Electricity Industry Participation Code Reconciliation Participant Audit Report

for

Prepared by Ewa Glowacka

Date of Audit: 12/07 & 14/07/17

Date Audit Report Complete: 11/08/2017

TEG & Associates Ltd

Executive summary

This reconciliation participant audit was performed at the request of Ecotricity (ECOT) to support their application for renewal of certification, in accordance with clauses 5 and 7 of Schedule 15.1 of The Code.

The relevant rules audited are as required by the Guidelines for Reconciliation Participants Audits, V 7.0 issued by the Authority.

Ecotricity has increased their customer database by 1,254 ICPs since the last audit. The last audit identified many issues related to reconciliation files, particularly calculations of Historic Estimates, application of seasonal adjustment shape. They were resolved by the time the audit was finalised. Unfortunately, some issues came back; they are described in the body of the report.

Our concern is low quality data in the registry, differences between the registry data and Orion, number of ICPs reconciled with incorrect type of reconciliation or profile. The Operational Manual was reviewed and we noted that it has only very small segment dedicated to the registry. Not all processes are documented. The important process in relation to the requirements that "traders must use the same reads" was incorrect, which caused non-compliance. None of the processes have the Code references and timelines to be met by reconciliation participants.

Ecotricity also uses the document called "Daily processes" to monitor daily tasks, which are complete and which are still outstanding. We have not observed processes run regularly which would mitigate risk and errors created by incorrect or inconsistent information.

17 non-compliances (one of them cleared) have been found during the audit. Most of non-compliances relate to NHH ICPs, which form a small part of Ecotricity business.

We thank the Ecotricity staff for their full and complete cooperation in this audit.

Non-compliance

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Complete and accurate information	2.1	11.2 & 15.2	Incomplete or not accurate information identified within sections of this report	Weak	Medium	3	
Gaining trader to inform registry	3.1.1	2 of Schedule 11.3	Switch for 3 ICPs was backdated, 2 ICPs had incorrect type of switch assigned	Weak	Low	3	
Losing trader must provide final information	3.1.3	5 of Schedule 11.3	Incorrect information in CS files such as read and date of transfer read	Weak	Medium	6	
Traders must use the same readings	3.1.4	6 of Schedule 11.3	Ecotricity does not use the read provided by losing trader for switches NHH to HHR using AMI meter	Weak	Medium	6	
Move In – gaining trader to inform registry	3.2.1	9 of Schedule of 11.3	Registry notified later than 2 days after the arrangement comes into effect.	Weak	Low	3	
Losing trader must provide final information	3.2.2	10 of Schedule of 11.3	Final information for 10 ICPs was sent later than 5BD	Moderate	Low	32	
Gaining trader may change switch event meter reading	3.2.3	12 of Schedule of 11.3	Final information for 10 ICPs were sent later than 5BD	Weak	Low	3	
Withdrawal if switch request	3.2.7	17 of Schedule 11.3	NW for ICP 0000000201TR27C was sent later than two calendar months after the event date (5 months)	Strong	Low	1	
Provision of ICP information to registry	3.3.2	9 of Schedule 11.1	Incorrect information in the registry	None	Medium	8	
ANZSIC code	3.3.3	9(1)(k) of Schedule 11.1	Incorrect ANZSIC code in the registry for 3 ICPs and for 9 ICPs appears to be incorrect	Weak	Low	3	

Changes to ICP information in the registry	3.3.5	10 of Schedule 11.1	Delayed transactions (32%) to updated an ICP status to Active, 32% of trader transactions also delayed up to 231 days	Weak	Medium	6	
"Inactive" status	3.3.8	19 of Schedule 11.1	Incorrect use of status "Inactive in the registry for 11 ICPs	None	Low	5	
NHH readings every 4 months	4.1.11	9 of Schedule 15.2	90% target not met for 6 NSPs	Strong	Low	1	
Electronic meter readings	5.2.5	17 of Schedule 15.2	Metrix data was not validated for 10 months as required the HHA profile	Weak	Low		Cleared
Permanence of volume estimation	7.1.7	4 of Schedule 15.2	For month Augut'15, Jan'16, Feb'16, and Apr'16 estimated volumes were not replaced by permanent estimates	Weak	Low	3	
Historic and Forwards estimates	7.1.8	4 of Schedule 15.3	Incorrect calculation of historic estimates conducted by Orion (software used for creation of reconciliation files)	Weak	Low	3	
Reporting requirements for HE	7.2.3	10of Schedule 15.3	Historically HE targets not met for rev 3, 7, and 14. Significant number of NSPs (19) which did not meet the target in Mar'17	Weak	Low	3	
Future Risk Rating						59	

Based on Table 1 of the Guidelines for Reconciliation Participant audit, the next audit should happen within next 3 months. Our recommendation is to have it within 6 months to give Ecotricity time to resolve issues with Orion.

Recommendations

Subject	Section	Recommendation	Description
Provision of information to registry	3.3.2	Compare registry ICPs file with Orion information on regular basis	
Data estimated for ICP 0645085602LC874 did not balance register reads for 4/7/17	5.2.3	Discuss with Agility why data estimation for ICP 0645085602LC874 did not use register reads	

Log files for electronic meter readings	5.2.5	Request MEPs to send event log on a regular basis to assist data validation	

Issues

Subject	Section	Issue	Description
“Active” status	3.3.7	Information of ICPs Active status in the registry is unreliable	
Export HHR volumes for reconciliation when COUP meters used	7.1.2	COUP is not in a position to provide HHR data for solar export channel. Ecotricity uses their own solar shape to create HHR data based on register reads	

Contents

1. Administrative

1.1 Summary of previous audit

The initial audit for Ecotricity was conducted last year by Ewa Glowacka of TEG Associates in July 2017

Subject	Section	Clause	Non-compliance	Cleared
Traders to change to ICP information provided to registry	3.3.5	10 of Schedule 11.1	Late update of registry information due to clean-up process of incorrect entries identified in the previous audit	On-going
"Inactive" status	3.3.8	19 of Schedule 11.1	1 ICP had incorrectly assigned status of "inactive"	Cleared
Shared unmetered load	3.4.1	11.1of Part 11	Shared unmetered load for 1 ICP was not reconciled	Cleared
Reporting requirements of historic estimates	7.2.3	10 of Schedule 15.3	HE targets not met due to software problem	On-going, still a problem

Subject	Section	Clause	Recommendation	Cleared
Electronic meter readings	5.2.5		Request MEPs to send event log on a regular basis to assist data validation	On-going, still a problem

1.2 Scope of audit

This reconciliation participant audit was performed at the request of Ecotricity to encompass the Authority's' request for annual audits as required by clause 2, of Schedule 15.1, of the Code to assure compliance with the Electricity Industry Participation Code 2010.

The audit covers the following processes under clause 15.38 of Part 15, performed by:

- (1)(a) - Maintaining registry information and performing customer switching
- (1)(b) - Gathering and storing raw meter data

- (1)(c)(iii) - Creation and management (including validating, estimating, storing, correcting and archiving) half hour and non-half hour volume information
- (1)(d) - Calculation of ICP days, monthly kWh information of half hour metered ICPs, and electricity supplied
- (1)(e) - Provision of submission information for reconciliation

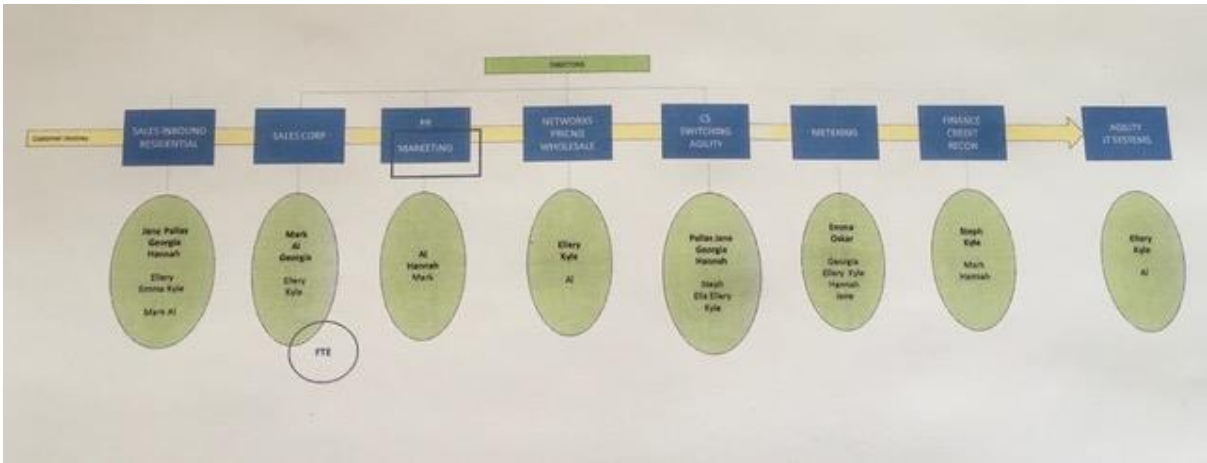
The audit was carried out on the Ecotricity premises at Albert Street in Auckland, on 12th and 14th of July 2017.

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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents providing services	MEPs providing services
(1)(a) - Maintaining registry information and performing customer and embedded generator switching		
(1)(b) – Gathering and storing raw meter data	AMCI – HHR data collection Wells – NHH data collection	NGCM – HHR data collection FCLM – HHR data collection Metrix – HHR data collection ARCS - HHR data collection
(1)(c)(iii) - Creation and management of HHR and NHH volume information	AMCI – HHR data collection Wells – NHH data collection	NGCM – HHR data collection FCLM – HHR data collection Metrix – HHR data collection ARCS - HHR data collection
(1)(d) – Calculation of ICP days, monthly kWh information of half hour metered ICPs, and electricity supplied		
(1)(e) – Provision of submission information for reconciliation		

1.3 Structure of Organisation

At present, the company consists of 4 directors and 8 employees.



1.4 Persons involved in this audit

Name	Title	Company	Comment
Al Yates	Managing Director	Ecotricity	Contact person
Mark Yates	Director	Ecotricity	
Kyle Liu	Finance & Billing Analyst	Ecotricity	
Emma Hall	Metering Installation Coordinator	Ecotricity	
Pallas Seow Lyon	Metering Installation Coordinator	Ecotricity	
Ewa Glowacka	Electricity Authority Approved Auditor	TEG & Associates	

1.5 Hardware and software

Ecotricity uses mainly ORION software provided by Agility and various spreadsheets to manage their day to day operation. ORION is used for reconciliation and billing purposes.

1.6 Use of agents (clause 15.34 of the Part 15)

(1) A reconciliation participant who has obligations under this Part may discharge those obligations by way of an agent.

(2) A reconciliation participant who utilises an agent to discharge an obligation under this Code remains responsible and liable for, and is not in any way released from, that obligation.

(3) A reconciliation participant must not assert, against anyone, that it is not responsible or liable for its obligations because the reconciliation participant's agent has done or not done something or has failed to meet a relevant standard.

ECOT engages a one agent and MEPs for the provision of NHH and HHR data, as described in the scope of audit.

1.7 Exemption from obligation to comply with the Code (section 11 of Electricity Industry Act 2012

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.

No exemption granted.

1.8 Breaches or Breach Allegations

Ecotricity filed 4 self breaches since the last audit.

Date	File reference	Breach	Compliance Committee decision
24/8/16	1606ECOT1	Ecotricity failed to submit consumption data for a new ICP that it was trading on INV0331	No further action
28/10/16	1695ECOT1	Ecotricity was using the HHA profile on 4 ICPs, in the Counties Power Network instead of RPS	No further action
08/05/17	1702ECOT1	Ecotricity failed to respond to a switch request within the required period	No further action
8/5/17	1612ECOT1	Ecotricity failed to take all practicable steps to ensure that submission information was correct	No further action

1.9 Authorisation Received

Ecotricity provided a letter of authorisation to TEG & Associates permitting the collection of data from other parties for matters directly related to the audit.

1.10 ICP data

Ecotricity provided a list of all ICP's as of 10/07/2017. The total number of ICPs in the registry was 2,000.

ICP status	Number of ICPs (2017)	Number of ICPs (July 2016)	Number of ICPs (March 2016)	Number of ICPs (2015)
Active	1,951	697	349	35
Inactive- new connection in progress	19	1	4	0
Ready for decommissioning	3	1	1	0
De-energised remotely by AMI meter	9	1	1	0
Inactive - vacant	13	1	0	0

Highest Metering Category	Number of ICPs (2017)	Number of ICPs (June 2016)	Number of ICPs (March 2016)	Number of ICPs (2015)
1	1907	657	320	21
2	61	37	24	14
3	6	1	0	0
4	1	1	1	0
9	0	1	0	0

Type of profile	Number of ICPs (2017)	Number of ICPs (June 2016)
HHA	322	160
HHR	1447	292
RPS	182	133

2. Operational infrastructure

2.1 Requirement to provide complete and accurate information (clause 15.2 & clause 11.2)

(1) A participant must take all practicable steps to ensure that information that the participant is required to provide to any person under this Part is—

(a) complete and accurate; and

(b) not misleading or deceptive; and

(c) not likely to mislead or deceive.

(2) If a participant becomes aware that in providing information under this Part, the participant has not complied with subclause (1), the participant must, as soon as practicable, provide such further information as is necessary to ensure that the participant complies with subclause (1).

These clauses are interconnected to compliance with other parts of the Code. We identified not accurate information in the registry, incorrect information in CS files created manually, incorrect historic estimates calculation. The company takes steps to ensure that information provided to others is complete and accurate but lack of effective monitoring processes (controls) influences negatively quality information. It applies both to NHH and HHR ICPs and unlikely to mitigate risk and remove errors.

Procedures, which Ecotricity have in place do not remedy the situation. They are conducted ad hoc. Our assessment of control is they are weak.

Non-compliance	Description
Audit Ref: 2.1 With: 15.2 and 11.2 From: 01-Aug-16 To: 30-Jun-17	Incomplete or not accurate information identified within sections of this report Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Medium	No checking correctness registry information, ICPs information in Orion are out of sync with the registry, quality of reconciliation files is affected

Actions taken to resolve the issue	Completion date	Remedial action status
LIS File has since been cleaned up as the Orion functionality was not operating. We have since synced the Registry up with Orion. Lis file discrepancy reports will be run every Monday, Wednesday and Friday and checked off on the Daily Processes sheet.	28/7/17	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Use a newly implemented Orion report which finds ICP discrepancies in conjunction with Database Macro provided for us which finds erroneous flags to check ECOT LIS file at a monthly on-going basis.		

2.2 Provision of information (clause 15.35 of Part 15)

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.

This is discussed in a number of sections in this report. We asked Ecotricity if they were requested to provide any information by the Authority or participants. The requests from other participants were mainly related to switching. There were no requests from the Authority.

Compliance confirmed.

2.3 Data transmission (clause 20 of Schedule 15.2)

Transmissions and transfers of data related to metering 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.

All data transmissions to and from AMS, Metrix, Arc Innovations and The Line Company meters are conducted electronically via SFTP. ECOT also receives NHH reads from Wells. Meter reads are sent using password protected email. Compliance confirmed.

2.4 Audit trails [clause 21 of Schedule 15.2]

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

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

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, and must include (at a minimum) the following:

(a) an activity identifier:

(b) the date and time of the activity:

(c) the operator identifier

A complete audit trail in ORION was viewed for all data gathering, validation and processing functions. The logs of these activities, which are performed electronically, include the activity identifier, date and time and an operator identifier. An audit trail is also recorded by the reconciliation manager system when data is downloaded via the RM portal. Meter readings from MEPs are downloaded from SFTP servers, which keep records of each activity.
We confirm compliance.

2.5 Participant obligations (clause 10.4 & 10.33(2) of Part 10)

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

A reconciliation participant may energise or authorise the energisation of a connection only if: the reconciliation participant has accepted responsibility for the point of connection if 1 or more certified metering installations are in place

Residential Terms of Use and Commercial Terms of Use are published on Ecotricity's website. These agreements cover the full term of the agreement; however, customers are not bound to a fixed contract. 30 Days notice is required. The agreement also covers metering providers and other parties which may require reliance on that consent.

2.6 Access to premises in which metering installation located [clause 10.7(2)(4)(5)(6) of Part 10]

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*

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.

One part of the Terms of Use Residential/Commercial is dedicated to "Access to your property". It gives Ecotricity and their representatives the right to access to the property for the

purpose of accessing metering installation, connecting or disconnections or any other related purposes.

2.7 Physical location of metering installations [clause 10.35(1)(2) of Part 10]

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

The majority of Ecotricity's installations are category 1 and 2. ECOT does not have any ICPs, where a compensation factor is required as per MEPs advice. Compliance confirmed.

2.8 Trader contracts with customers to permit assignments by Authority (clause 11.15B of Part 11)

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)).

In the Terms of Use Residential/Commercial Ecotricity under Assignment & Transfer reserve the right to transfer to someone else all, or any part of, their rights or obligations under these terms. In the event that that may occur, Ecotricity will advise a customer.

2.9 Electrical connection of an ICP (clause 10.32 of Part 10)

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

- accept responsibility for the ICP and the obligations under Parts 10 and 11, and, under Part 15; and

- have an arrangement with an MEP to provide metering at the point of connection under Part 15.

Since the last audit Ecotricity had 49 new connections. At the time of the audit 13 new connections were in progress. The ICP is provided by a customer or by a network. Ecotricity accept an ICP in the registry, changes the status to “New connection in progress”, and nominates a MEP. We sampled 10 installations and the results are shown below:

ICP	ICP created	Status "New connection in progress"	MEP nomination	Meter installed	Status Active	Comment
1000564102PC045	6/12/16	14/12/16	14/12/16	22/12/16	22/12/16	
0000042073WE3EF	02/06/17	8/6/17	8/6/17	21/6/17	21/6/17	
0000155495CK40A	24/02/17	27/02/17	27/02/17	1/03/17	1/03/17	Update to Active on 16/3/17, late
0000513591TPD5A	2/3/17	9/3/17	9/3/17	26/05/17	26/05/17	
0000506147CEC8A	13/6/17		28/06/17	28/06/17	28/06/17	
0000054291NTC3F	6/3/17	28/03/17	28/03/17	3/4/17	3/4/17	Update to Active on 11/05/17, late
0000505873CE191	18/4/17	9/06/17	9/06/17	**19/06/17**	**21/06/17 ***	
0000505572CE8DC	21/02/17	11/03/17	11/03/17	11/03/17	11/03/17	

1001299001LC1FD	30/11/16	7/12/16	7/12/16	13/12/16	13/12/16	Update to Active on 25/01/17, late
000008250TEBA7	27/10/16	28/10/16	28/10/16	18/11/16	18/11/16	Update to Active on 08/12/16, late

*Active status was corrected in the registry to reflect a date when meter was installed and installation livened. It is non-compliance of clause 11.2.

The company process is to accept responsibility for the ICP by changing its status to “New connection in progress”, nominate an MEP and change the status to Active once a meter is installed, the installation is certified and livened. In all examples this was followed except one. In the comment column we noted that for 4 ICPs the update to the status Active took up to 3 weeks. It will be noted as non-compliance in the relevant section of this report.

Orion does not allow to set up a new ICP unless a meter details are entered at the same time. Orion also lacks functionality to allow to nominate MEP for new ICPs. The work around is that the ICP is first claimed (1,12) in the registry and next setup in Orion when a meter is installed

There is no process in place to compare LIS file with Orion dbase to check if all new connections are recorded in Orion.

Compliance confirmed.

2.10 Metering certification [clause 10.33(2) of Part 10]

A reconciliation participant may energise or authorise the energisation of a connection only if: the reconciliation participant has accepted responsibility for the point of connection if 1 or more certified metering installations are in place.

Ecotricity never requests energisation of a connection unless it has accepted responsibility for the point of connection by changing the registry status to “New connection in progress”, nominating an MEP and sending SR requesting meter installation. The examples shown in the previous section show the process followed by Ecotricity.

Compliance confirmed.

2.11 Arrangements for line function services [clause 11.16 of Part 11]

Before notifying the registry of 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 ICP. Before notifying the registry of 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 with an MEP to be responsible for each metering installations for the ICP

Ecotricity has arrangements with networks on which they trade ICPs. Network charges are part of a monthly invoice sent to the customer. Compliance confirmed

2.12 Arrangements for metering equipment provision [clause 10.36 of Part 10]

A reconciliation participant must ensure it has an arrangement with the relevant MEP prior to accepting responsibility for an installation.

We confirm that Ecotricity has contracts signed with all MEPs, which are responsible for installations traded by ECOT. Compliance confirmed.

3. Maintaining registry information and performing customer switching [clause 15.38(1)(a)]

3.1 Standard switching process

The Ecotricity business model is to supply energy to HHR customers only. There are still NHH installations in New Zealand which are not upgraded to smart meters (some of them never will be upgraded) therefore Ecotricity trades both NHH and HHR ICPs.

3.1.1 New retailer to inform registry of switch request for ICPs (clause 1 and 2 of Schedule 11.3)

A trader and a customer or embedded generator may enter 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 subpart 2 of Part 4A of the Fair Trading Act 1986 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.

For each ICP to which a switch relates, the gaining trader must advise the registry of the switch no later than 2 business days after the arrangement with the customer or embedded generator comes into effect.
The gaining trader must include in its advice to the registry—

- *that the switch type is TR; and*
- *1 or more profile codes of a profile at the ICP.*

Ecotricity provided the Event Listing file (EDA) and Switch Breach History details report for the time period of 1/08/2016 to 30/06/2017.
Ecotricity sent 1,111 NT files for standard switches. For 3 ICPs 0000007004NZD6D, 0000018209CE345, and 0000196829UNB87 the switches were backdated. We discussed it with Ecotricity and their comment was

- ICP 0000007004NZD6D This was a move in but was put through as a transfer by mistake
- ICP 0000196829UNB87 was sent incorrectly as NTTR and was cancelled then sent correctly as NTMI for 27/4/17
- ICP 0000018209CE345 – ECOT originally requested 6/6/17, GENH rejected based on incorrect date, next ECOT sent NT again this time asking for 1/6/17

Two non-compliances were identified. The first one is not sending a notification to the registry within 2 days after the arrangement with the customer, the second one assigning incorrect flag to NT file, TR flag instead of MI.
Ecotricity has “Operational Manual” but switching is not well covered in this document, mostly only instructions are about CS files and midnight reads. There are no references to time limits of sending switching files.

The Operational Manual would not be sufficient to train a new employee. In our view, controls in place are weak, need improvement. Orion is not a software, on which the company can fully rely to assist to meet compliance.

Non-compliance	Description
Audit Ref: 3.1.1 With: 5 of Schedule 11.3 From: 18-Apr-16 To: 08-Jun-17	Switch for 3 ICPs was backdated, 2 ICPs had incorrect type of switch assigned Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Small number of switches is affected, a minor impact on end-customer

Actions taken to resolve the issue	Completion date	Remedial action status
The Procedure update has been made to include the timeframe required.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
ECOT will reinforce switching procedures and make sure controls are in place to prevent incorrect NT’s from being sent on backdated switches.		

3.1.2 Losing trader response to switch request and events date (clause 3 & 4) of Schedule 11.3)

Within 3 business days after receipt of notification of a switch from the registry, the losing trader must establish an expected event date or provide the final information to complete a switch.
The losing trader must establish event dates under clause 3 that no event date is more than 10 business days after the date of receipt of such notification, and in any 12-month period, at

least 50% of the event dates must be no more than 5 business days after the date of notification.

Ecotricity lost 82 ICPs using the standard switch process since the last audit. The Switch Breach History detail report confirmed that all AN notifications were provided within the required timeframe during the audit period. The company policy is to accept the date specified by the gaining trader as the event date. We checked 40 AN files and confirm compliance.

3.1.3 Losing trader must provide final information (clause 5 of Schedule 11.3)

If the losing trader provides information to the registry in accordance with clause 3(a) and (4), then no later than five business days after the vent date, the losing trader must complete the switch by providing final information to the registry, including:

(a) the event date; and

(b) 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; and

(c) if the switch event meter reading is not a validated meter reading, the date of the last meter reading of the meter or data storage device described in paragraph (b).

We analysed CS files sent by Ecotricity. Out of 82 lost ICPs, 27 of them were sent later than 5 business days after the event date. The most "delayed" examples are shown on the table below:

ICP	Effective Date	Input Date	Days	Comment
0000697121TEE7F	12/09/16	5/10/16	-18	
0001437795UN906	12/11/16	29/11/16	-12	
0000026102TR1B2	11/01/17	27/01/17	-12	
0000043164CP4FE	12/11/16	29/11/16	-12	
0000082600TRE5D	12/11/16	29/11/16	-12	
0000183895TP723	31/03/17	18/04/17	-13	
0000974000TE78C	27/11/16	15/02/17	-58	Genesis asked to backdate

Ecotricity explained that they were using the Switch Breach report as a supporting tool to know how quickly to send final information to the gaining trader. Unfortunately, the Switch Breach report only shows indicative dates and for the CS files still allow 10BD instead 5BD.

There are some problems with Orion with regards to creating CS files. It can create a CS file if an ICP is reconciled as NHH by Ecotricity but it can't create a CS file for ICPs for which Ecotricity have HHR data. The process is done manually using the registry web interface.

14 CS files were created by Orion and 147 manually (both TR and MI switches).

We checked the documentation of the CS file process (manual) and it is incorrect. The document called "How to send a CS via the registry" described how to create the switch event read for a legacy meter.

- *If read is for three days or less before the transfer date add read with last read date set as the date the read was taken*
- *If read is more than three days before the transfer date then you need to estimate a read using the estimated daily consumption for the date of transfer, last read date should be set as transfer date*
- *Change read type to 'E – Estimate'*

We are not sure why reads are treated differently depending if they are less than 3 days old, or more. We discussed it with Ecotricity and the comment was that it takes a long time to create an estimate therefore it was decided to simplify it. There is a problem with that because readings less than 3 days old are copied and the flag of Actual is still assigned. It gives incorrect information to the gaining trader.

As part of this audit we sampled 9 CS files provided by Ecotricity. We found incorrect information in 7 of them. The main problem is using the incorrect Last Read date. A final read given to the gaining trader is recorded at the end of the day when a gaining trader takes responsibility.

ICP	Issue	Comment
0000147495TR10E	Read marked as A but it was "closing estimate"	
0000185022CT3E1	Actual Transfer Date and Last Read Date (26/9/16) are the same. The read was from HHR file dated 26/6/16	
0000697121TEE7F	correct	
0000974000TE78C	Actual Transfer Date and Last Read Date (27/11/16) are the same. The read was from HHR file dated 27/11/16	
0001426836UNB97	Actual Transfer Date and Last Read Date (02/02/17) are the same. The read was from HHR file dated 1/2/17	

0000005754CPB55	Actual Transfer Date and Last Read Date (13/01/17) are the same. The read was from HHR file dated 13/01/17	
0000026102TR1B2	Actual Transfer Date and Last Read Date (11/01/17) are the same. The read was from HHR file dated 11/01/17	
0000035218WE615	Actual Transfer Date and Last Read Date (13/01/17) are the same. The read was from HHR file dated 13/01/17	
0000127688UN67F	correct	

We also sampled 9 CS files created by Orion. They were correct.

The Orion functionality to create CS files using HHR data broke down about 6 months ago. Agility has difficulties to fix it. It forced Ecotricity to create a manual process using the registry web interface. Unfortunately, the procedure is incorrect, which caused non-compliance. The concern is that was not identifies by the company before the audit. The registry specification is very clear what information should be recorded in the registry.

Our assessment of controls is that they are weak because they are incorrect, they provide misleading information to the gaining trader.

Non-compliance	Description
Audit Ref: 3.1.3 With: 5 of Schedule 11.3 From: 01-Aug-16 To: 30-Jun-17	Incorrect information in CS files such as read and date of transfer read Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	It has impact on settlement outcomes and it affects end customers. It is a systematic problem

Actions taken to resolve the issue	Completion date	Remedial action status
This is an Orion System side issue which since has since been resolved.	04/08/17	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
ECOT will no longer use the Registry's CS generation and rely solely on Orion's automated system, reducing the chance of human error. ECOT's has since updated the switching procedure documentation with misunderstanding cleared. We would be happy to provide evidence this is working.	31/8/17	

3.1.4 Traders must use same reading (clause 6 & 6A & 7 of Schedule 11.3)

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

> • *(a)- 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 switch event meter reading;*
> • *(b) 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 event meter reading.*

(2) Despite subclause (1), subclause (3) applies if—
(a) the losing trader trades electricity at the ICP through a metering installation with a submission type of non half hour in the registry; and
(b) the gaining trader will trade electricity at the ICP through a metering installation with a submission type of half hour in the registry, as a result of the gaining trader's arrangement with the customer or embedded generator; and
(c) a switch event meter reading provided by the losing trader under subclause

(1) has not been obtained from an interrogation of a certified metering installation with an AMI flag of Y in the registry.

(3) No later than 5 business days after receiving final information from the registry under clause 22(d), —

(a) the gaining trader may provide the losing trader with a switch event meter reading obtained from an interrogation of a certified metering installation with an AMI flag of Y in the registry; and

(b) the losing trader must use that switch event meter reading.

It was noted that readings contained in the CS files were imported to ORION and used for ICPs which were traded as NHH. If the consecutive meter reads were showing that the read provided in the CS read was incorrect, Ecotricity was sending the RR file to losing traders.

In the previous audit it was noted that Ecotricity has implemented a process to compare a switch event meter reading (CS file) provided by a losing trader for installations with an AMI flag of "Y" in the registry with a register read provided by MEPs (part of HHR file). Unfortunately, the process does not work.

The process is documented on how to create the RR file manually in Orion. The process for NHH to NHH switches is correct. The procedure for switching NHH to HHR using a meter which has an AMI flag of Y in the registry was incorrect. According to the process, if the difference between CS estimate and a read provided by MEP was less than 8 kWh, the read type from CS file was changed to Actual and no RR file was sent. There are two problems with such approach, the first one is that Ecotricity does not use a read provided by a losing traders, the second one is that the flag against meter read was changed from E to A.

It was discussed with Ecotricity and they decided to change a process. The problem which Ecotricity faces is that AMS does not want to provide a midnight read free of charge. AMS is expected to be paid $9.00 per read. In most cases AMS takes 10 BD to provide HHR data, which means that 5 BD "window" to provide AMI read to a losing trader is gone.

Overall 213 RR files were sent to losing traders. Ecotricity received 10 RR files asking to change switch meter reads. Randomly we picked up 7 RR files sent by the losing trader to confirm that they were recorded in Orion. Out of 7 of the sampled RR reads only 2 were correctly recorded in Orion. It is of concern that some RR files are not imported into Orion and it appears that was not noted by the company. Secondly, if an RR accepted read is flagged as MISREAD, how does it affect the reconciliation files. This read is probably not taken into consideration.

ICP	Issue	Comment
0597617021LC5B9	Orion has record (A) of 24174, according to the registry it was rejected by ECOT, CTCT provided read of 24081, it was accepted by ECOT but there is no sign of it in Orion	
0007123315RN27D	RR read is recorded in Orion but the flag against this read is MISREAD	
0001265471UN0E6	RR read is recorded in Orion but the flag against this read is MISREAD	
0001002014PC2DE	RR was imported into Orion but did not log into the Meter read tab	
0134989724LC451	Correct	
0290778727LCB2E	RR read is recorded in Orion but the flag against this read is MISREAD	
0349336024LCF89	RR was imported into Orion but did not log into the Meter read tab	

Non-compliance identified because for some switches Ecotricity does not use the same read as provided by the losing traders RR files.

The process of using the switch read provided by a losing trader is not managed well. According to the procedure adopted by Ecotricity for last 12 months, if the difference was less than 8 kWh, RR file was not sent.

Our assessment of controls is Weak. The process is in place but parameters are wrong.

Non-compliance	Description
Audit Ref: 3.1.4 With: 6 of Schedule 11.3 From: 01-Jul-16 To: 30-Jun-17	Ecotricity does not use the read (E) provided by losing trader for switches NHH to HHR using AMI meter. Potential impact: None Actual impact: None Audit history: None Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	Ecotricity often switches ICPs from NHH to HHR, in some instances the same switch event read is not used. It has impact om settlement income, on market participants

Actions taken to resolve the issue	Completion date	Remedial action status
For all MEPs we actively use midnight reads except for AMS. Awaiting AMS to stop charging Ecotricity $9 for midnight reads. Procedure will be updated once AMS provides these at no cost.	30/7/17	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
If the ICP Is going from NHH to HHR with an AMI meter, ECOT will always request a midnight read from the respective MEP if the received CS read was an estimate. If there is a difference between the CS estimate and the midnight read – an RR will be sent with the actual midnight read received. Ecotricity has been requesting and using midnight reads on CS's for all MEPs except for AMS. However, it should be noted that only AMS has been charging Ecotricity for midnight reads at $9 per ICP which is prohibitive for Ecotricity to request midnight reads which we ended since the 1st of May. Further, AMS have noted that Ecotricity should not have access to midnight reads for periods relating to the switch date for privacy reasons because the losing retailer owns the ICP prior to the switch. AMS has noted that Ecotricity has a "high" number of midnight reads (39) which would imply that potentially Ecotricity is one of the best retailers performing this function. We therefore will not be requesting midnight reads from AMS until; A. AMS make these midnight reads B. Stop charging Ecotricity for these midnight reads	31/7/17	

3.2 Switch Move process

3.2.1 Gaining trader informs registry of switch request (clause 9 of Schedule 11.3)

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 of a switch and the proposed event date no later than 2 business days after the arrangement comes into effect.

In its advice to the registry 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))*

Ecotricity sent 409 NTMI. We reviewed the EDA file for the period 1/8/16 to 30/6/17 to assess compliance. Overall 94 NTs had a date in the past. We identified 4 ICPs for whom a switch date was backdated significantly, up to 283 days

ICP	Number of backdated BD	Comment
0005300126RNDC5	283	switched out by mistake and reinstate back to 2/2/16
0155660012LCB00	175	Prolong discussion about pricing option
0000014409KPE63	161	Commercial customer with a backdated switch in date that was specified via phone call
0104399031LC064	116	This customer joined ECOT with an incorrect ICP. We discovered this after the customer called us five months after switching because she was concerned about the power usage at night- She owned a shop that was only open during the day. We sent NWWP for the incorrect ICP and backdated NTMI for the correct ICP. Previous retailer, Powershop refused to accept our NWWP because they no longer had customer information for this account.

Non-compliance identified.

We discussed with Ecotricity most backdated Move In switches. It was combination of incorrect ICPs being switched or late notification or prolong discussion about pricing options, other traders having incorrect information in their system. The process is in place but not very effective. Move In switches are industry wide issue, how to manage them effectively.

Non-compliance	Description
Audit Ref: 3.2.1 With: 9 of Schedule 11.3 From: 01-Jul-16 To: 30-Jun-17	Registry notified later than 2 days after the arrangement comes into effect. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Small number of ICPs, no impact on settlement outcome but it could impact end-customer

Actions taken to resolve the issue	Completion date	Remedial action status
Unfortunately there is not much that can be improved here as 3 of the 4 issues relate to incorrect details given to us by the customer OR the customer not realizing they had the extra ICPs noted.	31/7/17	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As noted in the Audit report however, this is an industry wide issue. We do however consult with the losing retailer who frequently are billing another customer incorrectly and are appreciative of the correction. There nothing further we can do to remedy this.	31/7/17	

3.2.2 Losing trader must provide final information (clause 10 & 11 of Schedule 11.3)

Within 2 business days after receipt of notification of the switch from the registry, the losing trader must confirm the proposed event date or set another expected event date (that must not precede the gaining trader's proposed event date and must be no more than 10 business days after the date of such notification)

If the losing trader has provided information to the registry in accordance with clause 10(a), no later than 5 business days after receiving notification, the losing trader must:

- *(ia)- provide confirmation of the event date to the registry*
- *(ib)- a valid switch response approved by the Authority*
- *(ii) final information*

(b) if the losing trader does not accept the event date proposed by the gaining trader, acknowledge the switch request to the registry and determine a different event date that—

(i) is not earlier than the gaining trader's proposed event date; and

(ii) is no later than 10 business days after the date of the notification; or

(c) request that the switch be withdrawn in accordance with clause 17.

We checked the EDA file for the period 1/8/17 and 30/6/17. Ecotricity lost 95 ICPs using Move In process

We found 10 ICPs which don't meet compliance with clause 10 of Schedule 11.3. Where Ecotricity took more than 5 BD to finalize switch.

ICP	NT	CS	N# of days
0001426836UNB97	17/10/16	26/10/16	10
0002034200CNA60	4/01/17	19/01/17	16
0001426836UNB97	24/02/17	8/03/17	13
0218540116LCBE0	16/02/17	2/03/17	15
0000123933UN396	16/12/16	10/01/17	26
0000124769TR1BC	21/12/16	10/01/17	21
0000147495TR10E	15/09/17	27/09/17	13
1000521397PC45F	21/12/16	10/01/17	21
0007173703RN62A	31/01/17	15/02/17	16
0069475081LC58E	23/12/16	11/01/17	20

In our view controls in place are Moderate. Process is well documented. Switch Breach report is not reliable tool; it should be used only as an indication what action should be taken by a trader.

Non-compliance	Description
Audit Ref: 3.2.2 With: 10 of Schedule 11.3 From: 01-Jul-16 To: 30-Jun-17	Final information for 10 ICPs were sent later than 5BD Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Small number of ICPs affected. No impact on settlement outcomes

Actions taken to resolve the issue	Completion date	Remedial action status
System generation of CS file repaired, allowing the procedure to be easier to manage. Preventative procedure has been implemented after the last audit to catch CS' which are almost due. However in our Daily Processes this is already done and checked daily. (refer to updated procedure which now includes BD requirements highlighted in yellow boxes).		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Preventative procedure after the last audit has been followed through with and is evident in the last six months where there have been only 8 ICP processed later than 5 BD. A single staff member was appointed responsible for switching, a 2nd staff member has also since been trained. We will however continue to use the Switch Breach report as an indicative tool only. This was also recommended in our last audit.		

3.2.3 Gaining trader may change switch event meter readings (clause 12 of Schedule 11.3)

The gaining trader may use the switch 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 the new switch event meter reading, the gaining trader must notify the losing trader of the new switch event meter reading and the event date to which it refers as follows:

- *12(2)(a) - if the switch event 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; or*

(2A) Despite subclauses (1) and (2), subclause (2B) applies if—

(a) the losing trader trades electricity at the ICP through a metering installation with a submission type of non half hour in the registry; and

(b) the gaining trader will trade electricity at the ICP through a metering installation with a submission type of half hour in the registry, as a result of the gaining trader's arrangement with the customer or embedded generator; and

(c) a switch event meter reading provided by the losing trader under subclause (1) has not been obtained from an interrogation of a certified metering installation with an AMI flag of Y in the registry.

(2B) No later than 5 business days after receiving final information from the registry under clause 22(d),—

(a) the gaining trader may provide the losing trader with a switch event meter reading obtained from an interrogation of a certified metering installation with an AMI flag of Y in the registry; and

the losing trader must use that switch event meter reading

Ecotricity gained 65 ICPs through Move In switch. As described in section 3.1.4, for standard switches, the process adopted by Ecotricity for last 12 months was incorrect.

Non-compliance identified

Our assessment of controls is Weak. The process is in place but parameters are wrong.

Non-compliance	Description
Audit Ref: 3.2.3 With: 12 of Schedule 11.3 From: 01-Jul-16 To: 30-Jun-17	Ecotricity does not use the read (E) provided by losing trader for switches NHH to HHR using AMI meter. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Small number of ICPs affected. No impact on settlement outcomes

Actions taken to resolve the issue	Completion date	Remedial action status
This is covered in 3.1.4 For all MEPs we actively use midnight reads except for AMS. We are awaiting AMS to stop charging Ecotricity $9 for midnight reads. Procedure will be updated once AMS provides these at no cost. Our suggestion to the EA is that regardless of if the losing retailer is trading NHH on a HH meter that the midnight read has to be used to increase efficiency in this process.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

3.2.4 Gaining trader switch process (clause 14 of Schedule 11.3)

The gaining trader 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 to trade electricity through or assume responsibility for:

- a half hour metering installation that is not a category 1 or 2 metering installation, that has an ICP with a submission type half hour on the registry and an AMI flag of "N"; or

- a half hour metering installation that has a submission flag of half hour and an AMI flag of "N" and is traded by the losing trader as non-half hour; or

- a non half hour metering installation at an ICP with the losing trader trades through a half hour metering installation with an AMI flag of "N".

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

A gaining trader must advise the registry 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:

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, 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, if:

14(4)(a) – the proposed event date is in the same month as the date on which the gaining trader advised the registry; 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 and this date is agreed between the losing and gaining traders.

Ecotricity gained 3 HHR customers using the gaining trader switch process. The ICPs were 0230795048LCA1E, 0445368956LC9BF, and 1001119945LC8CA.

Compliance confirmed based on a review of all ICPs.

3.2.5 Losing trader provides information (clause 15 of Schedule 11.3)

Within 3 business days after the losing trader is informed about the switch by the registry, the losing trader must:
15(a) - provide to the registry 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.

Ecotricity did not lose any HHR customers.

3.2.6 Gaining trader obligations (clause 16 of Schedule 11.3)

The gaining trader must complete the switch no later than 3 business days, after receiving the valid switch response code, by advising the registry of the event date.
If the ICP is being de-energised 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 de-energised or the metering equipment is removed; or
16(b)- carry out an interrogation and, no later than 5 business days after the metering installation is de-energised or removed, advise the losing trader of the results and metering

component numbers for each data channel in the metering installation.ng trader must notify the registry of the actual event date no later than 3 business days after the actual event date.

We checked all (3) and confirm compliance.

3.2.7 Withdrawal of switch request (clause 17 and 18 of Schedule 11.3)

A losing trader or gaining trader may request that a switch request be withdrawn at any time until the expiry of 2 calendar months after the event date.
No later than 5 business days after receiving a notification from the registry of a switch, the trader receiving the withdrawal must notify the registry 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.

Ecotricity sent 117 NW files. The breakdown of reasons codes is shown below:

Row Labels	Count of Reason
CE	50
CX	20
DF	9
UA	8
WP	18
WS	12

1 NW files was sent later than two calendar months after the event date. It was ICP 0000000201TR27C. The reason code was WP (wrong premise). It was sent after 5 months. It is identified as non-compliance.

160 AW files were sent as a response to NW sent by another trader. AW are created by Orion or manually using registry web interface. 16 AW were created manually, we checked 8 of them and they were created the same or following day. We randomly checked 5 AW and confirm they were created the same day or following. This process works well.

We checked the Operational Manual but could not find a process description. Our assessment of controls is as Strong because out of 117 NW files sent only one file was sent later than 4 months.

Non-compliance	Description
Audit Ref: 3.2.7 With: 17 of Schedule 11.3 From: 01-Jul-16 To: 30-Jun-17	NW for ICP 0000000201TR27C was sent later than two calendar months after the event date (5 months) Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating:1
Audit risk rating	**Rationale for audit risk rating**
Low	Only 1 ICPs affected, no impact on settlement outcomes

Actions taken to resolve the issue	Completion date	Remedial action status
One-off issue caused by human error. None to be taken		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Control procedures are already in place. (see attached Switching File References file regarding instructions)		

3.2.8 Metering information (clause 21 of Schedule 11.3)

For an interrogation or switch event meter reading carried out in accordance with Schedule 11.3:

- *21(a)- the trader who carries out the interrogation, or validated meter reading, or permanent estimate must ensure that the interrogation is as accurate as possible, or that the switch event meter reading is fair and reasonable (as the case maybe)*
- *21(b) and (c) - the cost of every interrogation or switch event meter reading carried out in accordance with clauses 5(b) or 10(b)(ii) must be met by the losing trader. The costs of every other interrogation must be met by the gaining trader.*

Ecotricity meter readings used in the switching process are validated and as accurate as possible. Readings are provided by the MEPs or agents. The cost of all switch event reads carried out by Wells or MEPs is covered by Ecotricity.

3.3 Maintaining registry information

3.3.1 Certain point of connection must have ICP identifiers (clause 11.3 of Part 11)

The following participants must obtain an ICP identifier as defined in clause 11.3(3) of part 11

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

It was examined that all Ecotricity customers have unique ICPs assigned. For new installations Ecotricity requests an ICP or it is requested by a customer. Networks have different rules as to who requests an ICP identifier. ORION does not allow the assigning of duplicate ICPs. Compliance confirmed.

3.3.2 Provision of ICP information to registry (clause 11.7 of Part 11 and 9 of Schedule 11.1)

(1) Each trader must provide the following information to the registry for each ICP is it recorded as having responsibility for:

(a) The participant identifier of the trader

(b) The profile code of each profile at that ICP

(c) The participant identifier of the MEP at that ICP

(ea) The type of submission information the trader will provide to the reconciliation manager

(f) If settlement type= UNM:

- *The code ENG if the ICP profiled through an engineering profile*
- *The daily unmetered load in kWh*
- *The type and capacity of any unmetered load at the ICP*

(j) The status of the ICP

(k) Business classification code applicable (ANZSIC) to the customer at the ICP

This information must be provided no later than 5 business days after the trader commences trading at the ICP.

The LIS file dated 10/7/17 was analysed and we found many incorrect entries. The incorrect entries are summarized below:

- ICP 0007180980RNED7 – distributor recorded Initial Energisation Date of 16/6/17. It is the same day that NGCM certified the metering installation. According to Ecotricity it is still “new connection in progress”
- 47 ICPs have HHA profile assigned to other MEPs other than Metrix. 13 ICPs are COUP installations read by MTRX. Data from these installations should be validated the same way as data from Metrix but Ecotricity never formally added Counties Power’s meters to the HHA profile application
- 4 ICPs (0007495606LC300, 0210708522LCA88, 0402268067LCC6B, and 1001117165LCD52) had HHR profile and a reconciliation type of NHH assigned
- ICP 0000154454UNA7D had RPS profile and a reconciliation type of HHR assigned

Incorrect entries in the registry are related to the type of profile and the type of reconciliation impact on reconciliation files. ICP days are affected and the distribution of volumes between NHH and HHR ICPs. Information recorded in the registry and Orion are different in many aspects such as MEP, ICP status, profile, type of reconciliation.
The Operational Manual has a segment called “Produce & Check LIS file from registry” which asks for the checking of profile, ANZSIC codes, HHR/RPS flags, nominated MEPs. After talking with Ecotricity, we understood that the process for comparing the two sets of information is done from time to time, not on a regular basis. Unfortunately, two sets of data are out of “sync” almost immediately after the first update when Orion does not upload it to the registry.
Recently Agility designed a report which allows the comparison of the LIS file and Orion. Hopefully this will assist Ecotricity to have Orion and the registry ICP information in sync.
The concern is that new installations have to be loaded to the registry first and later to Orion. The reason is that Orion does not allow to enter a new ICP without a meter attached to it.
We came across at least one ICP (1001278739UNDDA) for which Ecotricity accepted responsibility but it is not in Orion therefore is “forgotten”.
Non-compliance identified.

The process to have accurate information in the registry is not satisfactory. It does not appear that it is much control what quality information recorded in the registry, what impact it has on submission files, what is the cost of having incorrect ICP days.

In our opinion controls are non-existent. It is not difficult to put in place a simple process to compare LIS file with registry Orion. For start it could be a mammoth task but once run regularly it will be manageable.

Non-compliance	Description
Audit Ref: 3.3.2 With: 9 of Schedule 11.1 From: 01-Jul-16 To: 30-Jun-17	Incorrect information in the registry, type of profile, type of reconciliation Potential impact: Low Actual impact: Low Audit history: None Controls: None Breach risk rating: 8
Audit risk rating	**Rationale for audit risk rating**
Medium	Ecotricity is growing very fast and incorrect information in registry impact other market participants

Actions taken to resolve the issue	Completion date	Remedial action status
LIS File has since been cleaned up as the Orion functionality was not operating. We have since synced the Registry up with Orion. Lis file discrepancy reports will be run every Monday, Wednesday and Friday and checked off on the Daily Processes sheet.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Use a newly implemented Orion report which finds ICP discrepancies in conjunction with Database Macro provided for us which finds erroneous flags to check ECOT LIS file at a monthly on-going basis.		

Recommendation	Description	Audited party comment	Remedial action
Compare registry ICPs file with Orion information on regular basis	Disparity information between the registry and Orion		

3.3.3 ANZSIC codes [clause 9(1)(k) of Schedule 11.1]

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

We analysed the LIS file dated10/7/17.
3 ICPs (0000007004NZD6D, 0000195872UNFBB, and 0367298626LCC17) have ANZSIC code status T99 and T994. All these installations were gained by Ecotricity from other traders.

The “Daily check list” has a daily task to check ANZSIC code but it looks that did not trigger the correction to the ICPs information.

1557 ICPs had ANZSIC code of “0” assigned. 442 ICPs have other ANZSIC codes assigned. We randomly chose 52 ICPs from non-residential ANZSIC codes. 11 of them could be incorrect. They are shown below

ICP	ANZSIC code	Description
0000002007CB44B	L671	Property Operators
0000002008CBB95	L671	Property Operators
0000008241TED4F	E323200	Electrical Services
0000008250TEBA7	E323200	Electrical Services
0000020900WE263	G426	Department Stores
0000566829NR910	E30	Building Construction
0000568095NR071	E323200	Electrical Services
1000558283PC0E5	E301	Residential Building Construction
1000560601PC507	E301	Residential Building Construction
1001248464LC2B2	N729100	Office Administrative Services
1099575367CNA36	E323200	Electrical Services

The description of addresses leads to the conclusion that these ICPs represent residential premises. Some of these ICPs are new connections (marked in bold letters in the table). There is a possibility that when the status of “new connection” is assigned, ANZSIC code of E323200 is assigned, and not updated later on when a connection becomes permanent.

Non-compliance identified.

The “Daily check list” asks for the checking of the ANZSIC code but the non-compliances identified gives a basis to assess the strength of controls between None and Weak. The process is in place but it is unlikely to mitigate risk and remove errors.

Non-compliance	Description
Audit Ref: 3.3.3 With: 9(1)(k) of Schedule 11.1 From: 01-Jul-16 To: 30-Jun-17	Incorrect ANZSIC code in the registry for 3 ICPs and for 9 ICPs appears to be incorrect Potential impact: None Actual impact: None Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Issue does not have impact on settlement outcome but it has impact on statistician analysis conducted by the Authority and Government

Actions taken to resolve the issue	Completion date	Remedial action status
ANZSIC code field has been cleaned up in ORION DB and the Registry/LIS file respectively.	7/8/17	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
ECOT has identified that the majority of these errors stem from the initial set up of NEW ICP's and Builder's temporary suppliers. New control procedure is now in place to revisit those sites and change the ANZSIC code accordingly. This has been achieved by adding a new column in our NEW ICP process sheets to "Change ANZSIC Code". Sequentially, the ANZSIC code field will also be a part of the newly implemented LIS file checking procedure.	8/8/17	

3.3.4 Changes to unmetered load [clause 9(1)(f) of Schedule 11.1]

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

If the settlement type UNM is assigned to the ICP

(i)If the load is profiled through an engineering profile in accordance with profile class 2.1, the code ENG; or

(ii)In all other cases, the daily average unmetered load in kWh at the ICP.

Ecotricity does not trade unmetered load.

3.3.5 Traders to change to ICP information provided to registry (clause 10 of Schedule 11.1)

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

EDA file for a period 1/8/16 to 30/6/27 provided by Ecotricity was analysed to assess compliance with the above clause.

The table below shows a breakdown of status and trader updates and how many of them were uploaded later than 5 business days.

Status	Reason code	No of updates	No of updates later than 5BD	Date range of updates [BD]	
1 (inactive)	11 (de-energised at meter box switch)	1	0		
1 (inactive)	4 (de-energised vacant)	20	6 (30%)	8 to 76	1001149092CKC56 – change from “2” to “1,4” – 76 days 1001151864CK822 - – change from “2” to “1,4” – 46 days
1 (inactive)	6 (de-energised ready for decommissioning)	3	1 (33%)	28	0007121531RNB64
1 (inactive)	7 (de-energised remotely)	1	0	0	
1 (inactive)	9 (de-energised due to a meter disconnected)	1	0		
1 (inactive)	12 (new connection in progress)	56	4 (7.1%)	9 to 31	1099575354CN10E – updated after 31 days 1000560773PC9DB – updated after 25 days
2 (active)	0	58	14 (31.8%)	9 to 109	0000514470WP0CE – change from status “1,12” to “2” 109 days 1001299001LC1FD – change from status “1,12” to “2” - 32 days

Trader		1,139	378 (33.18%)	7 to 231	0000482255CE868 – change of profile RPS to HHR -228 days 1001274876UN42E– change of profile RPS to HHA -228 days

Most of the “trader” updates are related to a profile and type of reconciliation changes. It is an ongoing battle to have LIS records in sync with the registry records. It results in many backdating entries. It is a losing battle for Ecotricity because the process is ad hoc, therefore ineffective.

Management of status ‘Active” is not good. Nearly 32 % of entries are late, up to 109 BD, which has an on-going effect on reconciliation volumes and possibly also affects customers.

The processes are documented but not used. Our assessment of controls is that they are weak and unlikely to mitigate risk and remove errors.

Non-compliance	Description
Audit Ref: 3.3.5 With: 10 of Schedule 11.1 From: 01-Jul-16 To: 30-Jun-17	Delayed transactions (32%) to updating an ICP status to Active, 32% of trader transactions also delayed up to 231 days Potential impact: Low Actual impact: Low Audit history: twice previously Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	Medium audit risk rating is assigned to Medium because updates to the trader fields and status in the registry are delayed even up to 3 months and can have impact on settlement outcomes, switching and end-user customer. The number of ICPs traded by Ecotricity increased significantly and the current way in which Ecotricity operates gives a bleak outlook to the future.

Actions taken to resolve the issue	Completion date	Remedial action status
The ICP Registry is up to date with our Orion System.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Lis file importation into Orion System will remedy this and a number of other issues relating to the ICP registry. Further enhancements are being made to automate further the Registry with Orion,		

3.3.6 Trader responsibility for an ICP (clause 11.18 of Part 11)

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:

- *11.18(2)(a)- another trader is recorded in the registry as accepting responsibility for the ICP; or*
- *11.18(2)(b)- the ICP is decommissioned in accordance with clause 20 of Schedule 11.1.*

11.18(3)- If an ICP is to be decommissioned, the trader who is responsible for the ICP must:

- *arrange for a final interrogation to take place prior to or upon meter removal*
- *advise the MEP of the decommissioning.*

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

11.18(5) Must not trade at an ICP (excluding UML) unless an MEP is recorded in the registry.

The LIS file was investigated and we confirm that a MEP is recorded for each ICP, except for ICPs which had a status of "new connection in progress. Ecotricity have an understanding of their responsibilities in this area that any ICP having Ecotricity against their name must be read, volume reconciled and correct information recorded. The last part of these responsibilities, as per previous sections, causes a lot of problems for Ecotricity.

Compliance confirmed.

3.3.7 "Active" status (clause 17 of Schedule 11.1)

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

- *17(1)(a) the associated electrical installations are energised*
- *17(1)(b)- The trader must provide information related to the ICP in accordance with Part 15, to the reconciliation manager*

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

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

1,951 Ecotricity ICPs had the status of "Active". All these ICPs had an MEP assigned, metering installed and information is provided to the reconciliation manager. There is an issue with how "Active" status is maintained in the registry. We were assured that the ICPs status in Orion are correct. The process of creating reconciliation files uses information contained within Orion not the registry.

The information of ICPs Active status in the registry is unreliable. We would like to identify it as an issue.

Issue	Description	Remedial action
"Active" status	Information of ICPs Active status in the registry is unreliable	

Compliance was confirmed.

3.3.8 "Inactive" status (clause 19 of Schedule 11.1)

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

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

We analysed the LIS file dated 10/7/17. 9 ICPs had the status of "Inactive" other than "New connection in progress". We investigated the correctness of the status for all of them. The results are shown below:

0007180980RNED7 – distributor recorded Initial Energisation Date of 16/6/17. It is the same day that NGCM certified the metering installation. The status in the registry is still "new connection in progress"

1001278739UNDDA – ICP status in registry is "De-energised at pole fuse". Closer investigation of the registry entry led us to the conclusion that it is an error. The ICP was created on 12/6/15. Ecotricity nominated Metrix as the MEP on 4/11/15. 3 August 2016 the status was changed to "De-energised at pole fuse" backdated to 3 November 2015. The ICP is not recorded in Orion.

0000228273UN169 - Disconnected due to non-payment. Two warning letters sent to customer, still no payment. Email disconnection request then sent to AMS with attached paperwork. AMS sent back completed paperwork which is added to customer's account. Registry was updated on 28/7/17 backdating to 30/6/17

0000232993UNE7C - Disconnection due to move out. Move out letter sent with no response. Email disconnection request then sent to AMS with attached paperwork. AMS sent back completed paperwork which is added to customer's account. The ICP switched out on 10/7/14 to Contact having the status "Inactive – disconnected remotely" Ecotricity showed us that the ICP was reconciled from 3/4/17 to 4/7/17

0000520217NR92C - Disconnected due to non-payment. Two warning letters sent to customer, still no payment. Email disconnection request then sent to FCLM with attached paperwork. FCLM sent back completed paperwork which is added to customer's account, then registry was updated on 19/7/17

0000954498TU716 - This site was disconnected when ECOT gained the site, we reconnected and received paperwork but didn't update the registry. Registry was updated on 2/8/17 backdating to 29/12/16.

0155664468LC64D - Disconnected due to non-payment. Two warning letters sent to customer, still no payment. Email disconnection request then sent to MTRX with attached paperwork. MTRX sent back completed paperwork which is added to customer's account, then registry is updated. Registry was updated on 10/7/17

1001150158CK46D - This site was disconnected when ECOT gained the site, it was reconnected and received paperwork for 19/01/17 but didn't update the registry. This site is now with GEOL so it cannot be updated. According to the registry the ICP was Ecotricity's responsibility from 20/1/17 to 28/7/17, the status was "Inactive" therefore no volumes were expected to be submitted. Ecotricity showed us that volumes were sent to the reconciliation manager for all 6 months.

0000184197CT4B8 - Was not disconnected by us - disconnected when ECOT gained and ECOT re-connected. Registry is still not updated

0005767350RNC97 - This site was disconnected when we gained the site, we reconnected and received paperwork but didn't update the registry. Registry was updated on 2/8/17 backdating to 18/5/17

0370781538LC41B - This site was disconnected when ECOT gained the site, ECOT reconnected and received paperwork but didn't update the registry. Registry was updated on 2/8/17 backdating to 31/10/16

Our overall comment is that it does not look like Ecotricity manages the status "Inactive" correctly. ICPs are reconnected and registry not updated until identified during the audit. The process is not documented and it does not appear that there are any processes in place to check it. Controls are non-existent.

Non-compliance	Description
Audit Ref: 3.3.8 With: 19 of Schedule 11.1 From: 01-Jul-16 To: 30-Jun-17	Incorrect use of status “Inactive in the registry for 11 ICPs Potential impact: Low Actual impact: Low Audit history: once previously Controls: None Breach risk rating: 5
Audit risk rating	**Rationale for audit risk rating**
Low	The only reason that Audit risk rating is assigned as Low is that a small number of ICPs I affected.

Actions taken to resolve the issue	Completion date	Remedial action status
This issue occurred due to the lack of knowledge of staff on how Orion as a system operates, the LIS file since been cleaned up so the status field should be correctly assigned.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We’ve noticed from our investigation that Orion also lacks the appropriate fields for different inactive statuses which has also had some play in why this was so poorly managed. The Status list in Orion is being updated to incorporate all Registry Status options.		

3.3.9 Change of metering service provider [clause 10.22(1)(a) of Part 10]

If the MEP for an ICP, which is not also an NSP changes, the trader must notify the registry of the gaining MEP in accordance with part 11.

The company policy is not to change a MEP which already provides services at the time of switch unless the existing MEP can’t provide the metering configuration required. Metrix can’t provide Import/Export data therefore Ecotricity nominates FCLM as the MEP if such a situation arises.

The nomination process was reviewed and described in previous sections. Compliance confirmed.

3.3.10 ICP at new or ready status for 24 months (clause 15 of Schedule 11.1)

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.

Ecotricity has not been a trader for 24 months yet. This clause is not applicable.

3.4 Maintenance of unmetered load

3.4.1 Process of maintaining shared unmetered load (clause 11.14 of Part 11)

The trader must adhere to the process for maintaining shared unmetered load as outlined in clause 11.14:
11.14(2) - The distributor must notify 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 notify 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 notify the registry 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 notify 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 notify the distributor of the change. The amount of electricity attributable to that ICP becomes UFE.

At the time of audit Ecotricity did not have shared unmetered load. Orion has a functionality to reconcile UML. This functionality was used in the past.

3.4.2 Unmetered load threshold [clause 10.14(2)(b) of Part 10]

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.

ECOT does not have unmetered load ICPs that exceeded 3,000 kWh per annum.

3.4.3 Unmetered load threshold exceeded [clause 10.14(5) of Part 10]

If the unmetered load limit is exceeded the retailer must:

- within 20 business days, commence corrective measure to ensure it complies with Part 10

- within 20 business days of commencing the corrective measure, complete the corrective measures

- no later than 10 business days after it becomes aware of the limit having been exceeded, advise each participant who is or would be expected to be affected of:

- the date the limit was calculated or estimated to have been exceeded

- the details of the corrective measures that the MEP proposes to take or is taking to reduce the unmetered load

ECOT does not have unmetered load ICPs that exceed 3,000 kWh per annum.

3.4.4 Distributed unmetered load (clause 11 of Schedule 15.3 & clause 15.37B of Part 15)

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.

Ecotricity does not trade distributed unmetered load.

4. Gathering and storing raw meter data [clause 15.38(1)(b)]

4.1 Gathering raw meter data

4.1.1 Electricity conveyed [clause 10.13 of Part 10]

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

Ecotricity uses the quantity of electricity measured by a metering installation, which is provided by MEPs or the agent Wells. Compliance confirmed.

4.1.2 Responsibly for ensuring there is metering installation for ICP that is not also NSP [clause 10.24 of Part 10]

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

(a) there is 1 or more metering installations

(b) all electricity conveyed is quantified in accordance with the Code

(c) it does not use subtraction to determine submission information for the purposes of Part 15.

At the time of this audit each installation traded by Ecotricity was metered. An MEP was nominated for each installation. No subtraction was performed to determine the submission information. Compliance confirmed.

4.1.3 Requirement for metering installation incorporating control device [clause 33 of Schedule 10.7 & clause 2(2) of Schedule 15.3]

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.

Ecotricity does not have such installations. Only the HHR, HHA, and RPS profiles are used. No control devices are needed therefore they never approach an MEP asking for a control device to be certified.

4.1.4 Metering installations that are inaccurate, defective, or not fit for purpose to be investigated [clause 10.43(2)(3) of Part 10]

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 metering equipment provide*
- *include in the advice all relevant details.*

Ecotricity is aware of this obligation and it will advise the appropriate MEP if it becomes aware that a metering installation could be inaccurate. Ecotricity thoroughly validates data received from smart meters checking for “zeros”. Agility developed a new report to assist them but it is not very accurate because it includes closed accounts and removed meters. The information contained in the report is analysed ICP by ICP. It is a very manual process and takes a long time to complete.

If Ecotricity noticed any suspicious readings, it will contact one of the MEPs. Usually a meter would be replaced and Ecotricity notified. Compliance confirmed.

4.1.5 Collection of information by certified reconciliation participant (clause 2 of Schedule 15.2)

(1) This clause applies to each metering installation for which a metering equipment provider is responsible, except for a metering installation—

(a) that only the metering equipment provider can electronically interrogate; or

(b) for which the metering equipment provider has an arrangement with the reconciliation participant, which prevents the reconciliation participant from electronically interrogating the metering installation.

(2) A reconciliation participant must obtain raw meter data used to determine volume information—

(a) from the services access interface of the metering installation; or

(b) if the raw meter data can only be obtained from the metering equipment provider’s back office, from the metering equipment provider.

All Ecotricity installations are interrogated by MEPs or its agent Wells. Ecotricity does not read meters themselves. Compliance confirmed.

4.1.6 Source of volume information [clause 3(1) and 3(2) of Schedule 15.2]

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.

We confirm that all HHR meter readings are derived from raw meter data provided by MTRX, NGCM, SMCO AMCI, FCLM, and ARCS. Data is provided daily except AMCI (monthly).
Ecotricity does not accept customer reads as a part of BAU (Business as Usual). All readings received from MEPs and Wells are validated as it is imported into Orion.

Compliance confirmed.

4.1.7 Non half-hour metering information (clause 5 of Schedule 15.2)

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

ECOT does not interrogate NHH meters themselves, Wells is used as an agent to provide NHH reads. Wells' audit report was sighted and we confirm compliance.

4.1.8 NHH meter readings application (clause 6 of Schedule 15.2)

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.

The NHH readings are used by Ecotricity for installations which switch in as NHH. The switch read from the CS file is used as a start read. Consecutive readings from Wells apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation. The compliance with this clause was examined during checking of correctness of historic estimates. The testing of Historic Estimates was not conclusive. We approached Agility asking for confirmation but did not receive an answer. From working with other participants using Orion we know that their software is compliant with this clause but it would be nice to have a confirmation for Ecotricity.

4.1.9 Non half hour meter reading during period of supply [clause 7 of Schedule 15.2]

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).

When an ICP switches in, a switch event read is always received. It is actual or estimates. Later on the company receives readings from Wells. Ecotricity have an agreement with Wells to read meters every 2 month. The process of checking when the date of last NHH read is manual.
Compliance is achieved by closely monitoring NHH reads and the fact that each ICP gained by Ecotricity was switched using the switch event read contained in CS file.

4.1.10 Non half-hour meter readings on 12 monthly basis (clause 8 of Schedule 15.2)

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. This report must be submitted no later than 20 BD 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 8(1).

Ecotricity provided Meter Frequency Reports to the Authority every month. The report is created manually because the report created by Orion is not accurate. The report for June'17 and July'17 was analysed. Both reports state that Ecotricity read all ICPs (120) active for 12 months. Ecotricity traded on 28 NSPs.

Compliance confirmed.

4.1.11 Non half hour meter reading every 4 months (clause 9 of Schedule 15.2)

In relation to each NSP, each reconciliation participant must ensure that for each NHH ICP at which the reconciliation participant trades continuously for each 4 months, for which consumption information is required to be reported into the reconciliation process. A validated meter reading is obtained at least once every 4 months for 90% of the non-half hour metered ICPs. This report must be submitted no later than 20 BD after the end of each month.

The Meter Frequency Report is created manually. We confirmed that the reports were sent to the Authority every month. We checked the June and July'17 report. In June '17 238 ICPs were active for 4 months across 56 NSPs.

NSP	Number of ICPs	ICPs not interrogated (4 Months)	Percentage interrogated [%]	Target [%]
ALB0331	3	2	33.33%	90.0%
BCK0011	1	0	0 %	90.0%
BRK0331	1	0	0 %	90.0%
CML0331	2	0	0 %	90.0%
HEP0331	3	1	66.67 %	90.0%
STK0331	6	2	66.67 %	90.0%

Ecotricity did not meet their obligations set in clause 9 of Schedule 15.2 for 6 NSPs. It is a good result. It is particularly difficult to manage NHH readings when only one or two ICPs are traded on a particular NSP.

The process in place delivers results. Our assessment of controls in place is Strong.

Non-compliance	Description
Audit Ref: 4.1.11 With: 9 of Schedule 15.2 From: 01-Jul-16 To: 30-Jun-17	90% target not met for 6 NSPs Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Only 6 NSPs are affected, in total 5 ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status
No action required.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
It is exceedingly difficult to maintain 90% target if ECOT only has a single or small amount of ICP's on that particular NSP.		

4.1.12 Non half-hour metering interrogation log (clause 10 of Schedule 15.2)

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

- *the means to establish the identity of the individual meter reader*
- *the ICP identifier of the ICP, and the meter and register identification*
- *the method being used for the interrogation and the device ID of equipment being used for interrogation of the meter*
- *the date and time of the meter interrogation.*

The NHH metering installations are read by WELLS. Customer reads are accepted as an exception. We reviewed Wells the file dated 23/12/17 containing meter reads. The WELLS audit report was reviewed.
Compliance confirmed.

4.1.13 Metering installation that it is electronically interrogated [clause 11(1) of Schedule 15.2]

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

All HHR Ecotricity installations are electronically interrogated by the MEPs or AMCI, which is an agent, via the appropriate service access interface. The AMS as HHR agent audit report is attached to this document. Compliance confirmed.

4.1.14 HHR interrogation data requirements [clause 11(2)(3) of Schedule 15.2]

The following information is collected during each interrogation:

- *the unique identifier of the data storage device*
- *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*
- *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*
- *the event log, which may be limited to the events information accumulated since the last interrogation*
- *an interrogation log generated by the interrogation software to record details of all interrogations.*

The interrogation log forms part of the interrogation audit trail and, as a minimum, must contain the information such as the date of interrogation, the time of commencement of interrogation, the operator identifier, the unique identifier of the meter or data storage device, the clock errors outside of the range specified in Table 1 of clause 2, the method of interrogation, the identifier of the reading device used for interrogation (if applicable)

HHR Ecotricity installations are electronically interrogated by the MEPs or AMCI as the agent and the data provided is used for the purposes of reconciliation. The AMS audit report is provided in conjunction with this report. There is an expectation that requirements of this clause are fulfilled by MEPs, which is checked during their audits.

Compliance confirmed.

4.2 Storing raw metering data

4.2.1 Archiving and storage of raw meter data [clause 18(1)(2) of Schedule 15.2 & clause 10.7 of Part 10]

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.

Raw meter data is stored by the MEP which collects the data on their behalf. Data received by Ecotricity is stored in ORION, which is a secure and robust database, and cannot be accessed by unauthorised persons. Once data is collected by Ecotricity via secure compliant transmission channels, it is stored in a secure location. The access to this data is restricted. Compliance confirmed.

4.2.2 Meter reading cannot be modified without an audit trail [clause 18(3) Schedule 15.2]

Each reconciliation participant must ensure that meter readings cannot be modified without an audit trail being created.

Orion provides a functionality which does not allow meter readings to be modified without an audit trail. Data can only be “modified” if estimated data is replaced by actual data, if available. The appropriate flags will be assigned to data.

Compliance confirmed by observation.

5. Creation and management (including validating, estimating, storing, correcting and archiving) of volume information [clause 15.38(1)(c)]

5.1 Error handling of volume information

5.1.1 Correction of non half-hour meter readings [clause 19(1) of Schedule 15.2]

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

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

ECOT receives a switch event read in the CS file, it is actual read or estimated. These reads are used for reconciliation. When a NHH meter is replaced by a HHR meter a final removal read is recorded. The information is recorded in ORION. Each such case is analysed by an operator. If a read provided in the CS file differs from the next read obtained by ECOT, a RR file will be sent to the losing trader asking for acceptance. If it is a read for an existing ICP, Wells is asked to read it again.

Compliance confirmed.

5.1.2 Correction of half-hour metering readings [clause 19(2) of Schedule 15.2]

(2) If errors are detected during the validation of half-hour meter readings, the meter readings must be corrected as follows:

(a) if a check meter or data storage device is installed at the metering installation, data from the check meter or data storage device may be substituted:

(b) in the absence of any check meter or data storage device, data may be substituted from another period if the total of all substituted intervals matches the total consumption recorded

on a meter, if available, and the pattern of consumption is considered to be materially similar to the period in error.

AMS validates HHR reads in their system and it is also validated by ORION. HHR data provided by Metrix goes through an additional validation process within ORION as part of the HHA profile. The HHA profile was audited by a separate audit.

If HHR data is not provided by MEPs, it is estimated by Orion. It was discussed with Ecotricity and their comment was that they did not receive any incorrect HHR data from MEPs since the last audit. The problem is to receive data at all for a part day or entire day. In section 5.2.3 we describe the HHR estimation process and show results of the sampling of a few ICPs.

Compliance confirmed.

5.1.3 Error and loss compensation [clause 19(3) of Schedule 15.2]

(3) Error compensation and loss compensation may be carried out as part of the process of determining accurate data. Whatever methodology is used, the compensation process must be documented and must comply with audit trail requirements.

Ecotricity does not have any installation where error or loss compensation occurs. Any multipliers recorded in the registry are uploaded to Orion through CS.eda file and applied to data. Compliance confirmed based on observation.

5.2 Estimate and validation of volume information

5.2.1 Identification of metering data [clause 3(3) of Schedule 15.2]

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.

ORION has a built in function which allows the identification of actual and estimated readings. Compliance confirmed based on observation during investigation of the estimation process for NHH and HHR data.

5.2.2 Derivation of volume information [clause 3(4) of Schedule 15.2]

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.*

Volume information is derived from validated meter readings. Readings are received from MEPs and WELLS. If actual data is not available, Orion estimates using its own algorithm for NHH ICPs, for HHR ICPs it profiles data using register reads.

ORION uses both validated and estimated readings to create submission files. Compliance confirmed.

5.2.3 Half hour estimates (clause 15 of Schedule 15.2)

(1) If a reconciliation participant is unable to interrogate an electronically interrogated metering installation before the deadline for providing submission information or dispatchable load information, the reconciliation participant must submit to the reconciliation manager its 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.

(2) The reconciliation participant must use reasonable endeavours to ensure that estimated submission information is within the percentage specified by the Authority.

The ORION module identifies missing intervals and estimates using register reads. We asked Ecotricity to provide us examples for HHR data estimation. Two scenarios were sampled. One scenario was for a situation when data for a few intervals was missing within a day, the second scenario for a situation where an entire day was missing.

ICPs sampled were:

0645085602LC874 – data estimated for 13 intervals on 4/7/17 did not match the register reads. Ecotricity will discuss it with Agility and come back.

0005392063RNFAF – correct estimation for 02/7/17, Orion used register reads

0006921361RN8A2 - correct estimation for 20/7/17, Orion used register reads

0007126079RNAB0 – correct estimation for 03/7/17, Orion used register reads

0005943787RN545 – correct estimation for 11/7/17, Orion used register reads

0000187697CT95A – data correctly estimated for 18/7/17

Compliance confirmed based on sampling.

Recommendation	Description	Audited party comment	Remedial action
Discuss with Agility why data estimation for ICP 0645085602LC874 did not use register reads	Data estimated for ICP 0645085602LC874 did not balance register reads for 4/7/17		

5.2.4 Non half hour meter readings and estimated readings (clause 16 of Schedule 15.2)

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.*

As an ICP switches in, the switch event read from the CS file is recorded in ORION. ECOT receives NHH meter readings from WELLS The actual read is also validated against a daily consumption derived from historic consumption or information in the CS file.

A lot of validation of meter readings is performed when NHH meter readings is imported into ORION. ORION checks for high/low consumption, unknown site, unknown meter, incorrect date, closing read exist, rollover reads, read before the opening read.

Compliance confirmed.

5.2.5 Electronic meter readings and estimated readings (clause 17 of Schedule 15.2)

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

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

- *17(4)(a)- checks for missing data*
- *17(4)(b)- checks for invalid dates and times*
- *17(4)(c)- checks of unexpected 0 values*
- *17(4)(d)- comparison with expected or previous flow patterns*
- *17(4)(e)- comparisons of meter readings with data on any data storage device registers that are available*
- *17(4)(f)- a review of meter and data storage device event list. Any event that could have affected the integrity of metering data must be investigated.*

Meters are electronically interrogated by AMS, FCLM, ARCS, and Metrix. There is an issue with AMI Metrix meters where a requirement of clause 17(4)(e) is not met by their system. It is the responsibility of traders. It is addressed by using the profile HHA and additional validation within ORION. Ecotricity owns and uses the HHA profile. This profile is used for the submission of HHR data that is provided by Metrix, where Metrix does not conduct the HHR "sum check" as required by clause 8(9) of Schedule 10.6. There is a built in profile check within ORION which conducts this sum check. It was audited on request of the Authority by a separate audit.

The problem is that the ORION process stopped 10 months ago and it was not noticed by Ecotricity, which indicates that no attention was paid to outcomes of this validation. It was discovered during this audit. Ecotricity contacted Agility and requested the report to be repaired as soon as possible. Before this report was finalised we received the following email from Ecotricity.

"Confirming that we have completed the Metrix half hour data validation for the last 10 months. July will be done on the 10th of August.
We've re-rescheduled the process for the 10th of each month as opposed to the 2nd or 3rd (and hence confirms 14th day AV reporting) as this may have been too early as all the Metrix may not have been received.
Across the ~235 Metrix HHR ICPs no HHR validation errors occurred which is in line with previous audits"

Based on the statement from Ecotricity we have cleared the identified non-compliance. The strength of controls prior the statement we would describe as Weak. After action taken by Ecotricity we change it to Strong.

Only Metrix (EDMI) provides event information when a power outage is recorded, to assist Ecotricity with validation. Other MEPs do not provide an event log.

Non-compliance	Description
Audit Ref: 5.2.5 With: 17 of Schedule 15.2 From: 01-Jul-16 To: 30-Jun-17	Metrix data was not validated for 10 months as required the HHA profile Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 5
Audit risk rating	**Rationale for audit risk rating**
Low	The report was reinstated and there were found no discrepancies for last 10 months

Actions taken to resolve the issue	Completion date	Remedial action status
System procedure is now in operation again.	31/7/17	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Process to validate the MTRX data is now once again re-instated as a part of ECOT business operations to be actioned every month. Metrix have also noted that all their data is expected to HH certified in Q4 2017.		

Recommendation	Description	Audited party comment	Remedial action
Request MEPs to send event log on a regular basis to assist data validation	Log files for electronic meter readings		

5.3 Storage, archiving and the audit trail of volume information

5.3.1 Correction of meter readings [clause 22(1) and 22(2) of Schedule 15.2]

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

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

- *22(2)(a)- the date of the correction or alteration*
- *22(2)(b)- the time of the correction or alteration*
- *22(2)(c)- the operator identifier of the reconciliation participant*
- *22(2)(d)- the half-hour metering data or the non half-hour metering data corrected or altered, and the total difference in volume of such corrected or altered data*
- *22(2)(e)- the technique used to arrive at the corrected data*
- *22(2)(f)- the reason for the correction or alteration.*

There is a full audit trail and any changes to the metering data are noted as this is an integral part of ORION. We checked both NHH and HHR data. Each HHR interval period had assigned a flag Actual or Estimated. The same applied to NHH data. Each read has a flag assigned such as Actual, Misread, Estimate, Closing read.

Raw data was not audited because it is held by MEPs and WELLS.

Compliance confirmed.

6. Calculation of supporting information [clause 15.38(d)]

6.1 Calculation of supporting information

6.1.1 Provision of trading information at point of connection to network (clause 15.3 of Part 15)

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

Ecotricity only trades customers with a profile code of HHR, HHA and RPS. The HHA profile was approved by the Authority to be used for data provided by Metrix from AMI meters. Ecotricity uses this profile for ICPs for which COUP is the MEP because Metrix provides data on behalf of COUP. The HHA profile is used only in the registry to identify specific ICPs; in the reconciliation submission files HHR profile is used. Compliance confirmed.

6.1.2 Retailer and direct purchaser ICP days information (clause 15.6 of Part 15)

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.

ICP days files are uploaded to the RM portal every month. We reviewed ICP days files (GR-100) for May'15 to and June'17 submitted in the period covered by this audit.

Month	R0	R1	R3	R7	R14
May-15	-1.67%	-1.67%	-1.67%	-4.14%	-4.14%
Jun-15	-2.20%	-2.20%	-2.62%	-4.39%	0.00%
Jul-15	-1.57%	-1.67%	-1.56%	-3.23%	-0.86%
Aug-15	0.38%	1.15%	0.32%	-2.87%	-0.59%
Sep-15	-2.44%	-2.44%	-3.23%	-3.23%	-0.40%
Oct-15	-3.04%	-3.03%	-3.79%	-3.79%	-1.52%
Nov-15	-2.67%	-3.20%	-4.02%	-4.13%	-1.66%

Dec-15	-2.37%	-2.83%	-4.12%	-3.65%	-1.17%
Jan-16	-2.55%	-2.47%	-3.43%	-0.62%	-1.02%
Feb-16	-1.83%	-2.17%	-2.67%	-1.36%	-1.03%
Mar-16	-0.05%	-0.13%	-0.25%	-0.28%	-0.01%
Apr-16	0.58%	0.75%	-1.63%	0.15%	0.08%
May-16	0.44%	0.28%	0.17%	-0.23%	
Jun-16	0.66%	-1.32%	-0.01%	-0.17%	
Jul-16	0.73%	0.83%	-0.44%	-0.49%	
Aug-16	0.02%	-0.27%	-0.39%	0.06%	
Sep-16	-0.23%	-0.59%	-0.47%	0.06%	
Oct-16	-0.25%	-0.16%	-0.05%	0.43%	
Nov-16	-0.35%	-0.11%	-0.15%	-0.12%	
Dec-16	0.52%	-0.15%	0.22%		
Jan-17	-0.19%	-0.26%	-0.13%		
Feb-17	-0.66%	-0.77%	-0.74%		
Mar-17	-1.19%	-1.43%	-1.55%		
Apr-17	-1.67%	-1.54%			
May-17	-1.82%	-2.01%			
Jun-17	-2.40%				

The discrepancies between ICP days calculated by the registry and the Orion system still exist even after 14 months revision. It is the result of not running regularly comparisons between the two data sets and correcting errors. The discrepancies between the two data sets is caused by the type of reconciliation assigned in the registry and Orion.

Compliance is confirmed, data is provided monthly, no late uploads.

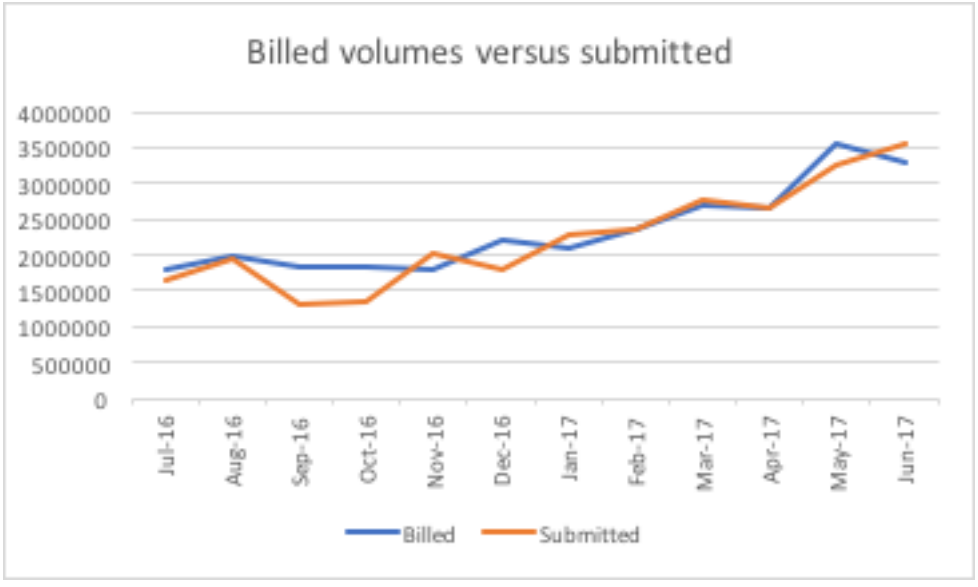
6.1.3 Retailer electricity supplied information (clause 15.7 of Part 15)

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.

We investigated files sent to the reconciliation manager. We can confirm that AV-120 is sent every month for the current reconciliation period and wash-up period

Month	Volume Billed [kWh]	Volume submitted [kWh]
Jul-16	1,786,796	1,647,894
Aug-16	1,967,742	1,940,074
Sep-16	1,820,518	1,306,405
Oct-16	1,834,291	1,332,515
Nov-16	1,786,965	2,031,133
Dec-16	2,220,941	1,801,061
Jan-17	2,104,263	2,280,971
Feb-17	2,375,549	2,362,331
Mar-17	2,704,529	2,755,884
Apr-17	2,652,847	2,664,851
May-17	3,566,756	3,253,492
Jun-17	3,282,038	3,562,368
Total	**28,103,235**	**26,938,979**



The overall difference between volumes reconciled and submitted was 4.32 %.

6.1.4 Retailer and direct purchaser half-hour metered ICPs monthly kWh information (clause 15.8 of Part 15)

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.

For the period covered by this audit, Ecotricity delivered, to the reconciliation manager, its total monthly quantity of electricity supplied to each HHR metered ICP. It was submitted as AV-090 (HHRVOL), and AV-140 (HHRAGGR). We compared HHRAGG (AV-140) with HHRVOLS (AV-090) for the month of May'17 and June'17 and confirm that the totals matched.

We also analysed GR-090 files provided by the reconciliation manager. The analysis shows again that information held by the registry and ORION differ. As the results show, we see a mismatch between the reconciliation manager's expectation of HHR submissions and what is submitted by Ecotricity.

In last year audit we described a new Orion functionality to compare LIS file and the registry. Unfortunately, the functionality did not work so the comparison is done manually on ad-hoc basis.

GR-090 files are not very reliable from the point of view of auditing. Only initial submissions were investigated.

Month	Initial	
	A flag	R flag
Jan'17	40	40
Feb'17	15	48
Mar'17	29	50
Apr'17	87	56
May'17	96	73
June'17	100	55

Legend:

A flag - ICP missing in registry list

R flag - ICP missing in monthly aggregates

Compliance confirmed with this clause but there is problem with accuracy of information provided to the reconciliation manager. It will be noted in section 2.1

7. Provision of submission information for reconciliation [clause 15.38(1)(e)]

7.1 Submission computation

7.1.1 New Zealand Daylight Time adjustment techniques (clause 15.36 of Part 15)

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

This functionality is provided by ORION if metering data is provided in NZST. It is used to shift data provided by Metrix. Compliance confirmed on observation.

7.1.2 Submission information to be delivered for reconciliation (clause 15.4 & 15.5 of Part 15 & clause 2 of Schedule 15.3)

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.

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,

In preparing and submitting submission information, the reconciliation participant must allocate volume information for each ICP to the NSP indicated by the data held by the registry for the relevant consumption period at the time the reconciliation participant assembles the submission information.

During the audit we reviewed the submission process and we are fully satisfied with the timelines of the reconciliation submissions. The volume files were submitted for NHH and HHR metering installations. In the next section we identify that some calculations of HE volumes were incorrect and we were not able to fully verify them. A similar problem was described in the previous audit. It was resolved last year but unfortunately the issue has returned. It is identified as non-compliance in section 7.1.8

When metering is changed from NHH to HHR there is a period of HHR consumption that is not used in the submission process. The process implemented by Ecotricity delays a change in the submission flag from NHH to HHR by one day which allows them to fully reconcile part day volume using a register read. All readings from both legacy and smart meters are captured and submitted in volume files for reconciliation. We sampled 10 ICPs and we are satisfied that the calculations are correct.

On 7 August 2017 Ecotricity applied to the Authority to allow them to use HHR estimates for solar export for Counties Power meters read by Metrix. Ecotricity currently receive HHA half-hourly usage data from COUP metered ICPs, but not for solar export at those ICPs. There are 11 ICPs effected. HHR estimates for export channel are profiled using manual meter reads provided by Wells. The solar profile is based on export data from Ecotricity numerous other residential half-hourly solar customers. It is temporary measure. It is identified it is an issue because Counties Power does not allow to installed meters by other MEPs.

Compliance confirmed based on observation and sampling.

Issue	Description	Audited party comment	Remedial action
Export HHR volumes for reconciliation when COUP meters used	COUP is not in a position to provide HHR data for solar export channel. Ecotricity uses their own solar shape to create HHR data based on register reads		

7.1.3 Grid owner volume information (clause 15.9 of Part 15)

This matter is noted as not relevant to this audit.

7.1.4 Local network and embedded network submission information (clause 15.10 of Part 15)

This matter is noted as not relevant to this audit.

7.1.5 Grid connected generator (clause 15.11 of Part 15)

This matter is noted as not relevant to this audit.

7.1.6 Accuracy of submitted information (clause 15.12 of Part 15)

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

Ecotricity demonstrated that if they subsequently obtain more accurate information, they provide it to the reconciliation manager as part of the normal schedule of revision submissions. The revisions files will be submitted to the RM as per the revision schedule which is listed in the "Daily check list". Ecotricity provided set of submissions files including revisions. We also downloaded GR files from the RM portal for analysis.

Compliance confirmed based on observation

7.1.7 Permanence of volume information for the purpose of reconciliation (clause 4 of Schedule 15.2)

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

Volume information created using estimated readings must be subsequently replaced at the earliest opportunity by the reconciliation participant by volume information that has been created using validated meter readings or permanent estimates by, at the latest, the month 14 revision cycle. A permanent estimate may be used in place of a validated meter reading, but only if, despite having used reasonable endeavours; the reconciliation participant has been unable to obtain a validated meter reading.

All switch in reads are treated as a permanent estimate and switch out readings are treated the same way unless ECOT receives a RR file from the gaining trader challenging this read. If the gaining trader proves that their reading is correct Ecotricity's process is to import the reading into their system.

Volume information is created using a validated meter reading, or a permanent estimate is used in place of a validated meter reading, when it is impossible to obtain a validated meter reading. During the audit the 14-month revision file was reviewed for the month of May 2015 to April'16. We identified 4 months when estimated volumes were not replaced by permanent estimates.

Month	NSP	FE
08/2015	WIR0331	100%
01/2016	MPE1101	39.81%
02/2016	CST0331	100%
04/2016	MPE1101	1.52%

Non-compliance identified

During the audit, Ecotricity did not show us any particular process which remedy non-compliance with this clause but based on results we assess controls as Weak.

Non-compliance	Description
Audit Ref: 7.1.7 With: 4 of Schedule 15.2 From: 01-Aug-16 To: 30-Jun-17	For month Augut'15, Jan'16, Feb'16, and Apr'16 estimated volumes were not replaced by permanent estimates. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Small number of NSPs affected

Actions taken to resolve the issue	Completion date	Remedial action status
The requirement for turning NHH estimates that are 14 months or older to Permanent Estimates is a requirement we were unaware off. Orion has been briefed to ensure NHH Estimates are turned to Permanent Estimates for Month 14 reporting.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Orion has been briefed to ensure NHH Estimates are turned to Permanent Estimates for Month 14 reporting.		

7.1.8 Historical estimate and forwards estimates and historical estimates with seasonal adjustment (clause 3 and 4 of Schedule 15.3)

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. Each estimate that is a forward estimate or a historical estimate must clearly be identified as such. 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.

For assessment of compliance with these clauses we provided Ecotricity with a set of scenarios to validate the accuracy of the calculation of historic and forward estimation for NHH ICP days. During testing of these scenarios ICP days calculation is expected to be checked.

The company provided results for scenarios which occurred in last 12 months. The results are shown below:

Test	Scenario	Test Expectation	Result
1	Switch in during the month with estimated switch read, actual read gained in the next month, full profile data available.	Confirm that HE is calculated for the relevant part of the month, even though the switch in read is an estimate, and calculation begins on correct day	Non-compliant
2	Switch in during the month with actual switch read, actual read gained in the next month, full profile data available.	Confirm that HE is calculated for the relevant part of the month, and calculation begins on correct day	Non-compliant
3	Status change to active during the month, read gained in the next month, full profile data available	Confirm that HE is calculated for the relevant part of the month	No example found,
4	Switch out on estimate during the month	Confirm that HE is calculated even though the reading is an estimate Confirm that HE calculation ends on the correct day."	Non-compliant
5	Switch out on actual during the month	Confirm that HE is calculated for the relevant part of the month, and calculation ends on correct day	Non-compliant
6	Complete month without a read in the month	Read in the previous month and the month after, confirm correct HE for the month	Non-compliant
7	Complete month with a read in the month	Confirm the two calculations for the month are correct	Non-compliant
8	GXP Change in the Month	Confirm submission against one GXP for part month then the other GXP for part month, with correct HE/FE balance on each	No example found,
9	Proportion of HE	Confirm the proportion of HE in the AV080 is correct	Non-compliant
10	Switch in 2 months ago, first actual read gained in current month, profile data not available for current month	Confirm estimation is shown as forward, not historic	No example found

11	Complete month without a read in the month	Read in the previous month and the month after, confirm correct HE for the month	No example found
12	Half-hour meter installed during month	If NHH read is added to meter, and site class is 'DEEMED', then estimation should be calculated for HH meter according to the same rules as NHH meter	One example found incorrect
13	Two reads in the same month	Confirm usage between two reads is 'Historic' even if no profile data is available	
14	FE based on default value	Confirm the default multiplied by correct number of days	
15	FE based on daily kWh from CS file	Confirm CS value multiplied by correct number of days.	
16	FE based on historic consumption	Confirm the default multiplied by correct number of days	
17	ICP days for all HE scenarios above	Confirm ICP days calculations are correct	
18	No longer any ICPs with a particular combination of GXP, loss cat code etc.	Confirm that this row is "zeroed" in subsequent submissions	
19	Consumption submitted for a given revision then changed for a subsequent revision.	Consumption submitted for a given revision then changed for a subsequent revision.	
20	CS read modified by RR	Confirm that consumption is updated to match RR read replacing CS	
21	GXP change backdated	Read in the previous month and the month after, confirm correct HE for the month	
22	Unmetered load submissions	Check that this works the same as a normal meter and is considered HE	

The test results of provided scenarios were not good. None of the calculations were correct. It appears that the problems which were identified during the last audit were not addressed. During last year's audit we went through in depth testing with Agility to confirm the accuracy of the volume calculations, the results were positive. Unfortunately, this year's audit identified

that previous problems have returned. Non-compliance identified based on output from Orion compared with calculations done manually using the same readings and GR030.

Ecotricity mainly trades HHR ICPs, NHH ICPs account for 9.6% of the customer base (191 ICPs out of 1,974). Our concern is that it is a systemic problem with the software (Orion) and there is no process developed by the company to monitor it. Within the last year there was a change of personnel with regards to who looks after this part of the operation. There was a brief hand over of responsibilities between personnel, we did not see a lot of documentation which would allow us to have confidence that the knowledge was sufficiently passed over to a new person.

Our assessment of adequacy of controls is that they are non-existent. The errors are not identified, there is a little understanding how HE should be calculated. In our opinion customers billing is not effected by the inaccuracy of the HE calculation.

Non-compliance	Description
Audit Ref: 7.1.8 With: clause 4 of Schedule 15.3 From: 01-Aug-16 To: 30-Jun-17	Incorrect calculation of historic estimates conducted by Orion (software used for creation of reconciliation files) Potential impact: Medium Actual impact: Medium Audit history: None Controls: Weak Breach risk rating:3
Audit risk rating	**Rationale for audit risk rating**
Low	Ecotricity trades 191 NHH ICPs, most of ICPs are reconciled as HHR. It is a systematic problem with the software, which need to be monitored closely. Monthly volume for July'17 was 211,907 kWh

Actions taken to resolve the issue	Completion date	Remedial action status
Issue has been reported to Agility since end of July, Agility development team has this one their highest priorities and ECOT is awaiting feedback.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Once this functionality has been systematically repaired, no further issues will occur. This functionality was operational at last audit however appears to have been changed since. This is the highest priority that has been set for Agility (Orion).		

7.1.9 Forward estimates (clause 6 of Schedule 15.3)

(1) A forward estimate is an estimation of the total quantity of electricity that flowed through an ICP during all or part of a consumption period.

(2) A forward estimate may be used only for a period for which an historical estimate cannot be calculated.

(3) The methodology used for calculating a forward estimate may be determined at the discretion of the reconciliation participant, and only if the reconciliation participant ensures that the accuracy of its initial submission information against each subsequent revision cycle submission information for each balancing area is within the percentage of error specified and published, from time to time, by the Authority

NHH ICPs are a small part (19.6%) of the Ecotricity business because the business strategy is to trade only HHR ICPs. As soon as a NHH ICP switches in, the company request an MEP to upgrade to HHR. ORION has a built in functionality to calculate forward estimates using daily kWh or values from the CS files if it is anew ICP. The volumes traded as NHH for any balancing area are below 100,000 kWh. BALANC1TASMG and AUCKLNDVECTG are the biggest balancing areas. In May'17 volumes submitted were around 30,000 kWh

Compliance confirmed based observation.

7.1.10 Compulsory meter reading after profile change (clause 7 of Schedule 15.3)

(1) If a 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.

(2) The reconciliation participant must use the volume information from that validated meter reading or permanent estimate to calculate the relevant historical estimates of each profile for that meter.

At the time of this audit HHR, RPS, and HHA profiles were used. The profile change from RPS to HHR or HHA occurs only when a meter is replaced by smart meter. At the time of meter replacement, a final read is taken by an MEP and passed to ECOT. We checked ten examples of meter replacements, documentation showing a final read and corresponding read in Orion.

Compliance confirmed based on sampling.

7.2 Submission format and timing

7.2.1 Provision of submission information to reconciliation manager (clause 8 of Schedule 15.3)

Each reconciliation participant must provide submission information to the reconciliation manager aggregated to the following level:

(a) NSP code:

(b) reconciliation type:

(c) profile:

(d) loss category code:

(e) flow direction:

(f) dedicated NSP:

(g) trading period for half hour metered ICPs and consumption period or day for all other ICPs.

Ecotricity provided submission files for May'17 and June'17 uploaded to the reconciliation manager portal. The company provides files for both NHH and HHR ICPs. Submissions were aggregated to the level specified by the above clause.

Compliance confirmed based on a review of submission files for May17 and June'17. The RM has a very good file checker which allows participants to check the file format before files are uploaded. Orion, from time to time adds additional blank lines, which has to be removed or does not put "zeros" for all 48 intervals only for some of them. It is in a situation when there is no longer any ICPs with a particular combination of GXP, loss cat code etc.

7.2.2 Rounding of submission information (clause 9 of Schedule 15.3)

When reporting submission information, the number of decimal places must be rounded to not more than 2 decimal places. If the un-rounded digit to the right of the second decimal place is greater than or equal to 5, the second digit is rounded up, and if the digit to the right of the second decimal place is less than 5, the second digit is unchanged.

Orion has a built in an algorithm which rounds submission information as prescribed in this clause. We talked to Agility and it was confirmed.

We reviewed submissions and confirmed that they displayed volumes with two decimal places.

Compliance confirmed based on statement from Agility.

7.2.3 Reporting requirements of historical estimates (clause 10 of Schedule 15.3)

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:

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

The quantity of HE is contained in the reconciliation submission file (AV-140) and is not a separate report. The table shows that HE threshold was not met for a number of NSPs

Month	R3	R7	R14
May'15	5/5	5/5	0
June'15	2/2	2/2	0
July'15	4/4	4/4	0
Aug'15	3/5	3/5	1/5
Sept'15	2/5	2/5	0
Oct'15	2/4	2/4	0
Nov'15	4/9	3/9	0
Dec'15	0	8/17	0
Jan'16	12/22	1/22	1/22
Feb'16	12/25	2/25	2/25
Mar'16	13/28	0	0
Apr'16	17/32	1/32	1/32
May'16	7/38	2/38	
June'16	7/42	1/42	

Juy'16	7/41	1/41	
Aug'16	3/41	3/41	
Sept'16	7/43	5/43	
Oct'16	4/47	2/47	
Nov'16	11/52	4/52	
Dec'16	6/54		
Jan'17	5/57		
Feb'17	7/60		
Mar'17	19/65		

Note:19/65 – means 19 NSPs out of 65 did meet a target of 80% HE

It looks that number of NSPs, for which target of 80% of historic estimates for revision 3 s high and it is increasing. It is difficult to determine what could be a cause of it, is it lack of NHH reads or problem how Orion calculated HE. Meter Frequency reports show quite good results. Definitely more investigation is required.

Our assessment of controls is Weak because there are no processes in place to monitor compliance with this requirement.

Non-compliance	Description
Audit Ref: 7.2.3 With: clause 10 of Schedule 15.3 From: 01-Aug-16 To: 30-Jun-17	Historically HE targets not met for rev 3, 7, and 14. Significant number of NSPs (19) which did not meet the target in Mar'17 Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Ecotricity trades 191 NHH ICPs, most of ICPs are reconciled as HHR. It is a systematic problem with the software, which need to be monitored closely. Monthly volume for July'17 was 211,907 kWh

Actions taken to resolve the issue	Completion date	Remedial action status
This is once again related to the fact that we maintain such a low number of NHH ICPs, meeting the 80% threshold is exceedingly difficult if there is only a single ICP on a particular NSP. Further internal discussion for how this issue needs to be remedied. Systematically, there does not seem to be any issues with this report, just the timing for when the ACTUAL WELLS reads are received.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Once this functionality has been systematically repaired, no further issues will occur. This functionality was operational at last audit however appears to have been changed since. Thjs is the highest priority that has been set for Agility (Orion).		

8. Conclusion

Participants response