry list confirmed that no ICPs are at "new", "ready", or "inactive - new connection in progress" status.

Audit commentary

Obligations under the Consumer Care guidelines have been taken into account in all disconnection processes. For any disconnection, the customer details will be viewed to ensure that the customer is not a MDVC. Prior to disconnecting an ICP, notice will be given as required by those guidelines.

Disconnection information accuracy

Octopus conducts disconnections remotely where a communicating AMI meter is present and manually where the AMI meter is not communicating.

The registry is updated manually once confirmation of the disconnection is provided by the MEP. Status events are entered directly into the registry by the user. Robotron*esales is updated from the registry each day.

159 ICPs had status changes to "inactive" on the event detail report. I reviewed the reason codes and disconnection dates for a sample of 20 ICPs and found:

- for 19 ICPs the correct status reason code had been applied appropriately
- The status reason code for ICP 0000500615CEEC5 was incorrect applied as being 5 - Reconciled elsewhere. The correct reason code was 6 - Electrically disconnected ready for Decommissioning.

A further sample of ten ICPs where the reason codes were recorded as being either 9 - Electrically disconnected due to meter disconnected, 10 - Electrically disconnected at meter box fuse and 11 - Electrically disconnected at meter box switch to determine if the correct reason code has been applied. Octopus users manually apply the reason code when updating the registry status and there are currently no rules as to what reason code is selected where the disconnection occurs at the meter. It is recommended that Octopus develop a decision matrix of disconnection methods to inactive status reason codes to ensure the appropriate reason code is applied where the disconnection occurs at the meter.

Description	Recommendation	Audited party comment	Remedial action
Develop a decision matrix of disconnection methods to inactive status reason codes.	Recommend that Octopus develop a decision matrix of disconnection methods to inactive status reason codes to ensure the appropriate reason code is applied where the disconnection occurs at the meter.	Our process documentation has been updated with specific sections for Disconnections and for Decommissions. The reason codes that apply to each are clearly explained.	Identified

Late registry updates are recorded as a non-compliance in **section 3.3**.

No ICPs are currently at "inactive - new connection in progress" status.

Inactive ICPs with consumption

ICPs with "inactive" registry status are actively monitored using a robotron*esales report to confirm that no consumption was recorded during the "inactive" period. The report is reviewed every 4 working days for each inactive ICP is checked to see if inactive consumption (if so, it is investigated), to monitor potential incorrect registry status values.

Where this report does identify that consumption is being recorded due to a third-party reconnection then Octopus check whether a switch has been initiated by the third-party trader and whether the proposed switch date aligns with the reconnection date. Where either no switch has been initiated or the proposed switch date does not align with the reconnection date then Octopus escalates the ICP to the reconnecting trader to ensure the corrective action is undertaken.

A list of nine ICPs were provided by Octopus where inactive consumption was recorded at an ICP since April 2023.

- for three ICPs the inactive consumption was from a generator supplying three ICPS after a fire had damaged the incoming power supply to an apartment complex.
- for ICP 0000133477TR708 the inactive status event date was incorrectly applied 12 months prior (17 January 2023) to the actual disconnection date (17 January 2024). The status event date was corrected on 12 June 2024 however the delay in correcting the inactive status event date

was that this ICP was not included in the final revisions (R14) for January, February and March 2023.

- For five ICPs had inactive consumption recorded due to incorrect event dates being applied or rejected registry status events.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 18-Jan-24 To: 20-Jan-24	Six ICPs with consumption recorded during inactive periods resulting in under submission of 7,635 kWh. One ICP (0000500615CEEC5) with incorrect inactive status reason code. 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 overall. Most disconnection information checked was processed accurately, but there is room for improvement. The impact on settlement and participants is low; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We are currently working through the cleanup of the affected ICPs. There were some status date misalignments identified and we have updated these. There is still work to do and we will continue to progress this. The newly documented process for changing status to inactive requires the team to set the status date for the following day rather than part way through the day to avoid further misalignment.	In progress	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Monitoring via dashboards has been put in place to identify ICPs where there is a potential bridged meter or where inactive meters are recording consumption. The documentation around these processes has been further developed and the team now has a more frequent schedule for working on these. The reason codes that should apply to Disconnections and for Decommissions have been updated in our process documentation. There is a new documented process for changing status to inactive which requires the team to set the status date for the following day rather than part way through the day to avoid further misalignment and submission consumption impact.	In progress	

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 what process is in place to manage and respond to such requests.

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

Audit commentary

Review of the registry list confirmed that no ICPs have had "new" or "ready" status. Octopus has completed one new connection during the audit period.

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 Octopus deem all conditions to be met. A sample of five transfer switch NTs were checked to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

The EDA file was reviewed to determine whether any standard switches occurred.

The Switch Breach report was reviewed to identify any non-compliances.

The Standard Switch process was examined and discussed with Octopus staff.

The Octopus processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are normally 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.

A sample of five NT files were checked. Four were sent within two business days of pre-conditions being cleared, and the correct switch type was selected. However, for ICP 0284913502LC6FD the NT file was sent two business days late due to an incorrect ICP being initially requested for this customer. Once the correct ICP was identified and applied in a NT request five business days had passed.

I checked the metering category for all 1,324 transfer switch NTs found none had metering categories of three or above at the time of the switch being initiated. All had the correct switch type selected.

Audit outcome

Compliant

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

Code reference

Clauses 3 and 4 Schedule 11.3

Code related audit information

Within 3 business days after receiving notice of a switch from the registry manager, the losing trader must establish a proposed event date. The event date must be no more than 10 business days after the date of receipt of such notification, and in any 12-month period, at least 50% of the event dates must be no more than 5 business days after the date of notification. The losing trader must then:

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

When establishing an event date for clause 4, the losing trader may disregard every event date established by the losing trader for an ICP for which when the losing trader received notice from the registry manager under clause 22(a) the losing trader had been responsible for less than 2 months.

Audit observation

The AN process was examined, and the event detail report was reviewed to:

- identify AN files issued by Octopus during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- a diverse sample ANs were checked to determine whether the codes had been correctly applied.

The switch breach history report was examined for the audit period.

Audit commentary

AN timeliness

The switch breach history report recorded no AN breaches where the AN arrival date was more than three business days after the NT arrival date.

AN content

The robotron*esales system applies a response code based on a hierarchy of ICP attributes:

- PD (premise disconnected) has the highest priority and is applied where the ICP is disconnected,
- OC (occupied) is only applied for MI switches where a current contract is in place,
- AD (advanced metering) is the next response code considered based on whether recent AMI data has been received and the ICP is flagged as AMI communicating on the registry, and
- AA (acknowledge and accept) is the last response code considered by the automated AN response process and is applied for any remaining ICPs.

The event detail report was reviewed for all 754 transfer ANs to assess compliance with the setting of event dates requirements and all had proposed event dates within ten business days of the NT receipt date.

A diverse sample of six AN files were checked, and all records had the correct response codes applied.

Audit outcome

Compliant

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

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

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

Audit observation

The CS process was examined, and the event detail report was reviewed to identify CS files issued by Octopus during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records. The content checked included:

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

I checked the event detail report for CS files with average daily kWh that were negative, zero, or over 200 kWh.

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

Audit commentary

CS files are created in robotron*esales and a file is sent to the registry.

CS timeliness

The switch breach history report recorded six CS breaches where the CS arrival date was more than five business days after the CS transfer date:

- Three CS files[4] were late due to a sFTP connection failure between robotron*esales and the registry. Once the issue was identified and the affected ICPs impacted, manual CS files were created in the registry online
- ICP 0000019344NT483 has a non communicating AMI meter and the CS file was delayed until an appropriate estimate read was generated
- The NTTR for ICP 0165468637LCF59 included a proposed transfer date that was more than 5 business days earlier than the NT sent date. While Octopus provided the AN and CS on the same day as receiving the NT, by honouring the NT proposed transfer date, Octopus subsequently were in breach of clause 5 of schedule 11.3.
- The NTTR for ICP 0343498758LC54F included a proposed transfer date that was more than 17 business days earlier than the NT sent date. While Octopus provided the AN and CS on the same

[4] 0000481175CE4DE - 15/05/2023, 0289250668LC7AB - 15/05/2023, 1001246261UNB2F - 15/05/2023.

day as receiving the NT, by honouring the NT proposed transfer date, Octopus subsequently were in breach of clause 5 of schedule 11.3.

Octopus does not have a process to monitor the proposed transfer date in NTTR requests to ensure that they are reasonable and if accepted will not result in Octopus being in breach of the timeframes to provide CS response files. It is likely in both cases listed above that the proposed switch type provided by the gaining trader was incorrect and the switch type should have been switch move (MI) rather than transfer (TR).

Description	Recommendation	Audited party comment	Remedial action
Review process to monitor received NT file proposed transfer dates for reasonableness	Review the monitoring of received NT files to ensure that proposed transfer dates will not result in Octopus being in breach of the timeframes to provide CS response files.	We are implementing regular twice weekly monitoring of the switch breach reports. In future we will reject switch requests where the date requested would put us in breach.	Identified

CS content

I checked the consistency of last actual read dates and switch event read types for all 754 transfer switch CS files. 20 ICPs had a last actual read date on the last day of supply but estimates reads were provided for the event date. Where Octopus receives a daily register read for an ICP switching away and the timestamp of the daily read is not at midnight then Octopus will calculate an equivalent midnight reading using the actual half hour interval data available in their systems. This calculated event reading is flagged as an estimate in the CS file.

The Registry Functional Specification states that average daily consumption within the CS file should be the average kWh per day for the last read period. The robotron*esales system applies the following hierarchy in calculating the average daily consumption for the CS file population:

- average between last actual read AND read seven or more days earlier,
- average between last actual read AND next previous read, and
- average between last estimate (should be always switch read) and previous read.

While the robotron*esales methodology is not technically compliant with the code, it does provide a reasonable assessment of the average daily consumption.

I reviewed the average daily kWh recorded in transfer switch CS files and found none had a negative value and five had an average daily kWh value over 200 kWh. The robotron*esales calculations aligned with my manual calculations using the methodology described above. I also reviewed a sample of five ICPs with a daily average consumption of zero and all were confirmed as being correct.

The content of a sample of five transfer CS files were checked and found no errors.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 Schedule 11.3 From: 01-May-23 To: 15-Apr-24	The CS file for two ICPs was sent more than five business days after the proposed switch date. The method to calculate average daily consumption is not consistent with the average consumption for the last read to read period as described by the code. 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 the average daily consumption is a reasonable reflection of an ICPs consumption pattern, however it does not meet the definition of how this is to be calculated. The impact of the average daily consumption calculation is low therefore the risk is low.

Actions taken to resolve the issue	Completion date	Remedial action status
As we are only supplying smart meters. We believe the data we're providing in CS files is more accurate than what is specified in the code.	n/a	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We think the code should be changed to better utilise smart meter data and in May 2024 we wrote to the EA proposing a code change for this issue. The code in its current form is designed for non-ami. The response back from the EA confirmed that this issue is actively being looked at and is a part of the Code Review Programme.	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 4 calendar months of the registry manager giving the gaining trader written notice of having received information about the switch completion, provide to the losing trader a changed switch event meter reading supported by 2 validated meter readings.

- *the losing trader can choose not to accept the reading, however, must advise the gaining trader no later than 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 was analysed to identify all read change requests and acknowledgements during the audit period. A sample of files were checked to confirm that the content was correct, and that robotron*esales reflected the outcome of the RR process.

I also checked for CS files with estimated readings provided by other traders where no RR was issued, to determine whether the correct readings were recorded in robotron*esales.

The switch breach history report for the audit period was reviewed.

Audit commentary

RR

194 RRs were issued by Octopus for standard switches; 169 were accepted.

The process to determine if a transfer read is required to be disputed is automated within robotron*esales. For all new ICPs there is an automated check that is applied on receipt of AMI data once the switch is completed. Using the actual AMI interval data values and the provided midnight reads an expected transfer read is calculated and compared to the provided CS read. Where the read is different by more than one kWh then an RR file is automatically generated. The automated task remains in robotron*esales until AMI data for the first day of supply is loaded into robotron*esales to enable the check to be performed, or when a user manually cancels this ICP task.

A sample of five accepted and five rejected RRs were reviewed and found there was a genuine reason for the RRs, and they were supported by actual validated AMI meter reads and interval data for the first day of supply.

Where an RR is rejected by the losing trader, or is not requested in the timeframes set within the code, the process does not ensure the CS read within robotron*esales is replaced by the actual AMI read/HHR data to ensure Octopus complies with Clause 15.2 (requirement to provide complete and accurate information) as the actual AMI HHR data is a complete and accurate record of the consumption for the first day of supply for the ICP in question. I repeat the recommendation from the last audit that Octopus amend its process around following up RR rejections to ensure read alignment between gaining and losing traders and also outstanding read differences that are not followed up where AMI data takes more than five days to initially arrive to enable a comparison to be made.

Description	Recommendation	Audited party comment	Remedial action
Requirement to provide complete and accurate information	Octopus amends its process for following up RR rejections with losing traders, or not submitting an RR where the period of time between CS delivery and availability of AMI data to enable the read comparison to be made exceeds five business days.	We have undertaken further training for our Energy Specialists recently and have updated our documentation. Our position on this matter remains the same as 12 months ago. We believe the code in its current form is not fit for purpose for mass-market HHR retailers. There is a significant amount of overhead monitoring the RR process, for what is often around 1kWh difference. Octopus believes AMI MEPs should be providing switch reads to the market to minimise the operational inefficiency. If the MEP provides switch read to both Traders, there will be no need for constant RRs	Identified

The switch breach history report recorded three transfer related RR breaches relating to ICPs 0005342421CN79B – 187 days, 0001702120PC823 – 293 days and 0000508468CE3C4 – 294 days. AMI communication issues were identified as the reason for the delays for all three ICPs.

AC

Five AC files were issued during the audit period, and the switch breach history report did not record any late AC files. All RR requests are evaluated and validated against the ICP information, and requests within validation requirements are accepted. The agreed switch readings are entered into robotron*esales by the switching team. For four ICPs, Octopus had actual HHR data up to the transfer date therefore no re estimation of HHR data was required.

For ICP 0044241000PC6AA Octopus did not receive any HHR data for the period of supply and the entire period was estimated within robotron*esales. The revised transfer reads were not entered into robotron*esales and there was no re estimation of the HHR data to rescale the volumes to the amended read. The volume impact of the estimated HHR data not being rescaled to align with the amended reads was assessed to be 3,436 kWh.

Incoming CS files

I checked five transfer CS files received by Octopus with estimated reads where the NT proposed profile was HHR and Octopus had actual switch event meter readings from the MEP. For all five ICPs the CS estimate read provided by the losing retailer was calculated to be within 1 kWh of the Octopus calculated event reading using the AMI interval data and provided daily reads.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 6(1) and 6A Schedule 11.3 From: 01-May-23 To: 15-Apr-24	HHR estimated volumes not rescaled for ICP 0044241000PC6AA on receipt of an accepted amended read from an incoming RR file resulting in an over submission of 3,436 kWh. Three RR breaches were recorded during the audit period. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because Octopus needs to ensure no volume is lost during the switch process either as gaining or losing trader. 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
We have undertaken further training for our Energy Specialists recently and have updated our documentation with a step-by-step guide.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Along with the extra training and documentation the team are peer reviewing one another's RRs to ensure the learning is cemented and to minimise the chance of errors. Introduction of automated jobs to generate RR files in Robotron for ICPs with discrepancies between CS and Initial reads.	Ongoing	

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

The process for the management of read requests was examined. The event detail report was analysed to identify read change requests issued and received under Clause 6(2) and (3) Schedule 11.3 and determine compliance.

Audit commentary

Octopus is an HHR only trader, and other traders cannot issue read change requests to Octopus under Clause 6(2) and (3) Schedule 11.3.

Five RR files were issued to Octopus by other traders during the audit period. All five were accepted.

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 Octopus whether any disputes have needed to be resolved in accordance with this clause.

Audit commentary

Octopus 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 Octopus deem all conditions to be met. A typical sample of NTs were checked to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

The Octopus processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986.

NT files will be 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 customer is moving into an address. This information is collected as part of the customer application process.

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

The metering category for all 1,131 switch move ICPs were reviewed and found none had a metering category of three or above at the time of the switch being initiated.

Audit outcome

Compliant

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

10(1) Within 5 business days after receiving notice of a switch move request from the registry manager—

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

Audit observation

The AN and CS processes were examined, and the event detail report was reviewed to:

- identify AN files issued by Octopus during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- a diverse sample ANs were checked to determine whether the codes had been correctly applied.

The switch breach history report was examined for the audit period.

Audit commentary

AN and CS timeliness

The switch breach history report recorded one AN breach where the AN arrival date for ICP 0000228895UN056 was late by one business day overdue. The switch had to be withdrawn to correct a metering issue impacting two switching transactions (double withdrawal) to address a metering issue. On receipt of a revised NT once the metering issue had been resolved, robotron*esales did not automatically produce an AN response.

The switch breach history report recorded 11 T2 breaches that occurred during the audit period where the CS was delivered more than five business days after receipt of the NT. The robotron*esales system is configured to produce a CS file after 5 calendar days after receipt of the NT file. This configuration was updated after the last audit from five business days however the volume of T2 breaches has not reduced.

The T2 breaches were reviewed and identified that the robotron*esales sFTP connection with the registry was down for a period in May 2023 resulting in three late CS files being delivered once the issue was identified. The specific reason or the other eight T2 breaches could not be determined.

Octopus Energy does not currently monitor switching transaction timeliness using the switch beach report (breach current detail report) to identify and transactions about to breach the required timeframes.

Description	Recommendation	Audited party comment	Remedial action
Review process to monitor switch transaction timeliness	Review the monitoring of switch transaction timeliness and consider implementing the registry breach current detail report into the process.	We agree with the recommendation and will build the breach current detail report into our regular processes.	Identified

AN content

The robotron*esales System applies a response code based on a hierarchy of ICP attributes. PD (Premise Disconnected) has highest priority and is applied where the ICP is disconnected, OC (Occupied) is only applied for MI switches where a current contract is in place. AD (Advanced metering) is the next response code considered based on whether recent AMI data has been received and the ICP is flagged as AMI communicating on the registry. AA (Acknowledge and Accept) is the last response code considered by the automated AN response process and is applied for any remaining ICPs.

The event detail report was reviewed for all 901 move switch ANs to assess compliance with the setting of event dates requirements:

- all had a proposed event date less than five business days of the NT receipt date, and aligned with the proposed NT event date, and
- all had proposed event dates within ten business days of the NT receipt date.

A diverse sample of six AN files were checked, and all records had the correct response codes applied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clauses 10(1) Schedule 11.3 From: 12-May-23 To: 30-Oct-23	11 T2 breaches. One AN Breach Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate as the processes to ensure AN and CS files are sent on time do not have a reliable monitoring step to ensure that where the automated process fails that these exceptions are identified prior to the deadline for a response passes. The impact was low due to only 11 affected CS files were identified.

Actions taken to resolve the issue	Completion date	Remedial action status
Last year we made system changes to ensure that the CS is sent within 5 business days of the NT. There is still the possibility of human error where something stops the system automatically stepping through the process and manual intervention is required. We'll continue to keep focus on this and educate the team on how to meet these requirements.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As per the auditor's recommendation we are making the Breach Current Detail report part of our regular processes.	July 2024	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report and switch breach history report were reviewed to identify AN files issued by Octopus during the audit period and assess compliance with the requirement to meet the setting of event dates requirement.

Audit commentary

For all 190 switch move ANs listed on the event detail report, the proposed event date matched the gaining trader's proposed event date.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report was reviewed to identify CS files issued by Octopus during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records. The content checked included:

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

CS files with average daily kWh that were negative, zero, or over 100 kWh were identified. A sample of ten CS files were checked to determine whether the average daily consumption was correct.

Audit commentary

I checked the consistency of last actual read dates and switch event read types for all 901 switch move CS files. 50 ICPs had a last actual read date on the last day of supply but estimated reads were provided for the event date. Where Octopus does not receive a register reading or receives a daily register read for an ICP switching away and the timestamp of the daily read is not at midnight then Octopus will calculate an equivalent midnight reading using the actual half hour interval data available in their systems. This calculated event reading is flagged as an estimate in the CS file.

The Registry Functional Specification states that average daily consumption within the CS file should be the average kWh per day for the last read period. The robotron*esales system applies the following hierarchy in calculating the average daily consumption for the CS file population:

- average between last actual read AND read seven or more days earlier,
- average between last actual read AND next previous read, and
- average between last estimate (should be always switch read) and previous read.

While the robotron*esales methodology is not technically compliant with the code, it does provide a reasonable assessment of the average daily consumption.

I reviewed the average daily kWh recorded in transfer switch CS files and found none had a negative value and five ICPs had a value over 200 kWh. The robotron*esales calculations aligned with my manual calculations using the methodology described above. I also reviewed a sample of five ICPs with a daily average consumption of zero and all were confirmed as being correct.

The content of a sample of five switch move CS files were checked and found no errors.

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 4.10
With: Clause 11 Schedule 11.3

From: 01-May-22
To: 15-Apr-24</td><td colspan="3">The method to calculate average daily consumption is not consistent with the average consumption for the last read to read period.
Potential impact: Low
Actual impact: Low
Audit history: Once
Controls: Strong
Breach risk rating: 1</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 strong because the average daily consumption is a reasonable reflection of an ICPs consumption pattern, however, it does not meet the definition of how this is to be calculated.
The impact of the average daily consumption calculation is low therefore the risk 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">n/a - see comments below</td><td>n/a</td><td rowspan="3">Investigating</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">We think the code should be changed to better utilise smart meter data and in May 2024 we wrote to the EA proposing a code change for this issue. The code in its current form is designed for non-ami.
The response back from the EA confirmed that this issue is actively being looked at and is a part of the Code Review Programme.</td><td>n/a</td></tr>
</table>

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

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

The event detail report was analysed to identify all read change requests and acknowledgements during the audit period. A sample of files were checked to confirm that the content was correct, and that robotron*esales reflected the outcome of the RR process.

I also checked for CS files with estimated readings provided by other traders where no RR was issued, to determine whether the correct readings were recorded in robotron*esales.

The switch breach history report for the audit period was reviewed.

Audit commentary

RR

381 RRs were issued by Octopus for standard switches; 321 were accepted.

The process to determine if a transfer read is required to be disputed is automated within robotron*esales. For all new ICPs there as an automated check that is applied on receipt of AMI data once the switch is completed. Using the actual AMI interval data values and the provided midnight

reads an expected transfer read is calculated and compared to the provided CS read. Where the read is different by more than one kWh then an RR file is automatically generated. The automated task remains in robotron*esales until AMI data for the first day of supply is loaded into robotron*esales to enable the check to be performed, or when a user manually cancels this ICP task.

A sample of five accepted and five rejected RRs were reviewed and found there was a genuine reason for the RRs, and they were supported by actual validated AMI meter reads and interval data for the first day of supply.

Where an RR is rejected by the losing trader, or is not requested in the timeframes set within the code, the process does not ensure the CS read within robotron*esales is replaced by the actual AMI read/HHR data to ensure Octopus complies with **Clause 15.2** (requirement to provide complete and accurate information) as the actual AMI HHR data is a complete and accurate record of the consumption for the first day of supply for the ICP in question. A recommendation is recorded in **section 4.4** that Octopus amend its process around following up RR rejections.

AC

Ten AC files were issued during the audit period, and the switch breach history report did not record any late AC files. All RR requests are evaluated and validated against the ICP information, and requests within validation requirements are accepted. The agreed switch readings are entered into robotron*esales by the switching team. A sample three AC files were reviewed and in all cases, Octopus had actual HHR data up to the transfer date therefore no re estimation of HHR data was required.

Incoming CS files

I checked five switch move CS files received by Octopus with estimated reads where the NT proposed profile was HHR and Octopus had actual switch event meter readings from the MEP. For all five ICPs the CS estimate read provided by the losing retailer was calculated to be within 1 kWh of the Octopus calculated event reading using the AMI interval data and provided daily reads.

Audit outcome

Compliant

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

Code reference

Clause 14 Schedule 11.3

Code related audit information

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

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

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

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

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

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

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

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

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

Audit observation

The event detail report was examined to identify any HH switches, and switches for ICPs with metering category 3 or higher.

Audit commentary

Only one ICP (0000026835NT6D9 – metering installation category 3) out of 7,240 active ICPs supplied by Octopus is not metering category 1. No HH switches were identified.

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

Within 3 business days after the losing trader is informed about the switch by the registry manager, the losing trader must:

> *15(a) - provide to the registry manager a valid switch response code as approved by the Authority; or*
>
> *15(b) - provide a request for withdrawal of the switch in accordance with clause 17.*

Audit observation

The event detail report was examined to identify any HH switches, and switches for ICPs with metering category 3 or higher.

Audit commentary

Only one ICP (0000026835NT6D9 – metering installation category 3) out of 7,240 active ICPs supplied by Octopus is not metering category 1. No HH switches were identified.

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 was examined to identify any HH switches, and switches for ICPs with metering category 3 or higher.

Audit commentary

Only one ICP (0000026835NT6D9 – metering installation category 3) out of 7,240 active ICPs supplied by Octopus is not metering category 1. No HH switches were identified.

Audit outcome

Compliant

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

Code reference

Clauses 17 and 18 Schedule 11.3

Code related audit information

A losing trader or gaining trader may request that a switch request be withdrawn at any time until the expiry of 2 calendar months after the event date of the switch.

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

- *for each ICP, the trader withdrawing the switch request must provide the registry manager with (clause 18(c)):*
  - *the participant identifier of the trader making the withdrawal request (clause 18(c)(i)); and*
  - *the withdrawal advisory code published by the Authority (clause 18(c)(ii))*
- *within 5 business days after receiving notice from the registry manager of a switch, the trader receiving the withdrawal must advise the registry manager that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal (clause 18(d))*
- *on receipt of a rejection notice from the registry manager, in accordance with clause 18(d), a trader may re-submit the switch withdrawal request for an ICP in accordance with clause 18(c).*

All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request (clause 18(e))

- *if the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within 2 business days after receiving notice from the registry manager in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16 (clause 18(f)).*

Audit observation

The event detail report was reviewed to:

- identify all switch withdrawal requests issued by Octopus, and check a sample for accuracy,
- identify all switch withdrawal acknowledgements issued by Octopus, and check a sample of rejections, and
- confirm timeliness of switch withdrawal requests.

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

Audit commentary

NW

NW requests are performed manually on the registry by users. The process is documented within the operations manual and regular refresher training is undertaken by Octopus to ensure the team understanding the sequence of events and parameters required to action a switch withdrawal.

13 (10%) of the 124 NWs issued by Octopus were rejected by the other trader. I reviewed four rejections, and 15 acceptance files where the sample included at least two or all NWs issued for each advisory code and confirmed that the correct withdrawal advisory codes were applied for 16 NWs.

- For three ICPs[5], an incorrect advisory code of DF (Date Failed) was applied instead of CE (Customer Error). All three errors were due to user error when manually selecting the NW advisory code.
- For ICP 1000502918PCFEC an incorrect advisory code of WP (Wrong Premises) as applied instead of CE (Customer Error). The error was due to user error when manually selecting the NW advisory code.

Description	Recommendation	Audited party comment	Remedial action
Improve accuracy of NW advisory code selection	Octopus reviews its process to generate NW request to include a matrix of common reasons to withdrawal a switch that is linked to the correct advisory code.	We have developed a switching matrix document. This provides our team with explanations of the reason codes to minimise errors.	Identified

The switch breach history report recorded:

- Three SR breaches where the NW arrival date is more than 10 business days after the initial NW for the same trader requesting the withdrawal.
    - In two cases the delay was due to human error where the resending of a revised NW was missed by the user,

[5] 0007206447RN7AB, 0103020659LCCBB, 0000041303UNB10

- In one case the NW was part of a double switch withdrawal, and the delay was caused by communications between three affected retailers trying to resolve the switching preference for the affected consumer.

AW

14 (6%) of the 224 AWs issued by Octopus were rejections. I reviewed a sample of six rejected NWs including two or all rejected for each reason code, and the rejections were based on the information available at the time the response was issued.

Octopus submit NT requests as soon as a customer clears their precondition checks, and this includes future dated move switches which means some NT files are sent earlier than within two business days of an agreement being in place. This is undertaken to notify to the losing trader that Octopus has a pending customer for any potential vacant property and to discourage the losing trader from disconnecting the ICP as vacant. However, by submitting the NT earlier than two business days from when an agreement is in place this can impact the losing trader's ability to provide the CS file within the prescribed timeframe.

The switch breach history report recorded one late AW file relating to ICP 0000044070NT826 where Octopus had requested further information from the other trader before responding to the NW request.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clauses 17 and 18 Schedule 11.3 From: 01-Apr-23 To: 15-Apr-24	Three SR breaches. One AW Breach 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 recorded as strong because they mitigate risk to an acceptable level. The audit risk rating is low because a small number of files were affected.

Actions taken to resolve the issue	Completion date	Remedial action status
Octopus has and will always look to correct errors in switching regardless of time period. Particularly, if we switched a wrong property for a customer, will always work with the alt retailer to fix the switch problem.	Ongoing	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
We have developed a switching matrix document. This provides our team with explanations of the reason codes to minimise errors.	July 2024	

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 were validated meter readings or permanent estimates, and the sample checked reflected the actual reading or best estimate reading for the switch event.

The Octopus policy regarding the management of meter reading expenses is compliant.

Audit outcome

Compliant

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

Code reference

Clause 11.15AA to 11.15AC

Code related audit information

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

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

Win-back processes were discussed. The event detail report was analysed to identify all withdrawn switches with a CX code applied within 180 days of switch completion post 31 March 2020.

Audit commentary

51 NWs were issued with a CX withdrawal reason code where Octopus was the losing trader. Four (8%) were rejected and 47(92%) were accepted. I checked a sample of five accepted files and in and in all five cases the customer had initiated the switch withdrawal.

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 processes to identify and monitor shared unmetered load were discussed. The registry list and AC020 report were reviewed to identify any ICPs with shared unmetered load and assess compliance.

Audit commentary

Octopus onboarding policy is to only accept applications from customers who do not have unmetered load connected.

A review of the registry list and audit compliance reports identified one ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) from 14 December 2023 to 17 June 2024. The application of shared unmetered load by the distributor occurred during Octopus's tenure as retailer for the ICP.

Octopus's comparison of registry data to robotron*esales data did not identify this exception as the robotron*esales reporting process only compares robotron*esales ICPs and attributes to the registry date. Where an attribute such as distributor UML details is populated, no exception is recorded.

During the audit Octopus implemented an automated monitoring process that consumes the network event notification file and presents an exception to the operations team dashboard and overall retail dashboard ensuring full oversight by the operations team and management. The test results from this new UML exception monitoring process were reviewed as part of the audit and confirmed as operating as expected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: Clause 11.14 From: 14-Dec-23 To: 12-Jun-24	ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) was not correctly recorded in the registry with a daily kWh value, UML flag set to Y, NHH submission type set to Y or a NHH profile being recorded. Potential impact: Low Actual impact: Low Audit history: none Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because there was no process to monitor potential new unmetered load during the full audit period. The new automated process has been tested and will clearly identify UML exceptions going forward. The impact on settlement and participants is low; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Our system prevents ICPs with UML from signing up. In light of the situation outlined above by the auditor, strong automated monitoring and alerting of UML has been put in place and our team is fully-versed in how to handle these situations in the future. The monitoring includes a UML indicator on our reporting dashboard and automated Slack alerts from this if any ICPs with UML are identified. We also run the Audit Compliance Report twice a month (as part of our Business Day 4 and 13 checking processes prior to the RM submissions). The ICP concerned has now switched out and with the controls in place we are confident that any future similar situations will be resolved very promptly. We have submitted data to the market for the UML that we missed between Dec 2023 and June 2024. To-date data has been provided in the washup files for all but two months (Jan and Feb 2024). These will be done with the appropriate BD13 washup files over the next couple of months.	June 2024 to Aug 2024	Cleared

Preventative actions taken to ensure no further issues will occur	Completion date	
As above, we have put strong controls in place and we are confident that if UML is added to any OCTO held ICPs we will act on that promptly.	17 July 2024	

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 and AC020 report were reviewed to identify any ICPs with unmetered load over 3,000 kWh per annum.

Audit commentary

Octopus has not supplied any ICPs with standard unmetered load.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

- *within 20 business days, commence corrective measure to ensure it complies with Part 10*
- *within 20 business days of commencing the corrective measure, complete the corrective measures,*
- *no later than 10 business days after it becomes aware of the limit having been exceeded, advise each participant who is or would be expected to be affected of:*
    - *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 and AC020 report were reviewed to identify any ICPs with unmetered load over 6,000 kWh per annum.

Audit commentary

Octopus has not supplied any ICPs with standard unmetered load.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 15.3, Clause 15.37B

Code related audit information

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

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

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

Audit observation

The registry list was reviewed to identify any ICPs with distributed unmetered load.

Audit commentary

Octopus has not supplied any ICPs with distributed unmetered load.

Audit outcome

Not applicable

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 for metering, submission, and distributed generation were reviewed. The registry list and AC020 report were examined to determine compliance.

Audit commentary

Metering installations installed

All "active" ICPs have an MEP, and at least one meter channel. No submission information is determined using subtraction.

One new connection was completed during the audit period and the metering installation was completed prior to electrical connection.

Distributed Generation

Generation fields are checked weekly as part of the Octopus registry management process, as discussed in **section 2.1**.

Analysis of the registry list file for April 2024 found that Octopus supplies 2,820 ICPs with generation recorded by the distributor; 2,813 of those had import/export metering installed and I flow volumes reported in the AV-140 HHRAGGS file for October 2022. The remaining seven ICPs were reviewed as part of the audit and found:

- import/export metering is now installed at three ICPs
- The import/export meter work order is still in progress for two ICPs (0110011305EL120, 1000615010PC4C4)
- ICP 0343787938LC181 has a distributed generation capacity of 50 kW which exceeds Octopus's business rules for supplying distributed generation consumers. Octopus have advised the consumer that they need to switch to another retailer that can offer a distributed generation product for more than 10 kW capacity
- For ICP 0000503422WEC45, the consumer has advised Octopus that the solar installation has not been completed yet.

- For ICP 0007214170RN33D, Octopus have not been advised by either the distributor or the consumer of a distributed generation installation.

The AC020 report did not identify any ICPs with generation indicated where the profile appeared incorrect.

Bridged meters.

Octopus does not normally allow meters to be bridged, and no bridged meters were identified during the audit period.

AMI meters are only bridged where an urgent reconnection is required, and a remote reconnection cannot be arranged.

ICP 0000929796TU717 was bridged by Octopus's field service agent during the audit period.

The existence of bridged meters is recorded as non-compliance below. Corrections to capture and report consumption during bridged periods are discussed in **sections 2.17 and 8.2**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13, Clause 10.24 and 15.13 From: 15-May-23 To: 10-May-24	Submission had not occurred for three HHR ICPs with distributed generation and the RM was not notified of gifting. For one ICP (0000929796TU717) the meter was bridged during the audit period meaning volumes were not quantified in accordance with the code. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because although reporting is in place, the report was not consistently reviewed during the audit period. 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
HHR volume corrections have been applied for 0000929796TU717. Estimates were created using the actual data received once the meters were unbridged. Submission data will be included in the next revisions. Monitoring via dashboards has been put in place to identify ICPs where there is a potential bridged meter or where inactive meters are recording consumption. The documentation around these processes has been further developed and the team now has a more frequent schedule for working on these. We also have a query that will pick up DG with no export meter. This will be added to the dashboard mentioned above and any discrepancies acted upon. We will establish a process around gifting in the next couple of months.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Actions as detailed above	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 to confirm whether Octopus is responsible for any GIPs.

Audit commentary

Review of the NSP table confirmed that Octopus are 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

The AC020 reports and registry lists were reviewed to confirm the profiles used.

Audit commentary

Examination of the list file found that Octopus has only used the HHR profile, and control devices are not used for reconciliation purposes. No exceptions were recorded on the AC020 report.

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 leads 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 for defective metering were examined. All potential meter defects identified were checked.

Audit commentary

Defective meters are typically identified through the meter reading validation process, or from information provided by the MEP or customer. Reporting is in place to identify meters which have not communicated for more than 30 days, so that the operator can raise a communications fault.

Upon identifying a possible defective meter, Octopus raises a field services job to investigate.

Octopus also have a zero consuming report to identify all CPs that have not consumed electricity for 30 days. However, there is no formal process to investigate these.

ICP 0000929796TU717 was identified in this report and related to the meter being bridged on 17 May 2023. A data health check was performed by Octopus on 18 April 2024 due to the zero consumption and the previous reconnection works order was reviewed and confirmed that the meter had been

bridged at the time of reconnection. The MEP was notified on 19 April 2024. Non compliance is recorded below and in **sections 2.17, 12.2 and 12.7.**

A sample of five ICPs with zero consumption was reviewed from the HHR aggregates submission for March 2024 and checked to determine whether it was genuine or related to a meter fault or accuracy issue. In all cases the zero consumption was genuine.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.4 With: Clauses 10.43(2) and (3) From: 03-Jan-24 To: 19-Apr-24	ICP 0000929796TU717 was bridged by an Octopus field service agent on 17 May 2023 and the MEP was not notified that the meter was defective until 19 April 2024. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are moderate as while there was reporting in place to monitor zero consuming ICPs, this was not being consistently reviewed. The audit risk rating is low as only one ICP is identified and the affected ICP is metering installation category 1, so the affected volumes are quite small.

Actions taken to resolve the issue	Completion date	Remedial action status
HHR volume corrections have been applied for 0000929796TU717. Estimates were created using the actual data received once the meters were unbridged. Submission data will be included in the next revisions.	June thru August 2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Monitoring via dashboards has been put in place to identify ICPs where there is a potential bridged meter or where inactive meters are recording consumption. The documentation around these processes has been further developed and the team now has a more frequent schedule for working on these.	July 2024	

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

HHR AMI data is provided by Bluecurrent (NGCM, AMCI SMCO, ARCS), Intellihub (MTRX, IHUB, BOPE, COUP), Influx (FCLM) and Wel Network Metering (WASN) as MEPs. Interrogation requirements and clock synchronisation were reviewed as part of their MEP audits and compliance is confirmed.

Audit commentary

Fulfilment of the interrogation systems requirements was examined as part of the MEP's audits and found to be compliant. Only the MEPs can interrogate the meters where Octopus is the trader.

The MEPs provide clock synchronisation information via SFTP, and I viewed examples of these.

Clock synchronisation event emails are reviewed on receipt, to determine whether the issue has been resolved or a field services job is requested by the MEP.

Octopus does not actively retrieve or review the time difference reports published by the AMI MEPs as they rely on these AMI MEPs to alert them of any clock synchronisation events requiring attention.

Description	Recommendation	Audited party comment	Remedial action
Review AMI time difference reports	Develop a process to ensure all time difference reports and alerts are actively checked to ensure that where any differences exceed the maximum permissible errors that may have impacted the HHR data, that a HHR data correction has been applied.	We open all the Time Sync emails but have not seen any particularly large/concerning numbers in there. We have contacted Bluecurrent to ask what they want us to do with Time Sync reports. We will define and document our process for this over the coming months.	Investigating

A sample of ten time difference reports were reviewed for time difference published by two separate AMI MEPs. All clock adjustments reviewed were small and within the maximum permissible errors and confirmed there was no impact on the HHR data.

A sample on nine ICPs where ten or more time corrections had occurred during the month of February 2024 were also reviewed. No specific cause of the persistent time corrections was identified, and Octopus are following up with the MEPs to determine if the repeated time corrections are a possible indication of other metering issues.

I checked whether all data was collected within the maximum interrogation cycle. There was one ICP (0087050055WE1E3) where data was not collected (103 days) within the maximum interrogation cycle (90 days). Octopus has been advised by the MEP as part of a comms investigation that there had been a fire at this ICP and due to asbestos contamination around the meter board. Octopus have been estimating the ICP using historical consumption patterns for the affected period. Octopus are following up with the consumer regarding confirming a suitable consumption pattern and a timeframe for resolving the asbestos contamination to enable the MEP to restore communications at this ICP.

Audit outcome

Compliant

Non-compliance	Description
Audit Ref: 6.5 With: Clause 2 Schedule 15.2 From: 03-Jan-24 To: 31-May-24	ICP 0087050055WE1E3 not interrogated within the maximum interrogation cycle. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are moderate as while the system can perform reasonable estimations using historical consumption data as a reference, however due to a fire occurring at the ICP there is no ability to ensure the volume estimated relates to actual consumption consumed at the ICP during this affected period. The audit risk rating is low as only one ICP is identified and the affected ICP is metering installation category 1, so the affected volumes are quite small.

Actions taken to resolve the issue	Completion date	Remedial action status
A work order was raised for this non communicating ICP 0087050055WE1E3 on 30/01/24. Currently the property is off limits due to fire damage, safety fences and asbestos. The building is to be demolished with the meter to be decommissioned. There are still a number of communicating meters on different ICPs and the facilities manager is also looking to get an electrician involved. We are continuing to work with the MEP, the facilities manager and the network to try and resolve. Currently consumption is being estimated until we are able to get a meter removal read.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Largely a one off circumstance in the case of this ICP. We will be defining and documenting our process for Time Sync reports over the coming months.	Ongoing	

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

Code reference

Clauses 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. Octopus only trades remotely read, HHR ICPs.

Audit commentary

AMI data is provided by MEPs. Validated readings are derived from actual meter readings. Octopus does not use any estimates generated by AMI MEPs.

A review of a diverse sample of meter readings in **section 2.3** confirmed they are appropriately labelled, and validated readings are derived from meter readings.

Audit outcome

Compliant

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

Code reference

Clause 6 Schedule 15.2

Code related audit information

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

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

Audit observation

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs have submission type HHR. Review of switch reads in **sections 4.3** and **4.10** confirmed that they are applied from the correct time.

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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs have submission type HHR.

Audit outcome

Compliant

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs have submission type HHR.

Audit outcome

Compliant

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

In relation to each NSP, each reconciliation participant must ensure that for each NHH ICP at which the reconciliation participant trades continuously for each 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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs have submission type HHR.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs have submission type HHR.

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

HHR AMI data is provided by Bluecurrent (NGCM, AMCI, SMCO, ARCS), Intellihub (MTRX, IHUB, BOPE, COUP), Influx (FCLM) and Wel Network Metering (WASN) as MEPs, and compliance was assessed as part of their MEP audits.

Audit commentary

Bluecurrent, Intellihub, Wel Network Metering and Influx are responsible for HHR data collection, and compliance is recorded in their audit reports.

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

HHR AMI data is provided by Bluecurrent (NGCM, AMCI, SMCO, ARCS), Intellihub (MTRX, IHUB, BOPE, COUP), Influx (FCLM) and Wel Network Metering (WASN) as MEPs

Audit commentary

MEPs are responsible for meeting the meter interrogation data requirements, and this is reviewed as part of their audits.

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

HHR AMI data is provided by Bluecurrent (NGCM, AMCI, SMCO, ARCS), Intellihub (MTRX, IHUB, BOPE, COUP), Influx (FCLM) and Wel Network Metering (WASN) as MEPs

Audit commentary

MEPs are responsible for meeting the meter interrogation data requirements, and this is reviewed as part of their audits.

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 Bluecurrent (NGCM, AMCI, SMCO, ARCS), Intellihub (MTRX, IHUB, BOPE, COUP), Wel Network Metering (WASN) and Influx (FCLM) MEP audits.

Audit commentary

MEPs are responsible for trading period duration, and compliance is recorded in their audit reports. Clock synchronisation is discussed further in **section 6.5.**

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

Raw meter data is retained by Bluecurrent (NGCM, AMCI, SMCO, ARCS), Intellihub (MTRX, IHUB, BOPE, COUP), Wel Network Metering (WASN) and Influx (FCLM) as MEPs, and compliance is assessed as part of their MEP audits.

Processes to archive and store raw meter data were reviewed.

Audit commentary

Compliance with this clause is recorded in the MEP's audit reports.

All meter reading data is archived and is retained by Octopus.

A review of Robotron*esales audit trails confirmed that reads cannot be modified without an audit trail being created. Access to modify readings is restricted.

A sample of data for eight HHR ICPs were reviewed from the source files to robotron*esales and found the volumes recorded in robotron*esales were consistent with the raw data provided by the MEP for all eight ICPs sampled.

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

No non-metering information is collected by Octopus.

Audit outcome

Not applicable

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

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

Code reference

Clause 19(1) Schedule 15.2

Code related audit information

If 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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs have submission type HHR, and this clause does not apply.

Audit outcome

Not applicable

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

Processes for correction of HHR meter readings were reviewed.

Audit commentary

If for any reason Octopus detects errors while validating HHR meter readings, the MEP will be notified.

If there is no data provided by MEPs, Octopus will estimate data.

The process for estimation/corrections is as follows:

- if register reads are not available, the consumption is estimated based on consumption history for the ICP, and
- if register reads are available, the intervals are estimated so that the total kWh matches the difference between register reads, the profile for the intervals is the same as the same day of the previous week.

Two HHR corrections were undertaken during the audit period relating to bridged meters at ICPs 0001541100PC4DB and 0000929796TU717.

As discussed in **section 4.4** for ICP 0044241000PC6AA Octopus did not receive any HHR data for the period of supply and the entire period was estimated within robotron*esales. Once the revised transfer read was accepted by Octopus and it was not entered into robotron*esales and there was no re estimation of the HHR data to rescale the volumes to the amended read. The volume impact of the estimated HHR data not being rescaled to align with the mended read was assessed to be 3,436 kWh.

A sample of four corrections relating to AMI meter changes where the ICP was settled as HHR were reviewed. In all nine cases the removed meter was end dated in robotron*esales as of midnight (2400) the day prior to the meter change using the last received midnight read from the AMI MEP and the new meter was installed as of 0000 hours of the meter change date. The system estimation performed inserted zero values for the missing intervals up to the actual meter change time as when the system performs its scaling task using the available midnight reads, no additional volume is detected by the system. The sample was reviewed in more detail to determine the size of the underestimated volumes. The volume impact was between 0.88 and 132 kWh equating to a 0.9 to 19% volume inaccuracy at the ICP level as shown in the table below.

ICP	Meter serial number	AMI MEP	HHRAGGS volume (kWh)	NHH volume from reads (kWh)	Difference (kWh)	% diff
0000003151TRB97	215418484	NGCM	564.71	570.3	5.59	1.0%
0000003151TRB97	252579731	NGCM				
0000003428CE352	216629020	NGCM	101.56	100.68	-0.88	-0.9%
0000003428CE352	252294918	NGCM				
0000006696NTDC0	NTL1408659	SMCO	188.11	191.54	3.43	1.8%
0000006696NTDC0	NTL2300418	SMCO				
0000019448WEA56	211122354	NGCM	699.07	831.8	-132.73	-19.0%
0000019448WEA56	219569989	NGCM				

I reviewed the process where missing data is initially estimated by robotron*esales in **section 9.4**.

The previous audit identified a scenario that where an initial estimation of HHR volumes is then partially replaced by actual data from an AMI MEP. The vendor confirmed during the previous audit that there was no automated trigger to rescale the remaining estimated data to ensure it aligns with volume

derived from register reads either side of this remaining data estimation. This system issue remains unresolved at the time of this current audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.2 With: Clause 19(2) Schedule 15.2 From: 01-May-23 To: 15-Apr-24	Corrections for four sampled meter changes did not ensure all consumption recorded by the removed meter was included in the volume correction. Correction not applied for ICP 0044241000PC6AA where a switch event read amendment was accepted but the estimated HHR data was not corrected to align with this revised switch event reading. Initial estimation of missing HHR volumes is not corrected when a partial replacement of missing HHR volumes with actual HHR volumes occurs to ensure overall HHR volumes still aligns with the difference between register reads either side of the estimated period. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because while estimates are created, they are not always reviewed or revised where some updated information is provided from either the switching process or from the AMI MEP. The impact is assessed to be low due to the small number of affected ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status
HHR volume corrections have been applied. Estimates were created using the actual data received once the meters were unbridged. Submission data for 0000929796TU717 will be included in the next revisions. HHR volume corrections have been applied for 0044241000PC6AA. Switch in read in details were adjusted according to the RR accepted. Data has already started to be included in revisions. Due to limitations in the registry where only full days can have a particular status some consumption data is missed after meter changes. The EA could also look at introducing timestamps within registry event dates. We have had one session with Robotron for this and will consult with them as part of improving our process and documentation for missing volumes and ensuring re-scaling occurs.	June thru August 2024	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Monitoring via dashboards has been put in place to identify ICPs where there is a potential bridged meter or where inactive meters are recording consumption. The documentation around this and dealing with RRs and correcting HHR has been further developed.	Ongoing	

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

Review of a registry list with history confirmed that Octopus only has one ICP (0000026835NT6D9 – metering installation category 3) out of 7,240 active ICPs supplied by Octopus that is higher than metering category 1.

Audit commentary

Review of a registry list with history confirmed that Octopus only has one ICP (0000026835NT6D9 – metering installation category 3) out of 7,240 active ICPs supplied by Octopus that is higher than metering category 1.

No ICPs have required loss compensation.

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 2.1** 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 own audits.

Audit commentary

Raw meter data is collected by the MEP, and data retention was reviewed as part of their MEP audits.

Corrections are discussed in **section 8.2**, which confirmed that raw meter data is not overwritten as part of the correction process. Octopus only corrects working data, and they keep an appropriate audit trail. Robotron*esales provided examples of data correction in their test system.

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

The event detail report was reviewed to identify all CS and RR files provided to other participants during the audit period. The accuracy of readings provided in a sample of CS and RR files was checked 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 8.2** and **9.4**.

Audit commentary

Readings are appropriately labelled with a data quality flag which indicates whether they are actual, estimated, or agreed switch readings where actual readings have been replaced with agreed switch readings. Estimates are identifiable at trading period level.

Review of CS and RR content confirmed that switch reads were correctly labelled. Readings are clearly identified in the Octopus systems.

Audit outcome

Compliant

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

Code reference

Clause 3(4) Schedule 15.2

Code related audit information

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

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit observation

Processes for derivation of volumes were discussed and observed.

Audit commentary

Data provided by MEPs is considered “actual”. Estimates created by Octopus are identified as estimates. Some estimates become permanent if they are not replaced. All readings and interval data are correctly identified.

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.

HHR data is collected by MEPs. Compliance was assessed as part of their MEP audits.

Audit commentary

The MEPs retain raw, unrounded data.

Meter reading data is not rounded or truncated on import.

Meter reading data is recorded in the Octopus system to three decimal places.

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

The HHR estimate process was examined, and a sample of estimates were reviewed. Revised data was compared to estimates where the estimates had been replaced.

Audit commentary

Errors are identified through the data validation process, missing reads process, or information provided by the customer or MEP.

Where errors or missing interval data is detected, replacement data is estimated. The methodology for HHR data estimation is as follows.

- Interpolation for small gaps.

  Where the number of trading periods missing is below four, then the values will be created by the interpolation method. A straight line will be applied between the neighbouring values. If

meter reads are available, scaling will be performed to scale the estimated values, so the total consumption matches the difference between register reads. Scaled values will get flag "V".

- Copy from previous consumption patterns.

  For gaps larger than four trading periods but less than 5,000 trading periods, estimated using interpolation, a consumption pattern matching process is applied. This process uses the same day over previous weeks (excluding statutory holidays). If meter reads are available, scaling is performed to scale the estimated values to match the difference between reads. If scaling cannot be performed, then an exception is recorded in a report of estimation quality flags for users to review and respond to. Estimated values (not scaled) get flagged with G and scaled values will get flag "V".

- General consumption profile.

  When there is no other information available or the missing data gap exceeds 5,000 trading periods but is less than 9,000 trading intervals, a general consumption profile representing an average customer pattern is used. If meter reads are available, scaling is performed to scale the estimated values to match the difference between reads. If scaling cannot be performed, then an exception is recorded in a report of estimation quality flags for users to review and respond to. Estimated values (not scaled) get flagged with G.

- Average consumption value.

  If the above three methods cannot be applied, robotron*esales creates consumption based on the average daily kWh information received in the CS file using a generic profile (type of customer). Estimated values (not scaled) get flagged with G.

As discussed in **section 2.17**, two examples of bridged meters were identified during the audit period. An estimate of consumption for the affected period has been completed for one ICP. One estimation remains outstanding for ICP 0000929796TU717.

Octopus monitors "active" ICPs to note zero readings where there should be a reading, or any other unusual consumption patterns.

A sample of three estimates performed during the audit period were reviewed relating to missing AMI HHR data and all were accurately processed according to the methodology above and reasonable endeavours requirements were met.

As discussed in **section 4.4** for ICP 0044241000PC6AA Octopus did not receive any HHR data for the period of supply and the entire period was estimated within robotron*esales. Once the revised transfer read was accepted by Octopus and it was not entered into robotron*esales and there was no re estimation of the HHR data to rescale the volumes to the amended read. The volume impact of the estimated HHR data not being rescaled to align with the mended read was assessed to be 3,436 kWh.

I reviewed four corrections related to meter changes where the old meter is removed as of midnight of the day prior to the physical meter exchange using the last received midnight read as the removal read and not the actual removed meter read provided by the AMI MEP on the completed work order. The new meter is installed as at the beginning of the meter exchange date, and as the install read is loaded into robotron*esales, the part day data from the new meter is scaled and apportioned across the whole day of the meter exchange which results in the part day data for the old meter not being accounted for in the correction/estimation process. The volume impact was assessed to be 148 kWh.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.4 With: Clause 15 Schedule 15.2 From: 01-Apr-23 To: 15-May-24	Corrections for four sampled meter changes did not ensure all consumption recorded by the removed meter was included in the volume corrections (148 kWh). Correction not applied for the bridged period for ICP 0000929796TU717. Correction not applied for ICP 0044241000PC6AA where a switch event read amendment was accepted but the estimated HHR data was not corrected to align with this revised switch event reading. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because while estimates are created, they are not always timely and are not always reviewed or revised where some updated information is provided from either the switching process or from the AMI MEP. The impact is assessed to be low due to the small number of affected ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status
HHR volume corrections have been applied. Estimates were created using the actual data received once the meters were unbridged. Submission data for 0000929796TU717 will be included in the next revisions. HHR volume corrections have been applied for 0044241000PC6AA. Switch in read in details were adjusted according to the RR accepted. Data has already started to be included in revisions. Due to limitations in the registry where only full days can have a particular status some consumption data is missed after meter changes. The EA could also look at introducing timestamps within registry event dates. We have had one session with Robotron for this and will consult with them as part of improving our process and documentation for missing volumes and ensuring re-scaling occurs.	June thru Aug 2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Monitoring via dashboards has been put in place to identify ICPs where there is a potential bridged meter or where inactive meters are recording consumption. The documentation around this and dealing with RRs and correcting HHR has been further developed.	Ongoing	

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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs have submission type HHR.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

17(4)(c) - checks of unexpected 0 values,

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

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

17(4)(f) - a review of the meter and data storage device event log for any event that could have affected the integrity of metering data,

17(4)(g) – a review of the relevant metering data where there is an event that could have affected the integrity of the metering data.

If there is an event that could affect the integrity of the metering data (including events reported by MEPs, but excluding where the MEP is responsible for investigating and remediating the event) the reconciliation must investigate and remediate any events.

If the event may affect the integrity or operation of the metering installation the reconciliation participant must notify the metering equipment provider.

Audit observation

I reviewed the HHR data validation process, including meter event logs, and volume validation processes.

Validation of electronic readings was also reviewed as part of the MEP audits.

Audit commentary

Robotron*esales applies the following validation when metering files are uploaded:

- negative consumption,
- file formatting,
- missing values,
- check 0 < daily sum < 2,000 kwh,
- deviation to previous day < 300%,
- deviation to previous month < 100%, and
- old timestamps from MEPs.

There is also a system check of the AMI providers validation flag so that any data received that has been tagged as either 'R' (rejected) or 'F' (failed) are automatically estimated to align the consumption with the received midnight reads. No investigation is conducted by Octopus to determine if the data corruption relates to the interval data, or the midnight reads used for the validation.

Additionally, all meter data can be viewed graphically, which is an efficient way of checking flow patterns for each customer.

The code requires that all meter events that could have affected the integrity of metering data are investigated. Meter event logs are provided by all relevant MEPs, but they are not routinely reviewed by Octopus and there is no process to ensure these are received or downloaded for review. If emails are sent by MEPs in relation to a specific ICP and issue, then the requested action is undertaken by Octopus. On resolution of the ICP specific issue Octopus do not have a process to then review the HHR data to determine if any subsequent HHR data correction is required.

Description	Recommendation	Audited party comment	Remedial action
Develop and implement processes to support meter event log monitoring	Develop and implement robust processes for meter event log monitoring to ensure users consistently investigate and follow up with the AMI MEP where required to resolve issues with meter data integrity.	We are engaging with the MEP for assistance in understanding these files and what our actions should be. We will revisit this and consult the MEP again. In our Audit response 12 months ago we noted: "While this code requirement is on Octopus Energy, we are not the experts in interpreting these logs, and believe this should be the responsibility of the MEP. We rely on the MEPs input for these. We will be working with MEPs to determine the best approach to review these logs efficiently in future." This remains our view and we will continue to work to understand and improve our processes in this area.	Investigating

A sample of meter event logs for February 2024 from two MEPs were reviewed and no events that may have an impact on meter accuracy were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.6 With: Clause 17 Schedule 15.2 From: 01-Apr-23 To: 15-Apr-24	Event logs not routinely reviewed across all AMI providers. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because most validations occur. The impact on settlement and participants is minor; therefore, the audit risk rating is low. Meter critical events are individually emailed by MEPs for Octopus to action.

Actions taken to resolve the issue	Completion date	Remedial action status
MEPs have been contacted to ask for help in how to interpret and what to do with these files. In the meantime we rely on the Robotron validation - as noted by the auditor this covers most of the required validations.	ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
None yet, however we will continue to engage with the MEP and will put processes and documentation in place over time.	ongoing	

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

Octopus 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

Octopus 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

Octopus 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

Octopus 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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

Octopus only uses the HHR profile; buying and selling notifications are not required.

Audit outcome

Not applicable

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 days submitted for March 2024 against the "active" ICP days recorded on the registry list for all NSPs to confirm the AV110 ICP days calculation was correct.

I reviewed GR100 reports from October 2022 to March 2024 and reviewed a diverse sample of seven HHR NSP level ICP days differences, to determine why the differences had occurred.

Audit commentary

The following table shows the ICP days difference between Octopus files and the RM return file (GR100) for all available revisions for 12 months. Negative percentage figures indicate that the Octopus ICP days figures are higher than those contained on the registry.

Month	Ri	R1	R3	R7	R14
Oct-22	0.12%	0.06%	0.04%	0.00%	0.02%
Nov-22	0.07%	0.04%	0.06%	0.00%	0.00%
Dec-22	0.06%	0.06%	0.01%	0.00%	0.00%
Jan-23	0.05%	0.07%	0.00%	0.03%	0.00%
Feb-23	0.05%	0.02%	0.00%	0.00%	
Mar-23	0.06%	0.00%	0.00%	0.00%	
Apr-23	0.01%	0.00%	0.00%	-0.02%	
May-23	0.06%	0.00%	-0.01%	-0.03%	
Jun-23	0.01%	0.00%	-0.01%	-0.02%	
Jul-23	0.03%	0.02%	0.00%	0.00%	
Aug-23	0.05%	0.00%	0.00%	0.00%	
Sep-23	0.05%	0.00%	0.03%		
Oct-23	0.06%	0.00%	-0.01%		
Nov-23	0.01%	0.03%	0.00%		
Dec-23	0.00%	0.00%	0.00%		
Jan-24	0.01%	0.03%			
Feb-24	0.02%	0.00%			
Mar-24	0.01%				

I reviewed a sample of seven HHR ICP days discrepancies remaining at revision 7 or later, and found:

- two related to timing issues around recent switching of ICPs where they had not yet been fully set up in robotron*esales, and
- for three ICPs (0000009610CPA7E – Oct 2022 R14 & May 2023 R7, 0000111580WEFC5 – Jan 2023 R7 & May 2023 R3, 0000057086TR7EF – Oct 2022 R3) the omission from the ICP days report was related to a system issue within robotron*esales where multiple switch withdrawals had been received by Octopus which corrupted the ICP timeline within robotron*esales resulting in the ICP not being recorded as an OCTO ICP and therefore excluded from the submission month. The system issue has now been resolved.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.2 With: Clause 15.6 From: 01-Apr-23 To: 31-Dec-23	ICP days values were not provided for ICPs three ICPs (0000009610CPA7E – Oct 2022 R14 & May 2023 R7, 0000111580WEFC5 – Jan 2023 R7 & May 2023 R3, 0000057086TR7EF – Oct 2022 R3) where volumes were present in AV-090 and AV-140. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as they are sufficient to ensure that most ICPs are correctly reported. The issue was system related and required the vendor to implement a code fix. The impact is assessed to be low, as updated data will be provided through the revision process.

Actions taken to resolve the issue	Completion date	Remedial action status
The issues were caused by how the *esales system handled rejected AW withdrawals. Robotron have put in a solution to stop future instances of this.	10 June 2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	10 June 2024	

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

Code reference

Clause 15.7

Code related audit information

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

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

Audit observation

The process for the calculation of as billed volumes was examined. GR130 reports from July 2021 to February 2024 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

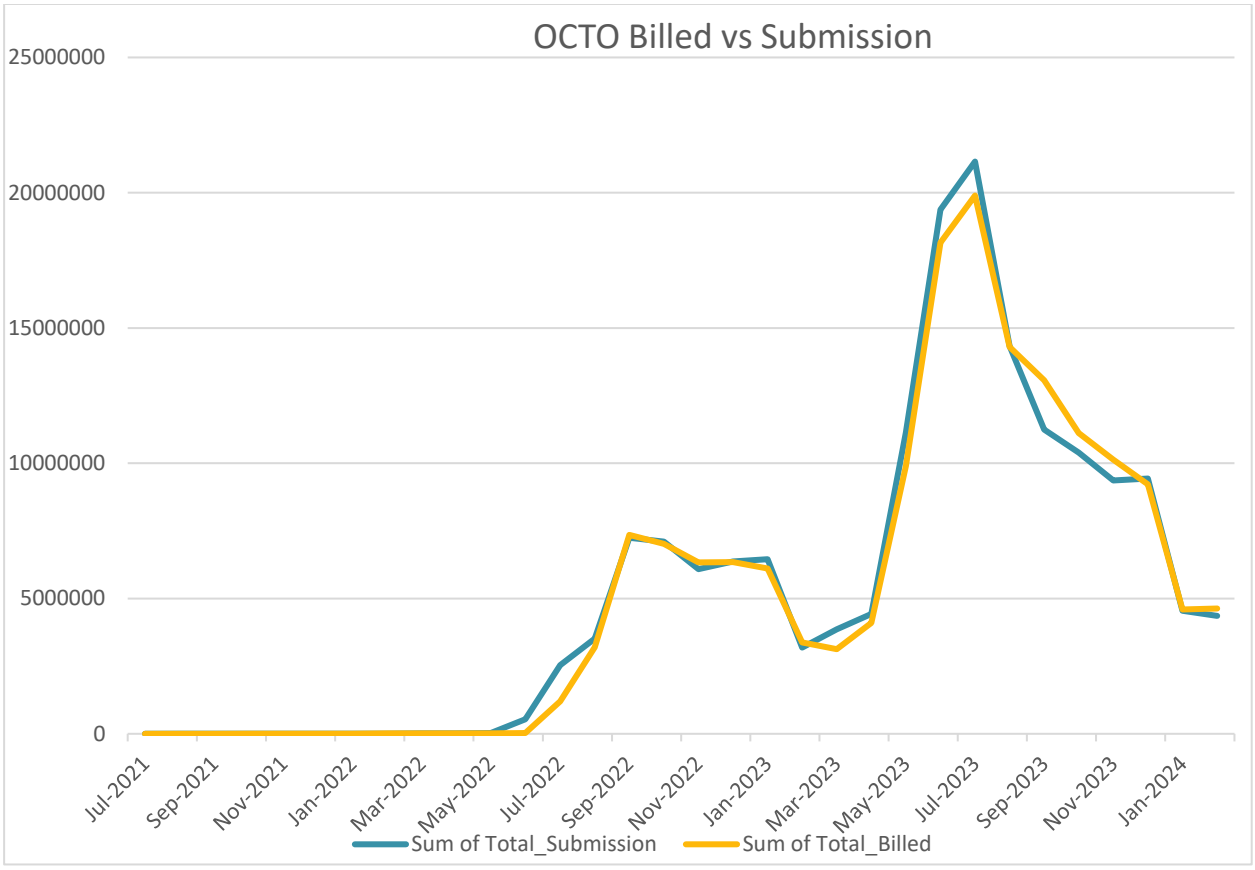
Audit commentary

The process for the calculation of "as billed" volumes was examined by checking March 2024 AV120 submissions for five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for all five NSPs checked.

Comparison between Submitted Volumes and Electricity Supplied

The chart below shows a comparison between submissions and electricity supplied information. There is a 0.2% difference (submitted higher than billed one month offset) for the year ended February 2024.

Compliance is recorded.



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

Using relevant volume information, each retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity consumed 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

I confirmed whether the process for the calculation and aggregation of HHR data was correct, by:

- matching HHR aggregates information with the HHR volumes data, and
- tracing volumes for 13 HHR settled ICPs from the source to the HHR aggregates submissions.

The GR090 ICP missing files from October 2022 March 2024 were examined. A sample of the eight ICPs missing from the most revisions were checked to determine why they were missing.

Audit commentary

I confirmed the process for aggregation of HHR data is correct by:

- matching HHR aggregates information to the volumes for 35 submissions, which confirmed that the differences between the volumes and aggregates were small for 34 submissions (less than 120 kWh), a detailed reconciliation was completed for one submission which confirmed that the differences were related to rounding between the two submission file types
    - A difference of 211 kWh was identified for one submission relating to January 2024 for the initial submission (R0). The difference was identified as a timing issue between when the AV-090 (HHRVOLS) file was run and when the AV-140 (HHRAGGS) file was run.
- matching HHR aggregates volumes to the source files received from the MEP for 13 ICPs, including data provided by each MEP; the volumes within the source files match the volumes recorded in the AV-140 HHRAGGS file in all cases**.**

Description	Recommendation	Audited party comment	Remedial action
Ensure alignment between HHRVOLS and HHRAGGS	Review process that produces the AV-090 (HHRVOLS) and AV-140 (HHRAGGS) to reduce likelihood of data changes occurring between the creation of each submission file.	We currently compare volumes at file level in a spreadsheet. We will look at building more granular checking (similar NSP level checks will be built by 31 Aug 2024 as part of the recommendation in section **12.7 Accuracy of submission information**). By ensuring that the robotron*esales Workflow Engine job has been stopped we are able to reduce data changes as a result of switch processing.	Investigating

Octopus reviews all GR090 (ICP missing) reports and investigates and corrects any data discrepancies. The GR090 ICP missing files received during the audit period were examined, and a sample of seven differences were reviewed:

- six ICPs were missing due to backdated switches or switch withdrawals; late switching files are discussed in **section 4**, and

- one ICP (0000133477TR708) was due to an incorrect inactive status event being applied with an event date of 17 January 2023 instead of 17 January 2024. This registry error resulted in a mismatch between the registry (inactive status) and robotron*esales (active status) and was identified during the audit process. Non compliance is recorded in **section 2.1.**

Audit outcome

Compliant

12. SUBMISSION COMPUTATION

12.1. Daylight saving adjustment (Clause 15.36)

Code reference

Clause 15.36

Code related audit information

The reconciliation participant must provide submission information to the reconciliation manager that is adjusted for NZDT using 1 of the techniques set out in clause 15.36(3) specified by the Authority.

Audit observation

HHR data is provided by MEPs. Compliance was assessed as part of their audits.

The daylight savings adjustment process was reviewed including viewing examples of ICPs moving into and out of daylight savings.

Audit commentary

Daylight savings processes for the MEPs were reviewed as part of their audits and found to be compliant. Data is provided in NZDT format by all MEPs apart from ARCS, who provide data in NZST format.

I checked a sample of data provided in NZDT format and confirmed the trading period data was correctly aligned in robotron*esales.

I viewed the adjustment process in robotron*esales for data provided in NZST format and confirmed the trading period data was correctly aligned in robotron*esales for daylight savings changes using the trading period run on technique.

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

A sample of HHR ICPs were checked to ensure that volumes were correctly recorded in **section 11.4.** Corrections are discussed in **sections 2.1** and **8.2**.

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

Audit commentary

No alleged breaches for late provision of submission information occurred during the audit period.

The accuracy of the HHR aggregates and HHR volumes files was reviewed in **section 11.4**. Some missing submission information was identified and is described below.

Application of CS readings

As discussed in **section 4.4** for ICP 0044241000PC6AA Octopus did not receive any HHR data for the period of supply and the entire period was estimated within robotron*esales. Once the revised transfer read was accepted by Octopus and it was not entered into robotron*esales and there was no re estimation of the HHR data to rescale the volumes to the amended read. The volume impact of the estimated HHR data not being rescaled to align with the amended read was assessed to be 3,436 kWh.

Inactive ICPs with consumption

A list of nine ICPs were provided by Octopus where inactive consumption was recorded at an ICP since April 2023.

- for three ICPs the inactive consumption was from a generator supplying three ICPS after a fire had damaged the incoming power supply to an apartment complex.
- for ICP 0000133477TR708 the inactive status event date was incorrectly applied 12 months prior (17 January 2023) to the actual disconnection date (17 January 2024). The status event date was corrected on 12 June 2024 however the delay in correcting the inactive status event date was that this ICP was not included in the final revisions (R14) for January, February and March 2023.
- For five ICPs had inactive consumption recorded due to incorrect event dates being applied or rejected registry status events.

Non-compliance is recorded here and in **sections 2.1** and **12.7**.

Unmetered Load

A review of the registry list and audit compliance reports identified one ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) from December 2023. The application of shared unmetered load by the distributor occurred during Octopus's tenure as retailer for the ICP.

Octopus's comparison of registry data to robotron*esales data did not identify this exception as the robotron*esales reporting process only compares robotron*esales ICPs and attributes to the registry date. Where an attribute such as distributor UML details is populated, no exception is recorded.

Octopus's robotron*esales system uses the registry daily kWh value as the source of information to calculate and report unmetered load as NHH volume. No NHH submission was provided by Octopus from December 2023.

Distributed Generation

Generation fields are checked weekly as part of the Octopus registry management process, as discussed in **section 2.1**.

Analysis of the registry list file for April 2024 found that Octopus supplies 2,820 ICPs with generation recorded by the distributor; 2,813 of those had import/export metering installed and I flow volumes reported in the AV-140 HHRAGGS file for October 2022. The remaining seven ICPs were reviewed as part of the audit and found that import / export metering had not yet been installed therefore I flow

submission had not occurred for three HHR ICPs with distributed generation and the RM was not notified of gifting.

Correction of HHR volumes across meter changes

As discussed in **section 9.4**, A sample of four corrections relating to AMI meter changes where the ICP was settled as HHR were reviewed. In all nine cases the removed meter was end dated in robotron*esales as of midnight (2400) the day prior to the meter change using the last received midnight read from the AMI MEP and the new meter was installed as of 0000 hours of the meter change date. The system estimation performed inserted zero values for the missing intervals up to the actual meter change time as when the system performs its scaling task using the available midnight reads, no additional volume is detected by the system.

Bridged meters

Two HHR corrections were undertaken during the audit period relating to bridged meters at ICPs 0001541100PC4DB and 0000929796TU717.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.2 With: Clause 15.4 From: 01-Apr-23 To: 15-Apr-24	HHR estimated volumes not rescaled for ICP 0044241000PC6AA on receipt of an accepted amended read from an incoming RR file resulting in an over submission of 3,436 kWh. Six ICPs with consumption recorded during inactive periods resulting in under submission of 7,635 kWh HHR volumes for day of disconnection not included in submission. HHR generation kWh not submitted at the earliest opportunity for three ICPs. Corrections for four sampled meter changes did not ensure all consumption recorded by the removed meter was included in the volume correction. NHH unmetered load submissions not performed from December 2023 for ICP 0007021534RN247. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate because while most submission information was accurate, there is room for improvement around the management of: • HHR estimates where switch read amendments are received and accepted • inactive consumption is identified and resolved at the earliest opportunity • ensuring all HHR volumes are included for the day of disconnection. The impact is low because as only a small number of ICPs are impacted.

Actions taken to resolve the issue	Completion date	Remedial action status
We are currently working through the clean up. The data for a number of these is now in the market. HHR volume corrections have been applied for 0000929796TU717. Estimates were created using the actual data received once the meters were unbridged. Submission data will be included in the next revisions. HHR volume corrections have been applied for 0044241000PC6AA. Switch in read in details were adjusted according to the RR accepted. Data has already begun to be included in revisions. We have submitted data for 0007021534RN247 to the market for the UML that we missed between Dec 2023 and June 2024. To-date data has been provided in the washup files for all but two months (Jan and Feb 2024). These will be done with the appropriate BD13 washup files over the next couple of months. There is ongoing training and discussion of these issues within the operations team and we are using the identified ICPs as examples.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Lots of monitoring is in place, as discussed multiple times in this report. This will mean we will be better able to highlight inactive ICPs (consuming and not) and possible bridged meters.	Ongoing	

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

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

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

Audit observation

Processes to ensure that information used to aggregate the reconciliation reports is consistent with the registry were reviewed in **section 2.1**. The processes to ensure that submissions are accurate were discussed and observed.

Audit commentary

Octopus processes registry notification files to ensure that the ICP population is correct based on the registry submission type flag population and that the aggregation factors, including NSPs, are correct. There is a monthly check of a list file with history prior to submission.

There were no incorrect NSP issues identified and there are no examples of "gifted" generation.

GR170 and AV090 files for 18 months and revisions were checked, and no issues with zeroing were identified. Robotron*esales automatically populates zeros where they are required.

Audit outcome

Compliant

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

The participant (if a grid owner) must deliver to the reconciliation manager for each point of connection for all of its GXPs, the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.9(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period (clause 15.9(b)).*

Audit observation

Review of the NSP table confirmed that Octopus is not a grid owner.

Audit commentary

Review of the NSP table confirmed that Octopus is not a grid owner and is not required to submit grid owner volume information.

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

A registry list was reviewed to confirm Octopus does not own any local or embedded networks.

Audit commentary

Octopus is not required to provide NSP submission information.

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

Octopus is not a grid connected generator; therefore, 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

Processes to ensure the accuracy of submission information were reviewed, and the submission data itself was reviewed in **sections 11.2, 11.3 11.4** and **12.2**.

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

Audit commentary

No alleged breaches occurred during the audit period relating to where reconciliation submissions were submitted late.

Octopus perform validations at various levels while preparing submission information:

- ICP attributes is validated against registry reports on a weekly basis to ensure all ICPs are included in submissions.
- Meter / channel HHR data is validated against historical consumption profiles at the time it is loaded into robotron*esales.
- HHR aggregates information is compared with the HHR volumes data to ensure alignment.
- File level HHR volumes data is compared to previous submissions to ensure reasonableness prior to submission.

Description	Recommendation	Audited party comment	Remedial action
Develop and implement NSP level comparison of HHR submission volumes	Develop and implement NSP level comparison of HHR submission volumes to previous consumption month for initial submission and previous revisions for wash up submissions to ensure submission accuracy at a lower level to file total volumes.	A task for developing this NSP level monitoring has been added to the Octo Data Team's project board. This will be in place by 31 Aug 2024.	Investigating

Some submission accuracy issues are present.

Subject	Section	Comments	All practicable steps taken?
Arc Meters	2.1, 12.7	Octopus supplies six "active" ICPs with HHR settled Arc meters. 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. Unfortunately for Octopus, 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, Octopus may not be charged at the wholesale rate that applied during the trading period when the electricity was consumed	No
Application of CS readings	2.1, 12.7	For ICP 0044241000PC6AA Octopus did not receive any HHR data for the period of supply and the entire period was estimated within robotron*esales. Once the revised transfer read was accepted by Octopus and it was not entered into robotron*esales and there was no re estimation of the HHR data to rescale the volumes to the amended read. The volume impact of the estimated HHR data not being rescaled to align with the mended read was assessed to be 3,436 kWh.	No

Consumption while inactive	2.1, 3.9, 12.2, 12.7	A list of nine ICPs were provided by Octopus where inactive consumption was recorded at an ICP since April 2023. • for three ICPs the inactive consumption was from a generator supplying three ICPS after a fire had damaged the incoming power supply to an apartment complex. • for ICP 0000133477TR708 the inactive status event date was incorrectly applied 12 months prior (17 January 2023) to the actual disconnection date (17 January 2024). The status event date was corrected on 12 June 2024 however the delay in correcting the inactive status event date was that this ICP was not included in the final revisions (R14) for January, February and March 2023. • For five ICPs had inactive consumption recorded due to incorrect event dates being applied or rejected registry status events.	No
Unmetered load	2.1, 5.1, 12.2, 12.7, 13.1	ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) was not correctly recorded in the registry with a daily kWh value, UML flag set to Y, NHH submission type set to Y or a NHH profile being recorded.	No
Bridged meters	2.1,	Two ICPs were found to have been bridged during the audit period: • ICP 0001541100PC4DB switched (MI switch type) to Octopus on 2 September 2023 where the meter had been bridged during the previous trader's tenue. A HHR volume correction has been applied and will be included in the next available revision. • ICP 0000929796TU717 switched (MI switch type) to Octopus on 15 May 2023 and a reconnection was required to be performed. The technician that attended the site could not contact the MEP to arrange a remote reconnection so bridged the meter. The paperwork returned to Octopus advised that the meter had been bridged, however this information was not acted on. This ICP was eventually identified in the Octopus zero consuming report on 18 April 2024 and was unbridged on 10 May 2024. A HHR volume correction has been applied and will be included in the next available revision.	No

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 01-Apr-23 To: 15-Apr-24	Some submission data was inaccurate and was not corrected at the next available opportunity. Arc provides interval data to one decimal place, which is not considered to be sufficiently accurate. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate as the monitoring and correction process have been improved during the audit period but there is still room for improvement. The impact is assessed to be low as the impact on submission accuracy is small.

Actions taken to resolve the issue	Completion date	Remedial action status
<u>ARC Meters</u> ARC meters are currently in the process of being displaced. On 17 July there were only two remaining OCTO held ICPs with these meters. As per instructions from Bluecurrent we nominated NGCM as the new MEP in June 2024 so they will be replaced in the near future. <u>UML</u> Strong monitoring in place. Submissions up-to-date for all but two months. See sections **3.7 Changes to unmetered load** and **5.4 Maintaining shared unmetered load** for full details. <u>Bridged and Inactive Meters</u> Monitoring via dashboards has been put in place to identify ICPs where there is a potential bridged meter or where inactive meters are recording consumption. The documentation around these processes has been further developed and the team now has a more frequent schedule for working on these. <u>CS Readings</u> HHR volume corrections have been applied for 0044241000PC6AA. Switch in read in details were adjusted according to the RR accepted. Data has already begun to be included in revisions.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As detailed above…	n/a	

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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

Standard reporting is in place to identify outstanding HHR AMI data from each respective AMI MEP. These reports are sent to the AMI MEPS on a regular basis to attempt to obtain actual HHR data for billing and submission purposes.

All HHR estimates are considered permanent if they are not replaced.

Where estimates or corrections are conducted without register reads being available either side of the HHR data that is missing then this will be less accurate.

Where Octopus accepts a switch event read change proposed by the gaining trader, this revised read is applied in robotron*esales to record that the amended read has been accepted by Octopus. However as discussed in **section 4.4**, if HHR data was estimated up to the switch date due to the AMI MEP not being able to provide complete HHR AMI data, the estimated HHR data is not rescaled to align with the amended switch event reading. This recorded as non-compliance in **sections 2.1, 4.4, 12.2** and **12.7.**

Audit outcome

Compliant

12.9. Reconciliation participants to prepare information (Clause 2 Schedule 15.3)

Code reference

Clause 2 Schedule 15.3

Code related audit information

If a reconciliation participant prepares submission information for each NSP for the relevant consumption periods in accordance with the Code, such submission information for each ICP must comprise the following:

- *half hour volume information for the total metered quantity of electricity for each ICP notified in accordance with clause 11.7(2) for which there is a category 3 or higher metering installation*

(clause 2(1)(a)) for each ICP about which information is provided under clause 11.7(2) for which there is a category 1 or category 2 metering installation (clause 2(1)(ac) to 2(1)(ae)):

a) any half hour volume information for the ICP; or

b) any non-half hour volumes information calculated under clauses 4 to 6 (as applicable).

c) unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information (clause 2(1)(c))

- *to create non half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):*
  - *a) the certification of the control device is recorded in the registry; or*
  - *b) the metering installation in which the control device is location has interim certification.*
- *to create submission information for a point of connection the reconciliation participant must use volume information (clause 2(3))*
- *to calculate volume information the reconciliation participant must apply raw meter data:*
  - *a) for each ICP, the compensation factor that is recorded in the registry (clause 2(4)(a))*
  - *b) for each NSP the compensation factor that is recorded in the metering installations most recent certification report (clause 2(4)(b)).*

Audit observation

Aggregation and content of reconciliation submissions was reviewed.

Audit commentary

Compliance with this clause was assessed:

- all the Octopus ICPs have AMI or TOU metering and are submitted as HHR,
- one ICP with unmetered load not included in the submission process,
- no profiles requiring a certified control device are used,
- no loss or compensation arrangements are required, and
- aggregation of the AV090 and AV140 reports is compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.9 With: Clause 2 Schedule 15.3 From: 14-Dec-23 To: 12-Jun-24	ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) is not included in the submission process Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because there was no process to monitor potential new unmetered load or changes to UML during the full audit period. The new automated process has been tested and will clearly identify UML exceptions going forward and this will ensure this volume is included in the submission process. The impact on settlement and participants is low; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Our system prevents ICPs with UML from signing up. In light of the situation outlined above by the auditor, strong automated monitoring and alerting of UML has been put in place and our team is fully-versed in how to handle these situations in the future. The monitoring includes a UML indicator on our reporting dashboard and automated Slack alerts from this if any ICPs with UML are identified. We also run the Audit Compliance Report twice a month (as part of our Business Day 4 and 13 checking processes prior to the RM submissions). The ICP concerned has now switched out and with the controls in place we are confident that any future similar situations will be resolved very promptly. We have submitted data to the market for the UML that we missed between Dec 2023 and June 2024. To-date data has been provided in the washup files for all but two months (Jan and Feb 2024). These will be done with the appropriate BD13 washup files over the next couple of months.	June thru Aug 2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above, strong monitoring is in place and submissions are mostly up to date. Previously emails from the networks regarding UML were being sent to an individual's email address - that person is not involved in day-to-day processes and did not know they were the only recipient. This has been changed to a shared group email so will be seen by several people.	17 July 2024	

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 techniques described in clauses 4 to 7 to create historical estimates and forward estimates.

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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs supplied by Octopus have HHR metering and submission type.

Audit outcome

Compliant

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

Code reference

Clauses 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 historical estimates of volume information for each ICP when the relevant seasonal adjustment shape is available, and the reconciliation participant is not using an approved profile in accordance with clause 4A.

If the Authority has approved a profile for the purpose of apportioning volume information (in kWh) to part or full consumption periods, a reconciliation participant may use the profile despite the relevant seasonal adjustment shape being available; and if it uses the profile, must otherwise prepare the historical estimate in accordance with the methodology in clause 4.

*If a seasonal adjustment shape is not available, and the **reconciliation participant** is not using an approved **profile** under clause 4A, 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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs supplied by Octopus have HHR metering and submission type.

The registry list did identify one ICP (0007220173RN851) with shared unmetered load since 14 December 2023 that has not been included in NHH submissions. Octopus plan to perform NHH (AV-080) submissions to ensure this volume is included in the reconciliation process and subsequent wash ups. Non compliance is recorded in **sections 2.1, 5.1, 12.2, 12.7**.

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

Review of the registry list with history confirmed that all ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs supplied by Octopus have HHR metering and submission type.

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

Review of the registry list with history confirmed that all metered ICPs supplied by Octopus have HHR profile.

Audit commentary

Octopus only uses the HHR profile, and no profile changes have occurred or are expected to occur.

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**.

Aggregation of HHR volumes is discussed in **section 11.4**.

Audit commentary

AV090 and AV140 files are generated from the HHR data management system based on actual and estimated data for each trading period. Aggregation factors are determined from a current date ranged registry list. Volumes are included in the submissions for all trading periods where the ICP has "active" status on the registry.

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.

As discussed in **section 5.1**, a review of the registry list and audit compliance reports identified one ICP (0007021534RN247) with shared unmetered load (0.05 kWh / day) where this unmetered load was not initially being provided to the reconciliation manager via a NHHVOLS (AV-080) submission file. Octopus have now provided five NHHVOLS wash up submission files and the remaining two affected periods will have wash up revision files submitted as part of the next available revision.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.1 With: Clause 8. Schedule 15.3 From: 14-Dec-23 To: 12-Jun-24	Some NHH submission files not submitted between December 2023 and June 2024 relating to one ICP with shared unmetered load 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 as there are strong controls around HHR submissions. The processes around identifying NHH UML loads and the processing of NHHVOLS submission wash up files as soon as practicable once the exception was identified enables the controls to be rated as strong as at the end of the audit period The impact is assessed to be low as the impact on submission accuracy is small.

Actions taken to resolve the issue	Completion date	Remedial action status
Submissions have been made with the Business Day 13 washup files for all but two months (Jan & Feb 2024) between Dec 2023 and Jun 2024. The missing two months will be caught up over the coming couple of months.	Jun-Aug 2024	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Strong controls and alerting are in place. Refer to sections **3.7 Changes to unmetered load** and **5.4 Maintaining shared unmetered load** for full details.	17 July 2024	

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

When reporting submission information, the number of decimal places must be rounded to not more than 2 decimal places.

If the unrounded digit to the right of the second decimal place is greater than or equal to 5, the second digit is rounded up, and

If the digit to the right of the second decimal place is less than 5, the second digit is unchanged.

Audit observation

I reviewed 18 AV090 half hour volume reports and 18 AV140 half hour aggregate reports to confirm how rounding occurs.

Audit commentary

Review of 35 AV090 and 35 AV140 reports confirmed that submission information is appropriately 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

Review of the registry list with history confirmed that all metered ICPs supplied by Octopus have HHR metering and submission type.

Audit commentary

All ICPs supplied by Octopus have HHR metering and submission type.

The registry list did identify one ICP (0007220173RN851) with shared unmetered load since 14 December 2023 that has not been included in NHH submissions. Octopus plan to perform NHH (AV-080) submissions to ensure this volume is included in the reconciliation process and subsequent wash ups.

Audit outcome

Compliant

CONCLUSION

Octopus is an HHR trader for 7,239 ICPs. There has been a steady increase in active ICP numbers during the audit period from 5,730 in 2023. During this period of steady growth, Octopus have made improvements where they have identified inefficiencies or inaccuracies in the registry and switching processes. A number of the issues identified within this report had been identified by Octopus prior to the audit and process improvements implemented. The team was very helpful during the audit and showed willingness to learn from the audit process and make improvements.

Switching

Switching processes are automated using the robotron*esales system. Non-compliance still exists with some switching processes, specifically the timeliness of a small number of switch files, responses and compliance with the average daily consumption requirements.

Registry

The Octopus registry management processes are largely manual. Some inaccurate registry data was identified, and these were not updated as soon as practicable. Exception monitoring performed between robotron*esales and the registry does not identify exception types. Non compliances were identified around shared unmetered load set up and ICPs with distributed generation recorded by the distributor where these have not been followed to up arrange for appropriate metering to be installed.

Submission

There has been an overall increase in the number of non-compliances recorded, and some recommendations are made regarding improvements to the effectiveness of controls. The following main issues were identified:

- correction has not been conducted for one bridged correction,
- ongoing issues around revising estimates where revised data has been received either from the AMI MEPs or via the switch read amendment pro,
- consumption on inactive ICPs has not been submitted in all instances, and
- NHH submission of shared unmetered load had not been performed between December 2023 and June 2024 for one ICP,
- AMI event logs and time difference reports are not actively monitored.

Where ICP level and meter data setups were found to be incorrect during the audit, corrections have been applied within robotron*esales and are expected to flow through to the submission revision process.

This audit identified 23 non-compliances and makes eight recommendations.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. Based on the audit risk rating of 40, the indicative next audit date is in 12 months. I have considered this in conjunction with Octopus Energy's actions undertaken during the audit to resolve issues and improve process documentation and also the responses provided which indicate that the issues are being investigated and are expected to be resolved. I recommend that the next audit is completed in 12 months.

PARTICIPANT RESPONSE

Octopus Energy would like to thank Bernie Cross for taking the time to perform our audit, prepare the report and for providing recommendations.

Substantial UML checks in the form of process, dashboards and alerting have now been put in place. NHH submissions to the market have been made for all but two of the impacted months. The remaining months' submissions will continue as part of the wash-up cycle. As well, a number of ICPs where HHR volume corrections had not been applied have now been resolved with data either submitted (or to be submitted) as part of the ongoing revisions process.

Further monitoring through dashboards is being put in place to identify ICPs where there is a potential bridged meter or where inactive meters are recording consumption. The documentation around these processes has been further developed, along with a more frequent checking schedule.

There are a number of non-compliances which we believe are due to out-of-date, non-fit for purpose code in regards to how HHR reconciled retailers. This relates in particular to the average daily consumption within the CS file and in the RR process. We understand that the EA is actively looking in this space and is potentially part of a Code Review Programme. We look forward to being consulted with regards to this and to providing feedback.

We have engaged with the MEP for assistance with the event logs and time difference reports interpretation. At this stage we have not heard back but we will follow up and put processes and documentation in place.

It is disappointing that our score has increased from last year but we are absolutely committed to increasing our compliance levels and improving processes, through system changes, monitoring and training.