

**ELECTRICITY INDUSTRY PARTICIPATION CODE  
RECONCILIATION PARTICIPANT AUDIT REPORT**

For

**STACK ENERGY (STAK)**

Prepared by: Ewa Glowacka

Date audit commenced: 5 June 2019

Date audit report completed: 29 June 2019

Audit report due date: 04-May-19

---

## TABLE OF CONTENTS

Executive summary .....	5
Audit summary .....	6
Non-compliances .....	6
Recommendations .....	7
Issues 7	
1. Administrative .....	8
1.1. Exemptions from Obligations to Comply with Code (Section 11) .....	8
1.2. Structure of Organisation .....	8
1.3. Persons involved in this audit .....	8
1.4. Use of Agents (Clause 15.34) .....	8
1.5. Hardware and Software .....	9
1.6. Breaches or Breach Allegations .....	9
1.7. ICP Data .....	9
1.8. Authorisation Received .....	10
1.9. Scope of Audit .....	10
1.10. Summary of previous audit .....	12
1.11. Audit requirements (Clause 15.37A) .....	12
2. Operational Infrastructure .....	14
2.1. Relevant information (Clause 10.6, 11.2, 15.2) .....	14
2.2. Provision of information (Clause 15.35) .....	16
2.3. Data transmission (Clause 20 Schedule 15.2) .....	17
2.4. Audit trails (Clause 21 Schedule 15.2) .....	17
2.5. Retailer responsibility for electricity conveyed - participant obligations (Clause 10.4) .....	18
2.6. Retailer responsibility for electricity conveyed - access to metering installations (Clause 10.7(2),(4),(5) and (6)) .....	18
2.7. Physical location of metering installations (Clause 10.35(1)&(2)) .....	19
2.8. Trader contracts to permit assignment by the Authority (Clause 11.15B) .....	20
2.9. Connection of an ICP (Clause 10.32) .....	20
2.10. Temporary Electrical Connection of an ICP (Clause 10.33) .....	21
2.11. Electrical Connection of Point of Connection (Clause 10.33A) .....	21
2.12. Arrangements for line function services (Clause 11.16) .....	22
2.13. Arrangements for metering equipment provision (Clause 10.36) .....	22
3. Maintaining registry information .....	24
3.1. Obtaining ICP identifiers (Clause 11.3) .....	24
3.2. Providing registry information (Clause 11.7(2)) .....	24
3.3. Changes to registry information (Clause 10 Schedule 11.1) .....	25
3.4. Trader responsibility for an ICP (Clause 11.18) .....	26
3.5. Provision of information to the registry manager (Clause 9 Schedule 11.1) .....	27
3.6. ANZSIC codes (Clause 9 (1)(k) of Schedule 11.1) .....	28
3.7. Changes to unmetered load (Clause 9(1)(f) of Schedule 11.1) .....	28
3.8. Management of “active” status (Clause 17 Schedule 11.1) .....	29
3.9. Management of “inactive” status (Clause 19 Schedule 11.1) .....	29
3.10. ICPs at new or ready status for 24 months (Clause 15 Schedule 11.1) .....	30
4. Performing customer and embedded generator switching .....	31

4.1.	Inform registry of switch request for ICPs - standard switch (Clause 2 Schedule 11.3).....	31
4.2.	Losing trader response to switch request and event dates - standard switch (Clauses 3 and 4 Schedule 11.3) .....	31
4.3.	Losing trader must provide final information - standard switch (Clause 5 Schedule 11.3) ....	32
4.4.	Retailers must use same reading - standard switch (Clause 6(1) and 6A Schedule 11.3).....	32
4.5.	Non-half hour switch event meter reading - standard switch (Clause 6(2) and (3) Schedule 11.3) .....	33
4.6.	Disputes - standard switch (Clause 7 Schedule 11.3).....	33
4.7.	Gaining trader informs registry of switch request - switch move (Clause 9 Schedule 11.3) ..	34
4.8.	Losing trader provides information - switch move (Clause 10(1) Schedule 11.3) .....	35
4.9.	Losing trader determines a different date - switch move (Clause 10(2) Schedule 11.3).....	36
4.10.	Losing trader must provide final information - switch move (Clause 11 Schedule 11.3) .....	37
4.11.	Gaining trader changes to switch meter reading - switch move (Clause 12 Schedule 11.3) ..	38
4.12.	Gaining trader informs registry of switch request - gaining trader switch (Clause 14 Schedule 11.3) .....	39
4.13.	Losing trader provision of information - gaining trader switch (Clause 15 Schedule 11.3) ....	40
4.14.	Gaining trader to advise the registry manager - gaining trader switch (Clause 16 Schedule 11.3) .....	40
4.15.	Withdrawal of switch requests (Clauses 17 and 18 Schedule 11.3).....	41
4.16.	Metering information (Clause 21 Schedule 11.3) .....	42
4.17.	Switch saving protection (Clause 11.15AA to 11.15AB).....	42
5.	Maintenance of unmetered load .....	44
5.1.	Maintaining shared unmetered load (Clause 11.14).....	44
5.2.	Unmetered threshold (Clause 10.14 (2)(b)) .....	44
5.3.	Unmetered threshold exceeded (Clause 10.14 (5)) .....	45
5.4.	Distributed unmetered load (Clause 11 Schedule 15.3, Clause 15.37B).....	45
6.	Gathering raw meter data .....	47
6.1.	Electricity conveyed & notification by embedded generators(Clause 10.13, Clause 10.24 and 15.13) .....	47
6.2.	Responsibility for metering at GIP(Clause 10.26 (6), (7) and (8)).....	47
6.3.	Certification of control devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3) ....	48
6.4.	Reporting of defective metering installations (Clause 10.43(2) and (3)) .....	48
6.5.	Collection of information by certified reconciliation participant (Clause 2 Schedule 15.2) ...	49
6.6.	Derivation of meter readings (Clause 3(1), 3(2) and 5 Schedule 15.2) .....	50
6.7.	NHH meter reading application (Clause 6 Schedule 15.2) .....	50
6.8.	Interrogate meters once (Clause 7(1) and (2) Schedule 15.2) .....	51
6.9.	NHH meters interrogated annually (Clause 8(1) and (2) Schedule 15.2) .....	51
6.10.	NHH meters 90% read rate (Clause 9(1) and (2) Schedule 15.2) .....	52
6.11.	NHH meter interrogation log (Clause 10 Schedule 15.2) .....	53
6.12.	HHR data collection (Clause 11(1) Schedule 15.2) .....	54
6.13.	HHR interrogation data requirement (Clause 11(2) Schedule 15.2) .....	54
6.14.	HHR interrogation log requirements (Clause 11(3) Schedule 15.2).....	55
7.	Storing raw meter data .....	56
7.1.	Trading period duration (Clause 13 Schedule 15.2).....	56
7.2.	Archiving and storage of raw meter data (Clause 18 Schedule 15.2) .....	56
7.3.	Non metering information collected / archived (Clause 21(5) Schedule 15.2).....	56
8.	Creating and managing (including validating, estimating, storing, correcting and archiving) volume information.....	58

8.1.	Correction of NHH meter readings (Clause 19(1) Schedule 15.2).....	58
8.2.	Correction of HHR metering information (Clause 19(2) Schedule 15.2).....	58
8.3.	Error and loss compensation arrangements (Clause 19(3) Schedule 15.2) .....	59
8.4.	Correction of HHR and NHH raw meter data (Clause 19(4) and (5) Schedule 15.2) .....	59
9.	Estimating and validating volume information.....	61
9.1.	Identification of readings (Clause 3(3) Schedule 15.2).....	61
9.2.	Derivation of volume information (Clause 3(4) Schedule 15.2).....	61
9.3.	Meter data used to derive volume information (Clause 3(5) Schedule 15.2).....	61
9.4.	Half hour estimates (Clause 15 Schedule 15.2).....	62
9.5.	NHH metering information data validation (Clause 16 Schedule 15.2) .....	63
9.6.	Electronic meter readings and estimated readings (Clause 17 Schedule 15.2) .....	63
10.	Provision of metering information to the GRID OWNER in accordance with subpart 4 of Part 13 (clause 15.38(1)(f)) .....	66
10.1.	Generators to provide HHR metering information (Clause 13.136) .....	66
10.2.	Unoffered & intermittent generation provision of metering information (Clause 13.137) ...	66
10.3.	Loss adjustment of HHR metering information (Clause 13.138).....	67
10.4.	Notification of the provision of HHR metering information (Clause 13.140) .....	67
11.	Provision of submission information for reconciliation.....	68
11.1.	Buying and selling notifications (Clause 15.3).....	68
11.2.	Calculation of ICP days (Clause 15.6) .....	68
11.3.	Electricity supplied information provision to the reconciliation manager (Clause 15.7).....	69
11.4.	HHR aggregates information provision to the reconciliation manager (Clause 15.8) .....	70
12.	Submission computation .....	71
12.1.	Daylight saving adjustment (Clause 15.36) .....	71
12.2.	Creation of submission information (Clause 15.4).....	71
12.3.	Allocation of submission information (Clause 15.5) .....	71
12.4.	Grid owner volumes information (Clause 15.9) .....	73
12.5.	Provision of NSP submission information (Clause 15.10) .....	74
12.6.	Grid connected generation (Clause 15.11).....	74
12.7.	Accuracy of submission information (Clause 15.12) .....	74
12.8.	Permanence of meter readings for reconciliation (Clause 4 Schedule 15.2).....	75
12.9.	Reconciliation participants to prepare information (Clause 2 Schedule 15.3) .....	75
12.10.	Historical estimates and forward estimates (Clause 3 Schedule 15.3).....	76
12.11.	Historical estimate process (Clause 4 and 5 Schedule 15.3) .....	77
12.12.	Forward estimate process (Clause 6 Schedule 15.3) .....	77
12.13.	Compulsory meter reading after profile change (Clause 7 Schedule 15.3).....	78
13.	Submission format and timing .....	79
13.1.	Provision of submission information to the RM (Clause 8 Schedule 15.3) .....	79
13.2.	Reporting resolution (Clause 9 Schedule 15.3) .....	80
13.3.	Historical estimate reporting to RM (Clause 10 Schedule 15.3) .....	80
Conclusion	.....	82
Participant response	.....	82

## EXECUTIVE SUMMARY

This reconciliation participant audit was performed at the request of Stack Energy (STAK) to support their application for certification, in accordance with clause 4 of Schedule 15.1 of The Code 2010. The relevant clauses audited are as required by the Guidelines for Reconciliation Participants Audits V 7.1 issued by the Electricity Authority.

At the time of the audit Stack Energy was trading 60 ICPs with all of them being traded as NHH ICPs. Stack Energy uses the registry interface to conduct switching and software, written by one of Stack Energy employee's, is used for the creation of reconciliation files and billing. The software is under development and it will be ready by the end of this year. The software, at the time of audit, was suitable to be run by the developer with a good understanding of SQL code.

The audit found 11 non-compliances and one recommendation. The main issues identified during this audit are:

- Late CS files for switch move
- Incorrect information in a few CS files
- Meter data from MEPs is truncated on upload to the Stack Energy system

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. Table 1 of the Guidelines for Reconciliation Participant audit provides some guidance on this matter. The Future Risk Rating score is 28 which results in an indicative audit frequency of 12 months. We agree with the result.

We thank Stack Energy for their cooperation in this audit.

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Audit requirements	1.11	15.37A	Audit report completed late	Weak	Low	3	Identified
Relevant information	2.1	11.2/15.2	Incorrect ANZSIC code assigned to one ICP	Moderate	Low	2	Identified
Changes to registry information	3.3	10 of Schedule 11.1	Two updates of the "active" status later than 5 business days	Moderate	Low	2	Identified
ANZSIC codes	3.6	9(1)(k) of Schedule 11.1	One ICP had incorrect ANZSIC code	Strong	Low	2	Identified
Losing trader provides information - switch move	4.8	10(1) of Schedule 11.3	Switch Move of one ICP was not finalised within 5 business days. The process documentation is incorrect.	Weak	Low	3	Identified
Losing trader must provide final information - switch move	4.10	11 of Schedule 11.3	Incorrect switch event reading for two ICPs	Moderate	Low	2	Identified
NHH meters 90% read rate	6.10	9 (1) of Schedule 15.2	Meter Frequency Reports to the Authority were not provided to the Authority. The read attainment was not met	Weak	Low	3	Identified
Meter data used to derive volume information	9.3	3(5) Schedule 15.2	Meter data in truncated when imported to Stack Energy's system	None	Low	5	Identified
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	NHH data is not fully validated	Moderate	Low	2	Identified
Allocation of submission information	12.3	15.5	ICP 0000141237UN08A is reconciled against incorrect NSP	Moderate	Low	2	Identified
Historical estimate reporting to RM	13.3	10 of Schedule 15.3	Historical Estimate targets not met for revision 3, 7 for a few months	Moderate	Low	2	Identified
Future Risk Rating						28	
Next audit data						12 months	

Future risk rating	0-1	1-3	4-15	16-40	41-55	56+
Indicative audit frequency	36 months	24 months	18 months	12months	6 months	3 months

## RECOMMENDATIONS

Subject	Section	Description	Recommendation
Audit trails	2.4	Audit trail of meter readings is cumbersome, difficult to follow	Incorporate in the Stack Energy's system design, transparent, easy to follow audit trail

## ISSUES

Subject	Section	Description	Issue

## 1. ADMINISTRATIVE

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

#### Code reference

Section 11 of Electricity Industry Act 2010.

#### Code related audit information

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

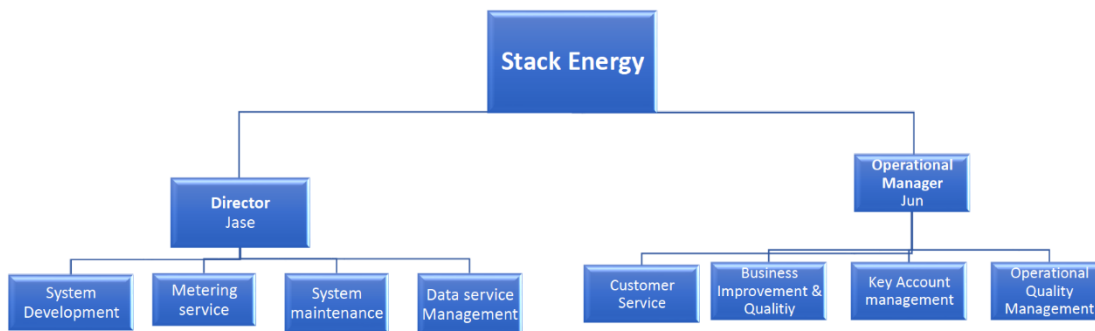
#### Audit observation

Stack Energy has not applied for any exemptions.

#### Audit commentary

We checked the Electricity Authority website and confirm that there are no exemptions granted to STAK

### 1.2. Structure of Organisation



### 1.3. Persons involved in this audit

Name	Title	Company
Jun Kim	General Manager	Stack Energy
Sangdong Park	Director	Stack Energy
Ewa Glowacka	Electricity Authority Approved Auditor	TEG & Associates

### 1.4. Use of Agents (Clause 15.34)

#### Code reference

Clause 15.34

#### Code related audit information

*A reconciliation participant who uses an agent*

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

#### Audit observation



There are no agents who assist with, or are used in, the Stack Energy operations that were audited.

#### Audit commentary

During the audit, we did not identify any contractors who assist Stack Energy to meet their obligations.

#### 1.5. Hardware and Software

Stack Energy uses their own system, written in-house, for reconciliation and billing functions.

#### 1.6. Breaches or Breach Allegations

Stack Energy stated it has no breaches of the Electricity Industry Participation Code related to this audit.

#### 1.7. ICP Data

Metering Category	(03/06/19)	(date)	(date)
1	60		
2	0		
3	0		
4	0		
5	0		
9	0		

Status	Number of ICPs (03/06/19)	Number of ICPs (date)	Number of ICPs (date)
Active (2,0)	60		
Inactive – new connection in progress (1,12)	0		
Inactive – electrically disconnected vacant property (1,4)	0		
Inactive – electrically disconnected remotely by AMI meter (1,7)	0		
Inactive – electrically disconnected at pole fuse (1,8)	0		
Inactive – electrically disconnected due to meter disconnected (1,9)	0		
Inactive – electrically disconnected at meter box fuse (1,10)	0		

Inactive – electrically disconnected at meter box switch (1,11)	0		
Inactive – electrically disconnected ready for decommissioning (1,6)	0		
Inactive – reconciled elsewhere (1,5)	0		
Decommissioned (3)	0		

### 1.8. Authorisation Received

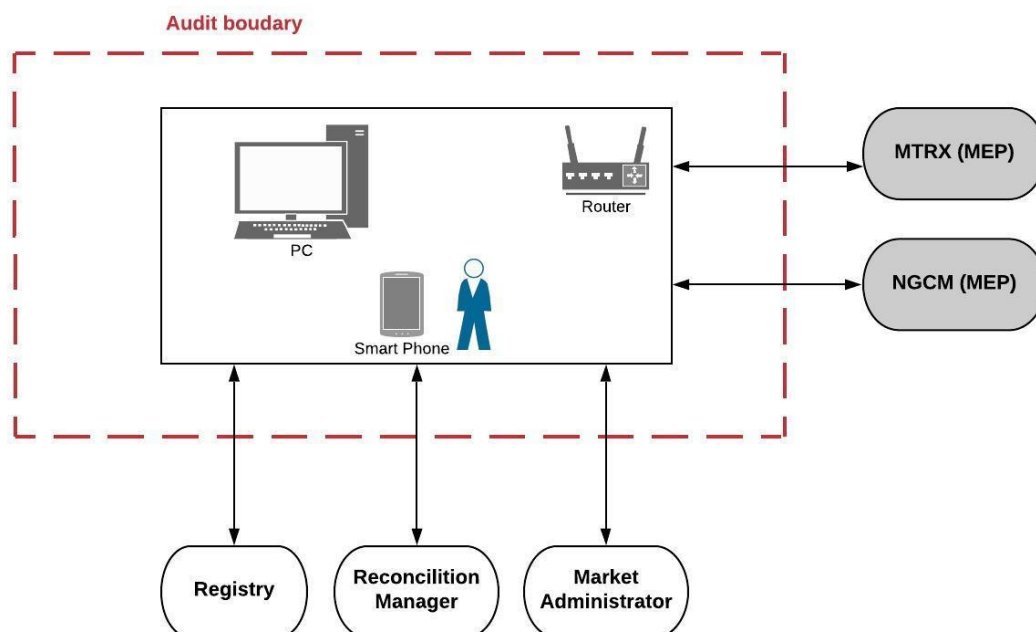
Stack Energy provided a letter of authorisation to TEG & Associates permitting the collection of data from other parties for matters directly related to the audit.

### 1.9. Scope of Audit

This reconciliation participant audit was performed at the request of Stack Energy. Clause 2B of Schedule 15.1 puts the obligation on the reconciliation participant to obtain Authority approval before performing a function listed in clause 15.38(1) without certification. The audit was carried out at 28 Constellation Drive, Auckland on 5 June 2019.

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

<b>Tasks Requiring Certification Under Clause 15.38(1) of Part 15</b>	<b>Relevant to audit</b>	<b>Agents Involved in Performance of Tasks</b>
(a) - Maintaining registry information and performing customer and embedded generator switching	✓	
(b) – Gathering and storing raw meter data	✓	
(c)(i) - Creation and management of HHR volume information	✗	
(c)(ii) - Creation and management of NHH volume information	✓	
(c)(ii) - Creation and management of HHR and NHH volume information	✗	
(c)(iv) - Creation and management of dispatchable load information	✗	
(d)(i) – Calculation and delivery of ICP days under clause 15.6	✓	
(d)(ii) - delivery of electricity supplied information under clause 15.7	✓	
(d)(iii) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8	✓	
(e) – Provision of submission information for reconciliation	✓	
(f) - Provision of metering information to the grid owner in accordance with subpart 4 of part 13	✗	



#### 1.10. Summary of previous audit

There is no history of a previous audit for this participant.

#### 1.11. Audit requirements (Clause 15.37A)

##### Code reference

Clause 15.37A

##### Code related audit information

*Each reconciliation participant and each dispatchable load purchaser must arrange to be audited regularly in accordance with Part 16A in respect of the reconciliation participant's or dispatchable load purchaser's obligations under this Part.*

##### Audit observation

The Stack Energy reconciliation participant audit was due to be submitted to the authority by 4<sup>th</sup> May 2019 for certification to be approved by 27<sup>th</sup> April 2019. The site audit was completed on 5<sup>th</sup> of June 2019 therefore the audit report will be lodged late. This is recorded as non-compliance.

##### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 1.11 With: 15.37A  From: 04-May-19 To: 22-Jun-19	Audit report completed late Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The audit risk rating is recorded as low because the number of ICPs traded by Stack Energy is small therefore any impact to the market will be minor		
Actions taken to resolve the issue		Completion date	Remedial action status
Processed audit as soon as we realised audit submission date is late.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Apply reconciliation audit before 2 months of expiry date. Dedicated managing people will be assigned and be aware of the Authority rules and follow to prevent market impact.		-	

## 2. OPERATIONAL INFRASTRUCTURE

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

#### Code reference

Clause 10.6, 11.2, 15.2

#### Code related audit information

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

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

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

#### Audit observation

The LIS file dated 03/06/2019 was examined to identify any inaccuracies. The Event Detail (EDA) file for the period 04/07/18 to 31/5/19 was examined to determine how quickly Stack Energy provides information to the registry and corrects information which is identified as inaccurate.

#### Audit commentary

The LIS file and Metering Installation Information (PR-255) were analysed, the results are shown below:

Issue	Quantity	Comments
ICP Status = 002, MEP = blank, UNM Flag = N	0	No evidence of this occurring
ICP Status = 002, Generation Capacity is not blank,	0	No evidence of this occurring
Highest Metering Category >2 with residential ANZSIC code assigned (000000)	0	No evidence of this occurring
ANZSIC code = blank or T994, T994000, T99, T999, T999999, T995, T995000, T997, T997000, T998, T998000	0	No evidence of this occurring
ICP with B or G Inst Type, or non-null Fuel or Gen Capacity that do not have a corresponding Injection Register	0	No evidence of this occurring
Highest Metering Category greater than 2, Submission Type HHR = No	0	No evidence of this occurring
Highest Metering Category = 9, UNM Flag=N	0	No evidence of this occurring
All active ICPs with Initial Energisation Date populated during a defined period	0	No evidence of this occurring
All Active ICPs (ICP Status = 2) with Shared ICP List not blank	0	No evidence of this occurring

All ICPs at ICP Status 001,12	0	No evidence of this occurring
Submission Type HHR = Y, Profile does not contain HH	0	No evidence of this occurring
Submission Type HHR and Submission Type NHH both = Y	0	No evidence of this occurring
All active ICPs where Distributor has indicated UML (UML Load Details not NULL) but Retailer has none (UNM Flag = N)	0	No evidence of this occurring
All active ICPs with UNM Flag = Y	0	No evidence of this occurring
All active ICPs with load in excess of 6kWh (Daily Unmetered kWh greater than 16.4 daily)	0	No evidence of this occurring
All active ICPs with load between 3-6k kWh (Daily Unmetered kWh between 8.2-16.4 daily)	0	No evidence of this occurring
All active ICPs with Engineered profile (Daily Unmetered kWh = ENG)	0	No evidence of this occurring

As described in **section 3.6**, one ICP had an incorrect ANZSIC code assigned.

In **section 9.3** we described how incorrect information was provided to the market because Stack Energy truncated metering data received from MEPs.

Incorrect NSP assigned to 0000141237UN08A – **section 12.2**.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: 11.2 From: 04-Jul-18 To: 31-May-19	Incorrect information provided to participants Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate. Good quality data in the registry but truncation metering information effects market settlement. The audit risk rating is recorded as low because of small number residential ICPs traded.		
Actions taken to resolve the issue		Completion date	Remedial action status
ANZSIC code for ICP's with business have been updated manually by checking with customer.		20/06/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We are going to check type of business to business customer once they apply our service.			

## 2.2. Provision of information (Clause 15.35)

### Code reference

Clause 15.35

### Code related audit information

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

### Audit observation

Processes to provide information to the reconciliation manager were reviewed and assessed throughout this document.

### Audit commentary

Compliance with this area was discussed in a number of relevant sections. Compliance was confirmed with regards to timeliness and format of information in accordance with Part 15.

### Audit outcome

Compliant



## 2.3. Data transmission (Clause 20 Schedule 15.2)

### Code reference

Clause 20 Schedule 15.2

### Code related audit information

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

### Audit observation

Metering data is provided by the MEPs, AMS and MTRX

### Audit commentary

Metering data is downloaded daily from SFTP servers and imported automatically to STAK's system.

### Audit outcome

Compliant

## 2.4. Audit trails (Clause 21 Schedule 15.2)

### Code reference

Clause 21 Schedule 15.2

### Code related audit information

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

*The audit trail must include details of information:*

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

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

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

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

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

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

### Audit observation

We checked the audit trail of communication with the registry, the reconciliation manager and communication with other reconciliation managers.

### Audit commentary

The audit trail for reconciliation files is recorded by the RM portal. The registry records all transactions instigated by Stack Energy. Any correspondence with other reconciliation participants is archived as part of the email system.

The switch event readings are not referenced to the received file (CS); it is assumed that the first read after the switch is complete comes from the CS file. This could lead to some confusion. We observed that there are also no source references for meter readings received from MEPs. The original file could be located but it is not an easy task. When the number of traded ICPs increase it will become even harder.

Knowing that Stack Energy’s system is still under development, our recommendation is to design their system in such a way that an audit trail is complete and easy to follow.

**Audit outcome**

Compliant

Description	Recommendation	Audited party comment	Remedial action
Audit trail of meter readings is cumbersome	Incorporate in the Stack Energy’s system design, transparent, easy to follow audit trail	Under discussion with Development team for setting up a clear system to validate meter reading data. We look forward to starting it as soon as possible in 2019.	

**2.5. Retailer responsibility for electricity conveyed - participant obligations (Clause 10.4)**

**Code reference**

Clause 10.4

**Code related audit information**

*If a participant must obtain a consumer’s consent, approval, or authorisation, the participant must ensure it:*

- extends to the full term of the arrangement
- covers any participants who may need to rely on that consent.

**Audit observation**

Stack Energy provided their Terms and Conditions.

**Audit commentary**

We reviewed the Terms and Conditions. We confirm compliance with this clause.

**Audit outcome**

Compliant

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

**Code reference**

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

#### Code related audit information

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

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

The trader must use its best endeavours to provide access:

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

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

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

#### Audit observation

Stack Energy provided their Terms and Conditions.

#### Audit commentary

Point 5 of the Stack Energy Terms and Conditions covers access to premises. A customer must provide Stack Energy, their service providers and the Lines Company, safe and unobstructed access to any of their equipment. Written notice will be given 10 business days prior to access to your property if it is required for construction, upgrade, repair or maintenance.

#### Audit outcome

Compliant

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

#### Code reference

Clause 10.35(1)&(2)

#### Code related audit information

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

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

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

#### Audit observation

The LIS file dated 5/6/19 was reviewed.

#### Audit commentary

All metering installations traded by Stack Energy are category 1. Based on the category of metering installations traded by the company we confirm compliance. Stack Energy is not responsible for any metering installations with loss compensation factors.

#### Audit outcome

Compliant

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

#### Code reference

Clause 11.15B

#### Code related audit information

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

- *the Authority to assign the rights and obligations of the trader under the contract to another trader if the trader commits an event of default under paragraph (a) or (b) or (f) or (h) of clause 14.41 (clause 11.15B(1)(a)); and*
- *the terms of the assigned contract to be amended on such an assignment to—*
- *the standard terms that the recipient trader would normally have offered to the customer immediately before the event of default occurred (clause 11.15B(1)(b)(i)); or*
- *such other terms that are more advantageous to the customer than the standard terms, as the recipient trader and the Authority agree (clause 11.15B(1)(b)(ii)); and*
- *the terms of the assigned contract to be amended on such an assignment to include a minimum term in respect of which the customer must pay an amount for cancelling the contract before the expiry of the minimum term (clause 11.15B(1)(c)); and*
- *the trader to provide information about the customer to the Authority and for the Authority to provide the information to another trader if required under Schedule 11.5 (clause 11.15B(1)(d)); and*
- *the trader to assign the rights and obligations of the trader to another trader (clause 11.15B(1)(e)).*

*The terms specified in subclause (1) must be expressed to be for the benefit of the Authority for the purposes of the Contracts (Privacy) Act 1982, and not be able to be amended without the consent of the Authority (clause 11.15B(2)).*

#### Audit observation

Stack Energy provided their Terms and Conditions.

#### Audit commentary

The compliance with this clause is covered in section 9.4 of the Terms and Conditions.

#### Audit outcome

Compliant

### 2.9. Connection of an ICP (Clause 10.32)

#### Code reference

Clause 10.32

#### Code related audit information

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

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

#### Audit observation

Stack Energy will not be dealing with new connections for some time. When STAK does decide to take on new connections they will document the process.

#### Audit commentary

We reviewed the LIS file dated 3/6/19 and confirm no new connections have been traded by the company. The company is not planning to trade new installations in the near future.

#### Audit outcome

Compliant

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

#### Code reference

Clause 10.33(1)

#### Code related audit information

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

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

#### Audit observation

As described in **section 2.9**, Stack Energy will not be dealing with new connections in the near future.

#### Audit commentary

Compliance was not assessed because there were no new connections.

#### Audit outcome

Not applicable

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

#### Code reference

Clause 10.33A(1)

#### Code related audit information

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

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

#### **Audit observation**

As described in **section 2.9**, Stack Energy will not be dealing with new connections in the near future. We reviewed the disconnection/reconnection process .

#### **Audit commentary**

We confirm that the disconnection/reconnection process procedure is compliant. More details are provided in the relevant part of this report.

#### **Audit outcome**

Compliant

### 2.12. Arrangements for line function services (Clause 11.16)

#### **Code reference**

*Clause 11.16*

#### **Code related audit information**

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

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

#### **Audit observation**

Stack Energy only trades on the Vector network.

#### **Audit commentary**

Stack Energy demonstrated the existence of UoSA with Vector and MEPs (MRTX and AMS).

#### **Audit outcome**

Compliant

### 2.13. Arrangements for metering equipment provision (Clause 10.36)

#### **Code reference**

*Clause 10.36*

**Code related audit information**

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

**Audit observation**

Stack Energy provided a copy of signed agreements with Metrix and AMS.

**Audit commentary**

Compliance confirmed based on a review of the relevant documents.

**Audit outcome**

Compliant

### 3. MAINTAINING REGISTRY INFORMATION

#### 3.1. Obtaining ICP identifiers (Clause 11.3)

##### Code reference

Clause 11.3

##### Code related audit information

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

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

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

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

##### Audit observation

As described in **section 2.9**, Stack Energy does not trade new connections. The LIS file dated 3/6/19 was analysed.

##### Audit commentary

Analysis of the LIS file confirmed that Stack Energy only trades in already established connections. When STAK decides to take on new connections they will document the process.

Audit outcome

##### Audit outcome

Compliant

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

##### Code reference

Clause 11.7(2)

##### Code related audit information

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



### Audit observation

According to the process, the company checks each ICPs information in the registry before the ICP is accepted.

### Audit commentary

We analysed the LIS file and confirm that the company provided all information to the registry for installations at which they trade energy.

### Audit outcome

Compliant

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

### Code reference

*Clause 10 Schedule 11.1*

### Code related audit information

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

### Audit observation

We reviewed the EDA file for the period 04/07/18 to 31/05/19.

### Audit commentary

The table shows transactions conducted by Stack Energy since the first switch

Activity	No of updates	No of updates later than 5BD	Date range of updates [BD]	Comment
Status (2)	3	2	Up to 10BD	

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.3 With: 10 of Schedule 11.1 From: 04-Jul-18 To: 31-May-19	Two updates of the “active” status were later than 5 business days Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate because there are some improvements that can be made to them. There was no impact on settlement because it was only ICPs and updates that were delayed by a small number of days. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
All incorrect inactive status had already been updated.		31/05/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Dedicated managing person has been assigned for checking ICP status frequently (less than 5 days).		20/06/2019	

### 3.4. Trader responsibility for an ICP (Clause 11.18)

#### Code reference

Clause 11.18

#### Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

#### **Audit observation**

The LIS file dated 03/06/19 was analysed and we confirm that all ICPs have a MEP recorded in the registry.

#### **Audit commentary**

Stack Energy fully understand that as soon as they are recorded in the registry as accepting responsibility, the responsibility will cease only when an ICP switches out to another trader and its code is recorded in the registry.

There were no ICPs marked as “ready for decommissioning”.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 9 Schedule 11.1*

#### **Code related audit information**

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

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

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

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

#### **Audit observation**

We analysed the LIS file and EDA files for the period of 04/07/18 to 31/05/19.

#### **Audit commentary**

The analyses of the EDA files showed that Stack Energy provided all required information to the registry within the timeframe set out in this clause.

#### **Audit outcome**

Compliant

### 3.6. ANZSIC codes (Clause 9 (1)(k) of Schedule 11.1)

#### Code reference

Clause 9 (1)(k) of Schedule 11.1

#### Code related audit information

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

#### Audit observation

We analysed the LIS file dated 03/06/19.

#### Audit commentary

We checked all ICPs (8) which are not residential customers. One of them 0000130029UN8A2 had an incorrect ANZSIC code assigned.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.6 With: 9(1)(k) of Schedule 11.1 From: 04-Jul-18 To: 31-May-19	One ICP had incorrect ANZSIC code Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as strong. There was no impact on settlement because it was only one ICP, volumes submitted were not affected. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
ANZSIC code for ICP's with business have been updated manually by checking with customer.		20/06/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We are going to check type of business to business customer once they apply our service.		20/06/2019	

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

#### Code reference

Clause 9(1)(f) of Schedule 11.1

### Code related audit information

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

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

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

### Audit observation

The LIS file was reviewed.

### Audit commentary

Stack Energy does not have any intention to trade UML ICPs.

### Audit outcome

Compliant

## 3.8. Management of “active” status (Clause 17 Schedule 11.1)

### Code reference

*Clause 17 Schedule 11.1*

### Code related audit information

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

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

*Before an ICP is given the “active” status, the trader must ensure that:*

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

### Audit observation

The LIS file and EDA files were examined. The process for status change was discussed during the audit.

### Audit commentary

The LIS file showed that all ICPs have the status “active” assigned. All installations were metered. A review of the EDA file confirmed that there have been three changes to “active” status’ during the period covered by this audit. Reconnections were done by MEPs. We reviewed the paperwork.

### Audit outcome

Compliant

## 3.9. Management of “inactive” status (Clause 19 Schedule 11.1)

### Code reference

*Clause 19 Schedule 11.1*

### Code related audit information

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

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

#### **Audit observation**

The LIS file and EDA files were examined. The process for a status change was discussed during the audit.

#### **Audit commentary**

As described in section 3.3, there were three changes of ICPs status from “inactive” to “active”. Two of them were late by a few days.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 15 Schedule 11.1*

#### **Code related audit information**

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

#### **Audit observation**

It is a distributor’s obligation to monitor an ICP which has had the status of “New” or “Ready” for 24 calendar months or more. It is expected that a trader be able to respond to such queries from distributors.

#### **Audit commentary**

Stack Energy has not received such a query from any distributor because the company does not trade new connections.

#### **Audit outcome**

Not applicable

## 4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

#### Code reference

Clause 2 Schedule 11.3

#### Code related audit information

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

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

*A gaining trader must advise the registry manager of a switch no later than 2 business days after the arrangement comes into effect and include in its advice to the registry manager that the switch type is TR and 1 or more profile codes associated with that ICP.*

#### Audit observation

The standard switch process was examined to assess compliance. We reviewed the EDA file for the period 04/07/18 to 31/05/19 and the Switch Breach report.

#### Audit commentary

75 NTTR files were sent within the period covered by this audit. The Switch Breach report did not record any backdated transfer switches.

#### Audit outcome

Compliant

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

#### Code reference

Clauses 3 and 4 Schedule 11.3

#### Code related audit information

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

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

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

### Audit observation

To assess compliance we analysed the EDA file for the period covered by this audit and Switch Breach Report for the same period.

### Audit commentary

Stack Energy lost one ICP using the standard switch process. The AN file was sent the following day, the event date was 2 days after the date specified by a gaining trader. The company met compliance with clause 4(b) of Schedule 11.4.

### Audit outcome

Compliant

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

### Code reference

Clause 5 Schedule 11.3

### Code related audit information

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

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

### Audit observation

To assess compliance we analysed the EDA file for the period covered by this audit and the Switch Breach Report for the same period.

### Audit commentary

As described in **section 4.2**, Stack Energy lost only one ICP using the standard switch process. We checked the CS file format, it was correct. The file was sent within 2 business days.

### Audit outcome

Compliant

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

### Code reference

Clause 6(1) and 6A Schedule 11.3

### Code related audit information

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

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



- *the gaining trader may dispute the switch meter reading if the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more. (clause 6(b)).*

*If the gaining trader disputes a switch meter reading because the switch event meter reading provided by the losing trader differs by 200 kWh or more, the gaining trader must, within 4 calendar months of the registry manager giving the gaining trader written notice of having received information about the switch completion, provide to the losing trader a changed switch event meter reading supported by 2 validated meter readings.*

- *the losing trader can choose not to accept the reading, however, must advise the gaining trader no later than 5 business days after receiving the switch event meter reading from the gaining trader (clause 6A(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader. (clause 6A(b)).*

#### **Audit observation**

To assess compliance we analysed the EDA file for the period covered by this audit.

#### **Audit commentary**

We randomly selected 9 CS files received from losing traders and compared them with meter readings used for reconciliation purposes. We confirm compliance.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 6(2) and (3) Schedule 11.3*

#### **Code related audit information**

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

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

#### **Audit observation**

The EDA file was analysed to assess if compliance with this clause was met.

#### **Audit commentary**

Stack Energy used a switch event reading provided by losing traders for all gained switches. No RR files were sent or received.

#### **Audit outcome**

Compliant

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

#### **Code reference**

### Clause 7 Schedule 11.3

#### Code related audit information

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

#### Audit observation

There were no disputes with a losing trader in relation to a switch event read. If such a situation were to occur in the future it would be resolved in accordance with this clause.

#### Audit commentary

Stack Energy stated that they will not decline to accept another traders' validated meter reading or permanent estimate if they are reasonable and appropriate. The company will also provide a reasonable explanation to the other participant where it does decline to accept their validated meter reading or permanent estimate.

#### Audit outcome

Compliant

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

#### Code reference

*Clause 9 Schedule 11.3*

#### Code related audit information

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

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

*In the event of a switch move, the gaining trader must advise the registry manager of a switch and the proposed event date no later than 2 business days after the arrangement comes into effect.*

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

- *a proposed event date (clause 9(2)(a)); and*
- *that the switch type is "MI" (clause 9(2)(b)); and*
- *one or more profile codes of a profile at the ICP. (clause 9(2)(c))*

#### Audit observation

The switch move process was examined to assess compliance. We reviewed the EDA file for the period 04/07/18 to 31/05/19 and the Switch Breach Report.

#### Audit commentary

Stack Energy sent 13NTMI files. Only one file was related to a switch event in the past. It was discussed with the company and it was confirmed that it was caused by late notification by a customer.

#### Audit outcome

Click here to choose outcome from the drop down list.

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

##### Code reference

*Clause 10(1) Schedule 11.3*

##### Code related audit information

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

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

##### Audit observation

The switch move process was examined to assess compliance. We reviewed the EDA file for the period 04/07/18 to 31/05/19 and the Switch Breach Report.

##### Audit commentary

The review of the EDA files and the Switch Breach report identified one non-compliance (ICP 0000132021UN9F6).

The review of the switch move process showed that it is incorrect. According to Stack Energy's process, the AN file must be sent within 5 business days, which is incorrect, and the CS file within 5 business days after AN file. According to this clause switch move must be finalised within 5 business days unless the switch event date is not accepted.

We identified 3 CS files, sent to the gaining traders, which had an incorrect date for switch event read or incorrect flag or, for ICP 0000219625UN463, Stack Energy used the previous traders switch event read date. This ICP was with STAK for only 3 days and then switched to PSNZ. No reading for this ICP was received by Stack Energy.

The Stack Energy's system is under development therefore the current process is that the person responsible for switching must request a switch event read from the developer for each switch. On a few occasions there was a misunderstanding between the two people.

##### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.8 With: 10(1) of Schedule 11.3  From: 04-Jul-18 To: 31-May-19	Switch Move of one ICP was not finalised within 5 business days. The process documentation is incorrect.  Potential impact: Low  Actual impact: Low  Audit history: None  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as weak; the current process is open to human error. There was negligible impact on settlement because of the small number of ICPs. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Switching order had been updated		20/06/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
System development is going to develop automation system for switching and will be finished by end of 2019. During this period, we are going to monitoring registry webpage and SFTP notification manually in every day.		20/06/2019	

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

##### Code reference

Clause 10(2) Schedule 11.3

##### Code related audit information

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

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

##### Audit observation

The EDA file was analysed.

##### Audit commentary

We identified one ICP (1001124310UN69F) for which Stack Energy notified a different date than requested by a losing trader. It was two days later, which meets compliance with this clause.

## Audit outcome

Compliant

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

#### Code reference

Clause 11 Schedule 11.3

#### Code related audit information

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

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

#### Audit observation

The EDA file was analysed.

#### Audit commentary

We checked the CS file sent for ICP 1001124310UN69F. It was identified that the switch event meter reading was incorrect. It was the meter reading at the end of 02/12/18 instead of 03/12/18.

It was discussed during the audit. It was human error. The system is still under development and it is easy to pick up a reading from a different date.

ICP 1001104389LC4F0 had incorrect type of flag of “A” assigned instead “E”.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: 11 of Schedule 11.3 From: 02-Dec-18 To: 03-Dec-18	Incorrect switch event reading for two ICPs Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate because there are some improvements that can be made to them. There was no impact on settlement because it was only two ICPs. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Evaluate our switching system which update a correct meter reading data automatically once switch event is happened. Then eliminate human error.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Evaluate our switching system which update a correct meter reading data automatically once switch event is happened.			

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

##### Code reference

Clause 12 Schedule 11.3

##### Code related audit information

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

- if the switch meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader (clause 12(2)(a)); or
- if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch meter reading. In this case, the gaining trader, within 4 calendar months of the date the registry manager gives the gaining trader written notice of having received information about the switch completion, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by 2 validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):

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

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

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

### **Audit observation**

To assess compliance we analysed the EDA file for the period covered by this audit.

### **Audit commentary**

As a part of sampling, noted in **section 4.4**, we checked 2 CS files received from losing traders and compared them with meter readings used for reconciliation purposes. We confirm compliance.

### **Audit outcome**

Compliant

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

### **Code reference**

*Clause 14 Schedule 11.3*

### **Code related audit information**

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

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

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

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

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

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

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

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

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

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

#### **Audit observation**

Stack Energy provided the Event Listing file (EDA) and the Switch Breach History detail report for the time period. This type of switch was not used.

#### **Audit commentary**

The process is not yet documented, their target market are residential customers (category 1 metering installations).

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 15 Schedule 11.3*

#### **Code related audit information**

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

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

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

#### **Audit observation**

Stack Energy provided the Event Listing file (EDA) and the Switch Breach History details report for the time period. This type of switch was not used.

#### **Audit commentary**

No gaining trader switches occurred during the period of this audit.

#### **Audit outcome**

Not applicable

### 4.14. Gaining trader to advise the registry manager - gaining trader switch (Clause 16 Schedule 11.3)

#### **Code reference**

*Clause 16 Schedule 11.3*

#### **Code related audit information**



*The gaining trader must complete the switch no later than 3 business days, after receiving the valid switch response code, by advising the registry manager of the event date.*

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

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

*16(b)- carry out an interrogation and, no later than 5 business days after the metering installation is electrically disconnected or removed, advise the losing trader of the results and metering component numbers for each data channel in the metering installation.*

#### **Audit observation**

Stack Energy provided the Event Listing file (EDA) and the Switch Breach History details report for the time period. This type of switch was not used.

#### **Audit commentary**

No gaining trader switches occurred during the period of this audit.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clauses 17 and 18 Schedule 11.3*

#### **Code related audit information**

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

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

- *for each ICP, the trader withdrawing the switch request must provide the registry manager with (clause 18(c)):*
  - o *the participant identifier of the trader making the withdrawal request (clause 18(c)(i)); and*
  - o *the withdrawal advisory code published by the Authority. (clause 18(c)(ii))*
- *within 5 business days after receiving notice from the registry manager of a switch, the trader receiving the withdrawal must advise the registry manager that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal. (clause 18(d))*
- *on receipt of a rejection notice from the registry manager, in accordance with clause 18(d), a trader may re-submit the switch withdrawal request for an ICP in accordance with clause 18(c). All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request. (clause 18(e))*
- *if the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within 2 business days after receiving notice from the registry manager in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16. (clause 18(f))*

### Audit observation

The EDA file was reviewed for the period covered by this audit. We reviewed the withdrawal documentation which we found compliant.

### Audit commentary

Stack Energy sent 4 NW files within the time frame specified by this clause. The reason codes used in the files were correct.

### Audit outcome

Compliant

## 4.16. Metering information (Clause 21 Schedule 11.3)

### Code reference

Clause 21 Schedule 11.3

### Code related audit information

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

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

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

### Audit observation

AMS and MTRX reads meters on behalf of Stack Energy. The company also reads a few meters themselves.

### Audit commentary

Stack Energy understands their obligation as a trader.

### Audit outcome

Compliant

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

### Code reference

Clause 11.15AA to 11.15AB

### Code related audit information

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

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

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

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

**Audit observation**

Stack Energy is not a member of the switch protection program.

**Audit commentary**

The Win-back process was discussed during the audit. The company policy is not to contact a losing customer to offer “a better deal”.

**Audit outcome**

Compliant

## 5. MAINTENANCE OF UNMETERED LOAD

### 5.1. Maintaining shared unmetered load (Clause 11.14)

#### Code reference

Clause 11.14

#### Code related audit information

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

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

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

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

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

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

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

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

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

#### Audit observation

The LIS file dated 03/06/19 was examined to check if Stack Energy trades shared unmetered load.

#### Audit commentary

Stack Energy does not intend to take on DUML or SUML in the foreseeable future. . If it is found after a switch that SUML is associated with an ICP it will be dealt with accordingly.

#### Audit outcome

Compliant

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

#### Code reference

Clause 10.14 (2)(b)

### Code related audit information

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

### Audit observation

The LIS file was examined, and no UML ICPs were identified.

### Audit commentary

This clause is not applicable. Compliance was not assessed

### Audit outcome

Not applicable

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

### Code reference

*Clause 10.14 (5)*

### Code related audit information

*If the unmetered load limit is exceeded the retailer must:*

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

### Audit observation

The LIS file was examined, and no UML ICPs were identified.

### Audit commentary

This clause is not applicable. Compliance was not assessed

### Audit outcome

Not applicable

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

### Code reference

*Clause 11 Schedule 15.3, Clause 15.37B*

### Code related audit information

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

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

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

**Audit observation**

The LIS file was examined and no DUML ICPs were identified.

**Audit commentary**

This clause is not applicable. Compliance was not assessed.

**Audit outcome**

Not applicable

## 6. GATHERING RAW METER DATA

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

#### Code reference

*Clause 10.13, Clause 10.24 and Clause 15.13*

#### Code related audit information

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

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

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

- *there is 1 or more metering installations*
- *all electricity conveyed is quantified in accordance with the Code*
- *it does not use subtraction to determine submission information for the purposes of Part 15.*

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

#### Audit observation

The EDA and LIS files were reviewed for the period covered by this audit.

#### Audit commentary

All installations traded by Stack Energy are metered. No subtraction is used to determine submission information for the purpose of Part 15.

There are no plans to trade installations with embedded generation.

#### Audit outcome

Compliant

### 6.2. Responsibility for metering at GIP(Clause 10.26 (6), (7) and (8))

#### Code reference

*Clause 10.26 (6), (7) and (8)*

#### Code related audit information

*For each proposed metering installation or change to a metering installation that is a connection to the grid, the participant, must:*

- *provide to the grid owner a copy of the metering installation design (before ordering the equipment)*
- *provide at least 3 months for the grid owner to review and comment on the design*
- *respond within 3 business days of receipt to any request from the grid owner for additional details or changes to the design*
- *ensure any reasonable changes from the grid owner are carried out.*

*The participant responsible for the metering installation must:*

- *advise the reconciliation manager of the certification expiry date not later than 10 business days after certification of the metering installation*
- *become the MEP or contract with a person to be the MEP*
- *advise the reconciliation manager of the MEP identifier no later than 20 days after entering into a contract or assuming responsibility to be the MEP.*

#### **Audit observation**

This clause is not applicable to Stack Energy.

#### **Audit commentary**

This clause is not applicable to Stack Energy. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

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

#### **Code related audit information**

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

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

#### **Audit observation**

The LIS file and reconciliation files were analysed.

#### **Audit commentary**

The file analysis showed that Stack Energy submits volumes to the reconciliation manager using RPS profile. No control devices are needed therefore the company has never approached a MEP asking for a control device to be certified.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 10.43(2) and (3)*

#### **Code related audit information**

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

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

#### **Audit observation**

The process related to defective installations was examined.



## Audit commentary

The company provided one example of when the reading advanced by 10,000 kWh in one day (ICP 1001104389LC4F0). It was discussed with the MEP which sent a technician on site and provided a corrected reading. There was only one instance when Stack Energy identified a defective metering installation.

The company monitors “zero “consumption. Firstly STAK checks whether the meter reading is coming from a meter that is connected to a pool or water blaster etc. If there is only one meter at the premises and someone is living there but no power consumption has occurred, they check the meter to see if it has a communication problem. The MEP is contacted.

## Audit outcome

Compliant

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

### Code reference

Clause 2 Schedule 15.2

### Code related audit information

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

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

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

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

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

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

*2(6) – The interrogation systems must record:*

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

### Audit observation

The data collection process was reviewed.

### Audit commentary

The data is collected by NGCM and MTRX. Compliance with this clause is validated during the MEPs audit. There are four non-AMI meters which are read by Stack Energy by taking photos every month. The reads are treated as estimates. It was discussed during the audit and the company is planning to write a process so these reads can be treated the same as the reconciliation participant reads.

#### **Audit outcome**

Compliant

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

#### **Code reference**

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

#### **Code related audit information**

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

*All validated meter readings must be derived from meter readings.*

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

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

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

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

#### **Audit observation**

The data collection process was examined.

#### **Audit commentary**

As mentioned in the previous section, the company interrogates four ICPs manually by taking photos every month. The company is planning to write a process to follow the requirements of this clause so these reads can be treated the same as the reconciliation participant reads.

Stack Energy does not accept customer reads.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 6 Schedule 15.2*

#### **Code related audit information**

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

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

#### **Audit observation**

The process for the application of meter reading was examined as part of the calculation of historical estimates.

#### **Audit commentary**

In **section 12.11** a small number of scenarios was evaluated. We confirm compliance with this clause.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 7(1) and (2) Schedule 15.2*

#### **Code related audit information**

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

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

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

#### **Audit observation**

The process of missing reads was discussed. The EDA file was examined to identify ICPs which have switched out since the first switch.

#### **Audit commentary**

Stack Energy lost 5 ICPs. All of them were read during the period of supply.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 8(1) and (2) Schedule 15.2*

#### **Code related audit information**

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

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

#### **Audit observation**

Stack Energy has not been trading for 12 months yet.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Non-compliant

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

#### **Code reference**

*Clause 9(1) and (2) Schedule 15.2*

#### **Code related audit information**

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

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

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

#### **Audit observation**

We reviewed Meter Frequency reports created by Stack Energy.

#### **Audit commentary**

According to reports the company did not meet the read attainment for Nov'18, Dec'18, March'19 to May'19. Not meeting compliance with this clause was caused by manual reads of non-AMI meters, which were treated as estimates because no correct process has been in place to treat them the same reconciliation participant reads.

The company has not provided any Meter Frequency Reports to the Authority. Stack Energy was not aware of their obligation.

#### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 6.10 With: Audit Ref: 9(1) of Schedule 15.2  From: 04-Nov-18 To: 31-May-19	Meter Frequency Reports to the Authority were not provided to the Authority. The read attainment was not met.  Potential impact: Low  Actual impact: Low  Audit history: None  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are recorded as weak. The reports are created but not submitted. 90% read target was not reached because of a lack of understanding of relevant clauses. No impact on settlement outcomes. Audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Start sending the Meter Frequency Report to the Authority		01/07/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Find out the correct methodology of sending the Meter Frequency Report to the Authority and generate the report by following the Authority's rules.		01/07/2019	

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

##### Code reference

Clause 10 Schedule 15.2

##### Code related audit information

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

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

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

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

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

##### Audit observation

Meter readings are provided by MTRX. And AMS.

##### Audit commentary

Assessment with this clause is part of the MTRX and AMS audit.

##### Audit outcome

Compliant

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

### Code reference

*Clause 11(1) Schedule 15.2*

### Code related audit information

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

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

### Audit observation

Stack Energy trades NHH ICPs only.

### Audit commentary

This clause is not applicable to Stack Energy. Compliance was not assessed.

### Audit outcome

Not applicable

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

### Code reference

*Clause 11(2) Schedule 15.2*

### Code related audit information

*The following information is collected during each interrogation:*

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

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

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

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

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

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

### Audit observation

Stack Energy trades NHH ICPs only.

### Audit commentary

This clause is not applicable to Stack Energy. Compliance was not assessed.

### **Audit outcome**

Not applicable

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

### **Code reference**

*Clause 11(3) Schedule 15.2*

### **Code related audit information**

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

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

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

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

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

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

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

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

### **Audit observation**

Stack Energy trades NHH ICPs only.

### **Audit commentary**

This clause is not applicable to Stack Energy. Compliance was not assessed.

### **Audit outcome**

Not applicable

## 7. STORING RAW METER DATA

### 7.1. Trading period duration (Clause 13 Schedule 15.2)

#### Code reference

*Clause 13 Schedule 15.2*

#### Code related audit information

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

#### Audit observation

Stack Energy trades NHH ICPs only.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### Audit outcome

Not applicable

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

#### Code reference

*Clause 18 Schedule 15.2*

#### Code related audit information

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

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

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

#### Audit observation

NHH data is received from MTRX and AMS, who archives the raw meter data. Stack Energy keeps a copy of all NHH data.

#### Audit commentary

Access to the copy of raw data is restricted, protected by passwords.

#### Audit outcome

Compliant

### 7.3. Non metering information collected / archived (Clause 21(5) Schedule 15.2)

#### Code reference

*Clause 21(5) Schedule 15.2*

#### Code related audit information

*All relevant non-metering information, such as external control equipment operation logs, used in the determination of profile data must be collected, and archived in accordance with clause 18.*



**Audit observation**

The LIS file and RM submissions files were reviewed.

**Audit commentary**

Stack Energy only uses the RPS profile for reconciliation submissions. No external control equipment is used.

**Audit outcome**

Compliant

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

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

#### Code reference

Clause 19(1) Schedule 15.2

#### Code related audit information

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

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

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

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

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

#### Audit observation

Any corrections, if necessary, will be done by Stack Energy.

#### Audit commentary

No NHH corrections were made during the period covered by this audit. If errors are detected, in the first instance, an MEP will be contacted asking to read the meter again. One example of an incorrect reading was described in **section 6.4**.

If the original meter reading cannot be confirmed or replaced, Stack Energy will estimate the data.

#### Audit outcome

Compliant

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

#### Code reference

Clause 19(2) Schedule 15.2

#### Code related audit information

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

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

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

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

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

**Audit observation**

Stack Energy trades NHH ICPs only.

**Audit commentary**

This clause is not applicable to Stack Energy. Compliance was not assessed.

**Audit outcome**

Not applicable

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

**Code reference**

*Clause 19(3) Schedule 15.2*

**Code related audit information**

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

**Audit observation**

Error and loss compensation was discussed during the audit.

**Audit commentary**

Stack Energy trades category 1 metering installations only. No error or loss compensation needs to be applied to metering data.

**Audit outcome**

Compliant

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

**Code reference**

*Clause 19(4) and (5) Schedule 15.2*

**Code related audit information**

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

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

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

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

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

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

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

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

**Audit observation**

Stack Energy showed examples of data correction for one ICP

**Audit commentary**

The raw data is never overwritten. The corrected data was clearly identified, the date and time of correction was recorded.

**Audit outcome**

Compliant

## 9. ESTIMATING AND VALIDATING VOLUME INFORMATION

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

#### Code reference

*Clause 3(3) Schedule 15.2*

#### Code related audit information

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

#### Audit observation

We reviewed readings imported into Stack Energy's system.

#### Audit commentary

The company retains the flag provided by MEPS.

The company provided evidence from their system showing that estimated readings are clearly identified.

#### Audit outcome

Compliant

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

#### Code reference

*Clause 3(4) Schedule 15.2*

#### Code related audit information

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

*3(4)(a) - validated meter readings*

*3(4)(b) - estimated readings*

*3(4)(c) - permanent estimates.*

#### Audit observation

Stack Energy provided reconciliation files for two months (summary and details).

#### Audit commentary

The data provided by Stack Energy was reviewed in **section 11** and **12** to confirm that volumes were based on readings as required.

#### Audit outcome

Compliant

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

#### Code reference

*Clause 3(5) Schedule 15.2*

#### Code related audit information

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

### Audit observation

Meter data is collected by MEPs and Stack Energy also reads meters themselves.

### Audit commentary

We compared meter data from files provided by MEPs and data stored in Stack Energy's system. All readings received from MEPs are truncated, which means that volumes submitted to the reconciliation manager are lower than they should be.

### Audit outcome

Non-compliant

Non-compliance	Description	
Audit Ref: 9.3 With: 3(5) of Schedule 15.2  From: 04-Jul-18 To: 31-May-19	Meter data is truncated when imported to Stack Energy's system. Potential impact: Medium Actual impact: Low Audit history: None Controls: None Breach risk rating:5	
Audit risk rating	Rationale for audit risk rating	
<b>Low</b>	Control are recorded as none because meter readings from MEPs are truncated, it was the company's understanding. Minor impact on settlement outcomes because of the small number of residential ICPs. Audit risk rating low	
Actions taken to resolve the issue	Completion date	Remedial action status
Change the Meter data system type which can allow to receive whole decimal place from MEPs.	19/06/2019	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
Change the Meter data system type which can allow to receive whole decimal place from MEPs.	19/06/2019	

## 9.4. Half hour estimates (Clause 15 Schedule 15.2)

### Code reference

Clause 15 Schedule 15.2

### Code related audit information

*If a reconciliation participant is unable to interrogate an electronically interrogated metering installation before the deadline for providing submission information, the submission to the reconciliation manager must be the reconciliation participant's best estimate of the quantity of electricity that was purchased or sold in each trading period during any applicable consumption period for that metering installation.*

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

#### **Audit observation**

Stack Energy trades NHH ICPs only.

#### **Audit commentary**

This clause is not applicable to Stack Energy. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 16 Schedule 15.2*

#### **Code related audit information**

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

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

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

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

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

#### **Audit observation**

Metering information data validation was discussed during the audit. All data is provided by MEPs except 3 ICPs which are read by Stack Energy.

#### **Audit commentary**

Data read by Stack Energy is entered manually into the system. It is validated that it related to the correct ICP and it lies within an acceptable daily consumption.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 17 Schedule 15.2*

#### **Code related audit information**

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

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

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

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

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

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

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

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

#### **Audit observation**

Meters are electronically interrogated by AMS and Metrix. Stack Energy uses register reads provided by MEPS.

#### **Audit commentary**

When data is imported into the system, it is not fully validated as prescribed by this clause. The company checks for high consumption (20 times greater than our average daily consumption) and missing reads.

The data validation occurs mainly when customers' invoices are created, and it is assessing if the volumes billed lies within an acceptable range. In a situation where an invoice is not created, for whatever reason, the data is accepted exactly how it is presented from MEPS.

Stack Energy understanding is that meter data is fully validated by MEPS , which is not the case. The reconciliation participant is expected to perform additional validation, which could only be done by them.

#### **Audit outcome**

Non-compliant



Non-compliance	Description		
Audit Ref: 9.6 With: 17 of Schedule 15.2 From: 04-Jul-18 To: 31-May-19	NHH data is not fully validated. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate because there are some improvements that can be made to them. There was minor impact on settlement because of the small number of ICPs. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
We will create a condition that once we receive meter reading data which is abnormal (much higher than average consumption and updating a reading value with error code from MEPs) conditions our system will notice to staff who is involved. We will carry out meter reading validation manually once we receive the notification.		31/12/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Create condition that once we receive meter reading data which is abnormal (much higher than average consumption and updating a reading value with error code from MEPs) condition our system will notice to staff who is involved. We will carry out meter reading validation manually once we receive the notification.		31/12/2019	

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

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

#### Code reference

Clause 13.136

#### Code related audit information

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

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

#### Audit observation

Stack Energy is not required to provide information to the grid owner.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### Audit outcome

Not applicable

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

#### Code reference

Clause 13.137

#### Code related audit information

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

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

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

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

#### Audit observation

Stack Energy is not required to provide information to the grid owner.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### Audit outcome

Not applicable

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

#### Code reference

Clause 13.138

#### Code related audit information

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

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

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

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

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

#### Audit observation

Stack Energy is not required to provide information to the grid owner.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### Audit outcome

Not applicable

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

#### Code reference

Clause 13.140

#### Code related audit information

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

#### Audit observation

Stack Energy is not required to provide information to the grid owner.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### Audit outcome

Not applicable

## 11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

### 11.1. Buying and selling notifications (Clause 15.3)

#### Code reference

Clause 15.3

#### Code related audit information

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

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

#### Audit observation

The LIS file dated 03/06/2019 was used to identify which profiles are used by Stack Energy.

#### Audit commentary

For submissions Stack Energy uses the profile of RPS. Trading notifications were not required.

#### Audit outcome

Compliant

### 11.2. Calculation of ICP days (Clause 15.6)

#### Code reference

Clause 15.6

#### Code related audit information

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

*15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*

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

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

#### Audit observation

The process for the calculation of ICP days was examined

#### Audit commentary

The ICP days file (AV-110) is part of the submission process. AV-110 files are submitted on the 4th business day and on the 13th business day of each reconciliation period.

By revision 3, the number of ICP days calculated by the registry and Stack Energy's system is identical but a closer look at GR-100 showed that there is an incorrect assignment of ICP 0000141237UN08A to HEN 0331 instead of HEP0331 since Aug'18.

## Audit outcome

Compliant

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

#### Code reference

Clause 15.7

#### Code related audit information

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

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

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

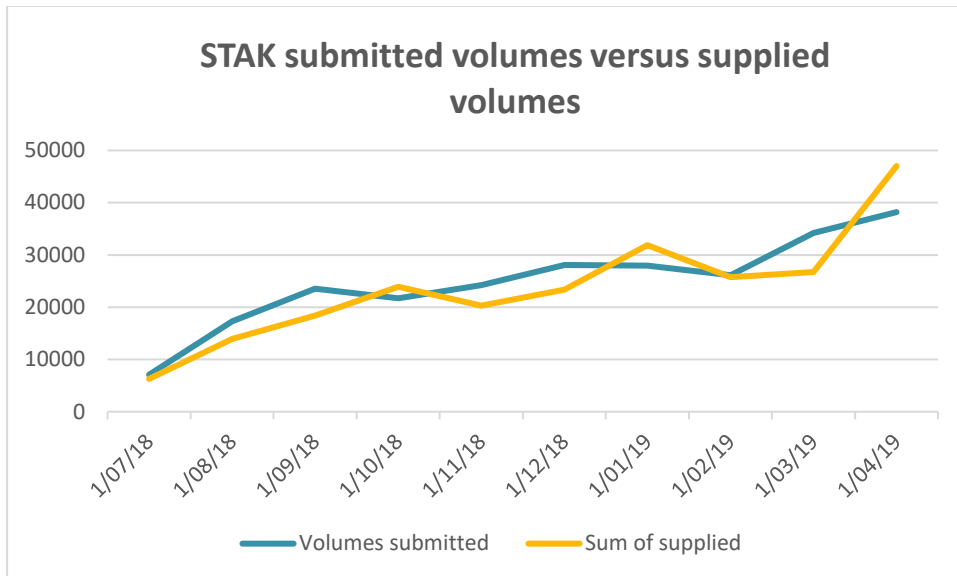
#### Audit observation

As a part of the file submission process to the reconciliation manager, Stack Energy submits AV-120 every month, for the current month and scheduled revisions.

#### Audit commentary

The table below shows a comparison between volumes submitted and supplied (billed) for the period July'18 to Mar'19.

Month	Volumes submitted	Sum of supplied
1/07/18	7077	6281
1/08/18	17266	13915
1/09/18	23519	18386
1/11/18	24222	20298
1/10/18	21682	23941
1/12/18	28060	23386
1/01/19	27938	31863
1/02/19	26089	25737
1/03/19	34227	26753
1/04/19	38199	47002



**Audit outcome**

Compliant

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

**Code reference**

Clause 15.8

**Code related audit information**

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

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

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

**Audit observation**

Stack Energy trades NHH ICPs only.

**Audit commentary**

This clause is not applicable to Stack Energy. Compliance was not assessed.

**Audit outcome**

Not applicable

## 12. SUBMISSION COMPUTATION

### 12.1. Daylight saving adjustment (Clause 15.36)

#### Code reference

Clause 15.36

#### Code related audit information

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

#### Audit observation

Stack Energy traders NHH ICPs only.

#### Audit commentary

This clause is not applicable to Stack Energy. Compliance was not assessed.

#### Audit outcome

Not applicable

### 12.2. Creation of submission information (Clause 15.4)

#### Code reference

Clause 15.4

#### Code related audit information

*By 1600 hours on the 4th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all NSPs for which the reconciliation participant is recorded in the registry as having traded electricity during the consumption period immediately before that reconciliation period (in accordance with Schedule 15.3).*

*By 1600 hours on the 13th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all points of connection for which the reconciliation participant is recorded in the registry as having traded electricity during any consumption period being reconciled in accordance with clauses 15.27 and 15.28, and in respect of which it has obtained revised submission information (in accordance with Schedule 15.3).*

#### Audit observation

Stack Energy provided reconciliation data for 2 months. We confirmed that the company submits volume information on day 4 and day 13 (all relevant revisions). NHHRVOLS, ICPDAYS, and BILLED files are submitted.

#### Audit commentary

We reviewed the submission process and we are fully satisfied with the timeliness of the reconciliation submissions.

#### Audit outcome

Compliant

### 12.3. Allocation of submission information (Clause 15.5)

#### Code reference

## Clause 15.5

### Code related audit information

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

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

### Audit observation

Stack Energy compares the registry file (LIS) and their system twice per month. We reviewed GR-100 to analyse discrepancies between ICP days.

### Audit commentary

As a part of the process Stack Energy compares the registry file (LIS) with information in their system before each submission to assure the correct volume allocations. We checked Mar'19 and Apr'19 and we identified that ICP 0000141237UN08A is reconciled against the wrong NSP. The incorrect allocation goes back to Aug'18.

### Audit outcome

Non-compliant



Non-compliance	Description		
Audit Ref: 12.3 With: 15.5 From: 04-Jul-18 To: 31-May-19	ICP 0000141237UN08A is reconciled against incorrect NSP Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate because there are some improvements that can be made to them. There was no impact on settlement because it was only 1 ICP. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
We changed and corrected the NSP data for ICP 0000141237UN08A		19/06/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Reconciliation report data will be reviewed every month for further validation process.			

#### 12.4. Grid owner volumes information (Clause 15.9)

##### Code reference

Clause 15.9

##### Code related audit information

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

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

##### Audit observation

The LIS file was reviewed. Stack Energy is not a grid owner.

##### Audit commentary

This clause is not applicable to Stack Energy. Compliance was not assessed.

##### Audit outcome

Not applicable

## 12.5. Provision of NSP submission information (Clause 15.10)

### Code reference

Clause 15.10

### Code related audit information

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

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

### Audit observation

The LIS file was reviewed. Stack Energy is not embedded network owner.

### Audit commentary

This clause is not applicable to Stack Energy. Compliance was not assessed.

### Audit outcome

Not applicable

## 12.6. Grid connected generation (Clause 15.11)

### Code reference

Clause 15.11

### Code related audit information

*The participant (if a grid connected generator) must deliver to the reconciliation manager for each of its points of connection, the following:*

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.11(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.11(b))*

### Audit observation

The LIS file was reviewed.

### Audit commentary

Stack Energy is not responsible for any GIP. Compliance was not assessed.

### Audit outcome

Not applicable

## 12.7. Accuracy of submission information (Clause 15.12)

### Code reference

Clause 15.12

### Code related audit information

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

#### **Audit observation**

We reviewed the schedule of reconciliation submissions used by Stack Energy. Every month, on day 13th, revision files are submitted for the relevant month. We reviewed GR-170NHH from the reconciliation manager.

#### **Audit commentary**

We confirm that Stack Energy submits revision files to the reconciliation manager. We reviewed the initial and revision reconciliation files for Aug'18 to Apr'19 when assessing compliance in **section 13.3**.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 4 Schedule 15.2*

#### **Code related audit information**

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

*The relevant reconciliation participant must, at the earliest opportunity, and no later than the month 14 revision cycle, replace volume information created using estimated readings with volume information created using validated meter readings.*

*If, despite having used reasonable endeavours for at least 12 months, a reconciliation participant has been unable to obtain a validated meter reading, the reconciliation participant must replace volume information created using an estimated reading with volume information created using a permanent estimate in place of a validated meter reading.*

#### **Audit observation**

Stack Energy has been trading since 4<sup>th</sup> July 2018. No 14th revision file has been submitted yet.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 2 Schedule 15.3*

#### **Code related audit information**

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

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

#### **Audit observation**

Stack Energy trades only NHH ICPs, all of them are category 1 metering installations. The company does not trade unmetered load. The process for the calculation of NHH submission information was reviewed.

#### **Audit commentary**

Twice per month, before files are submitted on day 4 and 13, the LIS file is downloaded from the registry and compared with the Stack Energy's system. Any discrepancies found in the resulting report are checked and resolved. Once reconciliation files are created they are checked for correctness. If any issues are identified they are analysed and addressed.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 3 Schedule 15.3*

#### **Code related audit information**

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

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

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

### Audit observation

We reviewed AV-080 for Mar'19 and Apr'19.

### Audit commentary

We confirm that historical and forward estimates were included and identified correctly.

### Audit outcome

Compliant

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

### Code reference

*Clause 4 and 5 Schedule 15.3*

### Code related audit information

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

*If a seasonal adjustment shape is not available, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities  $kWh_{Px}$  must be prorated as determined by the reconciliation participant using its own methodology or on a flat shape basis using the relevant number of days that are within the consumption period and within the period covered by  $kWh_{Px}$ .*

### Audit observation

Historical Estimates are calculated by Stack Energy's system.

### Audit commentary

All ICPs, except 3, are read by MEPS. There are 3 ICPs with non-AMI meters which are read manually, and they are marked as "E". Estimated readings provided by MTRX are not used. The company creates their own estimates if necessary. Stack Energy only upload readings from MEPS, to their system, that are required for monthly reconciliation and weekly billing.

Many scenarios were excluded from testing because actual reads are almost always received during the month due to remotely read meters.

The company provided examples of calculations for newly gained ICPs or lost ICPs and for a scenario where there is a read in the previous month and the month after. Stack Energy understands the methodology for the calculation of historical estimates very well.

### Audit outcome

Compliant

## 12.12. Forward estimate process (Clause 6 Schedule 15.3)

### Code reference

*Clause 6 Schedule 15.3*

### Code related audit information

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

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

#### **Audit observation**

We reviewed the process for forward estimates performed by Stack Energy.

#### **Audit commentary**

If forward estimation is required Stack Energy's system uses the daily consumption from the CS file or it calculates the daily average consumption between two register reads in a corresponding period.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 7 Schedule 15.3*

#### **Code related audit information**

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

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

#### **Audit observation**

We reviewed the LIS and EDA files.

#### **Audit commentary**

Stack Energy only uses the RPS profile. Even when a meter is changed because it developed a fault the same profile will be used.

#### **Audit outcome**

Compliant

## 13. SUBMISSION FORMAT AND TIMING

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

#### Code reference

*Clause 8 Schedule 15.3*

#### Code related audit information

*For each category 3 of higher metering installation, a reconciliation participant must provide half hour submission information to the reconciliation manager.*

*For each category 1 or category 2 metering installation, a reconciliation participant must provide to the reconciliation manager:*

- *Half hour submission information; or*
- *Non half hour submission information; or*
- *A combination of half hour submission information and non half hour submission information*

*However, a reconciliation participant may instead use a profile if:*

- *The reconciliation participant is using a profile approved in accordance with clause Schedule 15.5; and*
- *The approved profile allows the reconciliation participant to provide half hour submission information from a non-half hour metering installation; and*
- *The reconciliation participant provides submission information that complies with the requirements set out in the approved profile.*

*Half hour submission information provided to the reconciliation manager must be aggregated to the following levels:*

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *trading period*

*The non-half hour submission information that a reconciliation participant submits must be aggregated to the following levels:*

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *consumption period or day*

#### Audit observation

Stack Energy provided NHH submission data for Mar'19 to May'19 to assist in the assessment of compliance.

#### Audit commentary

The review of the provided files proved that they meet compliance with the above clause. Every time a reconciliation participant uploads data to the RM portal, it is validated and checked for the correctness of the format and information contained in the files.

#### **Audit outcome**

Compliant

### 13.2. Reporting resolution (Clause 9 Schedule 15.3)

#### **Code reference**

*Clause 9 Schedule 15.3*

#### **Code related audit information**

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

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

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

#### **Audit observation**

Stack Energy provided NHH submission data for Mar'19 to May'19 to assist in the assessment of compliance.

#### **Audit commentary**

NHHVOLS volumes are submitted as a whole numbers because, as described in section 9.3, meter data from MEPS is truncated.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 10 Schedule 15.3*

#### **Code related audit information**

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

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

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

#### **Audit observation**

Stack Energy has been trading since 4th July 2018. No 14th revision file have been submitted yet. Files submitted and GR-170 NHH were reviewed.

#### **Audit commentary**



The table below shows the number of NSPs for which the requirements of this clause were not met

Month	R3	R7
Aug'18	1/9	1/9
Sept'18		1/10
Nov'18	1/10	
Dec'18	1/10	
Jan'19	1/10	

There is an on-going problem with readings for ALB0331, where non-AMI meters are read manually, which causes non-compliance.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 13.3 With: 10 of Schedule 15.3 From: 01-Aug-18 To: 31-Jan-19	Historical Estimates targets not met for revision 3, 7 for a few months Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate because there are some improvements that can be made to them. There was no impact on settlement because it was only one NSP and the number of traded ICPs is small. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
We will create a process for Stack Energy, as a reconciliation participant, to manually read non-AMI meters.		20/06/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Create a spreadsheet which can manage a meter reading data for non-AMI meter. Also, we will request MEP to upgrade form legacy meter to AMI meter for gaining actual meter reading.			

## CONCLUSION

## PARTICIPANT RESPONSE