

ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

SWITCH UTILITIES LIMITED



Prepared by: Tara Gannon

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EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Switch Utilities Energy 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. Status update processes moved from being centralised to decentralised by brand in mid-October 2019 to allow better management of workloads, and this appears to have reduced the number of late updates.

Switch Utilities has made improvements to increase compliance following the 2019 audit, including:

1. Automation of the HH switch loss process.
2. A system fix to ensure the correct switch event reading is provided for switch losses.
3. Implementation of new reports to improve read attainment across all brands. Read attainment compliance is expected to improve once the supporting processes are developed and implemented.
4. New validation reports were released in late 2019 to identify ICPs with inactive consumption, meters with consecutive days of zero consumption, and ICPs where the controlled load is greater than the uncontrolled load. Procedures for some of these reports are still being developed and refined.
5. A new process to create estimated consumption during periods where meters are stopped or faulty was implemented in December 2019. Once training is complete, staff will begin using this process.
6. Processing MEP nominations when a service request is issued to the MEP, instead of when job completion paperwork is received.

The following areas require further improvement to achieve compliance:

1. Corrections for historic inactive consumption

Reconciliation submission data is not generated for periods where ICPs are inactive, and historic consumption is not calculated correctly if boundary disconnection and reconnection reads are not entered. A new process was implemented in August 2019 to capture new “inactive” consumption, but some historic consumption during “inactive” periods still exists. I reviewed a sample of ICPs from a list 532 ICPs which had consumption recorded during inactive periods and found some consumption was not genuine. Where the consumption was genuine, some ICPs had corrections processed and some had not. I have recommended that Switch Utilities review ICPs with historic consumption during inactive periods to confirm whether the consumption is genuine and corrections are required, and ensure that disconnection and reconnection reads are consistently entered.

2. Corrections for defective and bridged meters

Once the new correction processes are established, and training is complete, backdated corrections for bridged and stopped meters which have not yet been processed should be completed.

3. NHH meter condition and event information is not consistently reviewed

NHH meter condition and event information is not consistently reviewed to identify events which could affect meter accuracy.

4. CS content

A small number of CS files had an incorrect last actual read date, and I recommend this is investigated. The issues relating to consistently incorrect application of event dates and last actual read dates in CS files under certain circumstances appear to have been resolved.

Average daily consumption in CS files is based upon the average consumption over the past month, instead of the last read to read period. The information provided does give a reasonable estimate of average daily consumption for the ICP.

5. **Read renegotiation**

Switch Utilities' read renegotiation process allows RR files to be supported by unvalidated customer or photo readings. The code requires all RRs to be supported by at least two validated actual readings.

One RR issued under Clause 6(2) and (3) Schedule 11.3 by another trader was rejected in error.

6. **Switch save protection**

Switch Utilities is a save protected retailer, and an account credit was offered as an enticement to remain with Switch Utilities before one switch was completed.

7. **Reconciliation processes**

A zeroing process is required for ICP days submissions where an aggregation line appears in the previous revision but is not available in the current revision.

One ICP which was supplied for one day was excluded from the AV110 submission, and investigation is required to confirm why this occurred and prevent recurrence.

A system fix is being tested to resolve the issues where the first ICP day is missed where default forward estimate is applied for an ICP.

Differences between billed and submitted data should be monitored, and any large variances should be investigated.

The breach risk rating total is 64 (a decrease from 67 in the previous audit), which results in a recommended audit frequency of three months. I have considered this result in conjunction with Switch Utilities responses which indicate that they intend to resolve the issues identified within the next five months, and recommend a next audit period of 12 months.

The matters raised are shown in the tables below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	15.2	Some errors found in registry data.	Moderate	Low	2	Identified
Audit trails	2.4	21 Schedule 15.2	EDMI's IE2 and DQM audit trails do not record the operator identifier for the person who completed the activity; operator identifiers correspond to a user group not an individual. The DRS/MDMS audit logs do not record the individual who imported information into the database.	Strong	Low	1	Identified
Electrical Connection of Point of Connection	2.11	10.33A	Five bridged ICPs were not re-certified on unbridging.	Strong	Low	1	Identified
Changes to registry information	3.3	10 Schedule 11.1	167 late status updates to active. 111 late status updates to inactive. Nine late trader updates. Two late ANZSIC code updates.	Moderate	Low	2	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	Five late status updates to "active" for new connections. Two newly connected ICPs had incorrect "active" status event dates applied.	Weak	Low	3	Identified
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	ICP 0009725850CNA35 temporarily had a T99 series ANZSIC code applied. Incorrect ANZSIC codes were assigned for at least 16 ICPs.	Moderate	Low	2	Identified
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	ICP 0010426583EL500 does not have unmetered load connected, but the daily unmetered kWh applied for submission and recorded on the registry is 6.9 kWh.	Weak	Low	3	Identified
Management of "active" status	3.8	17 Schedule 11.1	ICP 1002023505LC6A8 was reconnected on 26/11/19 but had an "active" event date of 25/11/19. Two newly connected ICPs had incorrect "active" status event dates applied.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Management of "inactive" status	3.9	19 Schedule 11.1	At least nine ICPs with inactive consumption did not have status corrections processed, or disconnection and/or reconnection reads had not been entered resulting in consumption being recorded in inactive periods.	Weak	Medium	6	Identified
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	One late CS file. Incorrect average daily consumption for at least 12 ICPs.	Moderate	Low	2	Identified
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	One late RR file. One late AC file. The RRs for 0000426550TP490 (24/05/19) and 0000845315NVB5A (13/11/19) were supported by unvalidated customer readings instead of validated actual readings.	Moderate	Low	2	Identified
Non-half hour switch event meter reading - standard switch	4.5	6(2) and (3) Schedule 11.3	The RR for 1001150629CK277 was invalidly rejected.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	One late switch move AN file. 73 late switch move CS files. 253 ANs had proposed event dates before the requested event date, because of a temporary system issue for AN files between 31/07/19 and 15/08/19.	Strong	Low	1	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	Incorrect average daily consumption for at least 13 ICPs. Incorrect last actual read dates for two ICPs.	Moderate	Low	2	Identified
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	Four late RR files. Seven late AC files. The RRs for 0000946432TEE9C (18/07/19) and 0000219844UN1DD (24/08/19) were supported by unvalidated customer readings instead of validated actual readings. For ICP 0000166984UN05B (19/08/19) the agreed switch	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			reading was recorded as actual, when it was an estimate, because an actual reading was received on the same day.				
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	Six late AN files.	Strong	Low	1	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	63 late AW files. One late withdrawal cycle resolution. 0006178600RNAB7 (16/09/19) was sent with withdrawal reason code "wrong switch type" instead of "wrong premises". 0026169175WE3AA (20/07/19) had a withdrawal sent in error.	Moderate	Low	2	Identified
Switch saving protection	4.17	11.15AA to 11.15AB	Switch Utilities is a save protected retailer, and an account credit was offered as an enticement to remain a customer before the switch was completed for ICP 0000119574UNF99.	Strong	Low	1	Identified
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	Notifications of gifting have not been provided to the RM for ICPs 0000158386UN338, 0000292879WE5FA, 0001418721UNA13 and 0113877767LCF32, and generation consumption is not measured or submitted. ICP 0000292879WE5FA has submission against the RPS profile only, but the RPS and PV1 profiles are recorded on the registry. 24 bridged meters were identified during the audit period. Energy was not quantified in accordance with the code during the bridged periods.	Moderate	Medium	4	Identified
Collection of information by certified reconciliation participant	6.5	2 Schedule 15.2	FCLM does not usually provide a screen shot confirming time differences for meters which are manually read using MV90. If this information is not provided, EDMI is unable compare the system time to the meter time.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Clock synchronisation events provided by MEPs are not consistently reviewed and actioned.				
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	122 ICPs were not read during the period of supply. The best endeavours requirement was not met for at least seven of these ICPs.	Moderate	Low	2	Identified
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	The best endeavours requirement was not met for at least three ICPs not read in the previous 12 months. Meter reading frequency reports were submitted to the Market Administrator late for April 2019 and June 2019.	Moderate	Low	2	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	The best endeavours requirement was not met for at least two ICPs not read in the previous four months.	Moderate	Low	2	Identified
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	24 ICPs had bridged meters for part of the audit period, and no corrections to capture un-metered consumption during the bridged periods were processed. ICP 0006980139RNFF1's meter was not recording consumption and no correction was processed. The removal readings applied matched the meter removal paperwork. Eight ICPs with inactive consumption did not have status corrections processed, or disconnection and/or reconnection reads had not been entered resulting in consumption being recorded in inactive periods.	Weak	Low	3	Identified
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	For EDM's manual downloads, the meter event information is not imported into IE2 and is not reviewed and sent to the retailer. Meter event information is not consistently reviewed and actioned.	Moderate	Low	2	Identified
Calculation of ICP days	11.2	15.6	There is no zeroing process for ICP days submissions which resulted in some incorrect NHH and HHR ICP days. One ICP day was excluded from the ICP days submission because ICP 0000348556MP8EF was supplied for	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			<p>one day, and a final reading was not recorded.</p> <p>Where default forward estimate is applied, an ICP day is not reported for the first day of supply. This is corrected through the revision process once a subsequent reading is received.</p>				
HHR aggregates information provision to the reconciliation manager	11.4	15.8	Aggregates file contains submission information.	Strong	Low	1	Identified
Creation of submission information	12.2	15.4	Breach 1812SWIT1 recorded that some reconciliation submission information was provided 15 minutes late.	Strong	Low	1	Identified
Accuracy of submission information	12.7	15.12	<p>Breach 1812SWIT1 recorded that some reconciliation submission information was provided 15 minutes late.</p> <p>24 ICPs had bridged meters for part of the audit period, and no corrections to capture unmetered consumption during the bridged periods were processed.</p> <p>ICP 0006980139RNFF1's meter was not recording consumption and no correction was processed. The removal readings applied matched the meter removal paperwork.</p> <p>At least nine ICPs with inactive consumption did not have status corrections processed, or disconnection and/or reconnection reads had not been entered resulting in consumption being recorded in inactive periods.</p> <p>ICP 1002051199LCFA9 became active on 21/07/19, but the status was updated to active effective from 28/07/19. Consumption was only calculated for the registry active days, instead of the true active days.</p> <p>ICP 0010426583EL500 does not have unmetered load connected, but the daily unmetered kWh</p>	Weak	Low	3	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			applied for submission and recorded on the registry is 6.9 kWh.				
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	Some estimates were not replaced by revision 14.	Moderate	Low	2	Investigating
Historic estimate reporting to RM	13.3	10 Schedule 15.3	Historic estimate thresholds were not met for some revisions.	Moderate	Low	2	Identified
Future risk rating						64	

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

RECOMMENDATIONS

Subject	Section	Description	Recommendation
Relevant Information	2.1	Data validation	<p>Registry notifications indicating changes to the distributor unmetered load details, installation type, fuel type or generation capacity should be directed to a work queue and checked to determine whether Switch Utilities' trader information requires an update, or a notification of gifting should be provided to the reconciliation manager.</p> <p>The following data should be checked for consistency (preferably monthly):</p> <ul style="list-style-type: none"> ICPs with installation type B or G, generation capacity, a generation fuel type and/or injection flow metering which do not have a profile consistent with distributed generation details (EG1, PV1 or HHR) recorded, ICPs with a profile consistent with generation (EG1 or PV1) which do not have installation type B or G, generation capacity, a generation fuel type and injection flow metering; and a check between the trader and distributor unmetered load details on the registry, including confirming that the daily unmetered kWh is correct.
Electrical Connection of Point of Connection	2.11	Certification on reconnection	Provide refresher training on the requirement to request meter certification where a reconnection is completed for a metered ICP without full meter certification.
Changes to unmetered load	3.7	Confirm unmetered load details	Confirm unmetered load and on hours for 0001951000TG7C9 and 1000007422BP18E, so the correct daily unmetered kWh can be calculated. Update the registry daily unmetered kWh as necessary.

Subject	Section	Description	Recommendation
Management of "inactive" status	3.9	Inactive consumption	Review ICPs with historic consumption during inactive periods to confirm whether the consumption is genuine and corrections are required. Ensure that disconnection and reconnection reads are consistently entered, so that boundary reads are present for use by the historic estimate calculation process.
Derivation of meter readings	6.6	Review of meter condition information provided by Wells	Review all meter condition information provided by Wells, and investigate and resolve any issues identified.
Electricity supplied information provision to the reconciliation manager	11.3	AV080 versus AV120 submission differences	Review the October 2019 AV080 and AV120 submission data to determine the cause of the difference, and process corrections as necessary. Monitor differences between billed and submitted data.
Permanence of meter readings for reconciliation	12.8	Investigate small differences between the total and historic estimate at revision 14	Check the rounding differences between the total and historic estimate to determine why they have occurred, and whether there is an underlying issue with the total or historic estimate calculation process.

ISSUES

Subject	Section	Description	Issue
		Nil	

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

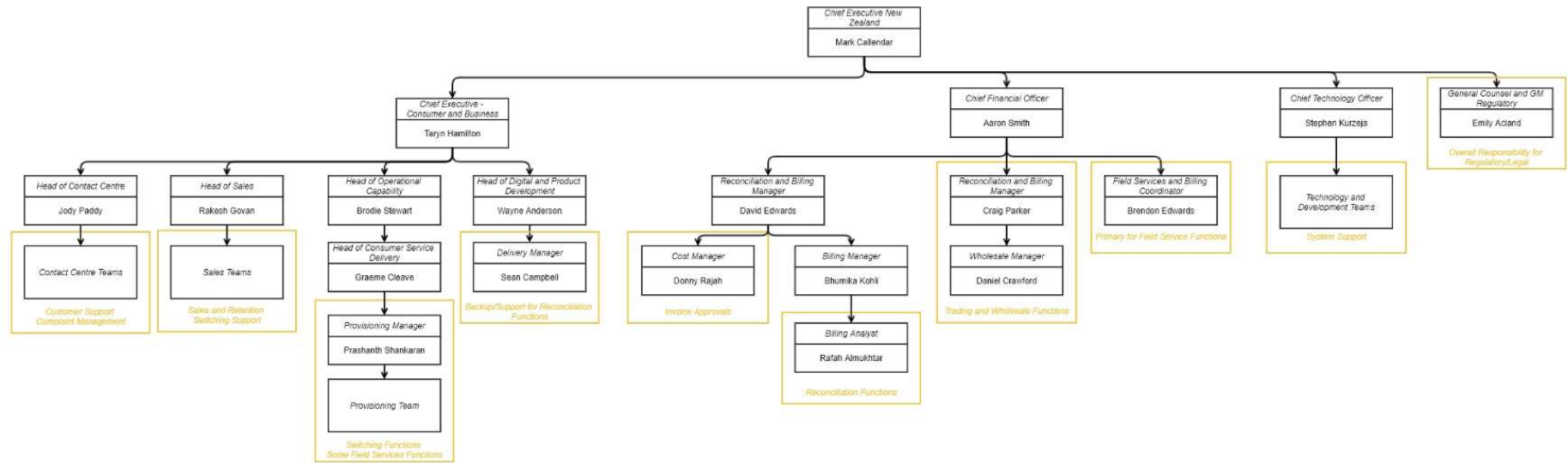
Current code exemptions were reviewed on the Electricity Authority website.

Audit commentary

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

1.2. Structure of Organisation

Switch Utilities provided a copy of their organisational structure:



1.3. Persons involved in this audit

Auditor:

Tara Gannon

Veritek Limited

Electricity Authority Approved Auditor

Switch Utilities personnel assisting with this audit:

Name	Title
Sean Campbell	Delivery Manager
Brendon Edwards	Field Services and Billing Co-ordinator
Richard Mackie	Network Operations Co-ordinator
Rafah Almkhtar	Billing Analyst

AMS (Vector Metering) personnel assisting with this audit:

Name	Title
Laura Ferrier	Senior Data Analyst

EDMI personnel assisting with this audit:

Name	Title
Steve Graham	Solution and Delivery Support Team

1.4. Use of Agents (Clause 15.34)

Code reference

Clause 15.34

Code related audit information

A reconciliation participant who uses an agent

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

Audit observation

Use of agents was discussed with Switch Utilities.

Audit commentary

Switch Utilities uses Wells to conduct NHH data collection. Wells has been audited in accordance with the Guidelines for Reconciliation Participant Audits, and the agent audit report is expected to be submitted along with this report. Because the Wells audit is more than seven months old, additional checks were undertaken to confirm that there were no changes to Wells' processes or systems which could have a negative impact on Switch Utilities' compliance, and checks were conducted for a sample of meter condition events.

Switch Utilities uses AMS and EDM I to conduct HHR data collection. AMS and EDM I have been audited in accordance with the Guidelines for Reconciliation Participant Audits, and their agent audit reports are expected to be submitted along with this report. EDM I's report was completed within seven months of the Switch Utilities audit report due date. AMS' report was completed more than seven months since the audit due date, and checks were conducted to determine whether any meter defects or clock synchronisation events which affect meter accuracy have occurred.

AMS (for AMS and Smartco), Arc, FCLM, Metrix, and WASN provide data as MEPs and are subject to a separate audit regime.

All other functions are conducted in-house.

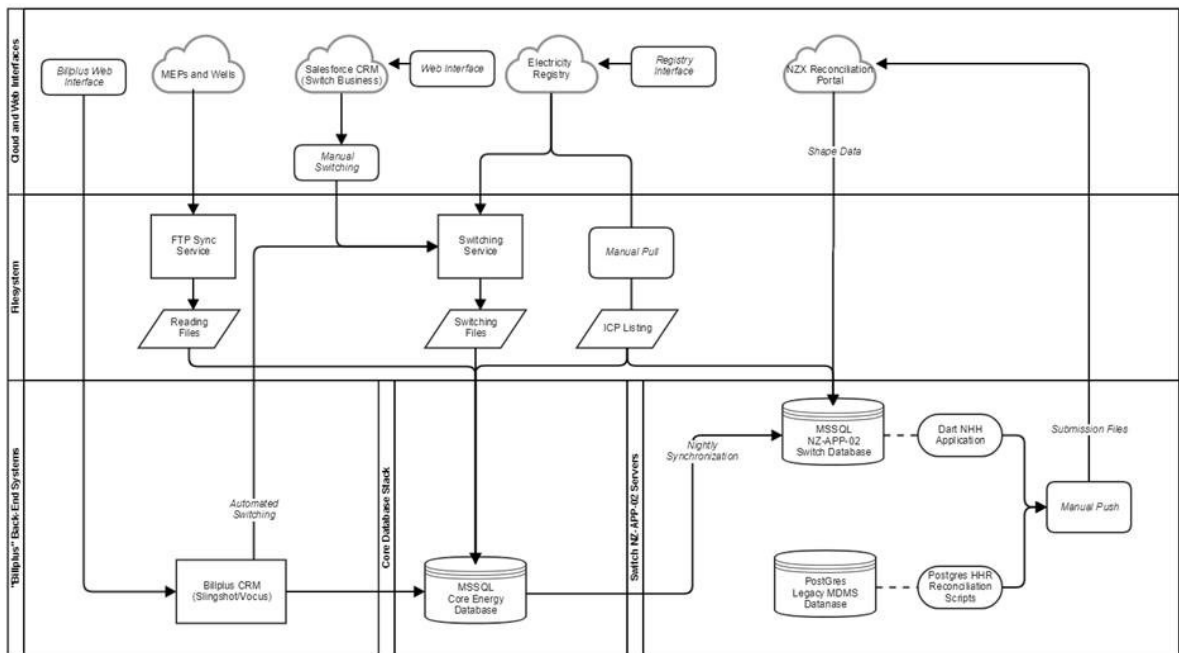
1.5. Hardware and Software

Switch Utilities uses the following systems:

- The **Energy database** receives NHH reads files, and sends and receives registry and switching files. The Electricity App is used as an interface to the database, which allows users to review and validate information.
The Energy database also produces the AV120 submissions. HHR billed charges are calculated in **Accredo** (HHR Vocus Communications customers) and then transferred to the Energy database. NHH billed charges are calculated in the Energy database and then transferred to **BillPlus** for the physical invoices to be produced.
- **Data management system (known as DRS or MDMS)** is used for HHR reconciliation and produces AV090 and AV140 submissions. DRS receives EIEP3 files containing HHR volume information and registry lists. DRS/MDMS performs a calculation based on the current values provided and outputs submission files.
- **DART** is used for NHH reconciliation, and produces AV080 and AV110 submissions. It receives readings used by the reconciliation process from the Energy database, status and aggregation factor information from registry lists, and PR030 seasonal adjusted shape value files from the reconciliation manager. The read and registry information is not held within DART, it performs a calculation based on the current values provided and outputs files including submissions, and supporting ICP level and batch (meter register) level information.
- **SalesForce** is used as the customer relationship management system for Accredo (HHR Vocus Communications customers). It is solely used for customer relationship management and does not interact with the registry.

Access is restricted using logins and passwords, through each user's network login.

Switch Utilities performs a nightly backup of all production databases and systems including the Energy database. The backups are stored on a file share, which is backed up and stored across multiple servers in at least four locations to ensure redundancy and protection. A system diagram is shown below.



1.6. Breaches or Breach Allegations

The EA confirmed that one alleged breach occurred during the audit period:

Breach no	Breach of	Description	Outcome
1812SWIT1 13/02/19 12:00 AM	Part 15 clause 15.4 (1)	<p>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.</p> <p>The files were submitted 15 minutes late. The files were uploaded through the file checker but the final step to upload the files was missed due to a distraction.</p>	The breach allegation was closed and no further action was taken because there was no impact and steps were taken to prevent recurrence.

1.7. ICP Data

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

Metering Category	Dec 2019	2019	2018	2017
1	28,472	21,390	11,635	3,287
2	267	329	287	236
3	22	37	45	44
4	4	12	12	11
5	0	1	1	52

9	0	1	1	1
Blank	0	0	1	1

All ICPs on the list file are summarised on the table below.

Status	Dec 2019	2019	2018	2017
Active (2,0)	28,765	21,770	11,982	3,580
Inactive – new connection in progress (1,12)	6	7	6	1
Inactive – electrically disconnected vacant property (1,4)	168	135	3	1
Inactive – electrically disconnected remotely by AMI meter (1,7)	18	35	1	0
Inactive – electrically disconnected at pole fuse (1,8)	28	23	0	0
Inactive – electrically disconnected due to meter disconnected (1,9)	24	23	1	0
Inactive – electrically disconnected at meter box fuse (1,10)	5	8	0	0
Inactive – electrically disconnected at meter box switch (1,11)	5	11	0	0
Inactive – electrically disconnected ready for decommissioning (1,6)	5	3	0	0
Inactive – reconciled elsewhere (1,5)	0	0	0	0
Decommissioned (3)	234	187	162	21

1.8. Authorisation Received

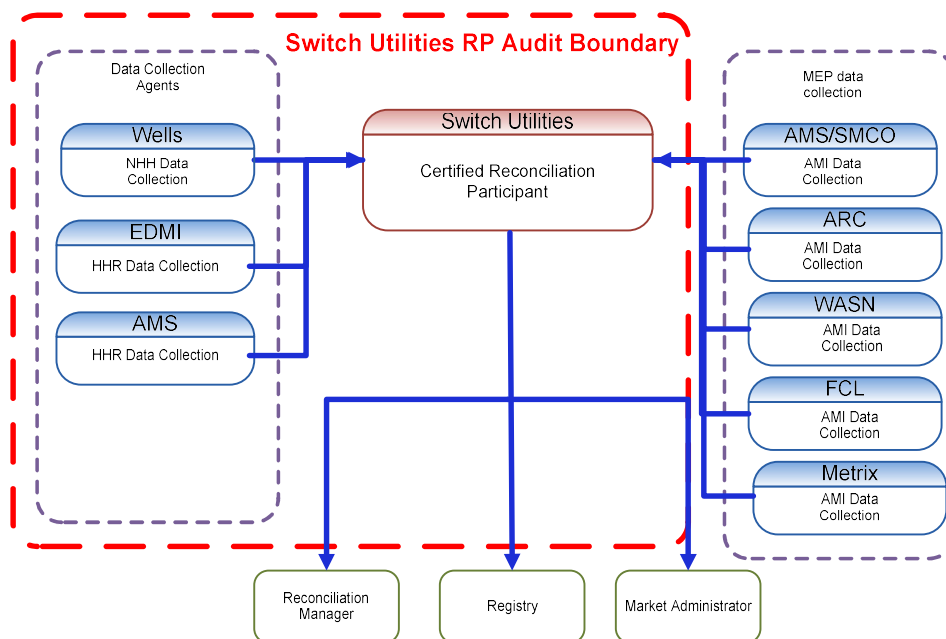
Switch Utilities provided a letter of authorisation.

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, at Switch Utilities' premises in Auckland on 20-21 January 2020.

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 Involved in Performance of Tasks	MEPs Providing Data
(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 volume information	Wells – NHH data collection EDMI – HHR data collection AMS – HHR data collection	AMS SMCO ARC Metrix FCLM WASN
(d)(i) – Calculation of ICP days		

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs Providing Data
(d)(ii) - delivery of electricity supplied information under clause 15.7		
(d)(iii) - 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 Wells to conduct NHH data collection. Wells has been audited in accordance with the Guidelines for Reconciliation Participant Audits, and the agent audit report is expected to be submitted along with this report. Because the Wells audit is more than seven months old, additional checks were undertaken to confirm that there were no changes to Wells' processes or systems which could have a negative impact on Switch Utilities' compliance, and checks were conducted for a sample of meter condition events.

Switch Utilities uses AMS and EDM I to conduct HHR data collection. AMS and EDM I have been audited in accordance with the Guidelines for Reconciliation Participant Audits, and their agent audit reports are expected to be submitted along with this report. EDM I's report was completed within seven months of the Switch Utilities audit report due date. AMS' report was completed more than seven months since the audit due date, and checks were conducted to determine whether any meter defects or clock synchronisation events which affect meter accuracy have occurred.

AMS (for AMS and Smartco), Arc, FCLM, Metrix, and WASN provide data as MEPs and are subject to a separate audit regime.

1.10. Summary of previous audit

Switch Utilities' previous audit was conducted in April 2019 by Steve Woods of Veritek Limited. The summary tables below shows the statuses of the non-compliances and recommendations raised in the previous audit. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	10.6, 11.2, 15.2	Some errors found in registry data. Some submission revisions not conducted as soon as practicable.	Still existing
Metering certification	2.11	10.32	Four reconnections were not certified within five business days. 8 bridged meters not recertified within 5 business days.	Still existing
Registry updates	3.3	10 of schedule 11.1	Registry information not updated within 5 business days of the event.	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	Incorrect ANZSIC codes assigned for 19 of 150 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	Four late AN files.	Cleared
Switching	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.	Still existing
Switching	4.4	6(1) and 6A Schedule 11.3	20 late RR files.	Still existing
Switching	4.5	6(2) and (3) Schedule 11.3	At least 9 RR files incorrectly rejected.	Still existing
Switching	4.8	10(1) of Schedule 11.3	Four late AN files.	Still existing
Switching	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.	Still existing
Switching	4.11	12 of Schedule 11.3	At least 3 RR files incorrectly rejected. 6 late RR files and 8 late AC files.	Still existing

Subject	Section	Clause	Non-compliance	Status
Switching	4.13	15 Schedule 11.3	5 late AN files.	Still existing
Switching	4.15	17 and 18 of Schedule 11.3	7 late AW files.	Still existing
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.	Still existing
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.	Cleared
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.	Still existing
Annual interrogation	6.9	8(1) and (2) of Schedule 15.2	Best endeavours not demonstrated for three ICPs not read in the previous 12 months.	Still existing
90% read rate	6.10	9(1) and (2) of Schedule 15.2	Best endeavours not demonstrated for 14 ICPs not read in the previous four months.	Still existing
ICP Days	11.2	15.6	ICP days calculation incorrect for one scenario.	Still existing
Electricity supplied	11.3	15.7	Inaccurate electricity supplied data from August 2017.	Cleared
HHR aggregates	11.4	15.8	Aggregates file contains submission information. Generation not included in aggregates file for ICP 1001136673LC11F.	Still existing

Subject	Section	Clause	Non-compliance	Status
Creation of submission information	12.2	15.4	Submission not occurring for 140 inactive ICPs with consumption totaling 208,187 kWh.	Still existing, non-compliance is recorded in section 12.7 for ICPs which were confirmed to have inactive consumption.
Allocation of submission information	12.3	15.5	NSP ALB1101 had an entire combination (VECW1) missing from the R7 revision.	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.	Some non-compliance still existing
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.	Still existing
Preparation of submission information	12.9	2 of Schedule 15.3	Incorrect submission information.	Still existing, non-compliance is recorded in section 12.7 for some inaccurate submission information.
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.	Cleared
HE reporting	13.3	10 of Schedule 15.3	HE targets not met for some revisions.	Still existing

Subject	Section	Description	Recommendation	Status
Changes to unmetered load	3.7	Changes to unmetered load	Check three ICPs for unmetered load accuracy.	Partially resolved

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

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

Audit observation

The process to find and correct incorrect information was examined. The registry list file as at 16/12/19 and AC020 trader compliance report for 01/02/19 to 16/12/19 were examined to confirm that information was correct and not misleading. The registry validation process was examined in detail in relation to the achievement of this requirement.

Audit commentary

Status and trader updates (excluding MEP nominations) are generated from the Energy database. Users add and modify information using the Electricity App, which is the user interface to the Energy database. I observed this process and confirmed that event effective dates and registry attributes are required to be entered.

MEP nominations are completed manually using the registry web interface, at the time that the service order is raised for the MEP.

Notification and acknowledgement files are imported into the Energy database, and directed to work queues within the Electricity app if action is required by a user. I viewed these queues during the audit.

Aside from reviewing the registry notification and acknowledgement files within the Electricity app, there is no separate validation between the Energy database and the registry. Full validation between the Energy database and the registry is not possible, because a copy of registry information is not held within the Energy database. DART (NHH reconciliation) and DRS/MDMS (HHR reconciliation) both import date ranged registry lists prior to reconciliation reports being generated to ensure that current status and aggregation factor information is applied.

An “Inactive” ICPs with consumption report and process was implemented in August 2019 to identify ICPs which have an incorrect status recorded on the registry. Exceptions are reviewed and corrected daily, as described in **section 3.9**.

The notification process does not trigger actions where distributor information which could affect trader information changes, such as changes to unmetered load or distributed generation details. I recommend that the following checks are implemented:

Description	Recommendation	Audited party comment	Remedial action
Data validation	<p>Registry notifications indicating changes to the distributor unmetered load details, installation type, fuel type or generation capacity should be directed to a work queue and checked to determine whether Switch Utilities' trader information requires an update, or a notification of gifting should be provided to the reconciliation manager.</p> <p>The following data should be checked for consistency (preferably monthly):</p> <ul style="list-style-type: none"> ICPs with installation type B or G, generation capacity, a generation fuel type and/or injection flow metering which do not have a profile consistent with distributed generation details (EG1, PV1 or HHR) recorded, ICPs with a profile consistent with generation (EG1 or PV1) which do not have installation type B or G, generation capacity, a generation fuel type and injection flow metering; and a check between the trader and distributor unmetered load details on the registry, including confirming that the daily unmetered kWh is correct. 	This was an existing process however the process ceased after internal staff changes. We have provided guidance to our new analyst along with our provisioning team on the processing of registry updates for monitoring of changes affecting generation and unmetered load submissions.	Identified

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

Item No.	Issue	Dec 2019	2019	2018 Qty	Comments
1	Status or status date mismatch between registry and Switch Utilities	11	140	12	<p>ICP 1002023505LC6A8 was reconnected on 26/11/19 but had an "active" event date of 25/11/19. See section 3.8.</p> <p>Two newly connected ICPs had incorrect "active" status event dates applied. See sections 3.5 and 3.8.</p> <p>Eight ICPs with inactive consumption did not have status corrections processed, or disconnection and/or reconnection reads had not been entered resulting in consumption being recorded in inactive periods. See section 3.9.</p>
2	Active ICPs with blank MEP and no MEP nominated and UML = N	-	-	1	Compliant.

Item No.	Issue	Dec 2019	2019	2018 Qty	Comments
3	Incorrect submission flag	1	-	-	0040685000WR17F temporarily had HHR submission type recorded with RPS profile. This was a timing difference and the submission type was corrected prior to the audit.
4	Active with blank ANZSIC codes	-	-	-	Compliant.
5	Active with ANZSIC "T999" not stated	-	-	-	Compliant.
6	Active with ANZSIC "T994" don't know	1	-	-	See section 3.6 .
7	Incorrect ANZSIC code	16	19	1	See section 3.6 .
8	Active ICP with cat 9 and UML= N	-	1	0	Compliant.
9	ICPs with Distributor unmetered load populated but retail unmetered load is blank	-	-	-	Compliant.
10	ICPs with unmetered load flag Y but load is recorded as zero	-	5	-	Compliant.
11	ICPs with incorrect shared unmetered load	-	-	-	Compliant. Standard unmetered ICP 0010426583EL500 does not have unmetered load connected, but the daily unmetered kWh applied on for submission and recorded on the registry is 6.9 kWh. See section 3.7 .
12	ICPs with Distributed Generation indicated but no DG profile	4	2	4	Four ICPs have distributed generation indicated and did not have injection flow metering and/or profiles compatible with generation installed. In all cases the generated energy is gifted and the profile should be RPS. See section 6.1 . For 0000292879WE5FA, the profile is incorrectly recorded on the registry as RPS PV1 but should be RPS. See sections 3.3 and 6.1 .
13	ICP at status "new connection in progress" (1,12) or "ready" (0,0) with an initial energisation date populated by the Distributor	-	1	-	Compliant.

Item No.	Issue	Dec 2019	2019	2018 Qty	Comments
15	Active date variance with initial electrical connection date	5	10	-	Two newly connected ICPs had incorrect "active" status event dates applied. See sections 3.5 and 3.8 .
16	Meter cat 3 or known commercial site with residential ANZSIC code	-	-	1	Compliant.

MEP nominations

In **section 3.3**, I found ICP 0000944386TE166 (05/07/19) had CTCT nominated as the MEP, but should have had LMGL.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 10.6, 11.2, 15.2 From: 01-Jul-18 To: 21-Jan-20	Some errors found in registry data. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	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
Since the last audit we made improvements to the process for administering status updates to reduce the number of status mismatches which seems to have had some effect (in particular, the monitoring of inactive sites with consumption) Based on auditor feedback we will be building additional validation alerts from the NOT files which we import to flag other actions required (such as PV1/gifting notifications).		06/2020 (new validation reports)	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

2.2. Provision of information (Clause 15.35)

Code reference

Clause 15.35

Code related audit information

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

Audit observation

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

Audit commentary

This area is discussed in several sections in this report. I saw evidence during the audit that discrepancies identified were promptly investigated and updated.

Audit outcome

Compliant

2.3. Data transmission (Clause 20 Schedule 15.2)

Code reference

Clause 20 Schedule 15.2

Code related audit information

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

Audit observation

HHR

All HHR data is collected by EDMl and AMS, and data transmission was reviewed as part of their agent audits.

I traced a sample of one month of HHR data from the source EIEP3 files to DRS/MDMS and the HHR aggregates submission for a diverse sample of four ICPs. The sample included data provided by AMS and EDMl for different meter types and months.

NHH

Switch Utilities receives meter readings from AMS (for AMS and Smartco), Arc, FCLM, Metrix, and WASN as MEPs, and Wells as an agent.

I reviewed the method to receive meter reading data from each MEP and agent. I traced a diverse sample of readings for 24 ICPs from the source files to the Energy database and DART's latest results, including two ICPs for each MEP, and ten ICPs for Wells.

Audit commentary

HHR

HHR data transmission was reviewed as part of AMS and EMS' agent audits and found to be compliant.

I traced a sample of one month of HHR data from the source EIEP3 files to DRS/MDMS and the HHR aggregates submission for a diverse sample of four ICPs. Compliance is confirmed.

NHH

All data transmissions to Switch Utilities are via SFTP, which ensures the security and integrity of the data. Upon receipt NHH readings are imported into the Energy database. Validated NHH readings are extracted and used by DART to produce NHH reconciliation submissions. End of month reads are extracted, and intramonth reads are extracted where they are a boundary reading (e.g. switch in, switch out, disconnection, reconnection or meter change reading) or there are no end of month readings.

DART does not retain a copy of the read data used for calculation; detailed reports are produced to accompany the submission information showing which readings were applied.

I traced a diverse sample of readings for 24 ICPs from the source files to the Energy database and the supporting information for the most recent DART submissions. I found the readings matched the source files, except for 0147041248LCD6D which is a HHR ICP and was sent to Wells to obtain NHH readings. Readings and volumes for HHR ICPs are loaded into DRS/MDMS rather than the Energy database, and I confirmed that HHR data was received for this ICP and loaded into DRS/MDMS.

Audit outcome

Compliant

2.4. Audit trails (Clause 21 Schedule 15.2)

Code reference

Clause 21 Schedule 15.2

Code related audit information

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

The audit trail must include details of information:

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

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

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

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

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

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

Audit observation

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

Audit commentary

NHH

Compliance was confirmed during Wells' agent audit.

The Energy database audit logs include the activity identifier, date and time and an operator identifier. Data is not modified within DART.

HHR

Compliance was confirmed during AMS' agent audit.

From 1 November 2018, the code wording was clarified to confirm that the operator identifier recorded in audit trails should reflect the operator identifier for the person who performed the activity. I found that EDM's audit trails and the DRS/MDMS audit trails are not compliant with this requirement:

- EDM's agent audit stated that their audit trails do not record the operator identifier for the person who completed the activity; operator identifiers correspond to a user group not an individual.
- DRS/MDMS contains audit logs which record all files imported, including the date, time and source. The audit trails do not record the individual user who imported the file.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.4 With: Clause 21 Schedule 15.2 From: 01-Jun-18 To: 21-Jan-20	EDM's IE2 and DQM audit trails do not record the operator identifier for the person who completed the activity; operator identifiers correspond to a user group not an individual. The DRS/MDMS audit logs do not record the individual who imported information into the database. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	Rationale for audit risk rating
Low	The controls are rated as strong and the impact as low. Audit trails are available and contain the required information, but the person who processed the change is not identifiable within the audit trail. A small number of users have access to the affected systems.

Actions taken to resolve the issue	Completion date	Remedial action status
We note the auditors feedback and will monitor EDMIs audit trails.	MDMS – 03/2020	Identified
We are making updates to the MDMS system to add additional audit logging. We are reviewing with our developer how such changes could be implemented in DRS.	DRS - TBC	
Preventative actions taken to ensure no further issues will occur	Completion date	

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' standard terms and conditions.

Audit commentary

Switch Utilities' standard terms and conditions with their customers includes consent to access for authorised parties for the duration of the contract.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

The trader must use its best endeavours to provide access:

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

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

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

Audit observation

I reviewed Switch Utilities' standard terms and conditions, and discussed compliance with these clauses.

Audit commentary

Switch Utilities' current terms and conditions with their customers includes consent to access for authorised parties for the duration of the contract.

Switch Utilities confirmed that there have been no instances where access could not be arranged for other parties during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 10.35(1)&(2)

Code related audit information

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

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

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

Audit observation

The physical meter location point is not specifically mentioned in Switch Utilities' standard terms and conditions, but the existing practices in the electrical industry achieve compliance. The registry list as at 16/12/19 was reviewed.

Audit commentary

Switch Utilities supplies 26 ICPs with metering category 3 or above. 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 subclause (1) must be expressed to be for the benefit of the Authority for the purposes of the Contracts (Privacy) Act 1982, and not be able to be amended without the consent of the Authority (clause 11.15B(2)).

Audit observation

I reviewed Switch Utilities' standard terms and conditions.

Audit commentary

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

Audit outcome

Compliant

2.9. Connection of an ICP (Clause 10.32)

Code reference

Clause 10.32

Code related audit information

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

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

Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The registry list file as at 16/12/19 and AC020 trader compliance reports for 01/02/19 to 16/12/19 were examined and analysed to confirm process compliance and whether controls are functioning as expected.

Audit commentary

The design of the new connections process does not allow ICPs to be connected without authorisation by Switch Utilities, or an arrangement with an MEP. Switch Utilities' new connection process requires all ICPs to be taken to the "new connection in progress" status in the registry, which enables them to accept responsibility for the ICP and nominate the MEP at the same time.

Review of all seven new connections during the audit period confirmed that "new connection in progress" status was consistently applied.

Review of the AC020 report confirmed that all new connections had an MEP nominated, and no ICPs had a blank MEP.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

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

Audit observation

The new connection process was examined in detail.

Audit commentary

Switch Utilities claims ICPs at 1,12 ("inactive new connection in progress") status which helps to ensure that the trader is recorded on the registry if an ICP is temporarily electrically connected. No temporary electrical connections were identified.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

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

Audit observation

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

The AC020 trader compliance report for 01/02/19 to 16/12/19 was examined to confirm process compliance and that controls are functioning as expected.

Audit commentary

MEP information for active ICPs

All ICPs recorded as active with metering installed have an MEP recorded.

Meter certification

Active ICPs are required to have full metering certification recorded within five business days of the date they become “active”. Review of the AC020 audit compliance report found:

- no late certifications for new connections of metered ICPs; and
- three late certifications for reconnections of metered ICPs; all were reconnected in 2017 or 2018, prior to the beginning of the audit period and compliance was found for all reconnections during the audit period.

Processes are in place to request re-certification where an ICP which is not certified requires reconnection. Training on this process was provided following the previous audit. Some staff were unfamiliar with the requirement, and I recommend refresher training is provided.

Description	Recommendation	Audited party comment	Remedial action
Certification on reconnection	Provide refresher training on the requirement to request meter certification where a reconnection is completed for a metered ICP without full meter certification.	We have planned refresher training to occur in March with the field services and provisioning teams.	Identified

Meters are required to be re-certified if they are unbridged. 24 bridged meters were identified during the audit period. 19 were re-certified when they were unbridged, and five were not:

ICP	Unbridged date	First re-certification date on or after the unbridged date (or most recent certification date if not recertified on or after the unbridged date)
0000542435NR3E2	30/01/2019	29/01/2019

ICP	Unbridged date	First re-certification date on or after the unbridged date (or most recent certification date if not recertified on or after the unbridged date)
0075342026WE3FF	22/08/2019	17/08/2013
0002312683CNF52	21/08/2019	01/06/2019
0001853445AL915	01/10/2019	24/09/2019
0000066362TRFD0	15/05/2019	12/08/2019

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.11 With: Clause 10.33A From: 30-Jan-19 To: 01-Oct-19	Five bridged ICPs were not re-certified on unbridging. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong, because meter certification is an MEP responsibility and Switch Utilities sometimes cannot achieve compliance. The impact is assessed to be low because a small number and proportion of meters were not certified within the timeframes and all were certified at a later date. Uncertified metering installations are likely to be less accurate than certified metering installations, so there could be a minor impact on settlement.		
Actions taken to resolve the issue		Completion date	Remedial action status
We will provide further training to our teams, and ask them to follow up with metering equipment providers to remind them of the need to complete recertification.		03/2020	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 use of system agreements or arrangements in place with all the networks they trade on, including the new network that Switch Utilities began trading on during the audit period.

As part of the online customer sign up process, the customer's ICP information is checked against the registry to confirm its attributes, and then cross checked against approved values. If an ICP does not meet the requirements to be supplied by Switch Utilities (including being connected to a network where an arrangement is in place) the application is put on hold and the customer receives a message that their ICP cannot currently be supplied. The application is directed to a user for review through the Electricity app. I observed this process in operation.

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 arrangements in place with all relevant MEPs. No new MEPs were added during the audit period.

As part of the online customer sign up process, the customer's ICP information is checked against the registry to confirm its attributes, and then cross checked against approved values. If an ICP does not meet the requirements to be supplied by Switch Utilities (including having an MEP where an arrangement is in place) the application is put on hold and the customer receives a message that their ICP cannot currently be supplied. The application is directed to a user for review through the Electricity app. I observed this process in operation.

Audit outcome

Compliant

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

This requirement is well understood and managed by Switch Utilities.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

The new connection process was examined in detail. The registry list as at 16/12/19, event detail report for 01/02/19 to 16/12/19, and AC020 report for 01/02/19 to 16/12/19 were analysed 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.

The process to update the registry was reviewed for all seven new connections.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

If information provided by a trader to the registry manager about an ICP changes, the trader must provide written notice to the registry manager of the change no later than 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. The process to manage trader updates, including MEP nominations was reviewed.

The AC020 trader compliance report for 01/02/19 to 16/12/19 was reviewed. A sample of late updates made between 01/02/19 and 16/12/19 were checked, including:

- 20 late updates to active status made over 30 business days after the event date,
- the five latest (or all late) updates to each inactive status,
- all late trader updates; and
- all late ANZSIC code updates for new connections and switch ins.

Audit commentary

The AC020 trader compliance report was reviewed to determine the timeliness of registry updates.

Status updates

Status updates are processed in the Energy database and transferred to the registry. The status and status event date are entered into the Electricity app once confirmation of the disconnection or reconnection is received.

Reconnections

The timeliness of status updates to active (for reconnections) is set out on the table below.

Status	Year	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Active	2017	5	67%	16.6
	2018	66	73.5%	8.5
	2019	201	79%	10.4
	Dec 2019	296	64.25%	19.81

129 of the late updates were processed prior to the beginning of the audit period in February 2019. I checked 20 late updates to active made over 30 business days after the event date where the update date was between 01/02/19 and 16/12/19. The late updates were caused by:

- backdated switches in (where the reconnection cannot be processed on the registry until the switch is complete),
- status corrections where inactive consumption was detected, or a different status was confirmed by the distributor; or
- late processing of updates due to workload and staff absences.

Status update processes moved from being centralised to decentralised by brand in mid-October 2019 to allow better management of workloads, and this appears to have reduced the number of late updates.

The late updates were accurately processed from the correct event date, except ICP 1002023505LC6A8 which was reconnected on 26/11/19 but had an event date of 25/11/19. The incorrect status event date is recorded as non-compliance in **sections 2.1** and **3.8**.

Disconnections

The timeliness of status updates to inactive is set out on the table below.

Status	Year	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Inactive	2017	0	100.0%	1.00
	2018	43	4.4%	23.93
	2019	42	96.5%	2.10
	Dec 2019	138	91.20%	3.27

27 of the late updates were processed prior to the beginning of the audit period in February 2019. I checked the five latest (or all late) updates to each inactive status where the update date was between 01/02/19 and 16/12/19. The late updates were caused by:

- late receipt of paperwork,

- corrections where validation processes had confirmed that the status was incorrect; or
- late processing of updates due to workload and staff absences.

The late updates were accurately processed from the correct event date.

Trader updates

Trader updates (excluding MEP nominations) are processed in the Energy database and transferred to the registry. The trader event attributes and event date are entered into the Electricity app once the correct values are confirmed.

MEP nominations are completed manually using the registry web interface at the time that the service order is raised for the MEP. Prior to September 2019, MEP nominations were processed when paperwork was received from the MEP, but the process was changed during the audit period.

The timeliness of trader updates is set out on the table below.

Year	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
Dec 2019	17	79.27%	11.93

8 of the late updates were processed prior to the beginning of the audit period in February 2019. I checked all late trader updates between 01/02/19 and 16/12/19 and found they were delayed because:

- Switch Utilities' old MEP nomination process was followed, and the MEP was nominated once paperwork was received (these updates all occurred prior to September 2019),
- a backdated profile correction was completed following the previous audit; and
- a delay in confirming the correct attributes for the record.

Two of the late updates contained some incorrect information, which is recorded as non-compliance in **section 2.1**.

The AC020 also identified six late updates to ANZSIC codes, four were made prior to the beginning of the audit period in February 2019. The two late updates during the audit period were accurately processed from the correct event date, and were corrections following switch in.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.3 With: Clause 10 Schedule 11.1 From: 02-Apr-19 To: 16-Dec-19	167 late status updates to active. 111 late status updates to inactive. Nine late trader updates. Two late ANZSIC code updates. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate because they are adequate to ensure that the registry is updated on time most of the time, but there is room for improvement. Recent changes to decentralise registry management by brand appear to have improved the timeliness of updates. The risk is low as most updates were completed on time or soon after they were due, unless they were backdated corrections.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have identified that the primary cause of this issue was staff absence/leave and a lack of backup resources. We are cross-training our larger consumer provisioning team to assist with field service paperwork to improve the timeliness of registry updates.		4/2020	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)):*
 - o *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 AC020 trader compliance report for 01/02/19 to 16/12/19 was examined to confirm whether all active ICPs have an MEP recorded, and MEP nominations were accepted.

ICP decommissioning

The process for the decommissioning of ICPs was examined. The event detail report 01/02/19 to 16/12/19 was reviewed to identify all ICPs decommissioned during the period. A diverse sample of ten 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

Review of the AC020 report confirmed that all active metered ICPs have an MEP recorded.

The new connection process is discussed in detail in **sections 2.9** and **3.5**. Switch Utilities nominates the MEP at the same time as taking the ICP to the “inactive - new connection in progress” status. All new connections have an MEP nominated.

One rejected MEP nomination was identified; the incorrect MEP was nominated for ICP 0000944386TE166 (05/07/19). This is recorded as non-compliance in **section 2.1**.

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. An attempt is made to read the meter at the time of removal and if this is not possible then the last actual meter reading is used. This last actual reading is normally the one taken at the time of disconnection. Switch Utilities also advises the MEP responsible that their metering can be removed and the site is to be decommissioned, or has been decommissioned, dependent on the distributor’s process.

49 ICPs were decommissioned during the audit period, all were dismantled. I checked a diverse sample of ten ICPs covering different networks, and confirmed Switch Utilities met their obligation to arrange a meter interrogation prior to or upon meter removal.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The new connection process was examined in detail. The AC020 trader compliance report for 01/02/19 to 16/12/19 was reviewed, and all late updates during the audit period were examined.

The accuracy of all status event dates for new connections was checked by comparing the earliest active date, meter certification date (if available) and initial electrical connection date (if available) using the AC020 report. A sample of discrepancies were checked against supporting information to confirm the correct status date.

Switch Utilities ceased completing new connections during the audit period, and no new connections were completed after May 2019.

Audit commentary

New connection information timeliness

The new connection process is described in detail in **section 2.9**. MEP nomination occurs when the ICP is at “new connection in progress” (1,12) status as part of the service request process.

The AC020 report did not record any late updates to “new connection in progress” status during the audit period.

The timeliness of status updates to “active” (for new connections) is set out on the table below.

Year	ICPs notified greater than 5 days	Percentage on time	Average Business Days between Status Event and Status Input Dates
2017	4	50%	6.6
2018	5	72%	11.2
2019	1	75%	4.25
Dec 2019	7	0%	49.57

Two of the late updates were processed prior to the beginning of the audit period in February 2019. I checked the other five late status updates for new connections on the AC020, and found they were delayed by late receipt of paperwork, or late processing once the paperwork was received.

New connection information accuracy

The earliest “active” status date for each new connection was compared to the distributor’s initial electrical connection date, and the MEP’s certification date for all seven new connections. Two ICPs were confirmed to have incorrect “active” status event dates:

ICP	Applied active status event date	Correct active status event date
1002054403LC0FA	06/01/2019	07/01/19
1002051199LCFA9	28/07/2018	21/07/19

The AC020 report found that all ICPs with an initial electrical connection date populated had been made active.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.5 With: Clause 9 Schedule 11.1 From: 04-Feb-19 To: 07-May-19	Five late status updates to “active” for new connections. Two newly connected ICPs had incorrect “active” status event dates applied. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Weak Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak, because none of the status updates to active were processed on time, and two of the seven updates to active status were processed with errors. The risk rating is low, Switch Utilities ceased completing new connections during the audit period, and no new connections were completed after May 2019. Submission data is revised once late updates are completed, and corrections are processed.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have ceased new connections since May 2019 as noted by the Auditor.		Cleared	Identified

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 ANZSIC codes was examined.

The registry list file as at 16/12/19 and AC020 trader compliance report for 01/02/19 to 16/12/19 were examined to check ANZSIC codes, including active ICPs with T99 series or blank ANZSIC codes.

To confirm the validity of the ANZSIC codes selected, I checked a diverse sample of 100 active ICPs across 48 different ANZSIC codes which were assigned to 0.1% of active ICPs or more.

Audit commentary

ANZSIC codes are checked and confirmed as part of the application process. Commercial ANZSIC codes are also checked in the pricing tool, named Switch Saver. Users are required to acknowledge whether the existing ANZSIC code is correct, and select a new ANZSIC code if it is indicated to be incorrect.

The validity of ANZSIC codes was checked using the AC020 report:

- no ICPs had blank ANZSIC codes,
- ICP 0009725850CNA35 had a T99 series ANZSIC code as the initial registry update failed and was not detected or corrected at the time of failure, but was updated manually on the registry during the audit,
- no ICPs have meter category three or higher and a residential ANZSIC codes; and
- eight ICPs have meter category two with a residential ANZSIC code of which two ICPs were confirmed to be residential and had the correct ANZSIC code applied, and six ICPs had incorrect ANZSIC codes applied:

ICP Identifier	Applied ANZSIC code	Customer Industry
0101101244LC43F	000000 (Residential)	Retail shop (clothing)
0376702249LC05D	000000 (Residential)	Sports club
0442494890LC4EC	000000 (Residential)	Early childhood education
0000946270TEABA	000000 (Residential)	Accommodation (chalets/cabins)
0000074078CE982	000000 (Residential)	Accommodation (motel)
0000161014TR80D	000000 (Residential)	Accommodation (hotel)

To confirm the validity of the ANZSIC codes selected, I checked a diverse sample of 100 active ICPs across 48 different ANZSIC codes which were assigned to 0.1% of active ICPs or more. Ten ICPs were found to have incorrect ANZSIC codes:

ICP Identifier	Applied ANZSIC code	Customer Industry
1001293710LC657	E329 (Other Construction Services)	Marketing/advertising agency
0006769586RN557	H440000 (Accommodation)	Café / record store
0378405713LCD5A	J55 (Motion Picture and Sound Recording Activities)	Sports club
0136558062LCA34	M692 (Architectural Engineering and Technical Services)	Software development
0000005531UN77E	000000 (Residential)	Design print and media services
0463964454LCE94	L672 (Real Estate Services)	Residential
1001243541LC44C	C25 (Furniture and Other Manufacturing)	Chain and rigging supplies
0237984008LC2CC	F33 (Basic Material Wholesaling)	Electronic goods rental and repair
1001138404UN15B	S95 (Personal and Other Services)	Other Heavy and Civil Engineering Construction
0363662324LC91F	S951 (Personal Care Services)	Screen printing

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.6</p> <p>With: Clause 9 (1(k) of Schedule 11.1</p> <p>From: 16-Dec-19</p> <p>To: 21-Jan-20</p>	<p>ICP 0009725850CNA35 temporarily had a T99 series ANZSIC code applied.</p> <p>Incorrect ANZSIC codes were assigned for at least 16 ICPs.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>
Audit risk rating	Rationale for audit risk rating
Low	<p>Controls are moderate, because all ANZSIC codes are checked upon customer sign up but there was evidence that some ANZSIC codes are incorrectly recorded.</p> <p>There is no impact on other participants or settlement, but there is a minor impact on the Authority because this information is used for reporting.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
We identified that this was principally from third-party sales channels where incorrect ANZISC codes were selected, and we will be providing refresher training to those agents to remind them of the importance of correct ANZSIC code selection.	04/2020	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

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

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

Audit observation

The process to manage unmetered load was examined. The registry list file as at 16/12/19 and AC020 trader compliance report for 01/02/19 to 16/12/19 were examined to identify any ICPs where:

- unmetered load is identified by the Distributor and none is recorded by Switch Utilities; and
- Switch Utilities' unmetered load figure does not match with the Distributor's figure (where it is possible to calculate this if the Distributor is using the recommended format) and the variance is greater than 0.1 kWh per day (0.1 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 0.1 kWh per day).

Audit commentary

Unmetered load data is not stored within the Energy database; the daily unmetered kWh is retrieved directly from the registry and imported into DART, which calculates the unmetered load submissions based on the daily unmetered kWh and number of days with "active" status recorded on the registry. Unmetered load is not billed by Switch Utilities, and solely unmetered ICPs are not supplied.

Registry notifications indicating changes to distributor unmetered load are not monitored, and regular reconciliations between trader and distributor unmetered load details are not completed. I have recommended that notifications of changes to distributor unmetered load are monitored, and daily unmetered kWh values are compared to the distributor values at least monthly in **section 2.1**.

Switch Utilities supplies 53 active ICPs with unmetered load indicated. 48 ICPs have standard unmetered load, and five ICPs have shared unmetered load.

Review of the AC020 report found:

- all unmetered ICPs have unmetered kWh recorded apart from SB ICPs, which correctly have unmetered kWh of zero recorded, and DUMI ICPs,
- no ICPs where the distributor had unmetered load recorded, but Switch Utilities did not,

- one ICP where the trader's daily kWh differed from the distributor's daily kWh by more than ± 0.1 kWh for which Switch Utilities plans to complete a site visit to confirm the correct daily unmetered kWh,

ICP	Unmetered Load Details - Trader	Unmetered Load Details - Distributor	Trader daily unmetered kWh	Daily unmetered kWh based on the distributor value (wattsxhours)/1000
0001951000TG7C9	0090;12.0; Private light	0168;12.0;Car park light - 150W HPS	1.08	2.016

- and two ICPs where the Switch Utilities had a daily unmetered load recorded, and no trader or distributor unmetered load details were recorded.

ICP	Daily unmetered kWh	Findings
0010426583EL500	6.9	A site visit confirmed that no unmetered load was connected. The incorrect value will be removed effective from the date of the contractor's visit, and corrected reconciliation data will be washed up.
1000007422BP18E	1	The daily unmetered kWh was inherited from the previous trader, and is believed to be correct. A recent site visit did not find any evidence to contradict this value, but unmetered load was not specifically checked as part of the site visit.

I repeat last year's recommendation to confirm the unmetered load details for 0001951000TG7C9 and 1000007422BP18E to maintain visibility:

Description	Recommendation	Audited party comment	Remedial action
Confirm unmetered load details	Confirm unmetered load and on hours for 0001951000TG7C9 and 1000007422BP18E, so the correct daily unmetered kWh can be calculated. Update the registry daily unmetered kWh as necessary.	We are scheduling site-visits for these sites to confirm unmetered load status.	Identified

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 02-May-17 To: 21-Jan-19	ICP 0010426583EL500 does not have unmetered load connected, but the daily unmetered kWh applied for submission and recorded on the registry is 6.9 kWh. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak, because there is currently no regular validation between the trader and distributor unmetered load details. This validation would have detected the discrepancy for ICP 0010426583EL500, which has been present since the ICP switched in on 02/05/17. The impact is low, and resulted in over submission of 2,518 kWh per annum. Once the data is corrected, revision submissions will be provided.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have raised a development item internally to trigger automatic validation events for internal teams to check unmetered load when a site with unmetered load is gained, and then every 12 months thereafter. This will appear in the Electricity Interface along with existing validation event queues.		06/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

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 process to manage unmetered load was examined. The registry list file as at 16/12/19 and AC020 trader compliance report for 01/02/19 to 16/12/19 were reviewed to determine compliance.

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

Audit commentary

Switch Utilities' Energy database will not allow more than one active customer per ICP for the same date range. Effective dates and expiry dates are used to record the period that a customer has responsibility for an ICP.

Unmetered load data is not stored within the Energy database; the daily unmetered kWh is retrieved directly from the registry and imported into DART, which calculates the unmetered load submission. Unmetered load is not billed by Switch Utilities, and solely unmetered ICPs are not supplied. If an ICP was set up without a meter in error, the missing meter register would be detected through billing validations because there would be no variable charges for the ICP.

The earliest "active" status date for each new connection was compared to the distributor's initial electrical connection date, and the MEP's certification date for all seven new connections. Two ICPs were confirmed to have incorrect "active" status event dates:

ICP	Applied active status event date	Correct active status event date
1002054403LC0FA	06/01/2019	07/01/19
1002051199LCFA9	28/07/2018	21/07/19

The AC020 report found that all ICPs with an initial electrical connection date populated had been made active.

A sample of 20 reconnections were checked to confirm that the correct status and date had been applied. All were correct except ICP 1002023505LC6A8 which was reconnected on 26/11/19 but had an "active" event date of 25/11/19. The incorrect date is also recorded as non-compliance in **section 2.1**.

Some late status changes to active are recorded as non-compliance in **sections 3.3** and **3.5**.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.8</p> <p>With: Clause 17 of Schedule 11.1</p> <p>From: 06-Jan-19</p> <p>To: 26-Nov-19</p>	<p>ICP 1002023505LC6A8 was reconnected on 26/11/19 but had an "active" event date of 25/11/19.</p> <p>Two newly connected ICPs had incorrect "active" status event dates applied.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>

Audit risk rating	Rationale for audit risk rating	
Low	<p>The controls are recorded as moderate, because a small number of accuracy exceptions occurred due to manual data entry errors.</p> <p>Switch Utilities ceased completing new connections during the audit period, and no new connections were completed after May 2019. The one reconnection with an inaccurate date will not result in under submission, because the reconnection event date was recorded one day too early.</p> <p>Submission does not occur unless the status for the period is “active”. Submission data is revised once late updates are completed, and corrections are processed.</p>	
Actions taken to resolve the issue		Completion date
We ceased adding new connections in May 2019.		Cleared
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 registry list file as at 16/12/19 and AC020 trader compliance report for 01/02/19 to 16/12/19 were reviewed to determine compliance.

The inactive status of “new connections in progress” is usually used for all new connections. The list file was examined to identify any ICPs that had been at the “inactive - new connection in progress” for more than 24 months, or with an initial energisation date populated.

The process to manage ICPs at the other inactive statuses was examined. A diverse sample of 35 status updates to inactive, including at least five for each status reason code, were checked for accuracy.

The findings in relation to the timeliness of updates to registry are recorded in **section 3.3**.

Audit commentary

Inactive status is only applied once a Switch Utilities approved contractor has confirmed that the ICP has been disconnected for situations where Switch Utilities requests the disconnection.

I reviewed a sample of 35 updates to inactive status, including at least five ICPs updates to each inactive status. I confirmed the status reason codes and event dates were correctly applied based on the paperwork provided at the time of the update.

All ICPs with an initial electrical connection date populated had been made active.

Six ICPs had been at “inactive - new connection in progress” status for more than 24 months. All related to new connections that were cancelled and have now been decommissioned.

Since August 2019, any ICPs with consumption during inactive periods have been directed to a work queue within the Electricity app. ICPs in the queue are checked to determine whether the consumption is genuine and whether reconnection paperwork has been received, and the status is updated as necessary. This process identifies “new” inactive consumption and I saw evidence that the queue is worked through and cleared daily.

Switch Utilities provided a list of 532 ICPs which had consumption recorded during inactive periods during the audit period. I checked a diverse sample of 15 ICPs with the highest, lowest and average consumption during the inactive period and found:

- two ICPs later switched to another retailer for the period in which the consumption occurred, indicating that the ICPs had been reconnected by the new trader,
- three ICPs were confirmed not to have any consumption during the inactive period (in some cases the report had identified inactive consumption by comparing actual and estimated readings),
- two ICPs had been reconnected and underwent status corrections,
- six ICPs had been reconnected, but reconnections had not been processed because reconnection paperwork was not processed when it was received, or had not been provided; and
- two ICPs did not have disconnection and/or reconnection reads entered, which made it appear that there was consumption during the “inactive” period.

Review of historic estimate in **section 12.11** found ICP 0099552570CNAB5 did not have a reconnection read entered, which resulted in the historic estimate process excluding some consumption which it had attributed to the inactive period.

I recommend that the report of ICPs with consumption recorded during inactive periods is reviewed to identify and correct historic “inactive” consumption which will not be detected by the new process implemented in August 2019:

Description	Recommendation	Audited party comment	Remedial action
Inactive consumption	<p>Review ICPs with historic consumption during inactive periods to confirm whether the consumption is genuine and corrections are required.</p> <p>Ensure that disconnection and reconnection reads are consistently entered, so that boundary reads are present for use by the historic estimate calculation process.</p>	We have noted the auditors feedback potential areas of improvement for the report and will look to adjust it accordingly.	Identified

Some late status updates to “inactive” status are recorded as non-compliance in **section 3.3**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.9 With: Clause 19 Schedule 11.1 From: 25-Apr-19 To: 15-May-19	At least nine ICPs with inactive consumption did not have status corrections processed, or disconnection and/or reconnection reads had not been entered resulting in consumption being recorded in inactive periods. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	Controls are rated as weak, because they are not sufficient to identify and correct all instances of inactive consumption during the audit period. The audit risk rating is medium based on the kWh differences identified. The report of ICPs with inactive consumption during the audit period indicated that -11,794 kWh of consumption was attributed to the 532 ICPs on the report, indicating potential over submission.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have identified that the cause of these discrepancies is primarily a lack of resourcing in this area. We are cross-training our consumer provisioning team to assist with the management of field services reports and will be providing further guidance on the need to enter either disconnection/reconnection readings or permanent estimates.		05/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

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

Code reference

Clause 15 Schedule 11.1

Code related audit information

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

Audit observation

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

I analysed the registry list of ICPs with "new" or "ready" status.

Audit commentary

Switch Utilities updates the ICP to “inactive – new connection in progress” status once the distributor has applied “ready” status.

Any requests from distributors on ICPs which have been at “new” or “ready” status for more than two years are investigated and responded to when they are received. One of these queries had been received during the audit period, and a response was provided confirming that the ICP was no longer required.

Analysis of the registry list found no ICPs had “new” status for more than two years and two ICPs had “ready” status for more than two years.

- The application for ICP 0000020599EABBF had been declined by Switch Utilities.
- Whether the ICP 0000041351HB992 was required was queried by the distributor during the audit period, and Switch Utilities confirmed that it was no longer required.

Audit outcome

Compliant

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

Code reference

Clause 2 Schedule 11.3

Code related audit information

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

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

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

Audit observation

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

Audit commentary

Switch Utilities' processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met and a five day cool off period has passed. The withdrawal process is used if the customer changes their mind.

NTs are issued through the Energy database once the application has been approved. Customers sign up through a website and provide the information required to produce the NT, including whether they are transferring between retailers at their existing address, or moving into a new address. This information is used to determine the correct switch type, with transfer switch type applied where a customer is transferring between retailers at an address. If a customer is adding electricity as a service to an address where they already receive other services, the process automatically recognises that the switch is a transfer.

Review of the event detail report found 15,130 transfer switch NTs were issued. I checked the metering category for the 12,161 ICPs which were present on the registry list with history and confirmed that none had a metering category of three or above.

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

Audit outcome

Compliant

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

Code reference

Clauses 3 and 4 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The event detail report for 01/02/19 to 16/12/19 was reviewed to:

- identify AN files issued by Switch Utilities during the audit period;
- assess compliance with the requirement to meet the setting of event dates requirement; and
- a sample of two (or all) 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.

Audit commentary

AN files are generated by the Energy database, and a hierarchy is used to determine the correct AN response code. AA (acknowledge and accept) is only used where none of the other codes apply. A sample of six ANs were checked for accuracy, and the response codes were correctly applied.

Event dates set by losing trader must be no more than 10 business days after receipt of an NT file. Over a 12-month period 50% of event dates must be within five business days.

The event detail report was reviewed for all 5,715 transfer ANs to assess compliance with the setting of event dates requirements.

- 5,591 ANs (97.8%) had proposed event dates within five business days of the NT receipt date.
- 100% of ANs had proposed event dates within ten business days of the NT receipt date.

AN timeliness is managed using the Energy database and its interface the Electricity App. Files are generated automatically on NT receipt unless an exception is identified, and directed to a user via the Electricity App for resolution. The switch breach report recorded one late transfer AN file, which was not a genuine breach.

Audit outcome

Compliant

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report for 01/05/19 to 29/11/19 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 five records. The content checked included:

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

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

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

Audit commentary

CS timeliness

CS timeliness is managed using the Energy database and its interface the Electricity App. CS files are generated within five business days of the event date, unless an exception is identified and directed to a user via the Electricity App for resolution.

The switch breach report recorded seven late CS files for transfer switches. One was a genuine breach, and was delayed because the further information was required before the CS could be issued. The switch coincided with a meter change, and the switch was held while paperwork was obtained and the meter change was processed.

CS content

CS files are generated by the Energy database, using its stored meter, reading, and consumption information.

The Registry Functional Specification v22.21 states that average daily consumption within the CS file should be the average kWh per day for the last read period. Average daily consumption in the CS file is based on the Energy database's "average daily estimate" of consumption over the previous month, which is also used to create billing estimates. Where there is insufficient information to calculate an "average daily estimate" and a CS is required, the incoming CS value is provided. While the "average

daily estimate” is not technically consumption for the last read to read period, it provides a reasonable indication of the average daily consumption.

Analysis average daily kWh provided in CS files on the event detail report identified:

Estimated daily kWh	Count of transfer CS files	Findings
Negative	0	
Zero	60	A sample of five values were checked. For one ICP the average daily kWh reflected the average daily consumption for the last read to read period. For the other four ICPs the average daily consumption did not reflect the average daily consumption for the last read to read period and the difference was between +10 and +70 kWh.
More than 200 kWh	143	The five highest estimated daily kWh values were checked. For one ICP the average daily kWh reflected the average daily consumption for the last read to read period. For the other four ICPs the average daily consumption did not reflect the average daily consumption for the last read to read period and the difference was between -338 and +62 kWh.

The content of a sample of five transfer CS files were checked. I found that all CS content was correct except the average daily kWh for four of the five files, because the “average daily estimate” of consumption over the previous month is applied, instead of the average for the last read to read period.

I did not find any evidence that the issues relating to the consistent incorrect application of event dates and last actual read dates identified during the previous audit are still present. For some of the switch move CS files sampled, the last actual read date was applied as the switch event date in error. This is recorded as non-compliance and discussed further in **section 4.10**. No incorrect last actual read dates were identified for the transfer switches checked during the audit.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.3</p> <p>With: Clause 5 of Schedule 11.3</p> <p>From: 11-Apr-19</p> <p>To: 13-Nov-19</p>	<p>One late CS file.</p> <p>Incorrect average daily consumption for at least 12 ICPs.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Three times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>

Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are moderate. All CS content was correct except for the average daily consumption, which was based on consumption for the past month instead of for the last read to read period. One CS file was delayed by a meter change.</p> <p>The impact on settlement and participants is minor, therefore the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
We are going to modify our CS file average daily consumption input to use the last read-to-read as indicated by the auditor – it previously used the average consumption in the previous month which we had felt was more accurate due to drops in consumption after move-out on smart metered sites.		06/2020	Identified
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 registry manager giving the gaining trader written notice of having received information about the switch completion, provide to the losing trader a changed switch event meter reading supported by two validated meter readings.

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

Audit observation

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

The event detail report for 01/02/19 to 16/12/19 was analysed to identify all read change requests and acknowledgements during the audit period. 43 RRs and 140 ACs were issued by Switch Utilities for transfer switches. A sample of ten RR files and ten AC files were checked.

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

The switch breach report for the audit period was reviewed.

Audit commentary

RR and AC files are issued from the Energy database, and users provide the information necessary to complete the process using the Electricity App. Workflows are managed within the Energy database and Electricity app, and the process to update the database to reflect the outcome of the RR process is automated.

When a high or low read is identified through the read validation process for a new switch in, the ICP is investigated to determine whether a read change is required. Switch Utilities will issue an RR file once they have obtained readings which confirm that the difference between the event reading and expected reading on the event date is more than ± 200 kWh. RR files received from other traders are directed to an Electricity App work queue and individually considered before the AC is issued.

Switch Utilities issued 43 RR files for transfer switches. 35 were accepted and eight were rejected. A sample of ten RRs were checked, including five accepted and five rejected files. In all cases there was a genuine reason for Switch Utilities' RR, the file content was accurate, and the reads recorded in Switch Utilities' system reflected the outcome of the RR process. The RRs for 0000426550TP490 (24/05/19) and 0000845315NVB5A (13/11/19) were supported by unvalidated customer readings instead of validated actual readings. Switch Utilities' internal policy allows for RRs to be supported by one customer read and one contractor or AMI read, and this practice is non-compliant.

Switch Utilities issued 140 AC files for switch moves. 127 were accepted and 13 were rejected. A sample of ten ACs were checked, including five accepted and five rejected files. All rejections were for valid reasons, and one switch was later withdrawn. The Energy database reflected the outcome of the RR process.

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

The switch breach report recorded three late RR files and one late AC file for transfer switches. One RR and one AC were genuinely late. The RR was late because there was a delay in obtaining actual reads to confirm that the CS reading was incorrect, and the AC was late because there was a delay in clearing the work queue due to high workloads.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 6(1) and 6A Schedule 11.3 From: 25-Sep-19 To: 10-Dec-19	One late RR file. One late AC file. The RRs for 0000426550TP490 (24/05/19) and 0000845315NVB5A (13/11/19) were supported by unvalidated customer readings instead of validated actual readings. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as moderate, because:</p> <ul style="list-style-type: none"> in most cases the sampled RRs were supported by two validated actual readings, but Switch Utilities' policy allows RRs to be supported by one validated actual and one customer reading, and most RR and AC files were issued on time, and the delays were caused by waiting for information, or a temporary issue with workloads which delayed processing of some AC files. <p>The impact is low because, the event readings were correctly recorded, the read type difference has no impact on submission, and the customer readings appeared reasonable.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
We will continue to monitor our compliance in this area, but believe that the two instances were one-off occurrences and not systematic.		Monitoring	Identified
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 event detail report for the period from 01/02/19 to 16/12/19 was reviewed to identify all read change requests and acknowledgements where clause 6(2) and (3) of schedule 11.3 applied.

Audit commentary

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

Review of the event detail report found 61 RR files were issued to Switch Utilities within five business days of switch completion by traders using a half hour profile. Of those, 54 were accepted and seven were rejected. Six were validly rejected because the ICPs switched out on actual readings, and 1001150629CK277 was invalidly rejected because the correct process was not followed, and no correspondence was received from the other trader.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.5 With: Clause 6(2) and (3) Schedule 11.3 From: 26-Jul-19 To: 26-Jul-19	The RR for 1001150629CK277 was invalidly rejected. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	There are processes in place to support compliance, but they did not operate as intended for one of the 61 AC files. The risk rating is low, the Energy database reflected the outcome of the RR process, and the RR was not reissued.		
Actions taken to resolve the issue		Completion date	Remedial action status
We acknowledge the incorrect rejection of the RR and believe that this was the result of human error on one occasion and is not a systematic problem.		Monitoring	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

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

Disputes were discussed with Switch Utilities.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.3

Code related audit information

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

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

In the event of a switch move, the gaining trader must advise the registry manager of a switch and the proposed event date no later than 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 typical sample of five ICPs were checked to confirm that these were notified to the registry within two business days, and that the correct switch type was selected.

Audit commentary

Switch Utilities’ processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met and a five day cool off period has passed. The withdrawal process is used if the customer changes their mind.

NTs are issued through the Energy database once the application has been approved. Customers sign up through a website and provide the information required to produce the NT, including whether they are transferring between retailers at their existing address, or moving into a new address. This information is used to determine the correct switch type, with switch move applied where a customer is moving into a new address.

Review of the event detail report found 7,407 switch move NTs were issued. I checked the metering category for the 6,784 ICPs which were present on the registry list with history and confirmed that none had a metering category of three or above.

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

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

The event detail report for 01/02/19 to 16/12/19 was reviewed to:

- identify AN files issued by Switch Utilities during the audit period;
- assess compliance with the requirement to meet the setting of event dates requirement; and
- a sample of two (or all) 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. All genuinely late AN files, and the ten latest genuinely late CS files were checked.

Audit commentary

AN content

AN files are generated by the Energy database, and a hierarchy is used to determine the correct AN response code. AA (acknowledge and accept) is only used where none of the other codes apply. A sample of six ANs were checked for accuracy, and the response codes were correctly applied.

The event detail report was reviewed for all 5,612 switch move ANs to assess compliance with the setting of event dates requirements:

- all had proposed event dates within ten business days of NT receipt; and
- 253 ANs (4.5%) had AN proposed event dates the day before the gaining trader's proposed event date; a sample of ten ANs were checked, and I found there was a temporary issue where the AN proposed event date was incorrectly being set due to a time zone discrepancy in the Energy database (GMT instead of GMT + 12). All 253 affected files were all issued between 31/07/19 and 15/08/19, and I confirmed that a system fix was released in August 2019.

AN and CS timeliness

AN and CS timeliness is managed using the Energy database and its interface the Electricity App. AN files are generated automatically on NT receipt, and CS files are generated within five business days of AN receipt, unless an exception is identified and directed to a user via the Electricity App for resolution.

The switch breach report was reviewed to determine whether switch move AN and CS files were issued on time. Two late AN files and 474 late CS files were recorded for switch moves.

- Only one of the late AN files was a genuine breach. The ICP had been transferred to a vacant customer on the same day that the switch had been requested for, creating an error. The file

was issued one business day late, because the ICP had to be investigated and removed from the vacant account before the AN could be issued.

- 73 of the late CS files were genuine breaches. I checked the ten latest files and found they were delayed because further information or correction was required before the CS could be issued. In most cases the ICP had been directed to users via the Electricity app, and there was a delay in resolving the issue preventing the file from being created. Typically this occurred where the switch coincided with a meter change, and the switch was held while paperwork was obtained and the meter change was processed. There were also some delays for HHR sites with category 2 meters being switched as NHH ICPs. Before the changes to automate HHR switches, where errors occurred, an exception would not be generated and directed to a user in the Electricity App. These exceptions were instead identified through monitoring of the switch breach report which sometimes resulted in delays in processing.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.8</p> <p>With: Clause 10(1) Schedule 11.3</p> <p>From: 02-Apr-19</p> <p>To: 01-Oct-19</p>	<p>One late switch move AN file.</p> <p>73 late switch move CS files.</p> <p>253 ANs had proposed event dates before the requested event date, because of a temporary system issue for AN files between 31/07/19 and 15/08/19.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Three times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>
Audit risk rating	Rationale for audit risk rating
Low	<p>Switch Utilities' controls are now strong:</p> <ul style="list-style-type: none"> • the HH switch process has been automated and exceptions for category 2 ICPs are not expected to occur. The other delays were largely caused by late receipt of paperwork; and • the time zone discrepancy which temporarily resulted in incorrect AN event dates has been resolved. <p>This has no direct impact on reconciliation hence audit risk rating is low. All the late files were processed within 22 business days of the event date, and switches were completed as required.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
<p>We implemented new automated half hourly switching processes which have resolved the issue related to late half hourly files.</p> <p>We have made a number of improvements and bugfixes to our switching application to attempt to reduce the frequency of file generation failures.</p> <p>The most common cause was delayed processing of meter changing, and we anticipate that our previously mentioned cross-training of consumer provisioning teams to improve field service process timeliness will assist in reducing non-compliance here.</p>	05/2020 (cross-training)	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
Various code-level improvements and bugfixes to our switching application to attempt to reduce the frequency of file generation failures.	Completed (On-going)	

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

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

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

Audit observation

An event detail report for 01/02/19 to 16/12/19 was reviewed to identify AN files issued by Switch Utilities during the audit period, and assess compliance with the setting of event dates requirements.

Audit commentary

Analysis found all 5,612 switch move ANs had a valid switch response code.

253 ANs (4.5%) had AN proposed event dates the day before the gaining trader's proposed event date. Switches were completed as required by this clause:

- 241 of the affected switches were completed using the proposed AN event date as the event date, in compliance with this clause,
- ten of the affected switches were completed using the NT proposed event date as the event date, as requested by the gaining trader; and
- two switches were withdrawn due to customer error before they could be completed.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report for 01/02/19 to 16/12/19 was reviewed to 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 five records. The content checked included:

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

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

Audit commentary

CS files are generated by the Energy database, using its stored meter, reading, and consumption information.

The Registry Functional Specification v22.21 states that average daily consumption within the CS file should be the average kWh per day for the last read period. Average daily consumption in the CS file is based on the Energy database's "average daily estimate" of consumption over the previous month, which is also used to create billing estimates. Where there is insufficient information to calculate an "average daily estimate" and a CS is required, the incoming CS value is provided. While the "average daily estimate" is not technically consumption for the last read to read period, it provides a reasonable indication of the average daily consumption.

Analysis estimated daily kWh provided in CS files on the event detail report identified:

Estimated daily kWh	Count of switch move CS files	Findings
Negative	0	
Zero	81	A sample of six values were checked. For three ICPs the average daily kWh reflected the average daily consumption for the last read to read

Estimated daily kWh	Count of switch move CS files	Findings
		period. For the other three ICPs the average daily consumption did not reflect the average daily consumption for the last read to read period and the difference was between +13 and +27 kWh.
More than 200 kWh	39	The five highest estimated daily kWh values were checked. For all the ICPs the average daily consumption did not reflect the average daily consumption for the last read to read period and the difference was between -154 and -1644 kWh. The larger differences were caused by ICPs which were vacant for their last read to read period, but were occupied for part of the period used to calculate their "average daily estimate".

The content of a sample of five switch move CS files were checked. I found that all CS content was correct except:

- the average daily kWh for all five files, because the "average daily estimate" of consumption over the previous month is applied, instead of the average for the last read to read period, and
- the last actual read date was incorrect for two ICPs:

ICP	Event date	CS last actual read date	Correct last actual read date	Comment
0001422050PC103	9/12/19	01/11/19	29/10/19	The read on 01/11/19 was an internal transfer read.
0000455529TEF42	01/12/19	01/12/19	30/11/19	There was an actual read on 30/11/19 and no actual or estimated read on 01/12/19.

Switch Utilities intends to investigate to determine why the incorrect last actual read dates were applied, and has already completed analysis to identify other similar examples. Corrective action will be determined once the cause of the issue is identified. I did not find any evidence that the issues relating to the consistent incorrect application of event dates and last actual read dates identified during the previous audit are still present.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 4.10</p> <p>With: Clause 11 of Schedule 11.3</p> <p>From: 03-Apr-19</p> <p>To: 06-Dec-19</p>	<p>Incorrect average daily consumption for at least 13 ICPs.</p> <p>Incorrect last actual read dates for two ICPs.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Three times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>

Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are moderate. All CS content was correct except for the average daily consumption, which was based on consumption for the past month instead of for the last read to read period, and last actual read dates for two ICPs.</p> <p>The impact on settlement and participants is minor, therefore the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
As noted in the previous sections we have taken on the auditors feedback on daily consumption calculation methodologies and will modify our application accordingly.		05/2020	Identified
We have identified the cause of the incorrect actual read dates and a bug fix has been raised with our development team.			
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 four calendar months of the date the registry manager gives the gaining trader written notice of having received information about the switch completion, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by two validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):*
 - *advise the gaining trader if it does not accept the switch event meter reading and the losing trader and the gaining trader must resolve the dispute in accordance with the disputes procedure in clause 15.29 (with all necessary amendments) (clause 12(3)(a)); or*
 - *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader (clause 12(3)(b)).*

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

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

Audit observation

The event detail report for 01/02/19 to 16/12/19 was analysed to identify all read change requests and acknowledgements during the audit period. A sample of ten RR files and ten AC files were checked.

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

The switch breach report for the audit period was reviewed.

Audit commentary

RR and AC files are issued from the Energy database, and users provide the information necessary to complete the process using the Electricity App. Workflows are managed within the Energy database and Electricity app, and the process to update the database to reflect the outcome of the RR process is automated.

When a high or low read is identified through the read validation process for a new switch in, the ICP is investigated to determine whether a read change is required. Switch Utilities will issue an RR file once they have obtained readings which confirm that the difference between the event reading and expected reading on the event date is more than ± 200 kWh.

RR files received from other traders are directed to an Electricity App work queue and individually considered before the AC is issued.

Switch Utilities issued 71 RR files for switch moves. 45 were accepted and 26 were rejected. A sample of ten RRs were checked, including five accepted and five rejected files. In all cases there was a genuine reason for Switch Utilities' RR, the file content was accurate, and the reads recorded in Switch Utilities' system reflected the outcome of the RR process. The RRs for 0000946432TEE9C (18/07/19) and 0000219844UN1DD (24/08/19) were supported by unvalidated customer readings instead of validated actual readings. Switch Utilities' internal policy allows for RRs to be supported by one customer read and one contractor or AMI read, and this practice is non-compliant.

Switch Utilities issued 206 AC files for switch moves. 204 were accepted and 2 were rejected. A sample of ten ACs were checked, including five accepted and both rejected files. All rejections were for valid reasons, and one switch was later withdrawn. The Energy database reflected the outcome of the RR process. For ICP 0000166984UN05B (19/08/19) the read type was recorded as actual instead of estimate, because an actual read matching the estimated agreed read was received on the same day.

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

The switch breach report recorded five late RR files and seven late AC files for switch moves. Four of the RR files and all seven of the AC files were genuinely late. The RRs were late because there was a delay in obtaining actual reads to confirm that the CS reading was incorrect, or the switches were backdated. The ACs were late because there was a delay in clearing the work queue due to high workloads.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.11</p> <p>With: Clause 12 of Schedule 11.3</p> <p>From: 04-Mar-19</p> <p>To: 26-Nov-19</p>	<p>Four late RR files.</p> <p>Seven late AC files.</p> <p>The RRs for 0000946432TEE9C (18/07/19) and 0000219844UN1DD (24/08/19) were supported by unvalidated customer readings instead of validated actual readings.</p> <p>For ICP 0000166984UN05B (19/08/19) the agreed switch reading was recorded as actual, when it was an estimate, because an actual reading was received on the same day.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as moderate, because:</p> <ul style="list-style-type: none"> in most cases the sampled RRs were supported by two validated actual readings, but Switch Utilities' policy allows RRs to be supported by one validated actual and one customer reading, most RR and AC files were issued on time, and the delays were caused by waiting for information, and a temporary issue with workloads which delayed processing of some AC files; and one agreed switch reading was recorded with an incorrect type, because an actual read with same value existed on the same day. <p>The impact is low because, the event readings were correctly recorded, the read type difference has no impact on submission, and the customer readings appeared reasonable.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
We are providing further training to our teams on the use of unvalidated customer readings and the requirement to support all read changes by at least one contractor reading. We are expecting that changes to internal resourcing previously described will assist in reducing the frequency of late AC files.		04/2020	Identified
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 14 Schedule 11.3

Code related audit information

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

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

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

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

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

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

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

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

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

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

Audit observation

The switch gain process was examined to determine when Switch Utilities deem all conditions to be met. All HH NTs were checked to confirm whether they were notified to the registry within three business days.

HH NTs on the event detail report were matched to the metering information on the meter event details report to confirm whether the correct switch type was selected.

Audit commentary

HH NTs are issued through the Energy database once the application has been approved.

Switch Utilities issued one HH NT, which had metering category 4 and was sent on the day the application was approved.

Review of switch move and transfer NTs confirmed that none of the 18,945 NTs checked had a metering category of 3 or higher.

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The event detail report for 01/02/19 to 16/12/19 was analysed to:

- identify AN files issued by Switch Utilities during the audit period;
- all AN response codes were reviewed to determine whether they had been correctly applied; and
- assess compliance with the timeliness requirements.

The switch breach report was examined.

Audit commentary

Prior to 18/09/19, HH ANs were sent manually using the registry web interface. ICPs requiring a HH AN to be generated were identified by monitoring the switch breach report.

Since 18/09/19, the HH AN process has been automated through the Energy database, and I viewed system release documents confirming this.

The switch breach report recorded six late AN files for HH switches. Five of the late files occurred before the process was automated, and one occurred around the time the process was automated. The late files occurred because the manual controls at the time were not operating as expected, and the new automated process was being refined. These issues are not expected to recur now that the new automated process has been established.

The event detail report was reviewed for all 28 HH ANs to determine the accuracy of AN codes applied, and all codes were found to be accurate.

Audit outcome

Compliant

Non-compliance	Description
Audit Ref: 4.13 With: Clause 15 Schedule 11.3 From: 26-Apr-19 To: 26-Sep-19	Six late AN files. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating	
Low	<p>The controls are recorded as strong, because the HH process is now automated and there have been no late HH ANs since September 2019.</p> <p>The impact on settlement and participants is minor, as all the files were provided between one and seven business days late. The audit risk rating is low.</p>	
Actions taken to resolve the issue		Completion date
We have automated the HH switching process.		Completed
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 HH switching process was examined. The switch breach history report for the audit period was reviewed to identify late CS files.

Audit commentary

HH CS files are issued through the Energy database once the AN is received.

One CS file was issued during the audit period, and the content was confirmed to be accurate.

The switch breach history report did not record any late HH CS files.

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)):*
 - o *the participant identifier of the trader making the withdrawal request (clause 18(c)(i));*
 - and*
 - o *the withdrawal advisory code published by the Authority. (clause 18(c)(ii))*
- *within 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 two business days after receiving notice from the registry manager in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16 (clause 18(f))*

Audit observation

An event detail report for 01/02/19 to 16/12/19 was reviewed to:

- identify all switch withdrawal requests issued by Switch Utilities, the content of a sample of at least two ICPs from the event detail report for each withdrawal code (or all if less than two were available) were checked using the typical sampling methodology, including 12 withdrawal requests rejected by other traders;
- identify all switch withdrawal acknowledgements issued by Switch Utilities, and a sample of five rejections were checked; and
- confirm timeliness of switch withdrawal requests, as this is not currently being identified in the switch breach report.

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

Audit commentary

NW and AW files are issued from the Energy database, and users provide the information necessary to complete the process using the Electricity App. Workflows are managed within the Energy database and Electricity app.

74 (4.1%) of the 1,793 NWs were issued more than two calendar months days after the event date. 30 of the late files had withdrawal reason code “wrong premises”, and I note that this issue often does not become apparent for an extended period after a switch completes. A sample of the ten latest NWs were checked and found to be delayed while Switch Utilities confirmed that a NW was required.

A sample of at least two NWs per withdrawal reason code were checked. File content was confirmed to be accurate except for 0006178600RNAB7 (16/09/19) which was sent with withdrawal reason code “wrong switch type” instead of “wrong premises”, and 0026169175WE3AA (20/07/19) which had a withdrawal sent in error. For both ICPs the withdrawal requests were rejected by the other trader and there was no impact.

863 (19%) of the 4,494 AWs issued by Switch Utilities were rejections. I reviewed a sample of five rejections by Switch Utilities, and confirmed they were rejected based the information available at the time the response was issued.

The switch breach report recorded:

- 63 late AWs, all of which were genuinely one to four business days late, because there was a delay in clearing the work queue due to high workloads,
- nine late NWs, none of which were genuine breaches, and
- two late withdrawal cycle resolutions, one of which was a genuine breach - the files were late because there was a delay in clearing the work queue due to high workloads.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 4.15</p> <p>With: Clauses 17 and 18 of Schedule 11.3</p> <p>From: 03-May-19</p> <p>To: 19-Nov-19</p>	<p>63 late AW files.</p> <p>One late withdrawal cycle resolution.</p> <p>0006178600RNAB7 (16/09/19) was sent with withdrawal reason code “wrong switch type” instead of “wrong premises”.</p> <p>0026169175WE3AA (20/07/19) had a withdrawal sent in error.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are moderate. Workflows are automated but there are sometimes delays in processing files during periods with high workloads. One withdrawal was sent with an incorrect code, and one withdrawal was sent in error due to data processing errors.</p> <p>The impact on other participants is minor, therefore the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
As noted in previous sections, we believe cross-training with additional agents in the consumer provisioning team will assist in the reduction of the frequency of late files, these issues were confirmed to be workload related.		05/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

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

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

Audit observation

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

Audit commentary

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

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.

Winback processes were discussed. The event detail report for 01/02/19 to 16/12/19 was analysed to identify all withdrawn switches with a CX code applied prior to the switch completion date for any switch save protected retailer.

Audit commentary

Switch Utilities has been a switch save protected retailer since 01/03/17, and enticements to remain with Switch Utilities are not normally offered.

Four NWs with the CX (customer cancellation) withdrawal reason code which were requested before the switch was completed were identified. The customer for ICP 0000119574UNF99 was offered an account credit to remain with Switch Utilities and an NW was issued, but the other trader rejected the request and the switch completed as requested. The customer switched back to Switch Utilities two weeks later.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.17 With: Clause 11.15AA to 11.15AB From: 16-Sep-19 To: 16-Sep-19	Switch Utilities is a save protected retailer, and an account credit was offered as an enticement to remain a customer before the switch was completed for ICP 0000119574UNF99. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are strong, policies are in place to prevent enticements from being offered, but they were not followed in one instance. The audit risk rating is low. One switch was affected, and the switch completed as requested.		
Actions taken to resolve the issue		Completion date	Remedial action status
We accept that a breach did occur in this instance, and this was the result of an error by a single agent. We are providing refresher training to the agents on their obligations under the Save Protection Scheme.		03/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

5. MAINTENANCE OF UNMETERED LOAD

5.1. Maintaining shared unmetered load (Clause 11.14)

Code reference

Clause 11.14

Code related audit information

The trader must adhere to the process for maintaining shared unmetered load as outlined in clause 11.14:

11.14(2) - The distributor must give written notice to the traders responsible for the ICPs across which the unmetered load is shared, of the ICP identifiers of the ICPs.

11.14(3) - A trader who receives such a notification from a distributor must give written notice to the distributor if it wishes to add or omit any ICP from the ICPs across which unmetered load is to be shared.

11.14(4) - A distributor who receives such a notification of changes from the trader under (3) must give written notice to the registry manager and each trader responsible for any of the ICPs across which the unmetered load is shared.

11.14(5) - If a distributor becomes aware of any change to the capacity of a shared unmetered load ICP or if a shared unmetered load ICP is decommissioned, it must give written notice to all traders affected by that change as soon as practicable after that change or decommissioning.

11.14(6) - Each trader who receives such a notification must, as soon as practicable after receiving the notification, adjust the unmetered load information for each ICP in the list for which it is responsible to ensure that the entire shared unmetered load is shared equally across each ICP.

11.14(7) - A trader must take responsibility for shared unmetered load assigned to an ICP for which the trader becomes responsible as a result of a switch in accordance with Part 11.

11.14(8) - A trader must not relinquish responsibility for shared unmetered load assigned to an ICP if there would then be no ICPs left across which that load could be shared.

11.14(9) - A trader can change the status of an ICP across which the unmetered load is shared to inactive status, as referred to in clause 19 of Schedule 11.1. In that case, the trader is not required to give written notice to the distributor of the change. The amount of electricity attributable to that ICP becomes UFE.

Audit observation

The process to identify and monitor unmetered load was discussed. The registry list file as at 16/12/19 and AC020 trader compliance report for 01/02/19 to 16/12/19 were examined to identify any ICPs with shared unmetered load.

Audit commentary

Switch Utilities supplies five active ICPs with shared unmetered load, and no shared unmetered load discrepancies were identified.

The process to monitor existing ICPs for addition of unmetered load is discussed in **section 3.7**.

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

The AC020 trader compliance report for 01/02/19 to 16/12/19 was examined to identify all unmetered load over 3,000 kWh per annum.

Audit commentary

Switch Utilities supplies 53 ICPs with unmetered load indicated. All the ICPs have unmetered load under 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:*
 - o *the date the limit was calculated or estimated to have been exceeded*
 - o *the details of the corrective measures that the retailer proposes to take or is taking to reduce the unmetered load.*

Audit observation

The AC020 trader compliance report for 01/02/19 to 16/12/19 was examined to identify all unmetered load over 3,000 kWh per annum.

Audit commentary

Switch Utilities supplies 53 ICPs with unmetered load indicated. All the ICPs have unmetered load under 3,000 kWh per annum.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 15.3, Clause 15.37B

Code related audit information

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

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

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

Audit observation

The registry list file as at 16/12/19 was examined to identify any ICPs with distributed unmetered load.

Audit commentary

There are no distributed unmetered load ICPs.

Audit outcome

Compliant

6. GATHERING RAW METER DATA

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

Code reference

Clause 10.13, Clause 10.24 and Clause 15.13

Code related audit information

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

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

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

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

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

Audit observation

The registry list file as at 16/12/19, AC020 trader compliance report for 01/02/19 to 16/12/19, and meter event details reports were reviewed to determine compliance.

Processes for distributed generation were reviewed.

Audit commentary

Metering installations installed

All active, metered ICPs have an MEP, and at least one meter channel.

Switch Utilities' new connection process includes a check that metering is installed before electrical connection occurs, and that any unmetered load is quantified.

No ICPs have submission information determined by subtraction.

Distributed generation

Switch Utilities supplies 23 active ICPs with distributed generation recorded by the distributor.

Currently, Switch Utilities declines applications for distributed generation and usually requires customers who wish to install generation to switch to another retailer. Generation metering will only be installed where the distributor requires it, otherwise any generated energy is gifted.

Review of the AC020 report did not identify any ICPs with generation recorded by the distributor where Switch Utilities did not record a generation profile.

Review of the registry list and meter event details report found four ICPs with generation indicated by the distributor where Switch Utilities did not have injection flow metering and/or profiles compatible with generation installed. Switch Utilities confirmed that in all cases the generation was installed and the generated energy was to be gifted, but notification had not been provided to the reconciliation manager. ICP 0000292879WE5FA also has PV1 profile incorrectly recorded on the registry.

ICP	Install type	Generation capacity	Fuel Type	Meter flow direction(s)	Profile
0000158386UN338	B	6.4	other	X only	RPS
0000292879WE5FA	B	2	solar	X only	RPS PV1
0001418721UNA13	B	6.4	other	X only	RPS
0113877767LCF32	B	6.4	other	X only	RPS

Where generation profiles were recorded, they were consistent with the generation fuel type.

The previous audit found ICP 1001136673LC11F had import and export channels, but the HHR “I” flow volume was not submitted to the reconciliation manager. Switch Utilities advised that corrected data had been washed up through the revision process. To confirm this I checked the most recent revisions for August to October 2018 and confirmed that corrected I flow information had been provided.

Bridged meters

24 bridged meters were identified during the audit period. Energy was not quantified in accordance with the code during the bridged periods.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 6.1</p> <p>With: Clause 10.13, Clause 10.24 and 15.13</p> <p>From: 01-Mar-19</p> <p>To: 21-Jan-20</p>	<p>Notifications of gifting have not been provided to the RM for ICPs 0000158386UN338, 0000292879WE5FA, 0001418721UNA13 and 0113877767LCF32, and generation consumption is not measured or submitted.</p> <p>ICP 0000292879WE5FA has submission against the RPS profile only, but the RPS and PV1 profiles are recorded on the registry.</p> <p>24 bridged meters were identified during the audit period. Energy was not quantified in accordance with the code during the bridged periods.</p> <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Once</p> <p>Controls: Moderate</p> <p>Breach risk rating: 4</p>
Audit risk rating	Rationale for audit risk rating
Medium	<p>The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.</p> <p>The impact on settlement and participants is estimated to be medium based on the number and nature of exceptions identified, and because corrections for consumption during bridged periods do not consistently occur.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
<p>This non-compliance was the result of agents not having a clear understanding of process, as we had implemented a new bridged meter data loading interface during the previous audit period. We are now providing further training to those agents, along with the consumer provisioning team who will be assisting with these processes moving forward.</p> <p>Gifting notifications was an existing process, but had stopped after a change in resource performing the reconciliation function and we have provided further training to that agent on the gifting process, and will be updating our gifting records accordingly this month.</p>	04/2020	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

The NSP table was reviewed.

Audit commentary

Review of the NSP table confirmed that Switch Utilities is not responsible for any GIPs.

Audit outcome

Not applicable

6.3. Certification of control devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3)

Code reference

Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3

Code related audit information

The reconciliation participant must advise the metering equipment provider if a control device is used to control load or switch meter registers.

The reconciliation participant must ensure the control device is certified prior to using it for reconciliation purposes.

Audit observation

The registry list file as at 16/12/19 and AC020 trader compliance report for 01/01/19 to 16/12/19 were reviewed to determine compliance.

Audit commentary

Switch Utilities has only used the HHR, PV1 and RPS profiles, and control devices are not used for reconciliation purposes.

Audit outcome

Compliant

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

Processes relating to defective metering were examined.

Switch Utilities provided ten examples of defective meters. They were reviewed to determine whether the MEP was advised and if appropriate action was taken.

Information on defective meters during the audit period was requested from HHR agents.

Audit commentary

Defective meters are typically identified through the meter reading validation process, or from information provided by the MEP or customer. Upon identifying a possible defective meter, Switch Utilities raises a field services job to investigate.

No defective HHR meters were identified during the audit period.

Ten examples of potential defective NHH meters were provided and reviewed, and in all cases the MEP was notified of the fault by Switch Utilities.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

2(4) - The reconciliation participant must interrogate the meter at least once every maximum interrogation cycle.

2(5) - When electronically interrogating the meter the participant must:

- a) ensure the system is to within +/- 5 seconds of NZST or NZDST*
- b) compare the meter time to the system time*
- c) determine the time error of the metering installation*
- d) if the error is less than the maximum permitted error, correct the meter's clock*
- e) if the time error is greater than the maximum permitted error then:
 - i) correct the metering installation's clock*
 - ii) compare the metering installation's time with the system time*
 - iii) correct any affected raw meter data.**
- f) download the event log.*

2(6) – The interrogation systems must record:

- the time*
- the date*
- the extent of any change made to the meter clock.*

Audit observation

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.

All HHR data is collected by EDM I and AMS. NHH meter readings are received from AMS (for AMS and Smartco), Arc, FCLM, Metrix, and WASN as MEPs, and Wells as an agent.

Audit commentary

All information used to determine volume information is collected from the services interface or the metering installation by Switch Utilities, their agents, or the MEP. Fulfilment of the interrogation systems requirements, and clock synchronisation was examined as part of the MEP and agent audits.

Agents monitor clock synchronisation, and this is covered as part of their audits. Non-compliance is recorded in EDM I's agent audit relating to manual downloads for FCLM meters read using MV90. FCLM does not usually provide a screen shot confirming time differences for meters manually read using MV90, therefore EDM I is unable to compare the system time to the meter time as required by this clause.

Wells' data collection processes were reviewed as part of their agent audit in June 2019 and found to be compliant. I confirmed with Wells that there were no changes to their processes or systems since their June 2019 audit that could have a negative impact on Switch Utilities' compliance.

MEPs and agents advise Switch Utilities of clock synchronisation events, but this information is not consistently reviewed and actioned for NHH ICPs.

AMS and EDM I confirmed no HHR clock synchronisation events outside the acceptable thresholds occurred during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.5</p> <p>With: Clause 2 Schedule 15.2</p> <p>From: 01-Jun-18</p> <p>To: 21-Jan-20</p>	<p>FCLM does not usually provide a screen shot confirming time differences for meters which are manually read using MV90. If this information is not provided, EDM I is unable compare the system time to the meter time.</p> <p>Clock synchronisation events provided by MEPs are not consistently reviewed and actioned.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>HHR controls are rated as strong and the impact as low, because the issue only affects manual downloads for FCLM meters.</p> <p>NHH controls are rated as moderate, because any emailed events are likely to be actioned and it is rare for clock synchronisation events to affect NHH submission.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
We have noted the auditors feedback here. We have identified that the non-monitoring of clock-synchronisation events is due to workload related issues, and we believe the cross-training of the provisioning team to provide support will resolve this issue.		05/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined.

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

Processes for customer and photo reads were reviewed.

Audit commentary

Wells readings

Compliance is recorded in Wells' June 2019 audit report. I confirmed with Wells that there were no changes to their processes or systems since their June 2019 audit that could have a negative impact on Switch Utilities' compliance.

During manual interrogation, the meter register value is collected and entered into a hand-held device. This reading enters Switch Utilities' systems and is labelled as a reading, which denotes that it is a meter reading collected and validated by a meter reader.

Wells monitors meter condition, as required by schedule 15.2 and provides information on meter condition along with the daily reads, and monthly summary report containing missing seal and broken seal events. This meter condition information is imported into the Energy database, but is not routinely reviewed. Any emails or phone calls from Wells regarding meter condition issues are actioned.

Compliance is recorded because Wells is completing the required checks, and I confirmed that the meter condition issues identified by Wells (meter number differences due to meter changes, and a meter damaged by fire) had been appropriately resolved. I recommend that Switch Utilities reviews the meter condition information provided by Wells and resolves any issues that are identified.

Description	Recommendation	Audited party comment	Remedial action
Review of meter condition information provided by Wells	Review all meter condition information provided by Wells, and investigate and resolve any issues identified.	We note the auditors feedback which was communicated to the involved personnel during the audit and they have taken it onboard.	Identified

I checked a sample of ten readings provided by Wells and confirmed that they are recorded in the Energy Database, validated, and transferred to DART for use in the submission calculation process.

Customer and customer photo readings

Customer and photo readings are entered as "CR" customer readings, which I confirmed are ignored by the historic estimate calculation process. Customer readings are sometimes treated as supporting

readings for read renegotiation processes although they are not validated. This is recorded as non-compliance in **sections 4.4 and 4.11**.

I reviewed examples of customer supplied readings, and confirmed that all were correctly classified as customer readings.

In the rare event that customer readings are obtained by Wells, a no read is recorded, and the customer reading is inserted in the notes. No examples of this were available during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 6 Schedule 15.2

Code related audit information

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

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

Audit observation

The process of the application of meter readings was examined.

Audit commentary

NHH readings apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation except in the case of a switch event meter reading. Switch event meter readings apply to the end of the day prior to the event date for the losing trader and the start of the event date for the gaining trader as required by this clause.

All AMI systems have a clock synchronisation function, which ensures correct time-stamping. 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 and RR files was examined in **sections 4.3, 4.4, 4.10 and 4.11**, and switch event readings were found to be correctly applied. The issues with CS switch event readings relating to switch event date instead of Switch Utilities' last day of responsibility have been resolved.

I walked through the process for NHH to HHR and HHR to NHH meter changes. 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.

- For upgrades, the process is to "remove" the NHH meter from the registry and Energy database 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.
- The reverse applies for a downgrades, with the ICP treated as HHR all day on the date of the removal, with zeros populated until the end of the day and the NHH meter installed the following day.

Both a NHH and HHR meter cannot be “present” on the same day in the registry. Compliance is recorded because no upgrades or downgrades occurred during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was reviewed. Reporting on ICPs not read during the period of supply was examined.

Audit commentary

A validated meter reading must be obtained in respect of every meter register for every NHH metered ICP for which the participant is responsible, at least once during the period of supply to the ICP by the reconciliation participant, unless exceptional circumstances prevent this from occurring. This may be a validated meter reading at the time the ICP is switched to, or from, the reconciliation participant.

The NHH meter reading frequency guidelines published by the Electricity Authority define “exceptional circumstances” as meaning “circumstances in which access to the relevant meter is not achieved despite the reconciliation participant's best endeavours”. “Best endeavours” is defined as:

“Where a reconciliation participant failed to interrogate an ICP as a result of access issues, the reconciliation participant had made a minimum of three attempts to contact the customer, by using at least two methods of communication”.

26,887 (93.7%) of Switch Utilities’ 28,689 NHH settled ICPs have AMI or HHR metering installed. Most meters receive regular readings, and read attainment levels are high. AMI meters which are unread for more than 60 days are automatically moved to a Wells meter reading route, and the ICP will continue to record AMI readings if they are received.

The process for missed reads was examined.

- For Switch Utilities customers, a report of NHH ICPs which have not received readings is provided to the Network Operations Co-ordinator approximately every two months. The report contains information about the ICP, including notes on why the ICP is unread received from the meter reader if applicable. The Network Operations Co-ordinator adds any new ICPs to his master report, which is then reviewed focussing on the ICPs with the longest unread periods. Action taken is determined on a case by case basis, and may include issuing key packs, letters, emails, and attempting to contact the customer by phone.

- For other customers, there have been no read attainment processes in place.

New reports to improve read attainment compliance were implemented in late December 2019, which will identify legacy meters unread for more than 70 days, and smart meters unread for more than 40 days. Once procedures for these reports are finalised, staff will be trained on how to use these reports for all brands.

Switch Utilities provided reporting on ICPs not read during the period of supply, where the period of supply ended between 01/02/19 and 31/10/19. Review of the report confirmed that at least 122 ICPs had meters which were unread during the period of supply. I checked all seven ICPs supplied for more than 30 days which had unread meters, and found no action to obtain readings had been taken.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.8 With: Clause 7(1) and (2) of Schedule 15.2 From: 01-Jan-19 To: 30-Nov-19	122 ICPs were not read during the period of supply. The best endeavours requirement was not met for at least seven of these ICPs. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate, because they are not sufficient to ensure that a reading is received within the period of supply where the period is short or the brand is not Switch Utilities. Once implemented, the new meter reading attainment reports are expected to improve compliance for all customers. 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
We implemented new reporting during the audit period but the development took longer than anticipated so it was not ready by the time of this audit round. We expect that the use of this reporting and new processing will begin from the end of February.		03/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

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

21 unread ICPs on NSPs where less than 100% read attainment was achieved were reviewed to determine whether exceptional circumstances existed.

Audit commentary

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
Dec-18	213	15	18	99.91%
Jan-19	216	12	13	99.94%
Feb-19	215	9	27	99.88%
Mar-19	217	9	27	99.88%
Apr-19	216	10	32	99.87%
Jun-19	214	10	33	99.87%
Jul-19	213	11	34	99.87%
Aug-19	212	16	39	99.85%
Sep-19	211	13	37	99.86%

As discussed in **section 6.8**, there are processes in place to monitor read attainment, and attempt to resolve issues preventing read attainment for Switch Utilities customers. There are currently no processes in place for other brands, but new reports have recently been implemented and procedures are being developed.

21 unread ICPs on NSPs where less than 100% read attainment was achieved were reviewed. For 15 ICPs, I found that the best endeavours requirements were met. The best endeavours requirements were not met and exceptional circumstances did not exist for the other three ICPs.

I reviewed meter reading reports for December 2018 to April 2019 and June 2019 to September 2019, and confirmed that they met the meter reading frequency report requirements. The reports for April and June 2019 were submitted late due to a misunderstanding; staff had believed the reports needed to be submitted by the last day of the month, instead of the 20th business day.

Audit outcome

Non-compliant

Non-compliance	Description	
<p>Audit Ref: 6.9</p> <p>With: Clause 8(1) and (2) of Schedule 15.2</p> <p>From: 31-May-19</p> <p>To: 30-Nov-19</p>	<p>The best endeavours requirement was not met for at least three ICPs not read in the previous 12 months.</p> <p>Meter reading frequency reports were submitted to the Market Administrator late for April 2019 and June 2019.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>	
Audit risk rating	Rationale for audit risk rating	
Low	<p>The controls are recorded as moderate, because they are not sufficient to ensure that the best endeavours requirements will be met for all ICPs. Once implemented, the new meter reading attainment reports and processes are expected to improve compliance.</p> <p>Consumption will be estimated for settlement and the impact is expected to be low, based on read attainment being very close to 100% after 12 months.</p> <p>The late meter reading frequency reports have a low impact. The April 2019 report was three business days late, and the June 2019 report was two business days late.</p>	
Actions taken to resolve the issue		Completion date
<p>We have provided further guidance to the reconciliation analyst on the timing requirement of the meter reading frequency report (previously it was incorrectly understood to be due end of the calendar month).</p> <p>We anticipate the new meter reading reports we have completed development on will resolve the remaining issues in relation to read attainment monitoring as noted in previous sections.</p>		03/2020
Preventative actions taken to ensure no further issues will occur		Completion date
		Identified

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

is required to be reported into the reconciliation process. A validated meter reading is obtained at least once every four months for 90% of the non half hour metered ICPs.

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

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

Audit observation

The meter reading process was examined. Monthly reports for December 2018 to April 2019 and June 2019 to September 2019 were reviewed.

Ten unread ICPs on the NSPs where less than 90% read attainment was achieved in the previous four months were reviewed to determine whether 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	Total ICPs unread for 4 months	Overall percentage read
Dec-18	213	8	100	99.52%
Jan-19	216	5	85	99.60%
Feb-19	215	3	98	99.56%
Mar-19	217	2	92	99.61%
Apr-19	216	2	97	99.60%
Jun-19	214	3	89	99.65%
Jul-19	213	3	107	99.59%
Aug-19	212	3	127	99.52%
Sep-19	211	2	133	99.51%

As discussed in **section 6.8**, there are processes in place to monitor read attainment, and attempt to resolve issues preventing read attainment for Switch Utilities customers. There are currently no processes in place for other brands, but new reports have recently been implemented and procedures are being developed.

Ten unread ICPs on the NSPs where less than 90% read attainment was achieved in the previous four months were reviewed. For eight ICPs the best endeavours requirements were met, and for two ICPs the best endeavours requirements were not met and exceptional circumstances did not exist.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.10 With: Clause 9(1) and (2) of Schedule 15.2 From: 01-Aug-19 To: 30-Nov-19	The best endeavours requirement was not met for at least two ICPs not read in the previous four months. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate, because they are not sufficient to ensure that the best endeavours requirements will be met for all ICPs. Once implemented, the new meter reading attainment reports and processes are expected to improve compliance. Consumption will be estimated for settlement and the impact is expected to be low, based on read attainment being over 99.5% after four months.		
Actions taken to resolve the issue		Completion date	Remedial action status
We anticipate the new meter reading reports we have completed development on will resolve the remaining issues in relation to read attainment monitoring as noted in previous sections.		03/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

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 MEPs and Wells. 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 MEPs as part of their own audits.

I confirmed with Wells that there were no changes to their processes or systems since their June 2019 audit that could have a negative impact on Switch Utilities' compliance.

Audit outcome

Compliant

6.12. HHR data collection (Clause 11(1) Schedule 15.2)

Code reference

Clause 11(1) Schedule 15.2

Code related audit information

Raw meter data from all electronically interrogated metering installations must be obtained via the services access interface.

This may be carried out by a portable device or remotely.

Audit observation

All HHR data is collected by EDM I and AMS. The data collection requirements were reviewed as part of their agent audits.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDM I as part of their agent audits, and I confirmed that there have been no changes to their processes since their most recent 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

All HHR data is collected by EDM I and AMS. The interrogation data requirements were reviewed as part of their agent audits.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDM I as part of their agent audits, and I confirmed that there have been no changes to their processes since their most recent audits.

Audit outcome

Compliant

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

Code reference

Clause 11(3) Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

All HHR data is collected by EDM I and AMS. The interrogation log requirements were reviewed as part of their agent audits.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDM I as part of their agent audits, and I confirmed that there have been no changes to their processes since their most recent audits.

Audit outcome

Compliant

7. STORING RAW METER DATA

7.1. Trading period duration (Clause 13 Schedule 15.2)

Code reference

Clause 13 Schedule 15.2

Code related audit information

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

Audit observation

All HHR data is collected by EDM I and AMS. Trading period duration was reviewed as part of their agent audits.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDM I as part of their agent audits, and I confirmed that there have been no changes to their processes since their most recent audits.

Audit outcome

Compliant

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

Code reference

Clause 18 Schedule 15.2

Code related audit information

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

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

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

Audit observation

Processes to archive and store raw meter data were reviewed. The oldest raw meter data available was viewed, to confirm it is retained. Audit trails were reviewed in **section 2.4**.

Audit commentary

HHR

Compliance with this clause has been demonstrated by AMS and EDM I as part of their agent audits, and I confirmed that there have been no changes to their processes since their most recent audits.

NHH

Compliance is recorded in Wells' June 2019 audit report. I confirmed with Wells that there were no changes to their processes or systems since their June 2019 audit that could have a negative impact on Switch Utilities' compliance.

Raw reading data is retained indefinitely. I viewed NHH data from 2016.

Review of audit trails in **section 2.4** confirmed that reads cannot be modified without an audit trail being created. Access to modify readings is restricted through log on privileges.

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

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

Audit commentary

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

Audit outcome

Compliant

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

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

Code reference

Clause 19(1) Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

Processes for the correction of NHH meter readings were reviewed.

Audit commentary

Where errors are detected during read validation a check reading will be performed for manually read meters, or AMI readings for surrounding days will be checked. If an original meter reading cannot be validated it will be recorded as an unvalidated reading, and ignored by the switching, billing, and reconciliation processes.

Defective meters

When a stopped meter is detected, it is replaced. Consumption on the new meter is monitored for two weeks and then used to calculate an estimated closing reading which captures consumption during the stopped period. The corrected data is transferred to DART with the next extract, each extract contains all reads used by the reconciliation process for each ICP.

Ten examples of potential defective meters were provided and reviewed:

- five were AMI meter communication faults, and no corrections were required,
- two were meter replacements requested by the customer or MEP, and no defects requiring correction were identified,
- ICP 0426204034LC686's meter was not recording consumption following an electrical fault, no removal reading was provided due to damage to the meter and a closing read was appropriately estimated,
- ICP 0006980139RNFF1's meter was not recording consumption and no correction was processed, the removal readings applied matched the meter removal paperwork, and consumption during the faulty period was not estimated; and
- ICP 0000066362TRFD0's meter was bridged, and no correction was processed, bridged meters are discussed further below.

Bridged meter corrections

Bridged meters are normally identified when reviewing reconnection paperwork. Upon discovery of a bridged meter staff raise a job to unbridge the meter, but no correction is processed to capture unmetered consumption during the bridged period.

A new bridged meter correction process has been created in the Electricity App. The system changes were implemented in late December 2019 and staff are to be trained on the new process.

A list of bridged meters during the audit period was provided, and once training is complete corrections will be required to capture consumption during the bridged periods:

ICP	Unbridged
0036800502PCA75	22/01/2019
0000542435NR3E2	30/01/2019
0443295603LC7BE	21/01/2019
0000359044TPCE0	10/03/2019
0113857440LC563	12/02/2019
0000505955NR6EF	19/02/2019
0000513114NR523	20/02/2019
0001242420PCB60	21/02/2019
0000119754UN8CB	08/03/2019
0000005729UN5C0	22/03/2019
0000014849HB671	22/03/2019
0004005585TP4E4	01/05/2019
0000565457NR13A	17/05/2019
1000558438PCA85	03/07/2019
1000559513PC1A0	01/08/2019
0075342026WE3FF	22/08/2019
0002312683CNF52	21/08/2019
0000161139UN9DF	24/09/2019
0001853445AL915	01/10/2019
0000722886NV331	05/11/2019
0000378784TUC42	14/10/2019

ICP	Unbridged
2007001000CH294	13/11/2019
0000019364CP3CD	28/11/2019
0000066362TRFD0	15/05/2019

Inactive ICPs with consumption

Submission does not occur for periods where an ICP's status is "inactive". Where consumption is detected during an "inactive" period, the status must be returned to "active" to allow submission.

Since August 2019, any ICPs with consumption during inactive periods have been directed to a work queue within the Electricity app. ICPs in the queue are checked to determine whether the consumption is genuine and whether reconnection paperwork has been received, and the status is updated as necessary. This process identifies "new" inactive consumption and I saw evidence that the queue is worked through and cleared daily.

Switch Utilities provided a list of 532 ICPs which had consumption recorded during inactive periods during the audit period. I checked a diverse sample of 15 ICPs with the highest, lowest and average consumption during the inactive period and found:

- two ICPs later switched to another retailer for the period in which the consumption occurred, indicating that the ICPs had been reconnected by the new trader,
- three ICPs were confirmed not to have any consumption during the inactive period, in some cases the report had identified inactive consumption by comparing actual and estimated readings,
- two ICPs had been reconnected and underwent status corrections,
- six ICPs had been reconnected, but reconnections had not been processed because reconnection paperwork was not processed when it was received, or had not been provided; and
- two ICPs did not have disconnection and/or reconnection reads entered, which made it appear that there was consumption during the "inactive" period.

In **section 3.9**, I recommended that the report of ICPs with consumption recorded during inactive periods is reviewed to identify and correct historic "inactive" consumption which will not be detected by the new process.

Transposed meters

If a transposed meter is identified, a photo reading is requested to confirm the correct registers and then a correction is processed to move the readings to the correct meter register. No recent examples of transposed meters were available.

Multiplier corrections

If an incorrect multiplier was identified, Switch Utilities would reverse all billing data for the affected periods and process a backdated meter change to swap the consumption to a new meter with the correct multiplier. The corrected data would be transferred to DART with the next extract.

No incorrect multipliers were identified during the audit period, and there have been no multiplier corrections.

Audit outcome

Non-compliant

Non-compliance	Description	
<p>Audit Ref: 8.1</p> <p>With: Clause 19(1) Schedule 15.2</p> <p>From: 25-Apr-19</p> <p>To: 15-May-19</p>	<p>24 ICPs had bridged meters for part of the audit period, and no corrections to capture unmetered consumption during the bridged periods were processed.</p> <p>ICP 0006980139RNFF1's meter was not recording consumption and no correction was processed. The removal readings applied matched the meter removal paperwork.</p> <p>Eight ICPs with inactive consumption did not have status corrections processed, or disconnection and/or reconnection reads had not been entered resulting in consumption being recorded in inactive periods.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>	
Audit risk rating	Rationale for audit risk rating	
Low	<p>Controls are rated as weak. Where correction processes have been in place for the entire audit period they have not been consistently followed for all corrections. New detection and correction processes are being implemented for stopped, faulty and bridged meters which are expected to improve the controls to strong.</p> <p>The audit risk rating is low based on the kWh differences identified.</p>	
Actions taken to resolve the issue		Completion date
<p>As noted in a previous section, processes for handling bridged meters do exist but were not being actioned by the agents so further training across teams is being implemented to correct this.</p> <p>A process exists for creating permanent estimates for meters not recording consumption, but we note that this was not applied in one instance and further training is being provided on this.</p> <p>We also note the feedback on inactive consumption / statuses and as noted in previous sections intend to resolve this also through further training and additional resourcing.</p>		05/2020
Preventative actions taken to ensure no further issues will occur		Completion date
		Remedial action status
		Identified

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

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

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

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

- (i) The total of all substituted intervals matches the total consumption recorded on a meter, if available; and*
- (ii) The reconciliation participant considers the pattern of consumption to be materially similar to the period in error*

Audit observation

Processes for the correction of HHR meter readings were reviewed.

Audit commentary

Processes for correction of HHR meter readings were reviewed. There were no examples of HHR corrections during the audit period. The correction process is compliant and estimates are created according to the process described in **section 9.4**.

AMS confirmed that they did not conduct any HHR corrections for Switch Utilities during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 19(3) Schedule 15.2

Code related audit information

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

Audit observation

The physical meter location point is not specifically mentioned in Switch Utilities' standard terms and conditions, but the existing practices in the electrical industry achieve compliance. The registry list as at 16/12/19 was reviewed.

Audit commentary

Switch Utilities supplies 26 ICPs with metering category 3 or above. Switch Utilities is not responsible for any metering installations with loss compensation factors.

Audit outcome

Compliant

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

Code reference

Clause 19(4) and (5) Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

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

Raw meter data retention for MEPs and agents was reviewed as part of their own audits.

Audit commentary

Raw meter data is held by the MEPs and agents. Compliance was confirmed as part of their agent and MEP audits.

Switch Utilities only corrects working data and keeps an appropriate audit trail.

Audit outcome

Compliant

9. ESTIMATING AND VALIDATING VOLUME INFORMATION

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

Code reference

Clause 3(3) Schedule 15.2

Code related audit information

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

Audit observation

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

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

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

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDM I as part of their agent audits, and I confirmed that that there have been no changes to their processes since their most recent audits.

All estimated readings are clearly identified as required by this clause, including HHR estimates, which are flagged with an "E" at trading period level.

Photo and customer readings are recorded as "CR" customer readings, and treated as estimates by the reconciliation process 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

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

Audit outcome

Compliant

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

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

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

Audit observation

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

Audit commentary

The MEP or agent retains raw, unrounded data. Compliance was demonstrated by Switch Utilities' MEPs and agents during their own audits.

I traced a diverse sample of readings for 24 ICPs from the source files to the Energy database and the supporting information for the most recent DART submissions. I found the readings matched the source files, except for 0147041248LCD6D which is a HHR ICP and was sent to Wells to obtain NHH readings. Readings and volumes for HHR ICPs are loaded into DRS/MDMS rather than the Energy database, and I confirmed that HHR data was received for this ICP and loaded into DRS/MDMS. Data is rounded to zero decimal places on import.

I traced a sample of one month of HHR data from the source EIEP3 files to DRS/MDMS and the HHR aggregates submission for a diverse sample of four ICPs. The data is not rounded on import, and 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

Processes for the estimation of HHR meter readings were reviewed.

Audit commentary

HHR estimation typically occurs where HHR data is provided late. Estimates are based on the best information available. Where readings surround the missing trading periods, scripts are run to backfill the missing data by calculating the difference between the readings and applying a profile shape. Where there are no readings surrounding the missing trading periods, estimates are calculated based on a similar

period for the ICP and meter, or if that is not possible a similar period for another similar ICP and meter. All estimates are manually reviewed and adjusted if necessary. If actual data is received at a later date, the estimates are replaced.

I reviewed five examples of estimated readings and confirmed that the reasonable endeavours requirements were met. The estimates were created to populate missing trading periods due to a communication error, missing trading periods due to a meter change, and late data files.

Estimates provided by Metrix are not used, and AMS and EDM I did not provide any estimates for HHR data.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

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

Audit commentary

NHH data is validated by several processes.

Meter reader validation

Compliance is recorded in Wells' June 2019 audit report. I confirmed with Wells that there were no changes to their processes or systems since their June 2019 audit that could have a negative impact on Switch Utilities' compliance.

For meters read by Wells, a localised validation occurs at the hand held device to ensure the reading is within expected high/low parameters. Readings which fail this validation are required to be re-entered, and if the two readings are the same the second reading will be accepted. If the second reading is different (potentially indicating the first reading was incorrect) then the second reading is required to be re-entered. Wells also provide meter condition information, as discussed in **section 6.6**.

Switch Utilities validation

The Energy database performs validation against the previous validated reads for the meter register. If there is no previous validated read, reads are compared to the switch in read or opening reads, which are treated as validated for this purpose.

The read import process confirms that readings relate to a valid ICP meter and register which is supplied by Switch Utilities, and that the date and time are as expected.

The following validations are performed, and any exceptions are investigated and corrected as necessary:

1. Missing meter readings, which identifies any ICPs that do not have a switch event reading as their first reading. Switch Utilities no longer completes new connections, and all initial readings for an ICP are expected to be switch in readings.
2. Negative consumption between a switch gain reading and the next reading. If the difference is more than -200 kWh it is referred to the switching team to determine whether a read renegotiation is required, otherwise the exception is accepted.
3. Negative consumption between two readings, where the previous reading is not a switch gain reading.
4. Material changes to consumption over ± 300 kWh and $\pm 50\%$, compared to the last read period.
5. Multiple readings on the same day. Where multiple readings occur on the same day, the second and subsequent readings fail validation and are checked to determine the correct reading for the day.
6. Stopped meters are checked monthly as part of the pre reconciliation submission checks described in **section 12.3**. ICPs with zero consumption are extracted from the ICP level submission information, and checked against a list of vacant ICPs to determine whether they are vacant and zero consumption is expected. ICPs which are not vacant are spot checked, focussing on ICPs which have been active for the most ICP days in the reconciliation period.

New validation reports were released in late 2019, including:

1. Stopped meters, which shows ICPs with consecutive days of zero consumption and the number of days since the ICP last consumed electricity, and was implemented in late December 2019.
2. ICPs where the controlled load is greater than the uncontrolled load, which was implemented in late December 2019.
3. "Inactive" ICPs with consumption, which was implemented in August 2019.

The meter rollover process is built into the Energy database. I checked examples of meter rollovers in the Energy database and DART and confirmed that consumption was correctly calculated.

Vacant and disconnected ICPs

Vacant ICPs are recorded in the Energy database under the "vacant" brand, and the normal validation process applies. A report of "inactive" ICPs with consumption was implemented in December 2019, and is reviewed daily.

Pre submission checks

Reconciliation submissions are also reviewed prior to submission including identification of ICPs with zero consumption, this process is discussed in **section 12.3**.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

I reviewed the HHR and AMI data validation processes, including meter event logs and validation checks.

Audit commentary

Electronic data used to determine volume information is provided by MEPs, and AMS and EDM I as agents.

This function was examined as part of the MEP and agent audits and found to be compliant, except for EDM I manual downloads. For manual downloads, the meter event information is not imported into IE2 and is not reviewed and sent to the retailer, unless the participant receives data in the PROFVAL file format, which has a separate file of event data sent. This is recorded as non-compliance below.

HHR

HHR data is imported into DRS/MDMS. As part of the process the data is mapped to the correct ICP meter and register number. If there is no match, the data is not imported into DRS/MDMS.

Missing data is identified, and If the data cannot be obtained estimation is conducted as described in **section 9.4**.

HHR submission data is checked for all ICPs where HHR volumes are expected. The data is exported to excel and graphed, and each ICP is reviewed individually to check that consumption is consistent with expected and previous flow patterns, by comparing the actual consumption to the average values for the same day of the previous month. This check identifies unexpected patterns and periods with zero consumption, which are investigated. The range can be adjusted to review longer periods if necessary.

AMS and EDM I provided information on HHR meter events which occurred during the audit period, only power outages and communications issues had occurred. No other events which could affect meter accuracy were identified.

NHH

Switch Utilities receives AMI data from meter readings from AMS (for AMS and Smartco), Arc, FCLM, Metrix, and WASN as MEPs, and all other meters are read manually. NHH data is validated as described in **section 9.5**.

AMI event information is provided by 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. I found that meter event information is not consistently reviewed and actioned, which is recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 9.6 With: Clause 17 Schedule 15.2 From: 01-Jun-18 To: 21-Jan-20	For EDM's manual downloads, the meter event information is not imported into IE2 and is not reviewed and sent to the retailer. Meter event information is not consistently reviewed and actioned. 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 rated as moderate, because in most cases meter event data is reviewed and provided to the participant if any events occur. The impact is assessed to be low, because event information is obtained and reviewed for most downloads.		
Actions taken to resolve the issue		Completion date	Remedial action status
We note the auditors feedback on inconsistencies in the processing of these reports, and as noted in previous sections intend to improve compliance in this area through additional resourcing and training.		04/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

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

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

Code reference

Clause 13.136

Code related audit information

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

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

Audit observation

The NSP table on the registry was reviewed.

Audit commentary

Switch Utilities is not responsible for any NSPs. No information is provided to the grid owner in accordance with this clause.

Audit outcome

Not applicable

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

Code reference

Clause 13.137

Code related audit information

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

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

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

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

Audit observation

The NSP table on the registry was reviewed.

Audit commentary

Switch Utilities is not responsible for any NSPs. No information is provided to the grid owner in accordance with this clause.

Audit outcome

Not applicable

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

Code reference

Clause 13.138

Code related audit information

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

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

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

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

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

Audit observation

The NSP table on the registry was reviewed.

Audit commentary

Switch Utilities is not responsible for any NSPs. No information is provided to the grid owner in accordance with this clause.

Audit outcome

Not applicable

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

Code reference

Clause 13.140

Code related audit information

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

Audit observation

The NSP table on the registry was reviewed.

Audit commentary

Switch Utilities is not responsible for any NSPs. No information is provided to the grid owner in accordance with this clause.

Audit outcome

Not applicable

11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

11.1. Buying and selling notifications (Clause 15.3)

Code reference

Clause 15.3

Code related audit information

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

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

Audit observation

The registry list file 01/01/19 to 16/12/19 was reviewed to identify the profiles used during the audit period.

Audit commentary

No trading notifications were required during the audit period.

Switch Utilities has only used the HHR, PV1, and RPS profiles, and 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 by checking 15 NSPs with a small number of HHR ICPs connected, and 20 NSPs with a small number of NHH ICPs connected.

I reviewed GR100 reports from June 2018 to November 2019 and investigated a diverse sample of ten NHH and five HHR NSP level ICP days differences, to determine why the differences had occurred.

Audit commentary

A registry list with history is imported into DART (for NHH ICPs) and DRS/MDMS (for HHR ICPs). The status and ICP information on the registry list is used to determine the correct aggregation factors and active ICP days which volume and ICP days submissions are to be provided for.

The process for the calculation of ICP days was examined by checking 15 NSPs with a small number of HHR ICPs connected, and 20 NSPs with a small number of NHH ICPs connected. The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between Switch Utilities' database and the RM return file (GR100) for 18 months, and found the differences were very small.

Month	Ri	R1	R3	R4	R5	R7	R8	R14
Jun 2018	-	-	0.0%	-	-	0.0%	-	0.0%
Jul 2018	-	-	0.1%	-	-	0.0%	-	0.0%
Aug 2018	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
Sep 2018	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
Oct 2018	0.0%	0.0%	0.0%	-	-	0.0%	-	-
Nov 2018	0.0%	0.0%	0.0%	-	-	0.0%	-	-
Dec 2018	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	-
Jan 2019	0.0%	0.0%	0.0%	-	-	0.0%	-	-
Feb 2019	0.0%	0.0%	0.0%	-	-	0.0%	-	-
Mar 2019	0.0%	0.0%	0.0%	-	-	0.0%	-	-
Apr 2019	0.0%	0.0%	0.0%	-	-	0.0%	-	-
May 2019	0.0%	0.0%	-	-	0.1%	-	-	-
Jun 2019	0.0%	0.0%	0.0%	0.0%	-	-	-	-
Jul 2019	0.0%	0.0%	0.0%	-	-	-	-	-
Aug 2019	0.5%	0.0%	0.0%	-	-	-	-	-
Sep 2019	0.0%	0.0%	-	-	-	-	-	-

Month	Ri	R1	R3	R4	R5	R7	R8	R14
Oct 2019	0.0%	0.0%	-	-	-	-	-	-
Nov 2019	0.0%	-	-	-	-	-	-	-

I reviewed a sample of ten NHH NSP level ICP days differences which remained for R7 or later for submission periods after May 2018 and found the differences related to:

- NSPs where all the ICPs connected had undergone a backdated switch out and because there is no zeroing process for the AV110, the previous revision's ICP days data was not replaced with a zero after switch out occurred,
- switch timing, where the differences washed out with the following revision, and
- ICP 0000348556MP8EF which was supplied for one day (06/08/18) was excluded from the ICP days information as the ICP had a switch in read and contractor read recorded on 06/08/18, but no final reading.

I reviewed all six HHR NSP level ICP days differences which remained for R7 or later for submission periods after May 2018. All the ICPs connected to the affected NSPs had undergone a backdated switch out. Because there was no zeroing process for the AV110, the previous revision's ICP days data was not replaced with a zero after this occurred.

The previous audit identified that where default forward estimate is applied for a new switch in, an ICP day is not recorded for the first day of consumption. Default forward estimate is only applied where there is a switch in reading and no subsequent readings. If any other reading is recorded after the switch in read (including an estimated reading), the forward estimate process will consider that reading, and ICP days will be reported correctly. This means that once another reading is received, revised ICP days data should be provided through the revision process. A system fix has been developed and is currently undergoing testing.

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

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 11.2</p> <p>With: Clause 15.6</p> <p>From: Jun -18 r7, Jun-18 r14, Jul-18 r7, Jul-18 r14, Aug-18 r7, Aug-18 r14, Oct-18 r7, Mar-19 r7, Apr-19 r7</p>	<p>There is no zeroing process for ICP days submissions which resulted in some incorrect NHH and HHR ICP days.</p> <p>One ICP day was excluded from the ICP days submission because ICP 0000348556MP8EF was supplied for one day, and a final reading was not recorded.</p> <p>Where default forward estimate is applied, an ICP day is not reported for the first day of supply. This is corrected through the revision process once a subsequent reading is received.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Twice previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>

Audit risk rating	Rationale for audit risk rating	
Low	<p>The controls are recorded as moderate because they mitigate risk of incorrect ICP days being reported most of the time.</p> <p>The impact is low:</p> <ul style="list-style-type: none"> where the first ICP day is missed because default forward estimate is applied, corrected data is provided through the revision process once another reading is recorded for the ICP, one ICP day was missed for 0000348556MP8EF, because the ICP was supplied for one day, and not zeroing submissions typically only affects NSPs with a small number of ICPs connected, the difference in ICP days is usually small and differences will be washed out once corrections are processed. 	
Actions taken to resolve the issue		Completion date
<p>We have provided further guidance to our reconciliation analyst who will ensure that we also zero ICP day submissions, where we previously only zeroed submissions for volume files (NHHVOLS, HHRVOLS). Some development is required to achieve this change.</p> <p>We are reviewing the one-ICP Day issue for ICPs held for a single day, but the resolution timeframe is not yet known for this.</p>		04/2020
Preventative actions taken to ensure no further issues will occur		Completion date
		Identified

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

Code reference

Clause 15.7

Code related audit information

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

15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

Audit observation

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs to confirm the AV120 calculation was correct.

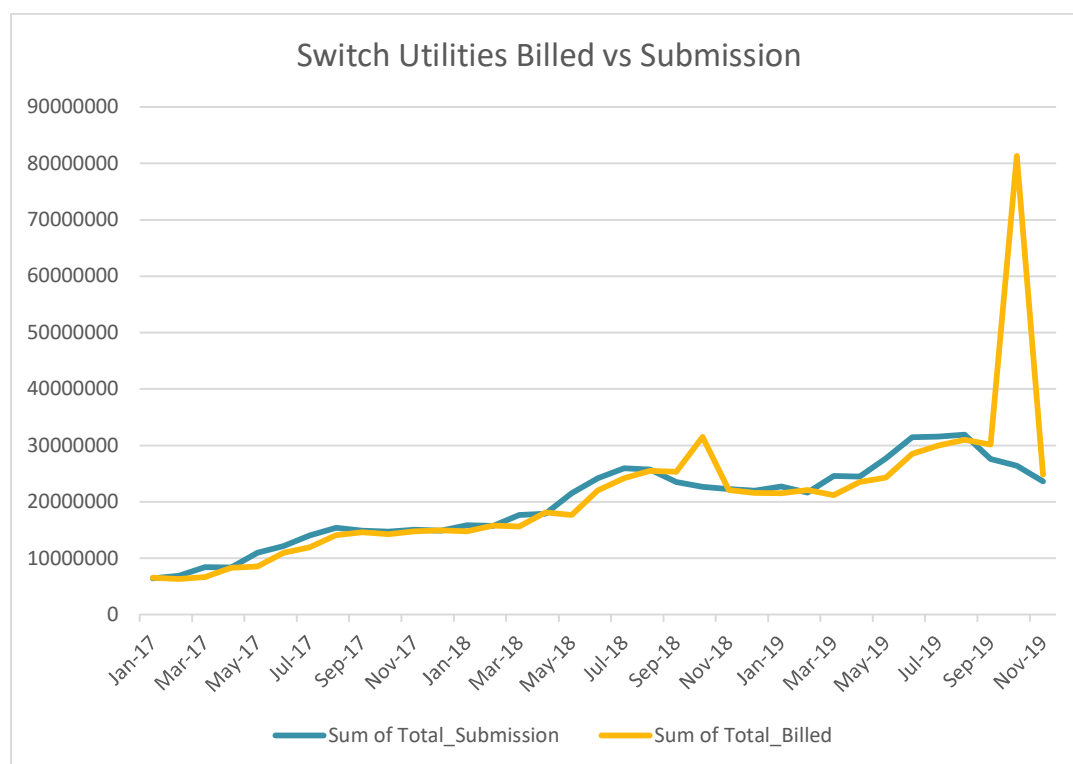
GR130 reports for January 2017 to November 2019 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

Audit commentary

HHR billed charges are calculated in Accredo (HHR Vocus Communications customers) and then transferred to the Energy database. NHH billed charges are calculated in the Energy database and then transferred to BillPlus for the physical invoices to be produced. The Energy database produces the AV120 submissions, based on the billing information.

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs against Switch Utilities' invoice information for October 2019, and was confirmed to be accurate.

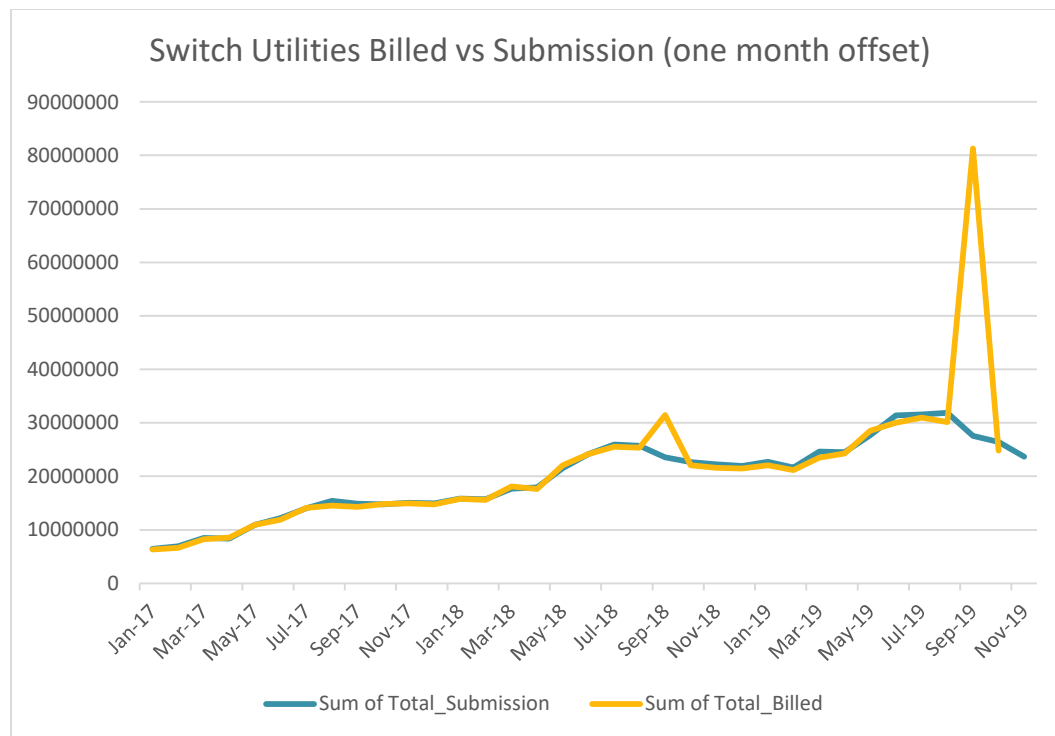
I also checked the difference between submission and electricity supplied information for a 35 month period, and the results are shown in the chart below.



The total difference is 12.3% for the year ended November 2019 (billed higher than submission), and 7.2% for the two years ended November 2019 (billed higher than submission). The difference is largely due to a significant difference between billed and submitted data in October 2019. In some cases volumes will be billed with a zero charge when processing corrections. The AV120 reports the "billed" volumes, rather than the billed volumes that the customer is expected to pay a unit charge for. This means that while the AV120 volume does reflect what was "billed" it does not necessarily reflect the amount charged to the customer when corrections of this nature are processed. Switch Utilities can run scripts which exclude this billed consumption which is not charged to the customer from their submissions. They plan to investigate the reasons for the large October 2019 difference and process corrections as necessary. I did not find any evidence that the AV080 submission data was incorrect, and compliance is recorded because the AV120 report reflects the billed consumption.

Description	Recommendation	Audited party comment	Remedial action
AV080 versus AV120 submission differences	<p>Review the October 2019 AV080 and AV120 submission data to determine the cause of the difference, and process corrections as necessary.</p> <p>Monitor differences between billed and submitted data.</p>	We will increase our monitoring here, and check the as-billed submissions vs actual submissions as part of the submission process.	Identified

Due to Switch Utilities' billing cycle, there is a one month offset between billed and submitted consumption. With the exception of the billed spike in October 2019, the close relationship between billed and submitted data is visible.



The issue identified in the previous audit relating to invoices with the same volume being treated as duplicates and removed has been resolved.

Audit outcome

Compliant

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

Code reference

Clause 15.8

Code related audit information

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

15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

Audit observation

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data for six submissions.

The GR090 ICP Missing files were examined for July 2017 to November 2019. An extreme case sample of 20 ICPs missing from two or more revisions were checked.

Audit commentary

DRS/MDMS produces HHR submissions. Non-compliance was found because the HHR aggregates report contains submission information, not electricity supplied information as specified under clause 15.8. Although the reports Switch Utilities produces are consistent with the Reconciliation Manager Functional Specification, this is recorded as technical non-compliance below.

I confirmed the process for aggregation of HHR data is correct by matching HHR aggregates information to the volumes for six submissions. The volumes and aggregates data matched within two decimal places.

The GR090 ICP Missing files were examined for July 2017 to November 2019. An extreme case sample of 20 ICPs missing from two or more revisions were checked, and found to be caused by backdated switches and updates to submission types. Late switching files and updates to the registry are discussed in **sections 3 and 4**.

I also reviewed the latest revisions for HHR volumes submissions for August to October 2018 for reasonableness and did not find any evidence of under submission of volumes for these months.

The previous audit found ICP 1001136673LC11F had import and export channels, but the HHR "I" flow volume was not submitted to the reconciliation manager. Switch Utilities advised that corrected data had been washed up through the revision process. To confirm this I checked the most recent revisions for August to October 2018 and confirmed that corrected I flow information had been provided.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.4 With: Clause 15.8 From: 01-Feb-19 To: 21-Jan-20	Aggregates file contains submission information. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating		
Low	The issue relating to content of the aggregates file is an error in the code, Switch Utilities is providing submission information as expected.		
Actions taken to resolve the issue		Completion date	Remedial action status
No action to be taken as this is a code error.		04/2020	Identified
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

All HHR data is collected by AMS and EDM I, and daylight savings adjustments were reviewed as part of their agent audit.

Audit commentary

Compliance with this clause has been demonstrated by AMS and EDM I as part of their agent audits, and I confirmed that that there have been no changes to their processes since their most recent audits.

Review of submission information for the change to NZDT confirmed that the correct number of trading periods was recorded.

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

Switch Utilities prepares NHH submissions using DART and HHR submissions using DRS/MDMS. Processes to ensure that submissions are accurate were reviewed.

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

Audit commentary

Timeliness of submission information

The EA confirmed that one alleged breach occurred during the audit period:

Breach no	Breach of	Description	Outcome
1812SWIT1 13/02/19 12:00 AM	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. The files were submitted 15 minutes late. The files were uploaded through the file checker but the final step to upload the files was missed due to a distraction.	The breach allegation was closed and no further action was taken because there was no impact and steps were taken to prevent recurrence.

HHR submission creation

Switch Utilities prepares reconciliation submissions using reconciliation consumption generated by DRS/MDMS. Accuracy of HHR submission information was confirmed in **section 11.4**.

NHH submission creation

DART is used for NHH reconciliation, and produces AV080 and AV110 submissions. It receives readings used by the reconciliation process from the Energy database and status and aggregation factor information from registry lists. The read and registry information is not held within DART. DART performs a calculation based on the current values provided and outputs files including submissions and supporting ICP level and batch (meter register) level information.

Further information on calculation of historic estimate is recorded in **section 12.11**, and aggregation of the AV080 report is checked in **section 12.3**.

A sample of NHH ICPs were checked to make sure they are handled correctly, including vacant, disconnected, unmetered, and distributed generation ICPs.

Vacant consumption

Vacant ICPs are recorded in the Energy database under the “vacant” brand, and the normal reading, validation, and submission process applies. Five ICPs with vacant consumption were checked, and consumption was correctly submitted.

Inactive consumption

Submission does not occur for periods where an ICP’s status is “inactive”. Where consumption is detected during an “inactive” period, the status must be returned to “active” to allow submission.

Since August 2019, any ICPs with consumption during inactive periods have been directed to a work queue within the Electricity app. ICPs in the queue are checked to determine whether the consumption is genuine and whether reconnection paperwork has been received, and the status is updated as necessary. This process identifies “new” inactive consumption and I saw evidence that the queue is worked through and cleared daily.

Switch Utilities provided a list of 532 ICPs which had consumption recorded during inactive periods during the audit period. I checked a diverse sample of 15 ICPs with the highest, lowest and average consumption during the inactive period and found correct consumption was submitted only where the status was corrected to “active”.

In **section 3.9**, I recommended that the report of ICPs with consumption recorded during inactive periods is reviewed to identify and correct historic “inactive” consumption which will not be detected by the new process. Non-compliance is recorded in **section 12.7** for ICPs which were confirmed to have inactive consumption which was not reported.

Unmetered consumption

Unmetered load data is not stored within the Energy database; the daily unmetered kWh is retrieved directly from the registry and imported into DART, which calculates the unmetered load submission based on the daily unmetered kWh and number of days with “active” status recorded on the registry. Unmetered load is not billed by Switch Utilities, and solely unmetered ICPs are not supplied.

Submission information for five ICPs with unmetered volumes was reviewed including standard and shared unmetered load, and correct consumption was submitted.

Distributed generation

DART produces NHH submission information for all settled meter registers and automatically applies the RPS profile. Before the reconciliation reports are output, a script is run to update the profile to PV1 for any AV080 rows where the flow direction is I.

Submission information for all four ICPs with distributed generation connected to TASM STK0331 was reviewed, and correct consumption was submitted.

Audit outcome

Non-compliant

Non-compliance		Description	
Audit Ref: 12.2 With: Clause 15.4 From: 13-Feb-19 To: 13-Feb-19		Breach 1812SWIT1 recorded that some reconciliation submission information was provided 15 minutes late. Potential impact: Low Actual impact: None Audit history: Twice previously Controls: Strong Breach risk rating: 1	
Audit risk rating		Rationale for audit risk rating	
Low		The controls are rated as strong because reconciliation submissions are almost always provided on time, and the submission was only 15 minutes late. The impact is assessed to be low, because there was no impact.	
Actions taken to resolve the issue		Completion date	Remedial action status
Please refer to our written response to the breach for further details.		Cleared	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 in the registry for the relevant consumption period at the time the reconciliation participant assembles the submission information. Volume information must be derived in accordance with Schedule 15.2.

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

Audit observation

Processes to ensure that information used to aggregate the reconciliation reports is consistent with the registry were reviewed in **section 2.1**.

The process to ensure that AV080 submissions are accurate was discussed, and reports used in the process were viewed.

The process for aggregating the AV080 was examined by checking aggregation row level information for November 2019 revision 1 against detailed ICP level information.

The GR170 to AV080 files for nine revision submissions were compared, to confirm zeroing occurs.

Audit commentary

The process for aggregating the AV080 was examined by checking aggregation row level information for November 2019 revision 1 against detailed ICP level information. The NHH volume calculation was confirmed to be correct.

GR170 and AV080 files for nine revision submissions were compared, and I confirmed that zeroing is occurring as required for the AV080 submission.

Submissions are validated prior to being provided to the reconciliation manager. The validation process includes:

- review of any ICPs with zero consumption using the batch level information, ICPs with zero consumption are extracted, and checked against a list of vacant ICPs to determine whether they are vacant and zero consumption is expected, and ICPs which are not vacant are spot checked, focussing on ICPs which have been active for the most ICP days,
- review of variances between revisions, and variances to previous months; and
- at ICP level, high and low consumption is reviewed.

Other consumption validation checks are discussed in **sections 9.5 and 9.6**.

Audit outcome

Compliant

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

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

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

Audit observation

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

Audit commentary

Switch Utilities is not a grid owner.

Audit outcome

Not applicable

12.5. Provision of NSP submission information (Clause 15.10)

Code reference

Clause 15.10

Code related audit information

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

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

Audit observation

The registry list and NSP table were reviewed.

Audit commentary

Switch Utilities does not own any local or embedded networks 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

The registry list and NSP table were reviewed.

Audit commentary

Switch Utilities is not a grid connected generator.

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

Late provision of submission information

The EA confirmed that one alleged breach occurred during the audit period:

Breach no	Breach of	Description	Outcome
1812SWIT1 13/02/19 12:00 AM	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. The files were submitted 15 minutes late. The files were uploaded through the file checker but the final step to upload the files was missed due to a distraction.	The breach allegation was closed and no further action was taken because there was no impact and steps were taken to prevent recurrence.

Accuracy of submission data

Corrections were processed as required and are discussed in **sections 8.1** and **8.2**.

Overall, I found processes to produce submission data were operating as intended. In some cases incorrect inputs into these processes resulted in inaccurate submission data as discussed below.

ICP with incorrect unmetered load submissions

Unmetered load data is not stored within the Energy database; the daily unmetered kWh is retrieved directly from the registry and imported into DART, which calculates the unmetered load submission based on the daily unmetered kWh and number of days with “active” status recorded on the registry.

For ICP 0010426583EL500, daily unmetered kWh are recorded as 6.9 kWh. A site visit confirmed that no unmetered load was connected. The incorrect value will be removed effective from the date of the contractor's visit, and corrected reconciliation data will be washed up.

ICPs with consumption during inactive periods

Forward and historic estimate is only calculated where ICPs have "active" status. Where an ICP is disconnected or reconnected, the historic estimate process requires boundary disconnection and reconnection readings to ensure that all consumption is captured and apportioned to the correct period.

Switch Utilities provided a list of 532 ICPs which had consumption recorded during "inactive" periods during the audit period. I checked a diverse sample of 15 ICPs with the highest, lowest and average consumption during the inactive period and found the following ICPs did not have inactive consumption reported:

- ICPs 0007179377RN03C, 0000127746UNB0F, 0005278970RN79A, 0009224861CNDFFB, 0000064786TRB21, and 0001290450PC12C had been reconnected, but reconnections had not been processed because reconnection paperwork was not processed when it was received, or had not been provided; and
- ICPs 0099552570CNAB5, 1000515446PCDF6 and 0900088410PC2BB did not have disconnection and/or reconnection reads entered, which made it appear that there was consumption during the "inactive" period, which was excluded from submission.

ICPs with incorrect active status dates

ICP 1002051199LCFA9 became active on 21/07/19, but the status was updated to active effective from 28/07/19. Consumption was only calculated for the registry active days, instead of the true active days.

Defective meters

ICP 0006980139RNFF1's meter was not recording consumption and no correction was processed. The removal readings applied matched the meter removal paperwork.

Bridged meters

Bridged meters are normally identified when reviewing reconnection paperwork. Upon discovery of a bridged meter staff raise a job to unbridge the meter, but no correction is processed to capture unmetered consumption during the bridged period.

A new bridged meter correction process has been created in the Electricity App. The system changes were implemented in late December 2019 and staff are to be trained on the new process.

A list of bridged meters during the audit period were provided, and once training is complete corrections will be required to capture consumption during the bridged period:

ICP	Unbridged
0036800502PCA75	22/01/2019
0000542435NR3E2	30/01/2019
0443295603LC7BE	21/01/2019
0000359044TPCE0	10/03/2019
0113857440LC563	12/02/2019
0000505955NR6EF	19/02/2019

ICP	Unbridged
0000513114NR523	20/02/2019
0001242420PCB60	21/02/2019
0000119754UN8CB	8/03/2019
0000005729UN5C0	22/03/2019
0000014849HB671	22/03/2019
0004005585TP4E4	1/05/2019
0000565457NR13A	17/05/2019
1000558438PCA85	3/07/2019
1000559513PC1A0	1/08/2019
0075342026WE3FF	22/08/2019
0002312683CNF52	21/08/2019
0000161139UN9DF	24/09/2019
0001853445AL915	1/10/2019
0000722886NV331	5/11/2019
0000378784TUC42	14/10/2019
2007001000CH294	13/11/2019
0000019364CP3CD	28/11/2019
0000066362TRFD0	15/05/2019

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 12.7 With: Clause 15.12</p> <p>From: 02-May-17 To: 21-Jan-19</p>	<p>Breach 1812SWIT1 recorded that some reconciliation submission information was provided 15 minutes late.</p> <p>24 ICPs had bridged meters for part of the audit period, and no corrections to capture unmetered consumption during the bridged periods were processed.</p> <p>ICP 0006980139RNFF1's meter was not recording consumption and no correction was processed. The removal readings applied matched the meter removal paperwork.</p> <p>At least nine ICPs with inactive consumption did not have status corrections processed, or disconnection and/or reconnection reads had not been entered resulting in consumption being recorded in inactive periods.</p> <p>ICP 1002051199LCFA9 became active on 21/07/19, but the status was updated to active effective from 28/07/19. Consumption was only calculated for the registry active days, instead of the true active days.</p> <p>ICP 0010426583EL500 does not have unmetered load connected, but the daily unmetered kWh applied for submission and recorded on the registry is 6.9 kWh.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
<p>Low</p>	<p>Controls are assessed to be weak overall.</p> <ul style="list-style-type: none"> The controls over submission timeliness are rated as strong because reconciliation submissions are almost always provided on time, and the submission was only 15 minutes late. The controls over corrections are rated as weak. Where correction processes have been in place for the entire audit period they have not been consistently followed for all corrections. New detection and correction processes are being implemented for stopped, faulty and bridged meters which are expected to improve the controls to strong. The controls over unmetered load accuracy are rated as weak, because there is currently no regular validation between the trader and distributor unmetered load details. This validation would have detected the discrepancy, which has been present since the ICP switched in on 02/05/17. <p>The audit risk rating is low based on the kWh differences identified. Submission data is revised once corrections are processed.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Commentary on these issues is provided in the previous sections.</p>		<p>05/2020</p>	<p>Identified</p>

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).

The relevant reconciliation participant must, at the earliest opportunity, and no later than the month 14 revision cycle, replace volume information created using estimated readings with volume information created using validated meter readings.

If, despite having used reasonable endeavours for at least 12 months, a reconciliation participant has been unable to obtain a validated meter reading, the reconciliation participant must replace volume information created using an estimated reading with volume information created using a permanent estimate in place of a validated meter reading.

Audit observation

NHH volumes 14 month revisions were reviewed for July to September 2018 to identify any forward estimate still existing.

Audit commentary

Review of the 14 month revisions for July to September 2018 showed that not all estimated meter readings had been replaced with validated meter readings. This is recorded as non-compliance below.

Month	Forward estimate
Jul-18	2,625.03
Aug-18	4,679.83
Sep-18	72.7
Total	7,377.56

Switch Utilities has a process to enter permanent estimates where readings are not received within 14 months, but I found it was not consistently followed where time to complete pre-submission checks was short.

I checked all NSPs with forward estimate remaining in the July 2018, August 2018 and September 2018 r14 and found it was caused by:

- Permanent estimates not consistently being added before revision 14 is completed; and
- Rounding differences between the historic and total estimate resulting in very small amounts of forward estimate (under 0.18 kWh at AV080 aggregation row level).

I recommend that the rounding differences between the total and historic estimate are checked to determine why they have occurred, and whether there is an underlying issue with the total or historic estimate calculation process.

Description	Recommendation	Audited party comment	Remedial action
Investigate small differences between the total and historic estimate at revision 14	Check the rounding differences between the total and historic estimate to determine why they have occurred, and whether there is an underlying issue with the total or historic estimate calculation process.	We are investigating this with our developer, although timeline for correction is currently unclear.	Investigating

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 12.8 With: Clause 4 of Schedule 15.2 From: Jul-18, Aug-18, Sep-18	Some estimates were not replaced by revision 14. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate because a permanent estimate process is in place, but has not consistently been followed. The impact is low. Total forward estimate for the three months reviewed was 7,377.56 kWh.		
Actions taken to resolve the issue		Completion date	Remedial action status
The instances of missed forward estimate were a result of the process not being correctly implemented during the relevant months, where there was a larger than usual number of corrections required. We are looking to implement automated scripting to deal with the majority of estimation scenarios, which will take some time to implement.		06/2020	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	

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

Code reference

Clause 2 Schedule 15.3

Code related audit information

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

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

Audit observation

Aggregation and content of reconciliation submissions was reviewed.

Audit commentary

Compliance with this clause was assessed:

- all ICPs with metering category 3 or above are submitted as HHR;
- unmetered load submissions were checked in **section 12.2** and found to be correct;
- no profiles requiring a certified control device are used;
- no loss or compensation arrangements are required; and
- aggregation of the AV080, AV090 and AV140 reports is compliant.

Accuracy is recorded in this section because the processes to produce the submission information are compliant. Instances were incorrect inputs into some of those processes resulted in inaccurate submission information are recorded as non-compliance in **section 12.7**.

Audit outcome

Compliant

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

Code reference

Clause 3 Schedule 15.3

Code related audit information

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

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

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

Audit observation

I reviewed nine AV080 submissions for revisions 3 to 14, to confirm that historic estimates are included and identified.

Permanence of meter readings is reviewed in **section 12.8**. The methodology to create forward estimates is reviewed in **section 12.12**.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 4 and 5 Schedule 15.3

Code related audit information

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

If a seasonal adjustment shape is not available, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities kWh_{Px} must be prorated as determined by the reconciliation participant using its own methodology or on a flat shape basis using the relevant number of days that are within the consumption period and within the period covered by kWh_{Px} .

Audit observation

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 DART.

Audit commentary

DART is used for NHH reconciliation, and calculates the historic estimate. It receives readings used by the reconciliation process from the Energy database, status and aggregation factor information from registry lists, and the latest PR030 (seasonal adjusted shape values) files from the reconciliation

manager. The information is not held within DART. DART performs a calculation based on the current values provided and outputs files including submissions, and supporting ICP level and batch (meter register) level information.

The table below shows that all HE scenarios are calculating as expected and correct SASV (seasonal adjusted shape values) are applied.

Consumption is only reported for periods where an ICP has “active” status, and the historic estimate process requires boundary disconnection or closing reads when an ICP becomes inactive, and reconnection or opening reads when an ICP becomes active. If these reads are not present, the historic estimate will not be calculated correctly. Compliance is recorded in this section, because the process is compliant, and non-compliance for incorrect submission information is recorded in **section 12.7** for ICPs where inputs into the calculation have caused incorrect submission information.

Test	Scenario	Test Expectation	Result
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
c	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant, as long as disconnection and reconnection reads are entered. Non-compliance is recorded in section 12.7 for ICPs where boundary readings were not recorded, or statuses were incorrect.
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant

Test	Scenario	Test Expectation	Result
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant
l	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they are validated against a set of actual reads not provided by the customer.	Compliant, customer reads are not treated as validated reads
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they are validated against a set of actual reads not provided by the customer.	Compliant, photo readings are recorded as customer readings
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant

Audit outcome

Compliant

12.12. Forward estimate process (Clause 6 Schedule 15.3)

Code reference

Clause 6 Schedule 15.3

Code related audit information

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

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

Audit observation

The process to create forward estimates was reviewed.

Forward estimates were checked for accuracy by analysing the GR170 file for variances between revisions for 13 months.

Audit commentary

Forward estimate is applied for active days where historic estimate cannot be calculated because validated actual or permanent estimate readings are not available.

Default forward estimate is applied where no readings are available apart from the gain reading. Default forward estimate is set as 375 kWh per 31 days, and is scaled for the number of active days in the submission period. Default forward estimate is not calculated for the switch in date, which results in the forward estimate being lower than expected, and one ICP day being excluded from the AV110 submission (which is recorded as non-compliance in **section 11.2**). Once a subsequent reading is received, the difference is washed out. Compliance is recorded in this section, because the trader is entitled to use their own methodology to create forward estimates and no differences over $\pm 15\%$ and $\pm 100,000$ kWh were identified.

If customer readings or account estimates are available, these are used to calculate forward estimate for the ICP and meter. Estimated readings are inserted by the Energy database, based on the “average daily estimate” of consumption over the previous month.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within $\pm 15\%$ and within $\pm 100,000$ kWh. The target was met for all balancing areas and revisions reviewed.

Quantity of balancing areas with differences over 15% and 100,000 kWh

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Aug 2018	0	0	0	0	115
Sep 2018	0	0	0	0	117
Oct 2018	0	0	0		122
Nov 2018	0	0	0		125
Dec 2018	0	0	0		124
Jan 2019	0	0	0		126
Feb 2019	0	0	0		127
Mar 2019	0	0	0		130
April 2019	0	0	0		126
May 2019	0	0			125
Jun 2019	0	0			125

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Jul 2019	0	0			125
Aug 2019	0	0			124

The total variation between revisions at an aggregate level is shown below.

Month	Revision 1	Revision 3	Revision 7	Revision 14
Aug 2018	0.08%	-0.55%	-0.64%	-0.37%
Sep 2018	-0.42%	0.20%	-0.16%	0.11%
Oct 2018	0.10%	0.03%	-0.12%	
Nov 2018	0.38%	0.49%	0.37%	
Dec 2018	0.40%	0.47%	0.32%	
Jan 2019	-0.42%	-1.13%	-0.97%	
Feb 2019	0.19%	-0.17%	-0.07%	
Mar 2019	-0.32%	-0.03%	0.05%	
April 2019	0.33%	0.74%	0.52%	
May 2019	-0.29%	0.24%		
June 2019	-0.08%	-0.26%		
July 2019	-0.31%	-0.49%		
Aug 2019	-0.55%	-0.64%		

I checked four balancing area differences over $\pm 50\%$ and $\pm 2,000$ kWh for periods from April 2019 onwards to determine the reasons for the differences, and found they were caused by:

- fluctuations in forward estimate, as ICPs swapped from having default forward estimate when only the switch in read was available to ICP meter register specific forward estimate as readings were received; and
- differences between forward estimate and actual readings received as the historic estimate proportion increased.

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 15.3

Code related audit information

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

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

Audit observation

The registry list as at 16/12/19 and event detail report for 01/02/19 to 16/12/19 were reviewed to identify any ICPs which have had profile changes.

Audit commentary

Profile changes typically coincide with a meter change, which ensures that profile changes occur on an actual reading.

No ICPs with genuine profile changes were identified during the period reviewed. ICP 0000292879WE5FA had its profile incorrectly updated on the registry from RPS to RPS PV1, but this was not a genuine profile change and is recorded as non-compliance in **sections 2.1, 3.3 and 6.1**.

Audit outcome

Compliant

13. SUBMISSION FORMAT AND TIMING

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

Code reference

Clause 8 Schedule 15.3

Code related audit information

For each category 3 of higher metering installation, a reconciliation participant must provide half hour submission information to the reconciliation manager.

For each category 1 or category 2 metering installation, a reconciliation participant must provide to the reconciliation manager:

- *Half hour submission information; or*
- *Non half hour submission information; or*
- *A combination of half hour submission information and non half hour submission information*

However, a reconciliation participant may instead use a profile if:

- *The reconciliation participant is using a profile approved in accordance with clause Schedule 15.5; and*
- *The approved profile allows the reconciliation participant to provide half hour submission information from a non half hour metering installation; and*
- *The reconciliation participant provides submission information that complies with the requirements set out in the approved profile.*

Half hour submission information provided to the reconciliation manager must be aggregated to the following levels:

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *trading period*

The non half hour submission information that a reconciliation participant submits must be aggregated to the following levels:

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *consumption period or day*

Audit observation

Processes to ensure that information used to aggregate the reconciliation reports is consistent with the registry were reviewed in **section 2.1**.

Aggregation of NHH volumes is discussed in **section 12.3**, and aggregation of HHR volumes is discussed in **section 11.4**.

Audit commentary

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level:

- NSP code;
- reconciliation type;
- profile;
- loss category code;
- flow direction;
- dedicated NSP; and
- consumption period.

NHH volumes and HHR volumes aggregation was confirmed to be compliant.

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

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

Audit observation

I reviewed the rounding of data on the AV080, AV090 and AV140 reports as part of the aggregation checks.

Audit commentary

Review of nine AV080 reports confirmed that submission information is appropriately rounded to two decimal places.

Review of six AV140 and six AV090 reports confirmed that submission information is appropriately rounded to two decimal places.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.3

Code related audit information

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

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

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

Audit observation

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

I reviewed nine months of AV080 reports to determine whether historic estimate requirements were met.

Audit commentary

The quantity of historical estimates is contained in the submission file and is not a separate report. The proportion of HE in the revision files was checked for nine separate months, and the table below shows that compliance has not been achieved in all instances.

Quantity of NSPs where revision targets were met

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Jul 2018			169	203
Aug 2018			194	200
Sep 2018			197	202
Feb 2019		210		214
Mar 2019		214		217
Apr 2019		211		214
Jun 2019	207			211
Jul 2019	207			210
Aug 2019	206			209

I checked all NSPs with forward estimate remaining in the July 2018, August 2018 and September 2018 r14 and found it was caused by:

- forward estimates not consistently being inserted before revision 14 is completed; and

- rounding differences between the historic and total estimate resulting in very small amounts of forward estimate (under 0.18 kWh at AV080 aggregation row level).

The table below shows that the percentage HE at a summary level for all NSPs is at or above the required targets for revisions 3 and 7, and below the targets July 2018 and August 2018 for revision 14.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jul 2018	-	-	99.99%
Aug 2018	-	-	99.98%
Sep 2018	-	-	99.9996%
Feb 2019	-	99.63%	-
Mar 2019	-	99.57%	-
Apr 2019	-	99.11%	-
Jun 2019	98.23%	-	-
Jul 2019	98.17%	-	-
Aug 2019	97.78%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: Jul-Sep 18 (r14), Feb-Apr 19 (r7) and Jul-Sep 19 (r3)	Historic estimate thresholds were not met for some revisions. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating
Low	The controls are recorded as moderate because a permanent estimate process is in place, but has not consistently been followed. The impact is assessed to be low, because read attainment levels are high. The forward estimate was caused by reads not being obtained by r14 and permanent estimates not being entered, or rounding differences between the total and historic estimate.

Actions taken to resolve the issue	Completion date	Remedial action status
Refer to commentary in previous section in relation to permanent estimates not applied.	06/2020	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. Status update processes moved from being centralised to decentralised by brand in mid-October 2019 to allow better management of workloads, and this appears to have reduced the number of late updates.

Switch Utilities has made improvements to increase compliance following the 2019 audit, including:

1. Automation of the HH switch loss process.
2. A system fix to ensure the correct switch event reading is provided for switch losses.
3. Implementation of new reports to improve read attainment across all brands. Read attainment compliance is expected to improve once the supporting processes are developed and implemented.
4. New validation reports were released in late 2019 to identify ICPs with inactive consumption, meters with consecutive days of zero consumption, and ICPs where the controlled load is greater than the uncontrolled load. Procedures for some of these reports are still being developed and refined.
5. A new process to create estimated consumption during periods where meters are stopped or faulty was implemented in December 2019. Once training is complete, staff will begin using this process.
6. Processing MEP nominations when a service request is issued to the MEP, instead of when job completion paperwork is received.

The following areas require further improvement to achieve compliance:

1. Corrections for historic inactive consumption

Reconciliation submission data is not generated for periods where ICPs are inactive, and historic consumption is not calculated correctly if boundary disconnection and reconnection reads are not entered. A new process was implemented in August 2019 to capture new “inactive” consumption, but some historic consumption during “inactive” periods still exists. I reviewed a sample of ICPs from a list 532 ICPs which had consumption recorded during inactive periods and found some consumption was not genuine. Where the consumption was genuine, some ICPs had corrections processed and some had not. I have recommended that Switch Utilities review ICPs with historic consumption during inactive periods to confirm whether the consumption is genuine and corrections are required, and ensure that disconnection and reconnection reads are consistently entered.

2. Corrections for defective and bridged meters

Once the new correction processes are established, and training is complete, backdated corrections for bridged and stopped meters which have not yet been processed should be completed.

3. NHH meter condition and event information is not consistently reviewed

NHH meter condition and event information is not consistently reviewed to identify events which could affect meter accuracy.

4. CS content

A small number of CS files had an incorrect last actual read date, and I recommend this is investigated. The issues relating to consistently incorrect application of event dates and last actual read dates in CS files under certain circumstances appear to have been resolved. Average daily consumption in CS files is based upon the average consumption over the past month, instead of the last read to read period. The information provided does give a reasonable estimate of average daily consumption for the ICP.

5. Read renegotiation

Switch Utilities' read renegotiation process allows RR files to be supported by unvalidated customer or photo readings. The code requires all RRs to be supported by at least two validated actual readings.

One RR issued under Clause 6(2) and (3) Schedule 11.3 by another trader was rejected in error.

6. Switch save protection

Switch Utilities is a save protected retailer, and an account credit was offered as an enticement to remain with Switch Utilities before one switch was completed.

7. Reconciliation processes

A zeroing process is required for ICP days submissions where an aggregation line appears in the previous revision but is not available in the current revision.

One ICP which was supplied for one day was excluded from the AV110 submission, and investigation is required to confirm why this occurred and prevent recurrence.

A system fix is being tested to resolve the issues where the first ICP day is missed where default forward estimate is applied for an ICP.

Differences between billed and submitted data should be monitored, and any large variances should be investigated.

The breach risk rating total is 64 (a decrease from 67 in the previous audit), which results in a recommended audit frequency of three months. I have considered this result in conjunction with Switch Utilities responses which indicate that they intend to resolve the issues identified within the next five months, and recommend a next audit period of 12 months.

PARTICIPANT RESPONSE

Switch Utilities have reviewed this report and their comments are contained within its body.