ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

SWITCH UTILITIES LIMITED

switch utilities ltd

Prepared by: Steve Woods

Date audit commenced: 20 March 2018

Date audit report completed: 18 April 2019

Audit report due date: 20 April 2019

TABLE OF CONTENTS

Executive summary 5
Audit summary 6

Non-compliances 6
Recommendations 9
Issues 9

1. Administrative 10

1.1. Exemptions from Obligations to Comply with Code (Section 11) 10
1.2. Structure of Organisation 10
1.3. Persons involved in this audit 11
1.4. Use of Agents (Clause 15.34) 11
1.5. Hardware and Software 12
1.6. Breaches or Breach Allegations 12
1.7. ICP Data 13
1.8. Authorisation Received 14
1.9. Scope of Audit 14
1.10. Summary of previous audit 16

2. Operational Infrastructure 19

2.1. Relevant information (Clause 10.6, 11.2, 15.2) 19
2.2. Provision of information (Clause 15.35) 22
2.3. Data transmission (Clause 20 Schedule 15.2) 22
2.4. Audit trails (Clause 21 Schedule 15.2) 23
2.5. Retailer responsibility for electricity conveyed - participant obligations (Clause 10.4) .. 24
2.6. Retailer responsibility for electricity conveyed - access to metering installations (Clause 10.7(2),(4),(5) and (6)) 24
2.7. Physical location of metering installations (Clause 10.35(1)&(2)) 25
2.8. Trader contracts to permit assignment by the Authority (Clause 11.15B) 25
2.9. Connection of an ICP (Clause 10.32) 26
2.10. Temporary Electrical Connection of an ICP (Clause 10.33(1)) 27
2.11. Electrical Connection of Point of Connection (Clause 10.33A) 27
2.12. Arrangements for line function services (Clause 11.16) 29
2.13. Arrangements for metering equipment provision (Clause 10.36) 29

3. Maintaining registry information 31

3.1. Obtaining ICP identifiers (Clause 11.3) 31
3.2. Providing registry information (Clause 11.7(2)) 32
3.3. Changes to registry information (Clause 10 Schedule 11.1) 32
3.4. Trader responsibility for an ICP (Clause 11.18) 35
3.5. Provision of information to the registry manager (Clause 9 Schedule 11.1) 36
3.6. ANZSIC codes (Clause 9 (1(k) of Schedule 11.1) 37
3.7. Changes to unmetered load (Clause 9(1)(f) of Schedule 11.1) 39
3.8. Management of “active” status (Clause 17 Schedule 11.1) 40
3.9. Management of “inactive” status (Clause 19 Schedule 11.1) 41
3.10. ICPs at new or ready status for 24 months (Clause 15 Schedule 11.1) 42

4. Performing customer and embedded generator switching 43

4.1. Inform registry of switch request for ICPs - standard switch (Clause 2 Schedule 11.3) .. 43

4.2. Losing trader response to switch request and event dates - standard switch (Clauses 3 and 4 Schedule 11.3) 43
4.3. Losing trader must provide final information - standard switch (Clause 5 Schedule 11.3) 45
4.4. Retailers must use same reading - standard switch (Clause 6(1) and 6A Schedule 11.3) 47
4.5. Non-half hour switch event meter reading - standard switch (Clause 6(2) and (3) Schedule 11.3) 50
4.6. Disputes - standard switch (Clause 7 Schedule 11.3) 51
4.7. Gaining trader informs registry of switch request - switch move (Clause 9 Schedule 11.3) 52
4.8. Losing trader provides information - switch move (Clause 10(1) Schedule 11.3) 52
4.9. Losing trader determines a different date - switch move (Clause 10(2) Schedule 11.3) 54
4.10. Losing trader must provide final information - switch move (Clause 11 Schedule 11.3) 54
4.11. Gaining trader changes to switch meter reading - switch move (Clause 12 Schedule 11.3) 56
4.12. Gaining trader informs registry of switch request - gaining trader switch (Clause 14 Schedule 11.3) 58
4.13. Losing trader provision of information - gaining trader switch (Clause 15 Schedule 11.3) 59
4.14. Gaining trader to advise the registry manager - gaining trader switch (Clause 16 Schedule 11.3) 60
4.15. Withdrawal of switch requests (Clauses 17 and 18 Schedule 11.3) 61
4.16. Metering information (Clause 21 Schedule 11.3) 62
4.17. Switch saving protection (Clause 11.15AA to 11.15AB) 63

5. Maintenance of unmetered load 64

5.1. Maintaining shared unmetered load (Clause 11.14) 64
5.2. Unmetered threshold (Clause 10.14 (2)(b)) 65
5.3. Unmetered threshold exceeded (Clause 10.14 (5)) 65
5.4. Distributed unmetered load (Clause 11 Schedule 15.3, Clause 15.37B) 66

6. Gathering raw meter data 67

6.1. Electricity conveyed & notification by embedded generators (Clause 10.13, Clause 10.24 and 15.13) 67
6.2. Responsibility for metering at GIP (Clause 10.26 (6), (7) and (8)) 68
6.3. Certification of control devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3) 69
6.4. Reporting of defective metering installations (Clause 10.43(2) and (3)) 69
6.5. Collection of information by certified reconciliation participant (Clause 2 Schedule 15.2) 70
6.6. Derivation of meter readings (Clause 3(1), 3(2) and 5 Schedule 15.2) 71
6.7. NHH meter reading application (Clause 6 Schedule 15.2) 72
6.8. Interrogate meters once (Clause 7(1) and (2) Schedule 15.2) 73
6.9. NHH meters interrogated annually (Clause 8(1) and (2) Schedule 15.2) 75
6.10. NHH meters 90% read rate (Clause 9(1) and (2) Schedule 15.2) 76
6.11. NHH meter interrogation log (Clause 10 Schedule 15.2) 78
6.12. HHR data collection (Clause 11(1) Schedule 15.2) 78
6.13. HHR interrogation data requirement (Clause 11(2) Schedule 15.2) 79
6.14. HHR interrogation log requirements (Clause 11(3) Schedule 15.2) 79

7. Storing raw meter data 81

7.1. Trading period duration (Clause 13 Schedule 15.2) 81
7.2. Archiving and storage of raw meter data (Clause 18 Schedule 15.2) 81
7.3. Non-metering information collected / archived (Clause 21(5) Schedule 15.2) 82

8. Creating and managing (including validating, estimating, storing, correcting and archiving) volume information 83

8.1. Correction of NHH meter readings (Clause 19(1) Schedule 15.2) 83
8.2. Correction of HHR metering information (Clause 19(2) Schedule 15.2) 83
8.3. Error and loss compensation arrangements (Clause 19(3) Schedule 15.2) 84
8.4. Correction of HHR and NHH raw meter data (Clause 22(1) and (2) Schedule 15.2) 84

9. Estimating and validating volume information 86

9.1. Identification of readings (Clause 3(3) Schedule 15.2) 86
9.2. Derivation of volume information (Clause 3(4) Schedule 15.2) 86
9.3. Meter data used to derive volume information (Clause 3(5) Schedule 15.2) 87
9.4. Half hour estimates (Clause 15 Schedule 15.2) 87
9.5. NHH metering information data validation (Clause 16 Schedule 15.2) 88
9.6. Electronic meter readings and estimated readings (Clause 17 Schedule 15.2) 89

10. Provision of metering information to the pricing manager in accordance with subpart 4 of Part 13 (clause 15.38(1)(f)) 90

10.1. Generators to provide HHR metering information (Clause 13.136) 90
10.2. Unoffered & intermittent generation provision of metering information (Clause 13.137) 90
10.3. Loss adjustment of HHR metering information (Clause 13.138) 91
10.4. Notification of the provision of HHR metering information (Clause 13.140) 91

11. Provision of submission information for reconciliation 92

11.1. Buying and selling notifications (Clause 15.3) 92
11.2. Calculation of ICP days (Clause 15.6) 92
11.3. Electricity supplied information provision to the reconciliation manager (Clause 15.7) 94
11.4. HHR aggregates information provision to the reconciliation manager (Clause 15.8) 96

12. Submission computation 99

12.1. Daylight saving adjustment (Clause 15.36) 99
12.2. Creation of submission information (Clause 15.4) 99
12.3. Allocation of submission information (Clause 15.5) 100
12.4. Grid owner volumes information (Clause 15.9) 102
12.5. Provision of NSP submission information (Clause 15.10) 102
12.6. Grid connected generation (Clause 15.11) 103
12.7. Accuracy of submission information (Clause 15.12) 103
12.8. Permanence of meter readings for reconciliation (Clause 4 Schedule 15.2) 105
12.9. Reconciliation participants to prepare information (Clause 2 Schedule 15.3) 106
12.10. Historical estimates and forward estimates (Clause 3 Schedule 15.3) 108
12.11. Historical estimate process (Clause 4 and 5 Schedule 15.3) 108
12.12. Forward estimate process (Clause 6 Schedule 15.3) 110
12.13. Compulsory meter reading after profile change (Clause 7 Schedule 15.3) 111

13. Submission format and timing 113

13.1. Market Administrator Meter Reading Reports (Clauses 8 & 9 of Schedule 15.2) 113
13.2. Provision of submission information to the RM (Clause 8 Schedule 15.3) 113
13.3. Reporting resolution (Clause 9 Schedule 15.3) 114
13.4. Historical estimate reporting to RM (Clause 10 Schedule 15.3) 114

Conclusion 117

Participant response 118

EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Switch Utilities Limited (Switch Utilities),** 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 V7.2.

Switch Utilities continues to increase their customer numbers, and as with the previous audit, there were some processing errors caused by the high level of activity. The audit has highlighted that controls need to be strengthened in some areas.

30 non-compliance issues were identified by the audit. Nine relate to switching and four relate to registry updates. The most important matters are those related to incorrect submission information, which are as follows:

1. Submission does not occur for inactive ICPs with consumption. Whilst these are recorded as inactive on the registry, this status is incorrect because consumption is being recorded. There are 140 inactive ICPs with consumption totalling 208,187 kWh. Following the audit, the statuses have been updated to ensure submission occurs. The relevant periods are March 2018 to January 2019.
2. ICP 1001136673LC11F has generation as well as load, but the generation is not submitted and should have been since 01/01/17.
3. 37 bridged meters were identified, and correction was not conducted for the bridged period. The total number of bridged days is 809, so at 25 units per day this could be approx. 20,225 kWh under.
4. Switch event meter readings are from 24.00 on the day of the switch not 24.00 on the day before the switch. The system was compliant during the last audit, but a change during the audit period led to the incorrect readings being loaded into CS files.

The breach risk rating total is 67, which results in a recommended audit frequency of three months. I have considered this result in conjunction with Switch Utilities responses. Several of the system related issues were immediately resolved and revisions will ensure submission information becomes correct over time. There is a clear plan for the resolution of the other points, with the longest time period being December 2019. My recommendation for the next audit is 12 months to allow sufficient time for all matters to be resolved.

The matters identified are shown in the tables below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	10.6, 11.2, 15.2	Some errors found in registry data. Some submission revisions not conducted as soon as practicable.	Moderate	Medium	4	Identified
Metering certification	2.11	10.32	Four reconnections were not certified within five business days. 8 bridged meters not recertified within 5 business days.	Moderate	Low	2	Identified
Registry updates	3.3	10 of schedule 11.1	Registry information not updated within 5 business days of the event.	Moderate	Low	2	Identified
Provision of registry information	3.5	9 of Schedule 11.1	Registry information not updated within 5 business days of the event for one new connection.	Moderate	Low	2	Cleared
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	Incorrect ANZSIC codes assigned for 19 of 150 ICPs checked.	Moderate	Low	2	Identified
Active status	3.8	Clause 17 of Schedule 11.1	Some ICPs with active status discrepancies.	Weak	Medium	6	Identified
Switching	4.2	3 and 4 of Schedule 11.3	Four late AN files.	Strong	Low	1	Cleared
	4.3	5 of Schedule 11.3	Incorrect average daily consumption for 11 ICPs. Incorrect reads used in CS files. Reads from 24.00 on the switch date instead of 00.00 on the switch date. Date of last reading incorrect when estimates are sent. 2 late CS files.	Moderate	Low	2	Cleared
	4.4	6(1) and 6A Schedule 11.3	20 late RR files.	Moderate	Low	2	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
	4.5	6(2) and (3) Schedule 11.3	At least 9 RR files incorrectly rejected.	Moderate	Low	2	Cleared
	4.8	10(1) of Schedule 11.3	Four late AN files.	Strong	Low	1	Identified
	4.10	11 of Schedule 11.3	Incorrect average daily consumption for 5 ICPs. Incorrect reads used in CS files. Reads from 24.00 on the switch date instead of 00.00 on the switch date. Date of last reading incorrect when estimates are sent. Incorrect negative consumption in 2 CS files.	Moderate	Low	2	Identified
	4.11	12 of Schedule 11.3	At least 3 RR files incorrectly rejected. 6 late RR files and 8 late AC files.	Moderate	Low	2	Cleared
	4.13	15 Schedule 11.3	5 late AN files.	Moderate	Low	2	Identified
	4.15	17 and 18 of Schedule 11.3	7 late AW files.	Moderate	Low	2	Identified
Electricity conveyed	6.1	10.13, Clause 10.24 and 15.13	Generation kWh not submitted for ICP 1001136673LC11F. 37 bridged meters where electricity was not quantified.	Moderate	Medium	4	Identified
NHH reading application	6.7	6 Schedule 15.2	Switch event meter readings applied to 24.00 instead of 00.00. NHH meter readings applied to the end of the day before for NHH to HHR changes.	Moderate	Low	2	Cleared

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Interrogate meters once	6.8	7(1) and (2) of Schedule 15.2	113 ICPs not read during the period of supply. Best endeavours not demonstrated.	Moderate	Low	2	Identified
Annual interrogation	6.9	8(1) and (2) of Schedule 15.2	Best endeavors not demonstrated for three ICPs not read in the previous 12 months.	Strong	Low	1	Identified
90% read rate	6.10	9(1) and (2) of Schedule 15.2	Best endeavors not demonstrated for 14 ICPs not read in the previous four months.	Strong	Low	1	Identified
ICP Days	11.2	15.6	ICP days calculation incorrect for one scenario.	Moderate	Low	2	Identified
Electricity supplied	11.3	15.7	Inaccurate electricity supplied data from August 2017.	Moderate	Low	2	Cleared
HHR aggregates	11.4	15.8	Aggregates file contains submission information. Generation not included in aggregates file for ICP 1001136673LC11F.	Strong	Low	1	Cleared
Creation of submission information	12.2	15.4	Submission not occurring for 140 inactive ICPs with consumption totaling 208,187 kWh.	Moderate	Medium	4	Identified
Allocation of submission information	12.3	15.5	NSP ALB1101 had an entire combination (VECW1) missing from the R7 revision.	Moderate	Low	2	Cleared
Submission accuracy	12.7	15.12	There are 140 inactive ICPs with consumption totalling 208,187 kWh. Generation kWh not submitted for ICP 1001136673LC11F. Correction not conducted for 37 bridged meters.	Moderate	Medium	4	Identified
Permanence of meter readings	12.8	4 of Schedule 15.2	HE not 100% for 11 NSPs in August 2017 and one NSP for October 2017.	Strong	Low	1	Cleared
Preparation of submission information	12.9	2 of Schedule 15.3	Incorrect submission information.	Moderate	Medium	4	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
FE process	12.12	6 of Schedule 15.3	Two balancing areas with a difference greater than 15% and 100,000 kWh. One incorrect FE scenario.	Moderate	Low	2	Identified
HE reporting	13.4	10 of Schedule 15.3	HE targets not met for some revisions.	Strong	Low	1	Identified

Future Risk Rating	**67**
Next indicative audit frequency	**3 months**

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

RECOMMENDATIONS

Subject	Section	Recommendation	Action
Changes to unmetered load	3.7	Check three ICPs for unmetered load accuracy.	

ISSUES

Subject	Section	Clause	Description
			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

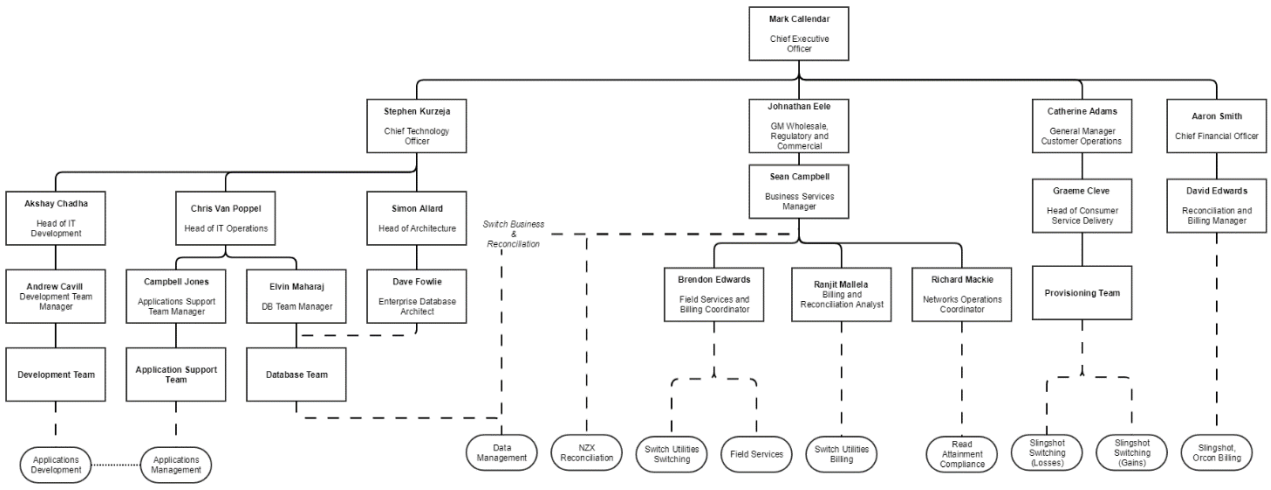
The Electricity Authority website was checked to identify any exemptions currently in place for Switch Utilities.

Audit commentary

There are no exemptions in place.

1.2. Structure of Organisation

Switch Utilities provided a current organisational chart.



1.3. Persons involved in this audit

Auditors:

Name	Company	Role
Steve Woods	Veritek Limited	Auditor

Switch Utilities personnel assisting with this audit:

Name	Title
Sean Campbell	Business Services Manager
Brendon Edwards	Field Services and Billing Co-ordinator

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

The agents used by Switch Utilities were identified and their agent reports assessed as a part of this audit.

Audit commentary

Switch Utilities uses AMS and EDMI as agents for HHR data collection. Wells provides NHH meter reading services.

All agents have been audited in accordance with the Guidelines for Reconciliation Participant Audits that were current at the time of the agent's audits. The agents' audit reports are greater than seven months old, therefore some additional checks were conducted to ensure compliance is still achieved.

The agent audit reports are expected to be submitted along with this report.

1.5. Hardware and Software

Switch Utilities has a suite of bespoke systems as follows:

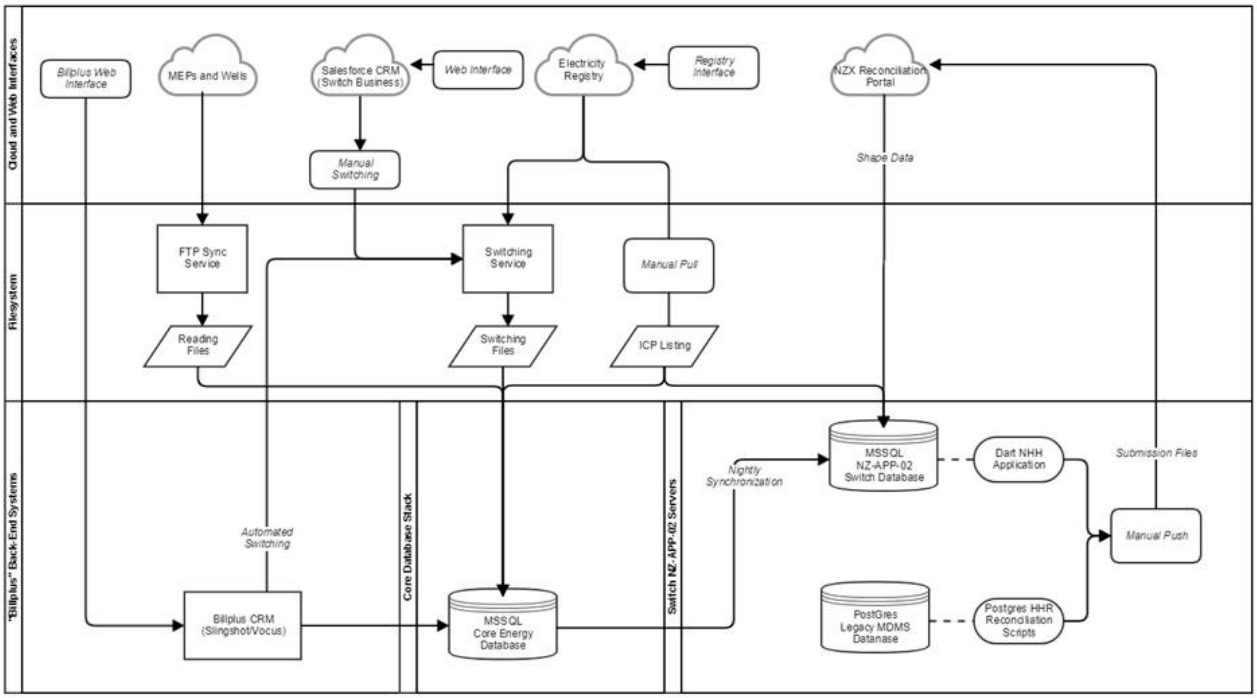
Data management system (DRS)

NHH reconciliation system (DART)

Access based HHR reconciliation system (HHR database).

The CRM is Salesforce.

Backup arrangements are in accordance with standard industry protocols. A system diagram is shown below.



1.6. Breaches or Breach Allegations

Switch Utilities has two breach allegations recorded by the Electricity Authority. The details are listed below.

Date	Clause	Details	Result
04/12/18	Part 15 clause 15.2 (1)	Switch Utilities (SWCH) failed to submit data by 16:00 on business day 4 in breach of Part 15.2 (1) of the Code.	Early closure
13/02/19	Part 15 clause 15.4 (1)	Switch Utilities (SWCH) has failed to submit data to the reconciliation manager by 16:00 on business day 4 in breach of Part 15.4 (1) of the Code	Early closure

1.7. ICP Data

Switch Utilities provided a list as at February 2019. The quantity of ICPs by status is shown below:

Status	Number of ICPs 2019	Number of ICPs 2018	Number of ICPs 2017
Active (2,0)	21,770	11,982	3,580
Inactive – new connection in progress (1,12)	7	6	1
Inactive – electrically disconnected vacant property (1,4)	135	3	1
Inactive – electrically disconnected remotely by AMI meter (1,7)	35	1	0
Inactive – electrically disconnected at pole fuse (1,8)	23	0	0
Inactive – electrically disconnected due to meter disconnected (1,9)	23	1	0
Inactive – electrically disconnected at meter box fuse (1,10)	8	0	0
Inactive – electrically disconnected at meter box switch (1,11)	11	0	0
Inactive – electrically disconnected ready for decommissioning (1,6)	3	0	0
Inactive – reconciled elsewhere (1,5)	0	0	0
Decommissioned (3)	187	162	21

The active ICPs on the list file were summarised by meter category in the table below.

Metering Category	2019	2018	2017
1	21,390	11,635	3,287
2	329	287	236
3	37	45	44
4	12	12	11
5	1	1	52
9	1	1	1
Blank	0	1	1

1.8. Authorisation Received

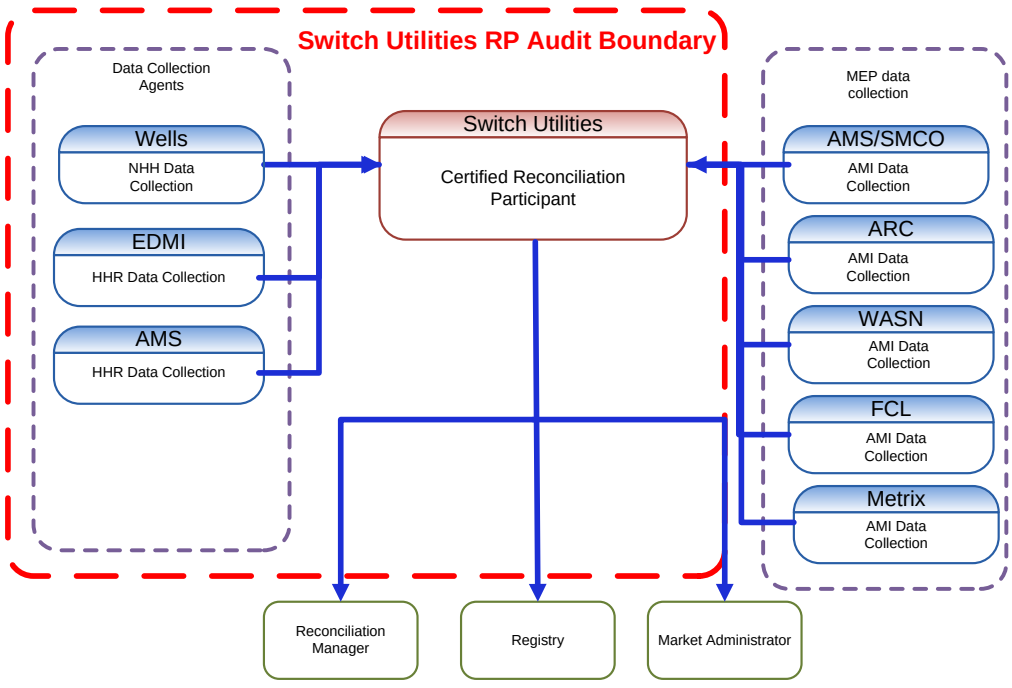
Switch Utilities provided email authorisation to collect information in relation to this audit.

1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Switch Utilities, 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 V7.2.

The audit was carried out at Switch Utilities' premises in Auckland on 20-21 March 2019.The scope of the audit is shown in the diagram below, with the Switch Utilities audit boundary shown for clarity.



The table below shows the tasks under clause 15.38 of part 15 for which Switch Utilities requires certification. This table also lists any agents who assist with these tasks:

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	**Agents providing services**	**MEPs providing services**
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data	Wells – NHH data collection EDMI – HHR data collection AMS – HHR data collection	AMS SMCO ARC Metrix FCLM WASN
(c)(iii) - Creation and management of HHR and NHH volume information	Wells – NHH data collection EDMI – HHR data collection AMS – HHR data collection	AMS SMCO ARC Metrix FCLM WASN
(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		

Switch Utilities uses AMS and EDMI as agents for HHR data collection. Wells provides NHH meter reading services.

All agents have been audited in accordance with the Guidelines for Reconciliation Participant Audits that were current at the time of the agent's audits. The agents' audit reports are greater than seven months old, therefore some additional checks were conducted to ensure compliance is still achieved.

The agent audit reports are expected to be submitted along with this report.

1.10. Summary of previous audit

Switch Utilities provided a copy of the report from the audit conducted in 2018 by Steve Woods of Veritek Limited. Further comment is made in the relevant sections of this report.

Table of non-compliance

Subject	Section	Clause	Non-Compliance	Remedial Action
Relevant information	2.1	10.6, 11.2, 15.2	Some errors found in registry data.	Still existing
Audit trails	2.4	21 of Schedule 15.2	Audit trail not complete for HHR corrections.	Cleared
Registry updates	3.3	10 of schedule 11.1	Registry information not updated within 5 business days of the event.	Still existing
Trader responsibility	3.4	11.18	One incorrect MEP nomination.	Still existing
Provision of registry information	3.5	9 of Schedule 11.1	Registry information not updated within 5 business days of the event for five status changes and one MEP nomination.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	Incorrect ANZSIC codes assigned for 8 of 100 ICPs checked.	Still existing
Active status	3.8	Clause 17 of Schedule 11.1	Some ICPs with active status discrepancies.	Still existing
Switching	4.2	3 and 4 of Schedule 11.3	Three AN files late by one day.	Still existing
	4.3	5 of Schedule 11.3	Incorrect average daily consumption for 3 ICPs.	Still existing
	4.8	10(1) of Schedule 11.3	One late AN file by one day.	Still existing
	4.10	11 of Schedule 11.3	Incorrect average daily consumption for 2 ICPs. 172 late CS files.	Still existing
	4.11	12 of Schedule 11.3	Three late RR files and one late AC file.	Still existing
	4.12	14 of Schedule 11.3	Two late NT files.	Cleared
	4.15	17 and 18 of Schedule 11.3	Six late AW files by one day.	Still existing
NHH reading application	6.7	6 Schedule 15.2	NHH meter readings applied to the end of the day before for NHH to HHR changes	Still existing

Subject	Section	Clause	Non-Compliance	Remedial Action
Interrogate meters once	6.8	7(1) and (2) of Schedule 15.2	No process for getting meter readings during the period of supply.	Still existing
Annual interrogation	6.9	8(1) and (2) of Schedule 15.2	Best endeavors not demonstrated for 12 ICPs not read in the previous 12 months.	Still existing
90% read rate	6.10	9(1) and (2) of Schedule 15.2	Best endeavors not demonstrated for 14 ICPs not read in the previous four months.	Still existing
Event logs	9.6	17 of Schedule 15.2	Event logs not received from ARC Innovations.	Cleared
ICP Days	11.2	15.6	ICP days calculation incorrect for one scenario. January 2018 Day 4 ICP days inaccurate.	Still existing
Electricity supplied	11.3	15.7	Inaccurate electricity supplied data for May 2017.	Still existing
HHR aggregates	11.4	15.8	Aggregates file contains submission information.	Still existing
Creation of submission information	12.2	15.4	Inaccurate submission information for January 2018 Day 4.	Still existing
Allocation of submission information	12.3	15.5	Zeroing did not occur for three GXPs.	Still existing
Permanence of meter readings	12.8	4 of Schedule 15.2	HE not 100% for two GXPs for October 2016.	Still existing
Preparation of submission information	12.9	2 of Schedule 15.3	Incorrect submission information.	Still existing
FE process	12.12	6 of Schedule 15.3	One balancing area with a difference greater than 15% and 100,000 kWh. One incorrect FE scenario.	Still existing
HE reporting	13.4	10 of Schedule 15.3	HE targets not met for some revisions.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Status
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	Confirm that 6.9 kWh per day is correct for ICP 0010426583EL500.	Still existing

Table of Issues

Subject	Section	Clause	Recommendation for Improvement	Action
			Nil	

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

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

Audit observation

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

Audit commentary

Switch Utilities has a robust set of validation reports to ensure the registry data is correct.

Analysis of the list file found the points shown in the table below.

Issue	2019 Qty	2018 Qty	Comments
ICPs with solar generation recorded by the Distributor but without the PV1 profile	2	4	These are both now updated from the correct date. Submission information is now correct.
Category 9 with status Active	1	0	ICP 0007130768RNE7B has meters recorded by Switch Utilities. This is an MEP issue for ARC.
Incorrect ANZSIC code	19	1	Refer section 3.6.
Incorrect inactive status	140	12	ICPs are at inactive statuses but consumption is recorded, suggesting the status should be Active.

There were also some submission related issues, outlined in **section 12.7**, where corrections were not made as soon as practicable.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.6, 11.2, 15.2 From: 01-Jul-18 To: 20-Feb-19	Some errors found in registry data. Some submission revisions not conducted as soon as practicable. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	Controls are rated as moderate as they are sufficient to mitigate risk most of the time, but there is room for improvement. The audit risk rating is low as the overall volume of ICPs affected is low.
Actions taken to resolve the issue	**Completion date** / **Remedial action status**

We acknowledge the auditors feedback in relation to the maintenance of registry data. Our commentary is as follows: 1. We have resolved the PV1 profile issue, although note it never affected submission and is only a paper issue. 2. We have been working on the MEP issue with NGCM/ARC in relation to the site being stuck on "Category 9" but we require the MEP to ultimately resolve this. We will continue to follow up with them on it, again this does not affect submissions. 3. We accept that in some instances the ANZSIC codes have been entered incorrectly. We will follow up with the relevant agents. We do have a robust process for collection of ANZSIC code information built into our commercial sales tool which requires the agent to acknowledge the existing code and confirm it is more correct or provide more accurate information. In some cases, certain agents have not updated this, and we will be following this up with their respective managers. With respect to the issue identified relating to ICP statuses: The discrepancies identified are caused by one specific scenario, which is the acquisition of a customer already in a de-energised state. As a part of the acquisition process, we will oftentimes reconnect a customer. In certain situations, the paperwork relating to the reconnection arrives prior to the completion of the CS file which means at the time of receipt we are unable to process the status update. Our agents in these cases will note the paperwork requires further processing, and hold it until the switch completes. However, in certain situations as a result of human error the status update has been missed or forgotten and not updated on the later completion of the switch. Consequently, we accept that the process in this area is not as robust as it could be and that it does have an impact on submission information. We do have periodic standard reporting which attempts to flag these but accept that again this has not been sufficient to resolve the issue. We will therefore be including within the list of validation errors generated on our Electricity UI for our provisioning (switching and field services) teams sites having consumption while recorded inactive. This will allow a more robust level of reporting and also on-going monitoring within management reporting not currently available from existing reporting. Additionally we are cross-training additional resources from equivalent Telecommunications areas of our business to improve the resourcing allocated to management of return paperwork.	01/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

Included above		

2.2. Provision of information (Clause 15.35)

Code reference

Clause 15.35

Code related audit information

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

Audit observation

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

Audit commentary

This area is discussed in a number of sections in this report and compliance is confirmed with regard to timeliness and format of information in accordance with Part 15.

Audit outcome

Compliant

2.3. Data transmission (Clause 20 Schedule 15.2)

Code reference

Clause 20 Schedule 15.2

Code related audit information

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

Audit observation

I reviewed the method to receive meter reading information.

Audit commentary

All HHR data and NHH data is provided by SFTP, which is considered a compliant method.

Audit outcome

Compliant

2.4. Audit trails (Clause 21 Schedule 15.2)

Code reference

Clause 21 Schedule 15.2

Code related audit information

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

The audit trail must include details of information:

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

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

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

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

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

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

Audit observation

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

Audit commentary

A complete audit trail was viewed for all NHH data gathering, validation and processing functions. The logs of these activities for all agents include the activity identifier, date and time and an operator identifier. The audit trail in the HHR area was not fully developed during the previous audit. This matter is now resolved, and I confirmed compliance by checking some corrections to confirm the previous values were still present.

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 Switch Utilities' current terms and conditions.

Audit commentary

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

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 Switch Utilities' current terms and conditions and discussed compliance with these clauses.

Audit commentary

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

parties when requested. This was observed with the meter reading process and with the field services process. Compliance is confirmed.

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

A discussion was held regarding knowledge of any ICPs with loss compensation present. The presence of loss compensation factors was also checked by examining multipliers for a sample of five large ICPs.

Audit commentary

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

Audit outcome

Compliant

2.8. Trader contracts to permit assignment by the Authority (Clause 11.15B)

Code reference

Clause 11.15B

Code related audit information

A trader must at all times ensure that the terms of each contract between a customer and a trader permit:

- *the Authority to assign the rights and obligations of the trader under the contract to another trader if the trader commits an event of default under paragraph (a) or (b) or (f) or (h) of clause 14.41 (clause 11.15B(1)(a)); and*
- *the terms of the assigned contract to be amended on such an assignment to—*
- *the standard terms that the recipient trader would normally have offered to the customer immediately before the event of default occurred (clause 11.15B(1)(b)(i)); or*
- *such other terms that are more advantageous to the customer than the standard terms, as the recipient trader and the Authority agree (clause 11.15B(1)(b)(ii); and*

- *the terms of the assigned contract to be amended on such an assignment to include a minimum term in respect of which the customer must pay an amount for cancelling the contract before the expiry of the minimum term (clause 11.15B(1)(c)); and*
- *the trader to provide information about the customer to the Authority and for the Authority to provide the information to another trader if required under Schedule 11.5 (clause 11.15B(1)(d)); and*
- *the trader to assign the rights and obligations of the trader to another trader (clause 11.15B(1)(e)).*

The terms specified in sub-clause (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 Switch Utilities' current terms and conditions.

Audit commentary

Switch Utilities' terms and conditions contain the appropriate clauses to achieve compliance with this requirement. Compliance is confirmed

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 one or more metering installations for the point of connection.*

Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The list file and event detail report for the six months from 20/02/18 to 31/01/19 were analysed to confirm process compliance and that controls are functioning as expected.

Audit commentary

The new connection process is compliant and contains a step for Switch Utilities to accept responsibility. I checked all four new connections, and in all cases, Switch Utilities had accepted responsibility.

Switch Utilities has arrangements in place with all relevant MEPs, either a signed contract or an exchange of correspondence confirming an "arrangement" to provide services while the contract is being finalised.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

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

Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The list file and event detail report for the audit period from 20/02/18 to 31/01/19 were analysed to confirm process compliance and controls are functioning as expected.

Audit commentary

Switch Utilities' new connections process ensures that all ICPs are claimed and taken to the "inactive - new connection in progress" status. The MEP is decided at this point and nominated in the registry. None of the new connections were temporarily electrically connected, and this is unlikely to occur for Switch Utilities.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

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

Audit observation

The list file and event detail report for the period from 20/02/18 to 31/01/19 were analysed to confirm process compliance and controls are functioning as expected. I checked all new connections and reconnections from the event detail report.

Audit commentary

<u>New Connections</u>

All newly connected ICPs were certified within five business days of electrical connection.

Reconnected ICPs

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

Four reconnections were not certified within five business days of electrical connection. They are listed below.

ICP	Reconnection date	Final Certification date
0000003012EPEA3	1/10/2017	Expired on 01/04/15, not recertified
0000167733UN888	10/05/2018	Expired on 01/04/15, not recertified
0000184693UN60E	7/03/2018	Expired on 01/04/15, not recertified
0004483201CNA6A	10/09/2018	Expired on 01/04/15, not recertified

As recorded in **section 6.1**, there were 37 ICPs with bridged meters during the audit period. When these ICPs are reconnected, recertification is required to be conducted within five business days. Eight of the 37 were not recertified within five days of reconnection.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: Clause 10.32 From: 01-Oct-17 To: 03-Apr-19	Four reconnections were not certified within five business days. 8 bridged meters not recertified within five business days Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	I've rated the controls as moderate because they are strong for new connections but there are no controls in place for ensuring certification occurs at the time of reconnection. Uncertified metering installations are likely to be less accurate than certified metering installations, so there could be a minor impact on settlement. The audit risk rating is recorded as low.

Actions taken to resolve the issue	Completion date	Remedial action status

We acknowledge that our processes did not include the requirement for recertification upon reconnection for sites not having active certification, and where bridging has occurred, and we are modifying our business process flag this to agents at the point of reconnection and require a recertification job to be raised. There will also be additional staff training.	01/06/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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.

Audit commentary

Switch Utilities has arrangements for line function services with all relevant Distributors.

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.

Audit commentary

Switch Utilities has appropriate arrangements with all relevant MEPs.

Audit outcome

Compliant

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

A walkthrough of the process confirmed that this requirement is well understood and managed by Switch Utilities. There were no connections to networks identified without ICPs. Compliance is confirmed.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

The new connection process was examined in detail. The list file was analysed in conjunction with the event detail report to evaluate the updating of the registry in relation to new connections. This clause links directly to **section 3.5** below. The findings for the timeliness of updates is detailed there.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

The process to manage status changes is discussed in detail in **sections 3.8** and **3.9** below. In this section I have examined the event detail report for the period from 20/02/18 to 31/01/19 to determine the overall performance for that period. I used the extreme case methodology examining a sample of 20 ICPs that were updated greater than five days from the event date for each of the event type updates; with the exclusion of new connections in progress (these can only be non-compliant if not updated within five business days of electrical connection).

Audit commentary

The table below shows the level of compliance for changes to Active and Inactive.

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Changes to active - reconnections	2017	15	10	5	16.6	67%
	2018	249	183	66	8.5	73.5%
	2019	**935**	**734**	**201**	**10.4**	**79%**
Change to electrically disconnected other than reason 12 & 6	2017	0	0	0	N/A	N/A
	2018	1	1	0	1	100%
	2019	**1,197**	**1,157**	**40**	**2.1**	**97%**
Change to electrically disconnected ready for decommissioning	2017	0	0	0	N/A	N/A
	2018	4	0	4	148	0%
	2019	**2**	**2**	**0**	**0**	**100%**
New connection in progress status updates	2017	1	1	0	1	100%
	2018	40	1	39	12.1	2.5%
	2019	**8**	**6**	**2**	**2.75**	**75%**
Changes of MEP	2018	84	72	12	5.5	85%
	2019	**47**	**35**	**12**	**-2.5**	**75%**

The findings of the evaluation of reasons for late updates is discussed below.

Reconnections

20 examples of late updates were checked, with the following findings:

- Six ICPs switched in with an inactive status and consumption was subsequently identified;
- 13 ICPs had missing or incorrect field notification; and
- one ICP was reconnected by the previous trader, but the registry was not updated - Switch Utilities identified the incorrect status and changed it from the gain date.

Reporting is in place for inactive ICPs with consumption.

Inactive - "Vacant" or similar

15 examples of late updates were checked, with the following findings:

- seven late updates were due to resourcing issues;
- late field notification caused two late updates;

- a processing issue caused one late update; and
- five ICPs were disconnected by other parties and this was not discovered until some months later.

Inactive - "Ready for Decommissioning"

Both of the two updates were within five business days.

Inactive - New Connection in Progress

The two late updates were backdated to the ready date. They did not need to be backdated.

Change of MEP

I checked all 12 late examples and found that all late nominations were due to meter changes being arranged by the previous trader but not completed until Switch Utilities was the trader. Notification from the MEP occurred late.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 of schedule 11.1 From: 01-Mar-18 To: 20-Mar-19	Registry information not updated within 5 business days of the event. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls will mitigate risk most of the time but some room for improvement was identified. The audit risk rating is low because there is a minor impact on submission for some of the late updates to Active and late MEP nominations can cause MEPs to be late with their metering updates.

Actions taken to resolve the issue	Completion date	Remedial action status
We have recognized that the delays in this area can be resolved through a greater level of resourcing on these business processes, so we are currently cross-training additional resources from the equivalent telecommunications teams to assist in the management of paperwork. This should improve our level of compliance in this area through improved resourcing. We would anticipate that the cross-training can be completed over the next four months.	01/08/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process was discussed and the list file, as at February 2019, was examined to identify that all active ICPs have an MEP recorded. This analysis found one active ICP with UML "N" that does not have metering recorded in the registry. This ICP was examined.

ICP Decommissioning

The process for the decommissioning of ICPs was examined. All four decommissioned ICPs were checked to prove the process and confirm controls are in place.

Audit commentary

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process is discussed in detail in **sections 2.9** and **3.5**. Switch Utilities nominate the MEP at the same time as taking the ICP to the "inactive - new connection in progress" status. ICP 0007130768RNE7B was "Active" but the metering components were not recorded in the registry. The registry was updated by the MEP on 27/03/19.

ICP Decommissioning

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

I checked all four ICPs where decommissioning had occurred. The MEP was notified, and meter readings were obtained in all cases.

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 five business days of trading (clause 9(2)).

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

Audit observation

The new connection process was examined in detail. The list file was analysed in conjunction with the event detail report for the period from 20/02/18 to 31/01/19 to evaluate the updating of the registry in relation to new connections.

Audit commentary

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Changes to active - new connections	2017	8	4	4	6.6	50%
	2018	18	13	5	11.2	72%

	2019	**4**	**3**	**1**	**4.25**	**75%**
MEP nomination	2018	18	17	1	-3.9	94%
	2019	**4**	**4**	**0**	**-17.5**	**100%**

One late update occurred for a new connection because of late field notification.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 of Schedule 11.1 From: 16-Oct-18 To: 23-Oct-18	Registry information not updated within 5 business days of the event for one new connection. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because there is room for improvement. The audit risk rating is low as there was only a minor impact on settlement although the MEP could not update the registry on time.

Actions taken to resolve the issue	Completion date	Remedial action status
We believe that this delay for one ICP was a one-off occurrence relating to late paperwork from the field.	Resolved	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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. A Registry list file was reviewed to check ANZSIC codes. This was checked for:

- no ANZSIC codes;
- "T99" codes; and

- accuracy of ANZSIC codes applied.

The accuracy was checked by selecting a random sample of 150 active ICPs using the diverse characteristics methodology and checking them by using google streetview.

Audit commentary

Switch Utilities ensure that all new customers are assigned an ANZSIC code. Reports for missing or "T99" – non-specific ANZSIC codes are checked as part of the registry discrepancy process.

The list file was analysed and found that all active ICPs had an ANZSIC code applied and there were no ICPs with a "T99" – non-specific ANZSIC codes applied.

Of the 100 ICPs checked I found the following:

- 107 appear to be correct
- 24 could not be determined by using streetview
- 19 appear to be incorrect.

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 3.6
With: Clause 9 (1(k) of Schedule 11.1

From: 01-Mar-18
To: 20-Mar-19</td><td colspan="3">Incorrect ANZSIC codes assigned for 19 of 150 ICPs checked.
Potential impact: Low
Actual impact: Low
Audit history: Once
Controls: Moderate
Breach risk rating: 2</td></tr>
<tr><th>Audit risk rating</th><th colspan="3">Rationale for audit risk rating</th></tr>
<tr><td>Low</td><td colspan="3">Controls will mitigate risk most of the time but there are still some errors.
There is no impact on other participants or settlement, but there is an impact on the Authority because this information is used for other reporting functions.</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">Refer to commentary in 2.1 relating to ANZSIC codes.</td><td>01/05/2019 (updates of existing)
Monitoring on-going compliance</td><td rowspan="3">Identified</td></tr>
<tr><th colspan="2">Preventative actions taken to ensure no further issues will occur</th><th>Completion date</th></tr>
<tr><td colspan="2"></td><td></td></tr>
</table>

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

- *the code ENG if the load is profiled through an engineering profile in accordance with profile class 2.1 (clause 9(1)(f)(i)); or*
- *the daily average kWh of unmetered load at the ICP in all other cases (clause 9(1)(f)(ii)).*

Audit observation

The process to manage unmetered load was examined. The list file as at February 2019 was examined to identify any ICPs where:

- Unmetered load is identified by the Distributor and none is recorded by Switch Utilities.
- Switch Utilities' unmetered load figure doesn't match with the Distributor's figure (where it's possible to calculate this if the Distributor is using the recommended format) and the variance is greater than 1.0kWh per day. 1.0 kWh per day was chosen as a sample only; this does not indicate compliance is achieved if an error is found that is less than 1.0 kWh per day.

Audit commentary

The list file contained 35 ICPs where Switch Utilities have unmetered load recorded (excluding shared unmetered load which is discussed in **section 5.1**). These were analysed and I found three ICPs where the Distributor has populated the unmetered load in the recommended format. I therefore checked the daily unmetered load figure against the Retailer's unmetered load description field for the other 32 ICPs.

I found three ICPs with discrepancies, as follows:

- ICP 0010426583EL500 has 6.9 kWh per day recorded, but there is no supporting information - I recommend this ICP is checked to ensure the daily kWh figure is correct;
- ICP 1000007422BP18E has 1.0 kWh per day recorded, but there is no supporting information - I recommend this ICP is checked to ensure the daily kWh figure is correct; and
- ICP 0001951000TG7C9 has a 150-watt light recorded by the distributor but a 90-watt light recorded by Switch Utilities - I recommend this is checked to confirm which record is correct.

Recommendation	Description	Audited party comment	Remedial action
9(1)(f) of Schedule 11.1	Check three ICPs for unmetered load accuracy.	We have sent contractors to confirm the presence of unmetered load for several other ICPs, and will do the same for the three identified by the auditor.	Identified

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The new connection process was examined in detail as discussed in **sections 2.9** and **3.5**. The event detail report and list file report were checked for any variances between the initial electrical connection date and the active date. This identified five ICPs with a variance between the active date and the initial electrical connection date or the meter certification date.

The process for the management of ICP reconnection was examined. The event detail report for the period 20/02/18 to 31/01/19 was analysed and the findings in relation to the timeliness of updates to registry is recorded in **section 3.3**.

Audit commentary

Switch Utilities' processes will ensure that there is only one customer associated with any ICP and that there is a method of quantification.

Active Date vs. Initial Electrical Connection Date

Switch Utilities' active dates have a high level of accuracy. All four new connections had the correct date.

Active Date vs. Meter Certification Date

The four new connections had the same Active, certification and IECD.

Switch Utilities provided reporting of ICPs with an inactive status where there is consumption recorded. The report contained 140 ICPs. Non-compliance is recorded because these ICPs should be at the "Active" status. The total consumption is 208,187 kWh. Following the audit, the statuses have been updated to ensure submission occurs. There were no inactive periods greater than 14 months.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 of Schedule 11.1 From: 14-Mar-18 To: 28-Mar-19	Some ICPs with active status discrepancies. Potential impact: Medium Actual impact: Medium Audit history: Once Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as weak, because although there is reporting in place, the follow up actions do not appear to be conducted regularly. Submission does not occur until the status is changed to Active, therefore there is a moderate impact on settlement if this is not immediately resolved. The audit risk rating is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
Status discrepancy addressed in response to Section 2.1	Resolved (historic)	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 inactive status of "new connections in progress" is used for all new connections. The list file was examined to identify any ICPs that had been at "Inactive - new connection in progress" with an initial electrical connection date populated, and for any of these ICPs that had been at this status for greater than 24 months.

The process to manage ICPs at the other inactive statuses was examined. A sample of five ICPs at each inactive status (or less if there were not five) using the typical characteristics methodology were checked. The findings in relation to the timeliness of updates to registry are recorded in **section 3.3**.

Audit commentary

Inactive - New Connection in progress

The status “Inactive – new connection in progress” is used by Switch Utilities to claim new ICPs as soon as they become “Ready”, and to nominate an MEP. Analysis of the list file found no ICPs that have been at this status for greater than 24 months and none had initial electrical connection dates populated.

The timeliness of these updates to registry are discussed in **section 3.3.**

Inactive Status (excluding new connection in progress)

The status of “Inactive” is only to be used once a Switch Utilities approved contractor has confirmed that the ICP has been disconnected for situations where Switch Utilities requests the disconnection. As detailed in **section 3.8**, there are 140 ICPs recorded as “Inactive” where consumption is recorded, which means these should be shown as “Active”. This is recorded as non-compliance in **section 3.8** for not correctly using the “Active” status.

The timeliness of these updates to registry is discussed in **section 3.3.**

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.1

Code related audit information

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

Audit observation

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.

Audit commentary

As Switch Utilities uses the status “inactive – new connection in progress” no ICPs were found in the list file in the “new” or “ready” status, and they have not received any requests from Distributors.

Audit outcome

Not applicable

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

Code reference

Clause 2 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The switch gain process was examined to determine when Switch Utilities deem all conditions to be met. I checked all four ICPs where the switch event date was more than two business days prior to the date the NT file was sent.

Audit commentary

Switch Utilities has mechanisms in place that ensure the five business day cooling off period is adhered to through either "holding" specific ICP's from processing within NT files and/or utilising the withdrawal/cancellation process, ensuring no penalties are applied to the customer.

All switches were sent within two business days of the agreement being reached and the clearance of any pre-conditions. The NT files for six ICPs checked were sent within two business days of contact with the customer.

Audit outcome

Compliant

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

Code reference

Clauses 3 and 4 Schedule 11.3

Code related audit information

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

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

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

Audit observation

An event detail report for the audit period was reviewed, to identify AN files issued by Switch Utilities during the audit period. A sample of five ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach report was examined for the audit period.

The event detail report was analysed to assess compliance with the requirement to meet the setting of event dates requirement.

Audit commentary

Switch Utilities uses business rules based on a hierarchy to automatically determine the response code sent. The check of the AN codes found all were correct.

The switch breach report for the audit period was checked and it contained four ICPs where AN files were sent late due to a system issue.

The event detail report contained 3,915 transfer switches. 50 had an event date greater than five days and none were greater than ten days.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.2 With: Clauses 3 and 4 of Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	Four late AN files. Potential impact: Low Actual impact: None Audit history: Once Controls: Strong Breach risk rating: 1		
Audit risk rating	**Rationale for audit risk rating**		
Low	Strong controls are in place, there were only three late files and they were all sent on the same day which was one day late. The impact on participants is minor, therefore the audit risk rating is low.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**

All of the late AN files related to very specific one-off system issues, and we believe we achieve a high level of compliance in this area.	Resolved	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will continue to consider how systems could be improved to identify and resolve discrepancies before they become late.		

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

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

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

Audit observation

An event detail report for the audit period was reviewed, to identify CS files issued by Switch Utilities during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of 15 records (combination of TR and MI). The content checked included:

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

The process to manage the sending of the CS file within five business days of the event date was examined.

The switch breach history report for the audit period was reviewed to identify late CS files.

Audit commentary

The CS file content is not correct for three fields. The date of the last reading is not always correct, the average daily consumption is not always accurate, and the switch event readings are for midnight on the day of the switch, not 00.00 on the day of the switch.

The incorrect read issue has led to many RR files being sent by gaining traders.

The date of the last reading appears to be defaulting to the switch date if the switch event meter reading is an estimate.

I checked 10 ICPs with zero average daily consumption in the CS file and seven should not have been zero. It appears the average daily consumption field had not been "regenerated" from more recent readings for these ICPs.

I checked 15 ICPs with average daily consumption over 400 kWh per day and four appear to be incorrect.

There were two late CS files, both due to system issues.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 of Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	Incorrect average daily consumption for 11 ICPs. Incorrect reads used in CS files. Reads from 24.00 on the switch date instead of 00.00 on the switch date. Date of last reading incorrect when estimates are sent. 2 late CS files. Potential impact: Medium Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because there is room for improvement. 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 resolved all of the CS File content issues identified by the auditor since the on-site audit date. The fix was deployed on 10 April 2019. Specifically; 1. We confirmed that the system code for selecting the "last actual read date" was incorrectly inputting the switch event date. The code for this section has been modified to find the last reading date with a read type having an "Actual Reading" flag. 2. We confirmed that the CS reading date selection criteria was incorrect and using the switch event date, and not the day prior to the switch event date. We believe the reason this discrepancy was not previously immediately apparent during system testing for the material change audit as there was a separate system issue relating to the time zone conversion which previously caused the system to select the correct reading incidentally for the day prior. When the system handling for time zone correction was corrected, we believe this inadvertently caused the CS file content to become incorrect due to the pre-existing code error. The two CS file delays we caused by specific and one-off issues with the respective switches and are not symptomatic of a wider system issue.	Resolved	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

The process for the management of read requests was examined.

The event detail report and switch breach report were analysed to identify all read change requests and acknowledgements during the audit period.

A combined sample of 45 read change requests from the event detail report were selected using the diverse sample methodology. The sample included both transfer and gaining trader read requests, files exchanged with different traders, and a mix of acceptances and rejections.

The switch breach history report for the audit period was reviewed and found 20 late RR files.

Audit commentary

RR requests are generally initiated via email between the two parties and only once an agreement has been reached an RR file is sent to complete.

10 examples of RR files sent confirmed the accuracy of the calculations.

I checked 35 RR files which Switch Utilities had rejected. 12 of these (nine TR and three MI) were sent with readings from AMI and were sent within five business days, therefore Switch Utilities should have accepted them. These appear to be due to the incorrect switch event meter readings being sent by Switch Utilities, as mentioned in **section 4.3**. There were a further nine RR files sent by AMI only traders where the file was sent later than five business days, therefore Switch Utilities can legitimately reject these, however if they relate to incorrect readings they should have been accepted. This non-compliance is recorded in **section 4.5**.

Seven files were duplicates, where Switch Utilities had already accepted an earlier RR.

The remaining seven RR files were over five days and the reading difference was less than 200 kWh.

There were 20 late RR files.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 6(1) and 6A Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	20 late RR files Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**

Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The late RR files lead to re-work for both traders, but the impact is minor for each ICP; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We accept the Auditors feedback in relation to circumstances in which Read Disputes should have been accepted. The incorrect rejections resulted from a misunderstanding of processing rules by some team members, specifically the need to accept read disputes from AMI traders, combined with the fact that from the agents perspective we had switched on an actual read but the separate system issue in relation to which day's reading was used resulted in an overall non-compliant situation. To address this we have taken two actions: 1. We have released a bug-fix to resolve the read selection process to ensure that the reading from the day before the event date, and not the event date, is used. 2. We have provided further training to the team to address the misunderstanding of read dispute processes in relation to AMI sites where the new trader is reconciling as time of use. With respect to the late RR files, these will be a consequence of our not having read information within 4 months of the event date (or that the switch is back-dated more than 4 months meaning compliance is not possible). Where the 4 months allowed has already elapsed, but the readings we obtain indicate that there is likely to be a material difference on the start readings based on readings obtained, we will still process an RR to meet our compliance requirement to supply complete and accurate information as not to cause material anomalies in market submissions as we will perceive the need for resolution outweighs timeliness.	Resolved	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

The process for the management of read requests was examined. The event detail report and switch breach report were analysed.

Audit commentary

These RR requests are processed in the same way as those received for greater than 200 kWh except that emails are not normally exchanged in advance for these.

I checked 35 RR files which Switch Utilities had rejected. 12 (nine TR and three MI) of these were sent with readings from AMI and were sent within five business days, therefore Switch Utilities should have accepted them. These appear to be due to the incorrect switch event meter readings being sent by Switch Utilities, as mentioned in **section 4.3**. There were a further nine RR files sent by AMI only traders where the file was sent later than five business days, therefore Switch Utilities can legitimately reject these, however if they relate to incorrect readings they should have been accepted.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.5 With: Clause 6(2) and (3) Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	At least 9 RR files incorrectly rejected. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. It's possible that consumption for the day of the switch is billed and reconciled twice for day of the switch, but the impact is minor for each ICP; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status

We accept the Auditors feedback in relation to circumstances in which Read Disputes should have been accepted. The incorrect rejections resulted from a misunderstanding of processing rules by some team members, specifically the need to accept read disputes from AMI traders, combined with the fact that from the agents perspective we had switched on an actual read but the separate system issue in relation to which day's reading was used resulted in an overall non-compliant situation. To address this we have taken two actions: 1. We have released a bug-fix to resolve the read selection process to ensure that the reading from the day before the event date, and not the event date, is used. 2. We have provided further training to the team to address the misunderstanding of read dispute processes in relation to AMI sites where the new trader is reconciling as time of use.	Resolved	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Confirm with Switch Utilities whether any disputes have needed to be resolved in accordance with this clause.

Audit commentary

There were no examples of disputes that needed to be resolved under this clause.

Audit outcome

Not applicable

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

Code reference

Clause 9 Schedule 11.3

Code related audit information

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

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

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

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

- *a proposed event date (clause 9(2)(a)); and*
- *that the switch type is "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 Switch Utilities deem all conditions to be met. A sample of 10 ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

Audit commentary

All switches were sent within two business days of the agreement being reached and the clearance of any pre-conditions.

Audit outcome

Compliant

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

- *10(1)(a) If the losing trader accepts the event date proposed by the gaining trader, the losing trader must complete the switch by providing to the registry manager:*
  - *confirmation of the switch event date; and*
  - *a valid switch response code; and*
  - *final information as required under clause 11; or*
- *10(1)(b) If the losing trader does not accept the event date proposed by the gaining trader, the losing trader must acknowledge the switch request to the registry manager and determine a different event date that—*

- *is not earlier than the gaining trader's proposed event date, and*
- *is no later than 10 business days after the date the losing trader receives notice; or*

- *10(1)(c) request that the switch be withdrawn in accordance with clause 17.*

Audit observation

An event detail report for the period from 20/02/18 to 31/01/19 was reviewed, to identify AN files issued by Switch Utilities during the audit period. A sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach history report for the audit period was reviewed in relation to both late AN and CS files.

The process to manage the sending of the CS file within five business days of the event date was examined.

Audit commentary

Switch Utilities uses business rules based on a hierarchy to automatically determine the response code sent. The check of the AN codes found all were correct.

Examination of the switch breach report for the audit period found that four AN files were sent late due to a system issue.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	Four late AN files. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Switch Utilities' controls are strong and there were only four late files. This has no direct impact on reconciliation hence audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We acknowledge that there were a small number of non-compliant acknowledgement files sent. All of these late AN files relate to specific and on-off issues with the particular switches involved and we do not believe there are system issues.	Monitoring	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

We do have existing daily monitoring of events likely to breach, which is used to escalate potential issues. It has not always been possible to resolve the cause of the delay prior to breach, but most of the issues have been data related from the historic transition of systems after the Vocus-Switch purchase, and significant data quality improvements have been made over the past 12 months meaning that issues are becoming less common compared to previous audit periods.		

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

If the losing trader determines a different date, the losing trader must also complete the switch by providing to the registry manager as described in sub-clause (1)(a):

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

Audit observation

The setting of event dates for move switches was examined. The event detail report for all switch moves recorded for the audit period was examined, comparing the NT requested event date with the AN event date sent by Switch Utilities for any switches dated earlier than the NT requested date. The report was also checked for any event dates that were set greater than ten days from the NT receipt date and a sample of ten ICPs were checked using the typical sample methodology.

Audit commentary

Analysis found no switches with where the event date was set earlier than the gaining trader's requested date, and no ICPs were found with event dates set greater than ten business days from the NT receipt 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

An event detail report for the audit period was reviewed, to identify CS files issued by Switch Utilities during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of 15 records (combination of TR and MI). The content checked included:

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

Audit commentary

The CS file content is not correct for three fields. The date of the last reading is not always correct, the average daily consumption is not always accurate, and the switch event readings are for midnight on the day of the switch, not 00.00 on the day of the switch.

The incorrect read issue has led to many RR files being sent by gaining traders.

The date of the last reading appears to be defaulting to the switch date if the switch event meter reading is an estimate.

I checked 10 ICPs with zero average daily consumption in the CS file and five should not have been zero. It appears the average daily consumption field had not been "regenerated" from more recent readings for these ICPs.

Two CS files incorrectly had negative consumption, one was from the CS file at the time of switch in and the other one was where "regeneration" of the average daily consumption had not occurred.

I checked 15 ICPs with average daily consumption over 400 kWh per day and they all appeared to be correct.

There were 37 late CS files. Switch Utilities is investigating the cause.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 of Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	Incorrect average daily consumption for 5 ICPs. Incorrect reads used in CS files. Reads from 24.00 on the switch date instead of 00.00 on the switch date. Date of last reading incorrect when estimates are sent. Incorrect negative consumption in 2 CS files. 37 late CS files. Potential impact: Medium Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because there is room for improvement. 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 resolved the issues relating to the reading used, and the last actual reading date as noted in earlier sections. We are investigating why the daily estimate values are not being updated in some instances, but believe it is likely to be a scheduling/timing issue and will release a bug-fix once the cause is identified.	01/06/2019 (daily estimate investigation + fix)	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 actual event date, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by 2 validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):*
- *advise the gaining trader if it does not accept the switch event meter reading and the losing trader and the gaining trader must resolve the dispute in accordance with the disputes procedure in clause 15.29 (with all necessary amendments) (clause 12(3)(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader. (clause 12(3)(b)).*

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

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

Audit observation

The process for the management of read requests was examined.

The event detail report and switch breach report were analysed to identify all read change requests and acknowledgements during the audit period.

A combined sample of 45 read change requests from the event detail report was selected using the diverse sample methodology. The sample included both transfer and gaining trader read requests, files exchanged with different traders, and a mix of acceptances and rejections.

The switch breach history report for the audit period was reviewed to identify late files.

Audit commentary

RR requests are generally initiated via email between the two parties and only once an agreement has been reached an RR file is sent to complete.

10 examples of RR files sent confirmed the accuracy of the calculations.

I checked 35 RR files which Switch Utilities had rejected. 12 (nine TR and three MI) of these were sent with readings from AMI and were sent within five business days, therefore Switch Utilities should have accepted them. These appear to be due to the incorrect switch event meter readings being sent by Switch Utilities, as mentioned in **section 4.10**. There were a further nine RR files sent by AMI only traders where the file was sent later than five business days, therefore Switch Utilities can legitimately reject these, however if they relate to incorrect readings they should have been accepted. This non-compliance is recorded in **section 4.5**.

Seven files were duplicates, where Switch Utilities had already accepted an earlier RR.

The remaining seven RR files were over five days and the reading difference was less than 200 kWh.

There were six late RR files and eight late AC files.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 12 of Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	At least 3 RR files incorrectly rejected. 6 late RR files and 8 late AC files. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. It's possible that consumption for the day of the switch is billed and reconciled twice, but the impact is minor for each ICP; therefore, the audit risk rating is low. The late RR and AC files can cause rework for both traders. The impact is also low for these late files.

Actions taken to resolve the issue	Completion date	Remedial action status
Refer to commentary in Section 4.5 in relation to RR processes.	Resolved	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

Code reference

Clause 13 Schedule 11.3

Code related audit information

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

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

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

A gaining trader must advise the registry manager of the switch and expected event date no later than 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 HHR switch process was examined for the only ICP with a HH switch.

Audit commentary

The switch was backdated to a first day of the previous month with agreement from the other trader.

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

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

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

Audit observation

I examined all five late AN files along with the process for sending these files.

Audit commentary

There were five late AN files recorded in the switch breach report. All were late due to a reliance on the switch breach report, which is incorrect.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.13 With: Clause 15 Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	5 late AN files. 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 they mitigate risk most of the time but there is room for improvement. 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 understand that the registry breach reporting is inaccurate with respect to gaining trader switches, so we have modified our monitoring to presume a response is required at an earlier point than the reports number of remaining days would indicate.	Monitoring	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 HHR switching process was examined and the switch breach report was analysed.

Audit commentary

The process is compliant, and no late files were recorded.

Audit outcome

Compliant

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

Code reference

Clauses 17 and 18 Schedule 11.3

Code related audit information

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

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

- *for each ICP, the trader withdrawing the switch request must provide the registry manager with (clause 18(c)):*
  - *the participant identifier of the trader making the withdrawal request (clause 18(c)(i)); and*
  - *the withdrawal advisory code published by the Authority. (clause 18(c)(ii))*
- *within 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 switch withdrawal process was examined. The content of a sample of five ICPs for each withdrawal code from the event detail report were checked using the typical sampling methodology. A sample of 25 switch rejections were checked using the typical sample methodology. I checked the switch breach report to identify late files.

Audit commentary

All NW files contained the correct NW code.

The sample of rejected switch requests checked confirmed they had all been rejected for valid reasons and the reason codes were correct.

The switch breach report contained seven late AW files.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clauses 17 and 18 of Schedule 11.3 From: 01-Mar-18 To: 20-Mar-19	7 late AW files Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Errors are mitigated most of the time, therefore the controls are rated as moderate. The impact on other participants is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Refer to preventative action below.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The late AW files were predominantly due to agents not completing required queued actions in a timely manner. The predominant reason for this is that the interface recording queued actions does not include a timer or other obvious indicator to show which responses are required first. Although we do have daily notifications to teams identifying ICPs with few days remaining this is based off the registry breach reporting which appears not always to be accurate. We are planning to modify the interface to show the number of business days remaining to make soon-to-breach ICPs more apparent to ensure action occurs in a timely manner.	1/12/2019	

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. Examples to confirm this procedure have been examined as part of the sending of final information for switches and read requests made.

Audit commentary

All meter readings used in the switching process are validated meter readings or permanent estimates. This process is discussed further in **section 4.3.**

Switch Utilities' policy regarding the management of meter reading expenses is compliant.

Audit outcome

Compliant

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

Code reference

Clause 11.15AA to 11.15AB

Code related audit information

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

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

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

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

Audit observation

The Electricity Registry switch save protected retailer list was examined to confirm that Switch Utilities is a save protected retailer.

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

I checked the event detail report for all withdrawn switches from the audit period, to identify any withdrawn switches with a CX code applied prior to the switch completion date in relation to any switch save protected retailers.

Audit commentary

The check of the event detail report confirmed that no NW files were sent for CX during the period from sending the NT until the switch completion date. One breach allegation was made in relation to this clause during the audit period, where one "save" was initiated when it shouldn't have been. The results of my analysis indicate this was a one-off issue.

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 registry list was reviewed and found Switch Utilities has three ICPs with shared unmetered load.

I reviewed the processes to identify shared unmetered load.

Audit commentary

Shared unmetered load ICPs are identified at the time of switch-in. All three ICPs with shared unmetered load were correctly submitted.

I compared the daily kWh figure against the distributor's figure for all three ICPs. In cases where the distributor populates their field in accordance with the recommended format this calculation is (watts*hours)/1000. For ICP 0005517109RN2A8 the comparison could be conducted, and I confirmed Switch Utilities were using the correct figure.

The other two ICPs are both on the Northpower network, and Northpower does not use the recommended format, therefore validation is not possible. Northpower populates the distributor field

with the kWh figure. The Code requires the *"type and capacity in kW of the unmetered load (if the distributor knows that information)".* It appears Northpower does know that information because they used it to calculate the daily kWh, therefore Northpower is not compliant. The information recorded against the "parent" ICP is also of little value because the field is blank, as shown below.

Unmetered Load Details - Distributor	
Shared ICP List	0000501894NR2C1 0000501897NRE01 0000501898NR1DF 0000501899NRD9A 0000501896NR244

Audit outcome

Compliant

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

There are no ICPs with unmetered load above 3,000 kWh per annum.

Audit commentary

There are no ICPs with unmetered load above 3,000 kWh per annum.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

There are no ICPs with unmetered load above 3,000 kWh per annum.

Audit commentary

There are no ICPs with unmetered load above 3,000 kWh per annum.

Audit outcome

Not applicable

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

There are no distributed unmetered load ICPs.

Audit commentary

There are no distributed unmetered load ICPs.

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 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 energised 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

The registry list was examined to determine compliance. Processes for distributed generation were reviewed.

Audit commentary

All active ICPs with the unmetered flag set to "no" have at least one meter installed.

Switch Utilities' registry list file as at February 2019 showed 23 active ICPs with generation listed by the Distributor. All ICPs have "I" flow channels and the correct profile.

One ICP (1001136673LC11F) has import and export channels, but the HHR "I" flow volume is not submitted to the reconciliation manager. This is raised as non-compliance in **sections 11.4** and **12.7.**

Switch Utilities provided reporting of 37 ICPs where AMI meters had been bridged. The total number of bridged days is 809. When meters are bridged consumption is not recorded, therefore compliance is not achieved with the requirement to ensure all electricity conveyed is quantified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13, Clause 10.24 and 15.13 From: 01-Mar-18 To: 20-Mar-19	Generation kWh not submitted for ICP 1001136673LC11F. 37 bridged meters where electricity was not quantified. Potential impact: Medium Actual impact: Medium Audit history: None Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is moderate, therefore the audit risk rating is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
The injection volumes issue affecting 1001136673LC11F was resolved in December 2018 and injection volumes have been submitted on revisions for R14 2017-11, 2017-12 and 2018-01, R7 2018-06, 2018-07 and 2018-08, R3 2018-10, 2018-11 and 2018-12, R1 2018-12, and in all submissions from 2019-01 onwards. We acknowledge that there is a gap in our operational processes and systems relating to management of bridged and stopped meters. We have raised a high-priority development item to add a mechanism to our energy platform to allow field service agents to load estimations for submission and billing purposes and estimate that this can be delivered within 4 – 6 months including testing.	Resolved (injection) 01/10/2019 (bridged/stopped meters process)	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

Switch Utilities is not responsible for any grid metering.

Audit commentary

Switch Utilities is not responsible for any grid metering.

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

Switch Utilities does not use any profiles where control device certification is required.

Audit commentary

Switch Utilities does not use any profiles where control device certification is required.

Audit outcome

Not applicable

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

Processes relating to defective metering were discussed and examples were requested.

Audit commentary

Switch Utilities has appropriate reporting to identify faulty meters. This reporting also identifies bridged meters and as mentioned in **section 6.1**, there were 37 of these. In all cases, the MEP was advised so they could remove the bridge and recertify. In eight cases, recertification did not occur, therefore certification is cancelled.

I specifically checked with EDMI and AMS whether any faulty metering installations had been detected during the audit period. They confirmed that none were identified.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

2(2) - The reconciliation participant must collect raw meter data used to determine volume information from the services interface or the metering installation or from the MEP.

2(3) - The reconciliation participant must ensure the interrogation cycle is such that is does not exceed the maximum interrogation cycle on 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

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

Audit commentary

All information used to determine volume information is collected from the services interface or the metering installation by Wells, one of the HHR agents or the MEP.

Compliance with this clause has been demonstrated by Switch Utilities' agents and MEPs as part of their agent audits.

EDMI and AMS email information on clock synchronisation events. There were no examples during the audit period.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined.

Processes to provide meter condition information were reviewed as part of the Wells agent audit. Switch Utilities' processes to manage meter condition information were reviewed.

Processes for customer and photo reads were reviewed.

Audit commentary

I conducted a walk-through of the data loading processes and I confirm that appropriate checks and controls are in place to ensure the correct records are loaded for the right day.

Customer readings are recorded as estimates for the purposes of submission.

Wells provides meter condition information with their daily read files, which is imported into the database. Appropriate actions are taken depending on the condition code.

Audit outcome

Compliant

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

Code reference

Clause 6 Schedule 15.2

Code related audit information

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

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

Audit observation

The process of the application of meter readings was examined.

Audit commentary

All AMI systems have a clock synchronisation function, which ensures correct timestamping. Switch Utilities imports the midnight AMI midnight readings, which are applied as at 2400hrs.

Manual readings taken by Wells are applied correctly.

Application of reads was reviewed as part of the historic estimate checks in **section 12.11** and found to be compliant. The content of CS files was examined in **sections 4.3** and **4.10**. As recorded in these sections, switch event meter readings are not correctly applied.

I checked the process for NHH to HHR meter changes in relation to this clause. The industry has adopted a process that achieves accuracy in relation to submission information and ICP days, but compliance with this clause is not achieved. The process is to "remove" the NHH meter from the registry and from relevant databases on the day before the meter change, and then the ICP becomes HHR all day on the day of the meter change, with the trading periods up until the meter change being populated with zeros. Both a NHH and HHR meter cannot be "present" on the same day in most databases and the registry will not allow two MEPs on the same day. This is raised as non-compliance because the NHH read is not applied to 24.00 on the day of the read.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.7 With: Clause 6 Schedule 15.2 From: 01-Jun-17 To: 28-Feb-18	Switch event meter readings applied to 24.00 instead of 00.00. NHH meter readings applied to the end of the day before for NHH to HHR changes. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**

Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. 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**
Commentary on this issue recorded in Section 4.3; this has been resolved.	Completed	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was examined by a walk-through of the trigger points leading to actions to get meter readings.

Switch Utilities has a report of ICPs not read during the period of supply, which was checked during the audit.

Audit commentary

The meter reading processes are currently being improved, with the inclusion of automated communication at certain trigger points based on the period of time readings haven't been obtained. These improvements have targeted business customers and are not in place for the entire customer base yet. 113 ICPs were not read during the period of supply. 94 of these ICPs were held by Switch Utilities for less than a meter reading cycle.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) of Schedule 15.2 From: 01-Mar-18 To: 20-Mar-19	113 ICPs not read during the period of supply. Best endeavours not demonstrated. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because improvements have been made and they mitigate risk most of the time but there is room for improvement The impact on settlement from an estimate for a short period is minor therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
As we will detail in the next section, we have invested significant work into the systems in this area. Our efforts to date had been focused on sites we estimate would have the most material impact or which have been unread the longest. We recognize that we have not always been able to achieve a reading during the period of supply, and this is generally a consequence of ICPs being with us for only a short period of time, usually due to win-back activity where compliance is not possible. We had previously introduced some reporting to identify where a site switches in and the CS File indicates that the previous retailer has not obtained a reading for some time, indicating that read attainment may be an issue.	01/12/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are now formalizing the previously mentioned reporting of potentially problematic sites task scheduling events built into the Electricity Interfaces used for administering customer switching so that active input is required and the timeliness of investigation and administration of these reports can be measured with KPIs, similar to how we administer and monitor actions to respond to withdrawals and read disputes.	01/12/2019	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

The meter reading process was examined. Monthly meter reading frequency reports for audit period were provided.

I also examined the detailed reporting of no read reasons and subsequent actions.

Audit commentary

Switch Utilities provides monthly reports on meter reading frequency to the Electricity Authority. I reviewed the reports for the audit period and confirmed that they were submitted on time and the content of the reports met the requirements of clauses 8 and 9 of schedule 15.2.

There are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment, but this process does not appear to have been used for all relevant ICPs. The January 2019 detailed ICP level report shows 16 ICPs not read at 12 months and in three cases, there were not three attempts to get readings using two different methods of communication. Whilst there is a considerable improvement in this area, non-compliance still exists for the three ICPs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: Clause 8(1) and (2) of Schedule 15.2 From: 01-Mar-18 To: 20-Mar-19	Best endeavors not demonstrated for three ICPs not read in the previous 12 months. 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 have been improved and are recorded as strong because they have reduced risk to an acceptable level. The impact on settlement is minor because estimates have been conducted, therefore the audit risk rating is low.
Actions taken to resolve the issue	**Completion date** / **Remedial action status**

We have invested significant effort in read attainment over the past 9 months, and since our last audit, and our focuses have been on resolving the oldest and likely most consequential (i.e. larger, commercial) connections. We recognize that more effort is required in the residential space as identified by the auditor, and we are working to build new systems in the residential business units to improve compliance under those brands. We have been deploying smart meters where possible as the gold standard in resolving issues of read attainment.	01/12/2019 (new system development) 01/07/2019 (interim manual processes fully operational)	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
In addition to the steps we are taking that are noted above, we are reviewing business wide automated communication processes to encourage customers to contact us to work to resolve non-compliance and achieve compliance as required by the guidelines. We are implementing other interim manual steps to increase the level of messaging.	01/12/2019 (new system development) 01/07/2019 (interim manual processes fully operational)	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The meter reading process was examined. Monthly meter reading frequency reports for the audit period were provided.

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

Audit commentary

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
November 2018	214	6	116	99.42%
December 2018	213	8	100	99.52%

There are processes in place to monitor read attainment, and attempts to resolve issues preventing read attainment, but this process does not appear to have been used for all relevant ICPs. The December 2018 detailed ICP level report shows 13 ICPs related to the eight NSPs where the 90% threshold was not met. The best endeavours threshold was not met for two ICPs, but the remainder were all resolved by the time of the audit.

The content and accuracy of meter reading frequency reports to the Electricity Authority was assessed in **section 6.9** and found to be compliant.

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 6.10
With: Clause 9(1) and (2) of Schedule 15.2

From: 01-Dec-18
To: 31-Mar-19</td><td colspan="3">Best endeavors not demonstrated for two ICPs not read in the previous four months.
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 they reduce risk to an acceptable level.
The impact on settlement is minor because estimates have needed to be conducted, therefore the audit risk rating is low.</td></tr>
<tr><th colspan="2">Actions taken to resolve the issue</th><th>Completion date</th><th>Remedial action status</th></tr>
<tr><td colspan="2">The areas of non-compliance here are predominantly the result of having some read attainment issues on NSPs with very few ICPs.
As noted in the previous section our focus had been on resolving the oldest ICPs with non-compliance, but we recognize that additional effort can be taken to improve compliance here.
We believe the addition of automated communication methodologies will improve our level of compliance as noted in the previous section.</td><td>01/12/2019
(new system development)

01/07/2019 (interim processes fully operational)</td><td rowspan="2">Identified</td></tr>
<tr><th colspan="2">Preventative actions taken to ensure no further issues will occur</th><th>Completion date</th></tr>
</table>

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

NHH data is collected by:

- Wells for manually read meters; and
- various MEPs for AMI data.

The data interrogation log requirements were reviewed as part of their agent and MEP audits.

Audit commentary

Compliance with this clause has been demonstrated by Switch Utilities' agents and MEP's as part of their own audits.

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 data is collected by AMS and EDMI as agents. HHR interrogation data requirements were reviewed as part of their agent audits.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDMI as part of their agent audits. Because the audit reports are more than seven months old, I confirmed that that there have been no changes to their processes since their May 2018 audits.

Audit outcome

Compliant

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

Code reference

Clause 11(2) Schedule 15.2

Code related audit information

The following information is collected during each interrogation:

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

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

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

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

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

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

Audit observation

HHR data is collected by AMS and EDMI as agents. HHR interrogation data requirements were reviewed as part of their agent audits.

Audit commentary

The agents' audit reports confirm compliance with this clause. I checked all event log correspondence for the audit period to ensure it was supplied and there were no issues present.

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 data is collected by AMS and EDMI as agents. HHR interrogation log requirements were reviewed as part of their agent audits.

Audit commentary

The agents' audit reports confirm compliance with this clause.

Audit outcome

Compliant

7. STORING RAW METER DATA

7.1. Trading period duration (Clause 13 Schedule 15.2)

Code reference

Clause 13 Schedule 15.2

Code related audit information

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

Audit observation

HHR data is collected by AMS and EDMI as agents. Trading period duration was reviewed as part of their agent audits.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDMI as part of their agent audits.

Audit outcome

Compliant

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

Code reference

Clause 18 Schedule 15.2

Code related audit information

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

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

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

Audit observation

Switch Utilities' agents and MEPs retain a copy of the raw meter data, and their compliance with the archiving and storage requirements was reviewed as part of their agent audits.

Switch Utilities' own audit trails were reviewed in **section 2.4**.

Raw meter data from at least 48 months prior was reviewed to ensure that it is retained.

Audit commentary

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

Switch Utilities has retained reading data since they began trading and intends to retain reading data for at least 48 months.

Compliance with clause 18.3 of schedule 15.2 was examined, which requires that ".....meter readings cannot be modified without an audit trail being created." Readings cannot be modified without an audit trail being created. Readings are imported into a raw data table and any adjustments or corrections are made to working data, not raw data.

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 and archive non-metering information were discussed, and non-metering information was viewed to determine whether the archiving requirements were met.

Audit commentary

Switch Utilities does not deal with any non-metering information.

Audit outcome

Not applicable

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

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

Code reference

Clause 19(1) Schedule 15.2

Code related audit information

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

> *19(1)(a) - confirmation of the original meter reading by carrying out another meter reading*
>
> *19(1)(b) - replacement of the original meter reading by another meter reading (even if the replacement meter reading may be at a different date)*
>
> *19(1)(c) - if the original meter reading cannot be confirmed or replaced by a meter reading from another interrogation, then an estimated reading is substituted, and the estimated reading is marked as an estimate and it is subsequently replaced in accordance with clause 4(2).*

Audit observation

Processes for the correction of NHH meter readings were reviewed by checking process documentation, system capability and examples of changed meter readings during the switching process.

Audit commentary

When meter reading errors are detected, check readings are often conducted and if a reading is confirmed as incorrect, the new reading is entered but the old information remains as part of the audit trail. The evaluation of the RR process confirmed compliance.

Audit outcome

Compliant

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

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

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

Audit observation

Processes for correction of HHR meter readings were reviewed. Estimation and correction processes are the same. I conducted a walkthrough to determine compliance and I checked some estimations. No corrections have occurred.

Audit commentary

Processes for correction of HHR meter readings were reviewed. There were no examples of HHR correction during the audit period. The process is compliant, as recorded in **section 9.4**.

Audit outcome

Compliant

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

Code reference

Clause 19(3) Schedule 15.2

Code related audit information

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

Audit observation

Error and loss compensation arrangements were discussed.

Audit commentary

Switch Utilities confirmed there are currently no error or loss compensation arrangements in place.

Audit outcome

Compliant

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

Code reference

Clause 22(1) and (2) Schedule 15.2

Code related audit information

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

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

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

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

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

22(2)(d) - the half-hour metering data or the non-half hour metering data corrected or altered, and the total difference in volume of such corrected or altered data

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

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

Audit observation

Corrections are discussed in **sections 8.1** and **8.2.** Audit trails are discussed in **section 2.4**.

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

Audit commentary

There were no examples of corrections to raw meter data. This was also checked with AMS and EDMI specifically during the audit. Compliance is confirmed.

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

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

Correct identification of estimated reads and review of the estimation process was completed in **section 8.1**.

Audit commentary

All estimated readings are clearly identified as required by this clause.

Photo and customer readings are treated as estimates as required by this clause.

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

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

Audit commentary

Volume information is directly derived from validated meter readings, estimated readings, or permanent estimates.

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 for 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 **section 12**, to confirm that volumes were based on readings as required.

Audit commentary

Data provided by the MEPs and agents is not rounded or truncated. Compliance is confirmed.

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 data estimate processes were examined and a sample of ten temporary estimates was reviewed.

Audit commentary

The estimation methodology was sound and was conducted in accordance with the process documentation. An audit trail was available to view.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

> *16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register*
>
> *16(2)(b) - checks for invalid dates and times*
>
> *16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend*
>
> *16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected zero values.*

Audit observation

I conducted a walkthrough of the NHH data validation process.

Audit commentary

NHH meter reading validation occurs at hand held level by Wells, and then Switch Utilities has the following checks in place:

1. high consumption
2. low consumption
3. zero consumption
4. negative consumption
5. missing meter readings
6. comparison of units per day (UPD) with historic UPD and if the difference is more than 300kWh and 50% it will become an exception
7. more than one reading for the same day.

Any exceptions are addressed, and action is taken depending on the type of exception. Switch Utilities has a graphing function to assist with evaluating consumption patterns.

I observed the read import process checks, which are as follows:

- readings relate to the correct ICP meter and register
- the date and time are valid, and match the expected date
- if the read is lower by more than 50%, an exception is generated, and a rollover read is processed.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

I checked the validation steps by conducting a walk-through of the process. I observed the AMI event logs where they were available, and I observed the associated correspondence related to specific issues to resolve.

Audit commentary

Data is validated as it arrives. Validity checks are conducted in the HHR database. The database checks for missing days and missing trading periods, indicating that data is missing for complete days or for part days. If the data cannot be obtained then estimation is conducted. There is also an invoice review, including a check of graphs, to ensure there are no unexpected changes to the consumption patterns.

HHR data is validated against NHH data (where it is available) and then the NHH data is checked as described in the previous section, whether the ICP is NHH or HHR.

AMI event information is provided by all MEPs. Some MEPs send associated notifications where they consider the matter needs immediate attention, for example phase failure or reverse power. Switch Utilities then issues a service order for the work to be conducted. Switch Utilities has an ongoing process to evaluate other events sent by MEPs, such as tamper.

I specifically checked all event related correspondence from AMS and EDMI to confirm no issues were present.

Audit outcome

Compliant

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

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

Code reference

Clause 13.136

Code related audit information

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

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

Audit observation

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

Audit Commentary

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

Audit outcome

Not applicable

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

Code reference

Clause 13.137

Code related audit information

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

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

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

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

Audit observation

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

Audit Commentary

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

Audit outcome

Not applicable

10.3. Loss adjustment of HHR metering information (Clause 13.138)

Code reference

Clause 13.138

Code related audit information

The generator must provide the information required by clauses 13.136 and 13.137,

13.138(1)(a)- adjusted for losses (if any) relative to the grid injection point or, for embedded generators the grid exit point, at which it offered the electricity

13.138(1)(b)- in the manner and form that the pricing manager stipulates

13.138(1)(c)- by 0500 hours on a trading day for each trading period of the previous trading day.

The generator must provide the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of the generator's volume information.

Audit observation

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

Audit Commentary

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

Audit outcome

Not applicable

10.4. Notification of the provision of HHR metering information (Clause 13.140)

Code reference

Clause 13.140

Code related audit information

If the generator provides half-hourly metering information to the pricing manager or a grid owner under clauses 13.136 to 13.138, or 13.138A, it must also, by 0500 hours of that day, advise the relevant grid owner.

Audit observation

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

Audit commentary

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

Audit outcome

Not applicable

11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

11.1. Buying and selling notifications (Clause 15.3)

Code reference

Clause 15.3

Code related audit information

Unless an embedded generator has given a notification in respect of the point of connection under clause 15.3, a trader must notify the reconciliation manager if it is to commence or cease trading electricity at a point of connection using a profile with a profile code other than HHR, RPS, UML, EG1, or PV1 at least five business days before commencing or ceasing trader.

The notification must comply with any procedures or requirements specified by the reconciliation manager.

Audit observation

A registry list was reviewed for the audit period to confirm which profiles were used.

Audit commentary

As Switch Utilities is only using the RPS, PV1 and HHR profiles, trading notifications are not required.

Audit outcome

Compliant

11.2. Calculation of ICP days (Clause 15.6)

Code reference

Clause 15.6

Code related audit information

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

> *15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

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

Audit observation

The process for the calculation of ICP days was examined as part of the HE calculations exercise, discussed in **section 12.11.**

I reviewed variances for 18 months of GR100 reports and investigated any large discrepancies.

Audit commentary

Breach information provided by the Electricity Authority did not identify any late ICP days submissions.

The HE scenario tests confirmed that the issue recorded in the previous audit still exists. This is the variance of one day for some ICPs, where the Switch Utilities ICP days calculation is one day low. This occurs when the ICP days is not related to a read to read period and where a forward default estimate is being used. The first day of the period is missing from ICP days and from submission files. Once a read is gained the first day is accounted for. This is raised as non-compliance.

The following table shows the NHH ICP days difference between Switch Utilities files and the RM return file (GR100) for all available revisions for 18 months. Negative percentage figures indicate that the Switch Utilities ICP days are higher than those on the registry.

Month	Ri	R1	R3	R7	R14
Sept 2017	0.04%	0.04%	0.07%	0.05%	0.15%
Oct 2017	0.01%	0.03%	0.08%	0.07%	0.06%
Nov 2017	0.01%	0.04%	0.16%	0.02%	0.04%
Dec 2018	-0.01%	0.03%	-0.02%	0.02%	-
Mar 2018	0.05%	0.06%	0.03%	0.06%	-
Apr 2018	0.00%	0.03%	0.03%	0.01%	
May 2018	-0.04%	-0.01%	0.04%	0.00%	-
June 2018	-0.02%	0.00%	0.04%	0.00%	-
July 2018	-0.08%	0.05%	0.09%	-	-
Aug 2018	0.01%	-0.01%	-0.01%	-	-
Sept 2018	-0.02%	0.02%	0.02%	-	-
Oct 2018	-0.01%	0.01%	0.00%	-	-
Nov 2018	0.02%	0.01%	-	-	-
Dec 2018	0.00%	0.00%	-	-	-

The HHR ICP days were also checked and the only issues found were where backdated events had occurred. The calculations were correct.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.2 With: Clause 15.6 From: 01-Jun-17 To: 31-Mar-19	ICP days calculation incorrect for one scenario. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
The ICP days discrepancy has been mostly resolved, and now only occurs in one specific scenario – where due to timing there is no reading information at all and the system applies default estimations. This generally occurs only where a switch completes, and a LIS file is generated, but we have not yet loaded the CS file. We are currently preparing material change audit information for a complete system fix for this final edge case.	01/06/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

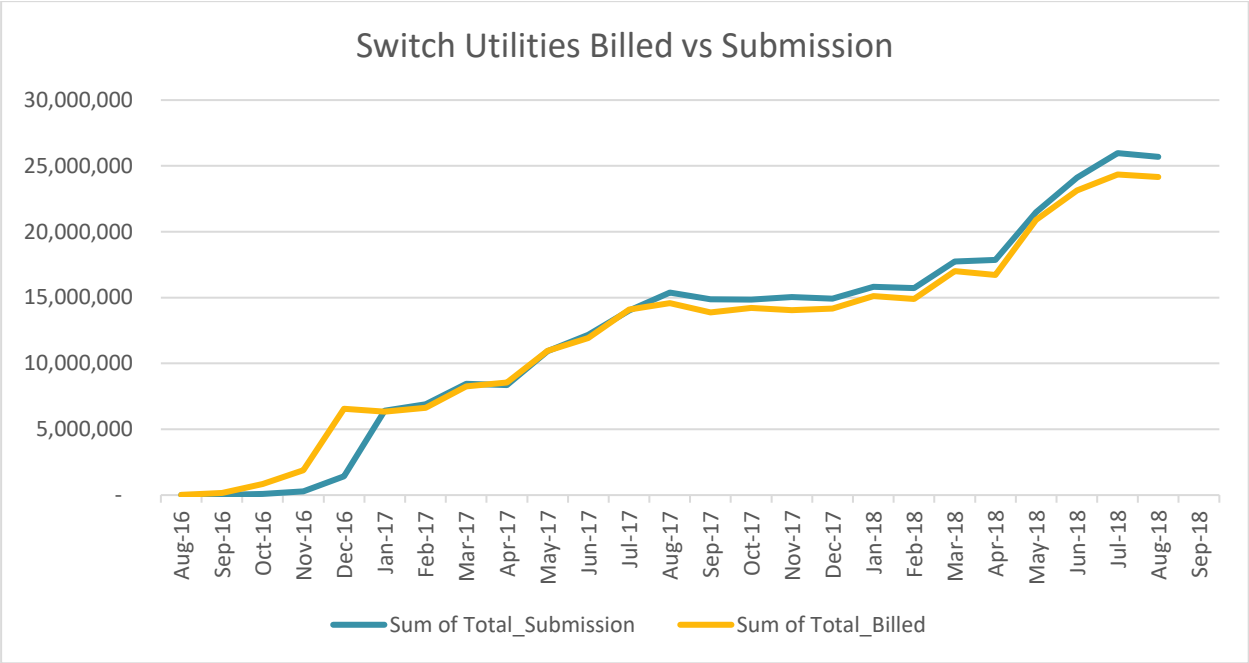
GR130 reports for August 2016 to September 2018 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

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

Audit commentary

Two breaches have been recorded for late provision of submission information. Both were closed early. There were no further late files.

I checked the difference between submission and electricity supplied information and the results are shown in the chart below. From approx. August 2017 onwards, the electricity supplied totals are lower than the submission totals. This is due to the system determining that ICPs with identical billed consumption for the month were duplicates, but this can often occur if estimates are performed for the entire month. This matter has been identified and resolved. Revision processes will correct historic data.



Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.3 With: Clause 15.7 From: 01-Aug-17 To: 01-Jan-19	Inaccurate electricity supplied data from August 2017. Potential impact: None Actual impact: None Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**

Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. This data is used as an indicator and there is no impact on settlement, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We identified the issue in relation to the electricity supplied information late last year and released a fix. The issue resulted in under-reporting of Electricity Supplied meaning that on the face of it, billed volume looked less than submitted volume. This bug was caused by billing which occurs for some brands billed out of a particular billing engine where estimation has occurred, and incorrect de-duplication process meant that if two days had the same consumption billed (often the case for estimations for a part of whole month) this was incorrectly identified as "duplicated" and therefore the billed volume was under-reported. This difference grew as the number of customers billed into those platforms grew. We do not believe that there is an overall issue of over-submission. We note that the historic discrepancy prior to 2017 was a consequence of our migration from Type-2 (white-labelled) trading to electricity participant trading as reported in previous audits.	Resolved	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

11.4. HHR aggregates information provision to the reconciliation manager (Clause 15.8)

Code reference

Clause 15.8

Code related audit information

A retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each half hourly metered ICP for which it has provided submission information to the reconciliation manager, including:

> *15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

I checked variances between revisions for the aggregates file and I checked the ICPMISS report to identify any potential errors. All variances were evaluated. I checked HHR data in source files against totals in the aggregates file to confirm the process for file creation.

Audit commentary

Two breaches had been recorded for late provision of submission information.

The HHR database is designed to prepare a HHR Aggregates file at ICP level based on submission information.

Clause 15.8 states that the aggregates file should contain electricity supplied information rather than submission information and electricity supplied information is defined as shown below:

electricity supplied means, for any particular period, the information relating to the quantities of **electricity** supplied by **retailers** across **points of connection** to **consumers**, sourced directly from the **retailer's** financial records, including quantities—

(a) that are metered or unmetered; and
(b) supplied through normal **customer** supply and billing arrangements; and
(c) supplied under sponsorship arrangements; and
(d) supplied under any other arrangement

This differs from the Reconciliation Manager Functional Specification. In Section 3 of the Reconciliation Manager Functional Specification, HHR Aggregates information is described as: *"…HHR submission information that is aggregated per ICP for the whole month (not half-hourly)",* which suggests an intention that this information should be sourced from submission information not electricity supplied information, which is covered by clause 15.7.

Type of information that is submission information	Description	Source	Classification in this document
information	electricity supplied information.		supplied
Monthly half-hour ICP aggregates	This is equivalent to the HHR submission information that is aggregated per ICP for the whole month (not half-hourly).	Purchasers (excluding direct consumers)	Monthly half-hour ICP aggregates

Data from the aggregates file is used to support other reporting by the Reconciliation Manager and will be of little value if it is based on Electricity Supplied data rather than submission data. Electricity Supplied data has a one month offset and invoicing is not required to occur within any specific timeframes.

Whilst the Code clearly states this file should be derived from financial records, I recommend Switch Utilities liaises with the Authority regarding a Code change which will allow for the aggregates files used in the industry to remain unchanged.

The check of source data against totals in the aggregates file did not find any discrepancies.

HHR ICP 1001136673LC11F has had generation installed since 01/01/17 when it switched in to Switch Utilities, but the aggregates file does not contain an "I" flow record.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.4 With: Clause 15.8 From: 01-Jun-17 To: 20-Mar-19	Aggregates file contains submission information. Generation not included in aggregates file for ICP 1001136673LC11F. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. 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
Commentary on the Generation issue outlined in Section 6.1 We did submit a Code Change recommendation in relation to the content of aggregate file information, and are awaiting Authority action on this matter.	Resolved (generation issue) TBC – code change pending	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

12. SUBMISSION COMPUTATION

12.1. Daylight saving adjustment (Clause 15.36)

Code reference

Clause 15.36

Code related audit information

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

Audit observation

The daylight saving process was observed and a HHR vols file for the change to NZDT was examined.

Audit commentary

The process is operating as intended and compliance is confirmed.

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

This clause relates to the timeliness of files and whether they include all ICPs. I checked the ICPMISS reports for the audit period to confirm the completeness of HHR files. I checked the validation processes for NHH submissions, and I checked that all ICPs were included.

A list of breaches was obtained from the Electricity Authority. There were two breaches for late provision of submission information, which are both resolved.

Audit commentary

I confirmed that submission occurs for all active-vacant ICPs.

Submission does not occur for inactive ICPs with consumption. Whilst these are recorded as inactive on the registry, this status is incorrect because consumption is being recorded. There are 140 inactive ICPs with consumption totalling 208,187 kWh. Following the audit, the statuses have been updated to ensure submission occurs. There were no inactive periods greater than 14 months.

Sound validations are in place to identify most issues. The validations include variance between revisions, variance to previous month and difference between billed and submission.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.2 With: Clause 15.4 From: 01-Jan-18 To: 31-Jan-18	Submission not occurring for 140 inactive ICPs with consumption totaling 208,187 kWh. Potential impact: Medium Actual impact: Medium Audit history: Once Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement was moderate, therefore the audit risk rating is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
Commentary on this issue provided in Section 2.1.	Resolved (historic inactive)	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 by 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 and registry validation includes all relevant fields.

The process to ensure that AV080 submissions are accurate was discussed and observed. The process for aggregating the AV080 was examined by checking aggregation for individual NSPs.

Active-vacant ICPs were reviewed to ensure that they are included in the AV080 submission.

The GR170 to AV080 files were compared, to confirm zeroing occurs.

Audit commentary

The NSP level aggregation check confirmed the accuracy of the factors. A walk-through of the validation process confirmed that all factors are included.

GR170 and AV080 files for the audit period were checked and I only found one issue. NSP ALB1101 had an entire combination (VECW1) missing from the R7 revision. It was present in the earlier revisions and it has been revised in the R14 file. There was no impact on submission because the R3 submission stays unless it is replaced, which it was not.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.3 With: Clause 15.5 From: 01-May-18 To: 23-Jan-19	NSP ALB1101 had an entire combination (VECW1) missing from the R7 revision. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. There was no impact on submission; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We have identified that this was caused by human error, and was a one-off occurrence. There was no market impact.	Resolved	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We now have more detailed NSP-level revision comparisons in the pre-submission checks which should prevent a recurrence of this specific problem.		

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

A registry list with history was reviewed for the audit period to confirm that Switch Utilities has not supplied any GIPs.

Audit commentary

Examination of the list file found that Switch Utilities has not supplied any GIPs. Switch Utilities is not required to report any 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

Switch Utilities is not a local or embedded network owner.

Audit commentary

Switch Utilities is not a local or embedded network owner and 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

Switch Utilities does not have any grid connected generation.

Audit commentary

Switch Utilities does not have any grid connected generation.

Audit outcome

Not applicable

12.7. Accuracy of submission information (Clause 15.12)

Code reference

Clause 15.12

Code related audit information

If the reconciliation participant has submitted information and then subsequently obtained more accurate information, the participant must provide the most accurate information available to the reconciliation manager or participant, as the case may be, at the next available opportunity for submission (in accordance with clauses 15.20A, 15.27, and 15.28).

Audit observation

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **sections 8.1** and **8.2**.

Audit commentary

Review of alleged breaches confirmed that two reconciliation submissions were made late. These matters are now resolved.

There are some specific scenarios where revisions have not been conducted, despite more accurate information being available.

As recorded in **section 12.2**, submission does not occur for inactive ICPs with consumption. Whilst these are recorded as inactive on the registry, this status is incorrect because consumption is being recorded. There are 140 inactive ICPs with consumption totalling 208,187 kWh. Following the audit, the statuses have been updated to ensure submission occurs. The relevant periods are March 2018 to January 2019.

ICP 1001136673LC11F has generation as well as load, but the generation is not submitted and should have been since 01/01/17.

37 bridged meters were identified, and correction was not conducted for the bridged period. The total number of bridged days is 809, so at 25 units per day this could be approx. 20,225 kWh under submitted.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 01-Jan-17 To: 31-Mar-19	There are 140 inactive ICPs with consumption totalling 208,187 kWh. Generation kWh not submitted for ICP 1001136673LC11F. Correction not conducted for 37 bridged meters. Potential impact: Medium Actual impact: Medium Audit history: None Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is moderate, therefore the audit risk rating is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
Inactive consumption addressed in Section 2.1 Generation addressed in Section 6.1 Bridged Meters addressed in Section 6.1	Resolved (historic inactive) Resolved (generation) 01/10/2019 (bridged and stopped meters)	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

12.8. Permanence of meter readings for reconciliation (Clause 4 Schedule 15.2)

Code reference

Clause 4 Schedule 15.2

Code related audit information

Only volume information created using validated meter readings, or if such values are unavailable, permanent estimates, has permanence within the reconciliation processes (unless subsequently found to be in error).

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

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

Audit observation

NHH volumes 14-month revisions were reviewed for August to October 2016 to identify any forward estimate still existing.

Audit commentary

The proportion of HE in the 14-month revision file for August 2017 was not 100% for 11 NSPs and for October 2017 was not 100% for CPK0111, it was 98.98%. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 of Schedule 15.2 From: 01-Aug-17 To: 31-Oct-17	HE not 100% for 11 NSPs in August 2017 and one NSP for October 2017. 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 impact on settlement is dependent on the accuracy of estimates and there is only 5,755 kWh in total so even if the estimates are 20% out it will only be 1,151 kWh. The audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status

The lack of permanent estimates in the two affected months was caused by an at the time unidentified issue with permanent estimates not being generated, but this has been resolved and permanent estimates have been correctly generated for all subsequent periods.	Completed	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We believe that permanent estimation is occurring as it should be other than the identified discrepancies over few months in submissions last year.	Completed	

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

Code reference

Clause 2 Schedule 15.3

Code related audit information

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

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

Audit observation

The registry list was reviewed for the audit period to confirm that Switch Utilities supplies:

- NHH information;
- HHR information;
- generation information under the PV1 profile; and
- unmetered load.

The accuracy of submission information was checked in numerous sections, and I checked the accuracy of generation and unmetered submissions.

Audit commentary

The following issues were found with the accuracy of submission information:

- As recorded in **section 12.2**, submission does not occur for inactive ICPs with consumption. Whilst these are recorded as inactive on the registry, this status is incorrect because consumption is being recorded. There are 140 inactive ICPs with consumption totalling 208,187 kWh. Following the audit, the statuses have been updated to ensure submission occurs. The relevant periods are March 2018 to January 2019.
- ICP 1001136673LC11F has generation as well as load, but the generation is not submitted and should have been since 01/01/17.
- 37 bridged meters were identified, and correction was not conducted for the bridged period. The total number of bridged days is 809, so at 25 units per day this could be approx. 20,225 kWh under submitted.

All NHH generation is submitted. Unmetered load is submitted accurately.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.9 With: Clause 2 of Schedule 15.3 From: 01-May-18 To: 28-Feb-19	Incorrect submission information. Potential impact: Medium Actual impact: Medium Audit history: Twice Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement is moderate, therefore the audit risk rating is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
Inactive Sites with Consumption commentary in Section 2.1 HHR Generation site commentary in Section 6.1 Bridged meters commentary in Section 6.1	Resolved (historic inactive sites) Resolved (generation submissions) 01/10/2019 (bridged/stopped meters)	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

12.10. Historical estimates and forward estimates (Clause 3 Schedule 15.3)

Code reference

Clause 3 Schedule 15.3

Code related audit information

For each ICP that has a non-half hour metering installation, volume information derived from validated meter readings, estimated readings, or permanent estimates must be allocated to consumption periods using the following techniques to create historical estimates and forward estimates (clause 3(1)).

Each estimate that is a forward estimate or a historical estimate must clearly be identified as such (clause 3(2)).

If validated meter readings are not available for the purpose of clauses 4 and 5, permanent estimates may be used in place of validated meter readings (clause 3(3)).

Audit observation

Review six AV080 submissions for revisions 1 to 7, to confirm that historic estimates are included and identified.

Permanence of meter readings is reviewed in section **12.8**. The methodology to create forward estimates is reviewed in section **12.11**.

Audit commentary

I reviewed nine AV080 submissions for a diverse sample of months and revisions and confirm that forward and historic estimates are included and identified.

Audit outcome

Compliant

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

Code reference

Clause 4 and 5 Schedule 15.3

Code related audit information

The methodology outlined in clause 4 of Schedule 15.3 must be used when preparing historic estimates of volume information for each ICP when the relevant seasonal adjustment shape is available.

If a seasonal adjustment shape is not available, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities kWhPx 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

To assist with determining compliance of the Historical Estimate (HE) processes, Switch Utilities were supplied with a list of scenarios, and for some individual ICPs a manual HE calculation was conducted and compared to the result from their database.

Audit commentary

The table below shows that all HE scenarios are calculating as expected and correct SASV (seasonal adjusted shape values) are applied. Scenario H-B is where forward estimates are calculated for switched in ICPs and the estimate is one day too low. ICP days is also one day too low. Compliance is achieved for this clause because the non-compliant scenario relates to forward estimates, not historic estimates. This matter is raised in **sections 11.2** and **12.12**.

Test	Scenario	Test Expectation	Result
A	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
B	ICP becomes Active then Inactive within a month.	Consumption is only calculated for the Active portion of the month.	Compliant
C	ICP becomes Inactive, then Active, then Inactive again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant
D	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
E	Continuous ICP has a reading in the previous and subsequent months but no reading in the month of submission	Consumption is apportioned to the correct months. Readings are applied to the end of the day	Compliant
F	Continuous ICP has a reading within the month	Consumption is apportioned to the correct months. Readings are applied to the end of the day	Compliant
G	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
H-A	ICP switches in part way through a month.	Consumption is calculated to include the 1st day of responsibility.	Compliant
H-B	ICP switches in part way through a month, using default volumes	Same as above, showing example of where the calculation won't work requiring use of AE readings	Not compliant
K	ICP switches out part way through a month.	Consumption is calculated to include the last day of responsibility.	Compliant
L	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant
M	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant

Test	Scenario	Test Expectation	Result
N	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant

Audit outcome

Compliant

12.12. Forward estimate process (Clause 6 Schedule 15.3)

Code reference

Clause 6 Schedule 15.3

Code related audit information

Forward estimates may be used only in respect of any period for which an historical estimate cannot be calculated.

The methodology used for calculating a forward estimate may be determined by the reconciliation participant, only if it ensures that the accuracy is within the percentage of error specified by the Authority.

Audit observation

The process to create forward estimates was reviewed.

Forward estimates were checked for accuracy by analysing the GR170 file for variances between revisions over the audit period.

Audit commentary

Forward estimates for new ICPs are based on the units per day obtained at sign up from customers or from CS files. Where this information is not available, forward default estimates are used or where there is history a daily average based on the previous read to read period is used. Variations between revisions are monitored at a high level to ensure estimates are as accurate as possible.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. I checked the difference between revisions for the period August 2017 to August 2018 and found only two balancing areas with differences exceeding the threshold.

BA3EASTPOCOG in July 18 had submission of 1,604 in the Day 4 file but 112,095 in the Day 13 file. This was due to one ICP with negative consumption not being identified in the Day 4 file.

TKA0331ALPEG in August 17 had submission of approx. 2,500 in R0, R1 and R3, then meter readings were obtained for R7 and the submission was 136,303. Low estimates were the cause.

As mentioned in **section 12.11**, there is one scenario where the forward default estimate is incorrect because the total kWh is short by one day.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.12 With: Clause 6 of Schedule 15.3 From: 01-Aug-17 To: 20-Mar-19	Two balancing areas with a difference greater than 15% and 100,000 kWh. One incorrect FE scenario. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
The areas where compliance was not achieved were specific related to two single-ICP issues, and these have been resolved.	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
More generally, we have been working to improve our estimation methodologies, particularly with commercial connections. We have added scripting to generate "placeholder estimates" based on the average unit-per-day values provided in CS files to avoid the system using default estimates in many circumstances as the defaults have been too low for some commercial ICPs. This has reduced under-estimation in most circumstances.		

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

A registry list with history was reviewed for the audit period to confirm that Switch Utilities has only used the RPS, HHR and PV1 profiles during the audit period.

Audit commentary

I checked two profile changes from RPS to HHR and in both cases a removed meter reading was used at the time of the change.

Audit outcome

Compliant

13. SUBMISSION FORMAT AND TIMING

13.1. Market Administrator Meter Reading Reports (Clauses 8 & 9 of Schedule 15.2)

Code reference

Clause 8 Schedule 15.3

Code related audit information

Provision of meter read frequency reports to the Authority, no later than 20 business days after the end of the month.

Audit observation

I checked whether the meter reading reports had been prepared and submitted in accordance with this clause.

Audit commentary

All reports were sent on time during the audit period.

Audit outcome

Compliant

13.2. Provision of submission information to the RM (Clause 8 Schedule 15.3)

Code reference

Clause 8 Schedule 15.3

Code related audit information

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

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

Audit observation

The process to ensure that AV080 submissions are accurate was evaluated by conducting a walk-through of the validation processes and the submission preparation processes. I also checked the ICPMISS reporting to identify any aggregation issues.

Audit commentary

AV080 and AV090 files are aggregated correctly. Compliance with the requirement to use correct aggregation factors is confirmed.

Audit outcome

Compliant

13.3. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

Audit observation

Aggregation of the AV080 and AV090 was reviewed and as part of these checks, I verified that the data provided for submission was correctly rounded.

Audit commentary

Submission information is appropriately rounded to no more than two decimal places.

Audit outcome

Compliant

13.4. Historical estimate reporting to RM (Clause 10 Schedule 15.3)

Code reference

Clause 10 Schedule 15.3

Code related audit information

By 1600 hours on the 13th business day of each reconciliation period the reconciliation participant must report to the reconciliation manager the proportion of historical estimates per NSP contained within its non half hour submission information.

The proportion of submission information per NSP that is comprised of historical estimates must (unless exceptional circumstances exist) be:

- *at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))*
- *at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))*
- *100% for revised data provided at the month 14 revision (clause 10(3)(c)).*

Audit observation

The timeliness of submissions of historic estimate was reviewed in **section 12.2**.

I reviewed GR170 reports for the entire audit period to confirm that historic estimate requirements were met.

Audit commentary

The quantity of historical estimates is contained in the submission file and is not a separate report.

The table below shows that the HE threshold was not met for some NSPs. Overall Switch Utilities' compliance in this area is very high.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Aug 2017	166	166	164	177
Oct 2017	170	179	181	183
Nov 2017	171	179	-	182
Feb 2018	177	181		185
Mar 2018	179	179		185
April 2018	195	193		200
May 2018	192			200
June 2018	190			198
July 2018	196			204
Aug 2018	193			204

The table below shows that the percentage HE at a summary level for all NSPs is well above the required targets.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Aug 2017	96.3	98.1	99.9
Oct 2017	95.99	98.2	100
Nov 2017	97.0	99.0	-
Feb 2018	98.3	99.3	
Mar 2018	98.6	98.9	
April 2018	98.4	98.8	
May 2018	98.0		
June 2018	97.2		

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
July 2018	97.3		
Aug 2018	92.9		

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.4 With: Clause 10 of Schedule 15.3 From: 01-Aug-17 To: 31-Aug-18	HE targets not met for some revisions. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We are continuing to focus our efforts around meter reading attainment. In the commercial space we have investing significant effort over the past 9 months in resolving historic non-attainment of readings and will continue to work to achieve higher rates of read attainment. We have taken onboard the Auditors feedback that the processes in the residential space could be stronger and we will be working to improve our level of compliance in that area.	01/08/2019 (Improved Read Attainment System Development)	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

CONCLUSION

Switch Utilities continues to increase their customer numbers, and as with the previous audit, there were some processing errors caused by the high level of activity. The audit has highlighted that controls need to be strengthened in some areas.

30 non-compliance issues were identified by the audit. Nine relate to switching and four relate to registry updates. The most important matters are those related to incorrect submission information, which are as follows:

1. Submission does not occur for inactive ICPs with consumption. Whilst these are recorded as inactive on the registry, this status is incorrect because consumption is being recorded. There are 140 inactive ICPs with consumption totalling 208,187 kWh. Following the audit, the statuses have been updated to ensure submission occurs. The relevant periods are March 2018 to January 2019.
2. ICP 1001136673LC11F has generation as well as load, but the generation is not submitted and should have been since 01/01/17.
3. 37 bridged meters were identified, and correction was not conducted for the bridged period. The total number of bridged days is 809, so at 25 units per day this could be approx. 20,225 kWh under.
4. Switch event meter readings are from 24.00 on the day of the switch not 24.00 on the day before the switch. The system was compliant during the last audit, but a change during the audit period led to the incorrect readings being loaded into CS files.

The breach risk rating total is 67, which results in a recommended audit frequency of three months. I have considered this result in conjunction with Switch Utilities responses. Several of the system related issues were immediately resolved and revisions will ensure submission information becomes correct over time. There is a clear plan for the resolution of the other points, with the longest time period being December 2019. My recommendation for the next audit is 12 months to allow sufficient time for all matters to be resolved.

PARTICIPANT RESPONSE