

ELECTRICITY INDUSTRY PARTICIPATION CODE  
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

EMHTRADE LIMITED

Prepared by: Tara Gannon, Veritek Limited

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Audit report due date: 21 January 2019

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## EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **emhTrade Limited (emhTrade)**, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.1.

emhTrade is a HHR only trader. Under their HEM profile, emhTrade is allowed to temporarily supply NHH non-AMI meters until they are upgraded to HHR or AMI meters. Volumes are calculated from the switch event reading and meter removal reading from the NHH meter, and submitted as HHR using the HEM profile. Five upgrades were compliantly processed during the audit period.

emhTrade began completing new connections during the audit period. 32 new connections were processed, and full compliance was achieved for all of them.

emhTrade continues to maintain a high level of compliance, with good controls. The audit found 12 non-compliances. Of those:

- two were technical breaches relating to provision of trader notifications and content of the HHR aggregates files;
- three non-compliances were duplicated because one issue caused non-compliance in more than one report section, the duplicated non-compliances include some incorrect profiles, late provision of one submission, and some incorrect ICP days information;
- most of the remaining non-compliances affected small numbers of ICPs or updates and appeared to be isolated.

I have also made three recommendations for improvement, and no issues are raised.

I found that five of the six non-compliances recorded in the previous audit have been cleared, or partly cleared. The recommendation made in the previous audit has also been implemented.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and contains a future risk rating score of 13, which results in an indicative audit frequency of 18 months. I have considered this result in conjunction with emhTrade's responses and recommend a next audit period of 24 months.

The matters raised are shown in the tables below:

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	10.6, 11.2, 15.2	211 ICPs on HHE profile have HHR certification, and should have the HHR profile applied.	Strong	Low	1	Identified
Audit trails	2.4	21 Schedule 15.2	Audit trails do not record the operator identifier for the person who completed the activity; only the emhTrade system user ID writes to the database.	Strong	Low	1	Investigating
Changes to registry information	3.3	10 Schedule 11.1	One late status update to active. Three late trader updates.	Moderate	Low	2	Identified
ANZSIC codes	3.6	9 (1)(k) of Schedule 11.1	Three ICPs had incorrect ANZSIC codes.	Strong	Low	1	Identified
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	One switch move was requested more than two business days after pre conditions were cleared.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	One AN had a proposed transfer date earlier than the gaining trader's proposed date.	Strong	Low	1	Identified
Gaining trader to advise the registry manager - gaining trader switch	4.14	16 Schedule 11.3	One HH CS file was late.	Strong	Low	1	Identified
Buying and selling notifications	11.1	15.3	No trading notification was provided for HHE profile for HEPO331, or the HEM profile for HWB1101 or MTM0331.	Strong	Low	1	Investigating
Calculation of ICP days	11.2	15.6	Inaccurate ICP days were reported for a small number of ICPs. Corrected data has been washed up, and processes have been corrected.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
HHR aggregates information provision to the reconciliation manager	11.4	15.8	HHR aggregates file does not contain electricity supplied information.  Alleged breach 1810EMHL1 was recorded for late provision of September 2018 initial submission information.	Strong	Low	1	Identified
Creation of submission information	12.2	15.4	Alleged breach 1810EMHL1 was recorded for late provision of September 2018 initial submission information.	Strong	Low	1	Identified
Accuracy of submission information	12.7	15.12	211 ICPs were assigned the HHE profile for periods when HHR certified metering was installed.  Inaccurate ICP days were reported for a small number of ICPs. Corrected data has been washed up, and processes have been corrected.	Strong	Low	1	Identified
Future Risk Rating						13	

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

## RECOMMENDATIONS

Subject	Section	Description	Recommendation
Relevant information	2.1	Trader data checks	I recommend reconciling trader and status information from the registry to emhTrade's database to ensure that the two systems are consistent.

Subject	Section	Description	Recommendation
ICPs at new or ready status for 24 months	3.10	Monitoring of new and ready ICPs	A Registry List (type P) with proposed trader = EMHT and status = 000 and 999 should be run at least quarterly to identify ICPs which have been at new or ready status for more than 18 months and require follow up.
Electricity supplied information provision to the reconciliation manager	11.3	Billed data	Monitor as billed versus submission volumes over the coming months.  Investigate to confirm the reason for the variance between billed and submitted volumes.

## ISSUES

Subject	Section	Description	Issue
		Nil	



## 1. ADMINISTRATIVE

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

#### Code reference

Section 11 of Electricity Industry Act 2010.

#### Code related audit information

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

#### Audit observation

Current code exemptions were reviewed on the Electricity Authority website.

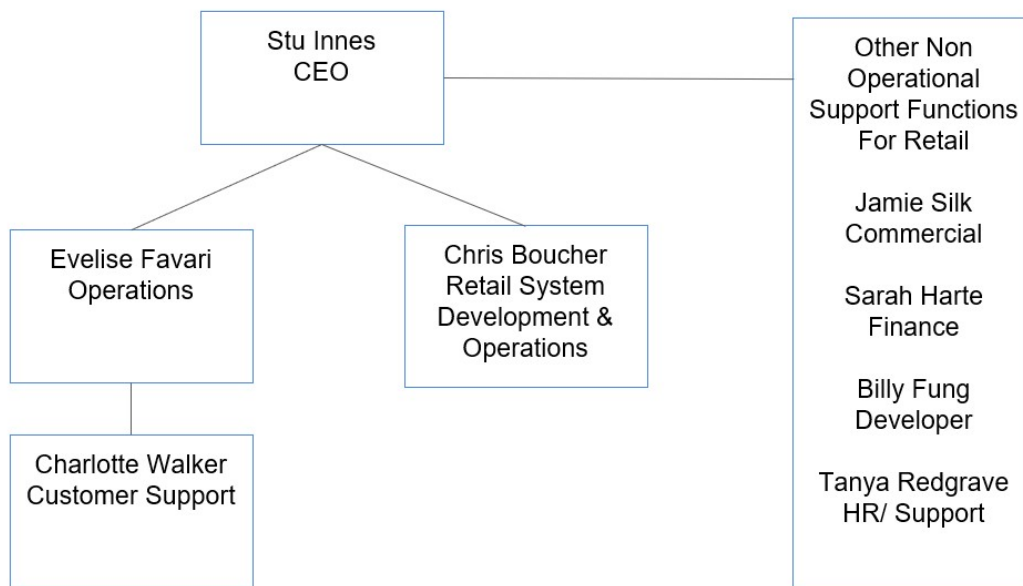
#### Audit commentary

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

### 1.2. Structure of Organisation

emhTrade provided a copy of their current organisational structure.

## emhTrade Reconciliation Participant Organisation Chart



### 1.3. Persons involved in this audit

Auditor:

Tara Gannon

**Veritek Limited**

**Electricity Authority Approved Auditor**

emhTrade personnel assisting in this audit were:

Name	Title
Chris Boucher	Senior Developer
Evelise Favari	Operations and Customer Support Representative
Jamie Silk	Chief Commercial Officer
Melanie Joyce	Operational Process Manager
Stuart Innes	CEO & Co-founder

#### 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

emhTrade receives HHR data from AMS, FCLM, and Metrix as MEPs. There are no agents involved in the process.

##### Audit commentary

Not applicable



## 1.6. Breaches or Breach Allegations

emhTrade had one breach allegation recorded by the Electricity Authority within the scope of this audit:

Ref	Clauses breached	Description	Outcome
1810EMHL1 (4/12/18)	Part 15 clause 15.4 (1)	<p>EMH Trade Limited (EMHT) failed to submit data to the reconciliation manager by 16:00 on business day 4 in breach of Part 15.4 (1) of the Code.</p> <p>The September 2018 initial submission information was prepared and run through the reconciliation manager file checker successfully, but was not uploaded to the reconciliation manager portal due to an oversight.</p> <p>The reconciliation manager notified emhTrade that the files had not been received. The files were uploaded one hour late at approximately 5pm on the fourth working day.</p> <p>Processes have been put into place to prevent recurrence.</p>	<p>The alleged breach is currently being investigated and the outcome will be decided by the Compliance Committee.</p> <p>It is likely that the alleged breach had no market impact.</p>

## 1.7. ICP Data

emhTrade provided a list file for each of their participant codes as at November 2018. The active ICPs from the list file are summarised by meter category in the table below:

Metering Category	(2018)	(2017)	(2016)
1	291	184	126
2	-	-	-
3	-	-	-
4	3	-	-
5	-	-	-
9	-	-	-

Status	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	294	184	126
Inactive – new connection in progress (1,12)	-	-	-
Inactive – electrically disconnected vacant property (1,4)	-	-	-

Inactive – electrically disconnected remotely by AMI meter (1,7)	-	-	-
Inactive – electrically disconnected at pole fuse (1,8)	-	-	-
Inactive – electrically disconnected due to meter disconnected (1,9)	-	-	-
Inactive – electrically disconnected at meter box fuse (1,10)	-	-	-
Inactive – electrically disconnected at meter box switch (1,11)	-	-	-
Inactive – electrically disconnected ready for decommissioning (1,6)	-	-	-
Inactive – reconciled elsewhere (1,5)	-	-	-
Decommissioned (3)	1	-	-

#### 1.8. Authorisation Received

An emailed authorisation was received from emhTrade.

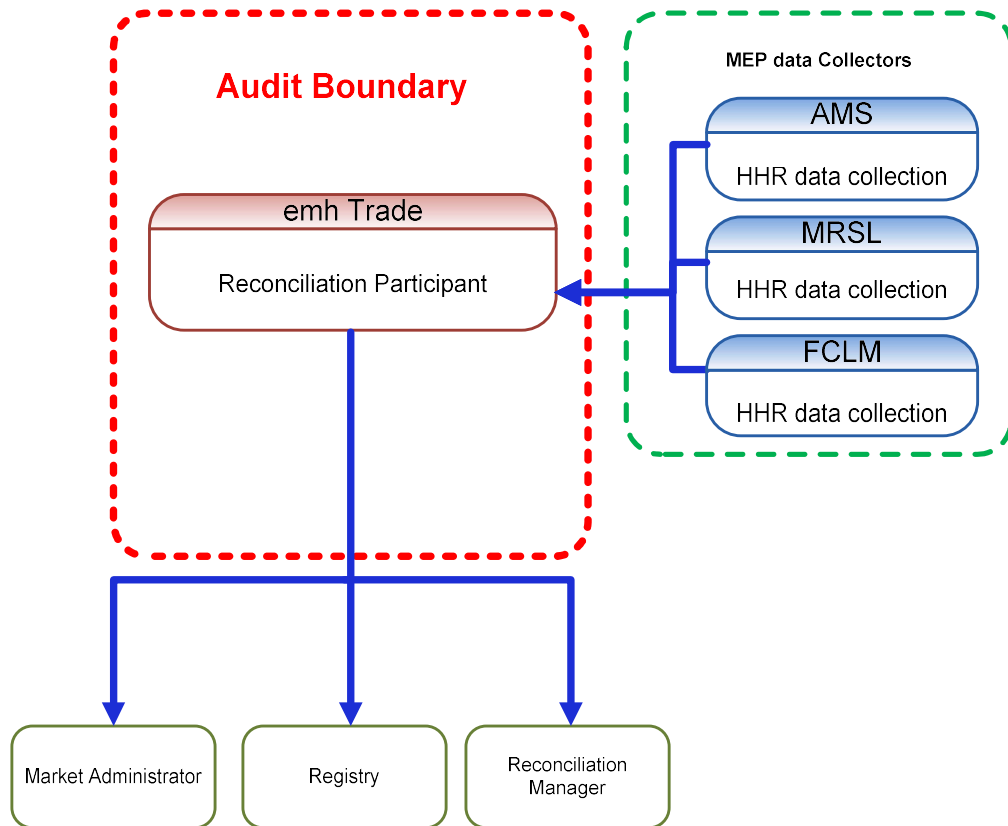
#### 1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of emhTrade, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1.

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.1.

The audit was carried out at emhTrade’s premises in Auckland on 27<sup>th</sup> November 2018.

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



The table below shows the tasks under clause 15.38 of part 15 for which emhTrade requires certification. AMS, FCLM, and Metrix provide AMI data as MEPs, not as agents.

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs Providing AMI data
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data		AMS – HHR (AMI) FCLM – HHR (AMI) Metrix - HHR (AMI)
(c)(i) - Creation and management of volume information		AMS – HHR (AMI) FCLM – HHR (AMI) Metrix - HHR (AMI)
(d) – Calculation of ICP days		
(da) - delivery of electricity supplied information under clause 15.7		

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs Providing AMI data
(db) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8		
(e) – Provision of submission information for reconciliation		

### 1.10. Summary of previous audit

emhTrade provided a copy of their previous audit conducted in November 2017 by Tara Gannon of Veritek Limited. The summary tables below show the status of the non-compliances, recommendations and issues raised in the previous audit. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Remedial Action
Relevant information	2.1	10.6, 11.2, 15.2	Three instances of incorrect data recorded on the registry.	Still existing. There is some incorrect data recorded on the registry.
ANZSIC Codes	3.6	9 (1)(k) of Schedule 11.1	ICP 0130384585LC16E had a T994 (don't know) ANZSIC code recorded. A backdated correction has now been processed.	Cleared, but some incorrect ANZSIC codes were identified.
CS files	4.3	5 Schedule 11.3	Two late standard CS files.	Cleared.
CS files	4.10	11 Schedule 11.3	One late switch move CS file.	Cleared.
Meter event reporting	9.6	17 Schedule 15.2	Meter event reports are not routinely reviewed.	Cleared.
HHR aggregates	11.4	15.8	One ICP was missing from the HHR aggregates file for December 2016 revisions one, three and seven due to incorrect treatment of a meter change after the ICP switched out.  HHR aggregates file does not contain electricity supplied information.	Cleared.  Still existing.

Subject	Section	Clause	Recommendation for improvement	Remedial Action
Relevant information	2.1	Clause 10.6, 11.2, 15.2 Data consistency checks	Validate ANZSIC codes, and correct any codes beginning with T. Compare profile code and MEP, and update any incorrect codes.	Implemented, both are checked as part of the daily Admin Panel checks.

Subject	Section	Clause	Issue	Remedial Action
Buying and selling notifications	11.1	Clause 15.3 Buying and selling notifications	Traders are unable to enter profile codes when creating buying and selling notifications on the electricity reconciliation portal, making it difficult to comply with the requirements of clause 15.3.	No response received from the Authority.



## 2. OPERATIONAL INFRASTRUCTURE

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

#### Code reference

Clause 10.6, 11.2, 15.2

#### Code related audit information

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

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

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

#### Audit observation

The process to find and correct incorrect information was examined. The registry validation process was examined in detail in relation to the achievement of this requirement. The list file as at 16/11/18 was examined to identify any registry discrepancies, and confirm that all information was correct and not misleading.

#### Audit commentary

On business day one of each month, emhTrade reviews changes to registry ICP or metering information maintained by distributors and MEPs. The data is checked in emhTrade's system to ensure that it is recorded correctly. This process also identifies any changes to distributed generation or unmetered load details that require action by emhTrade.

emhTrade's Admin Panel is checked daily. The admin panel primarily identifies inconsistencies between data fields and data that requires investigation or action, including:

- profiles that are invalid for the MEP and/or meter configuration recorded;
- T99 series (unknown) ANZSIC codes;
- ICPs which have failed billing validation, or have been uninvoiced for more than two weeks;
- differences between switch reads and AMI data received of more than 50 kWh;
- new points of connection;
- missing meter readings and intervals;
- ICPs with no active customer, or unbilled kWh;
- switched customers with no transfer date;
- metering documents received from MEPs which require processing.

The registry is also checked daily for notifications and files that require processing.

There are no checks to ensure that trader maintained information in emhTrade's system is consistent with the values recorded on the registry. Although I did not find any instances where trader or status information was inconsistent between the registry and emhTrade's database, this reconciliation is considered good practice.

Description	Recommendation	Audited party comment	Remedial action
Trader data checks	I recommend reconciling trader and status information from the registry to emhTrade's database to ensure that the two systems are consistent.	EMHT plan to implement additional steps to our Admin systems panel to reconcile trader and status checks, we accept and take on board the auditors recommendation.	Investigating

The registry list was examined to identify inaccurate data:

Issue	2018 Qty	2017 Qty	Comments
Blank ANZSIC codes	0	0	Compliant.
ANZSIC "T999" not stated	0	0	Compliant.
ANZSIC "T994" don't know	0	1	Compliant.
ANZSIC "T998 "response outside of scope"	0	0	Compliant.
UML load = zero	0	0	Compliant, no unmetered load identified.
Incorrect UML load	0	0	Compliant, no unmetered load identified.
No MEP recorded or nominated and UML= "N"	0	0	Compliant.
Shared unmetered load incorrect	0	0	Compliant, no unmetered load identified.
ICPs with Distributor unmetered load populated but retail unmetered load is blank and UML flag = N	0	0	Compliant, no unmetered load identified.
Incorrect profile	219	2	211 ICPs on HHE profile have HHR certification and should have been moved to the HHR profile in accordance with the approved profile application. Non-compliance is also recorded in <b>section 12.7</b> for incorrect profile application for submission.  Five ICPs temporarily had the HEM profile applied in accordance with the approved profile application.
Active date variance with Initial Energisation Date	1	0	I verified that emhTrade's connection date was correct by reviewing the connection paperwork. Refer to <b>section 3.8</b> .
Active ICP with no MEP	0	0	Compliant.

Issue	2018 Qty	2017 Qty	Comments
Active Category 9 and UML "N"	0	0	Compliant.

**Audit outcome**

Non-compliant

Non-compliance	Description	
<p>Audit Ref: 2.1</p> <p>With: Clause 10.6, 11.2, 15.2</p> <p>From/to: entire audit period</p>	<p>211 ICPs on HHE profile have HHR certification, and should have the HHR profile applied.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Strong</p> <p>Breach risk rating: 21</p>	
Audit risk rating	Rationale for audit risk rating	
<b>Low</b>	<p>Controls are rated as strong overall, because they ensure that data is complete and accurate most of the time. emhTrade are receiving reads for the HHR Metrix meters from the legacy data stream, and had believed that these meters should remain on HHE profiles.</p> <p>The audit risk rating is low, submission volumes are not affected.</p>	
Actions taken to resolve the issue	Completion date	Remedial action status
EMHT HHE profiles currently remain in place for HHR Metrix meters. Metrix continue to provide data that meets our requirements and has no material impact. A system upgrade for the HHR data stream is being scheduled in 2019. This is also inclusive to 11.1 response.	June 2019	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
emhTrade assessed the urgency of the transition to the new HHR data feed when implemented by Metrix and the risks of deferring this and elected to continue using the existing data feed during the period due to the low risk. In our view we have an effective management process to capture these events and take appropriate action.	NA	

## 2.2. Provision of information (Clause 15.35)

### Code reference

Clause 15.35

### Code related audit information

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

### Audit observation

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

### Audit commentary

This area is discussed in several sections in this report. I saw evidence prompt data correction where errors were identified.

### Audit outcome

Compliant

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

### Code reference

Clause 20 Schedule 15.2

### Code related audit information

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

### Audit observation

HHR data is provided by AMS, Metrix and FCLM as MEPs via SFTP.

To confirm the process I traced a sample of reads and volumes for a diverse sample of three ICPs from the source data to emhTrade's system and the HHR aggregates submissions.

### Audit commentary

All read and volume data is transferred from the MEP to emhTrade via SFTP.

I traced a sample of data for three HHR ICPs from the source files to system and the HHR aggregates files to confirm the data transmission process, including one ICP for each MEP. All volumes matched.

### Audit outcome

Compliant

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

### Code reference

Clause 21 Schedule 15.2

### Code related audit information

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

*The audit trail must include details of information:*

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

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

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

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

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

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

### Audit observation

A complete audit trail was checked for all data gathering, validation and processing functions. I reviewed audit trails for a small sample of events.

### Audit commentary

I viewed audit trails for a sample of changes, and found they included operator ID, date and time, and the activity completed. Because only the emhTrade system user ID writes to the database, the operator ID recorded does not correspond to a person. From 1 November 2018, the code wording was clarified to confirm that the operator identifier recorded in audit trails should reflect the operator identifier for the person within the reconciliation participant who performed the activity.

It is normally possible to identify the user which updated the database, when users update or correct information. Records are also manually added to a Slack channel with additional supporting information.

### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.4 With: Clause 21 Schedule 15.2  From: 01-Nov-18 To: 27-Nov-18	Audit trails do not record the operator identifier for the person who completed the activity; only the emhTrade system user ID writes to the database.  Potential impact: Low  Actual impact: Low  Audit history: None  Controls: Strong  Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	<p>The controls are rated as strong and the impact as low.</p> <p>Audit trails are available and contain the required information, but the person who processed the change is not identifiable within the audit trail because there is only one operator identifier.</p> <p>A small number of users have access to the system. For the sample of audit trails reviewed, it was simple to determine which person was responsible for processing the change from supporting information.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>EMHT was able to demonstrate user Audit trails and does not foresee an immediate risk for auditing.</p> <p>We acknowledge that system improvements can be made in this regard and these are in our work pipeline but with no firm date for completion set at this stage due to the low risk and controls currently in place.</p>		TBA	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>emhTrade has recently created an Operations Process Manager role that will have direct responsibility for tracking new EA requirements and ensuring appropriate risk based prioritisation of changes are made.</p>		November 2018	

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

### Code reference

Clause 10.4

### Code related audit information

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

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

### Audit observation

I reviewed emhTrade's General Terms and Conditions for Residential Customers, which apply to all customers supplied by emhTrade.

### Audit commentary

emhTrade's General Terms and Conditions for Residential Customers include consent to access for authorised parties for the duration of the contract.

### Audit outcome

Compliant

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

**Code reference**

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

**Code related audit information**

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

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

*The trader must use its best endeavours to provide access:*

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

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

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

**Audit observation**

I reviewed emhTrade's General Terms and Conditions for Residential Customers, and discussed compliance with these clauses.

**Audit commentary**

emhTrade's General Terms and Conditions for Residential Customers include consent to access for authorised parties for the duration of the contract. emhTrade confirmed that they have been able to arrange access for other parties when requested.

**Audit outcome**

Compliant

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

**Code reference**

*Clause 10.35(1)&(2)*

**Code related audit information**

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

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

- a) *if practical in the circumstances, ensure that the metering installation is located at a point of connection; or*

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

#### **Audit observation**

The registry list with history for 01/11/17 to 16/11/18 was reviewed.

#### **Audit commentary**

emhTrade has only supplied three ICPs with metering category 3 or above. No ICPs have required loss compensation.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 11.15B*

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

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

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

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

#### **Audit observation**

I reviewed emhTrade's General Terms and Conditions for Residential Customers, which apply to all customers supplied by emhTrade.

#### **Audit commentary**

emhTrade's General Terms and Conditions for Residential Customers include assignment by the Electricity Authority in the event of retailer default.



## Audit outcome

Compliant

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

#### Code reference

*Clause 10.32*

#### Code related audit information

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

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

#### Audit observation

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

The event detail report for 01/11/17 to 16/11/18 was reviewed to identify all new connections and confirm process controls and compliance.

#### Audit commentary

emhTrade completed 32 new connections during the audit period.

emhTrade accepts responsibility for the ICP and works with the MEP and electrician to progress the connection. The MEP is nominated on the registry once emhTrade claims the ICP and moves it to “new connection in progress” status.

## Audit outcome

Compliant

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

#### Code reference

*Clause 10.33(1)*

#### Code related audit information

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

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

#### Audit observation

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

The event detail report for 01/12/17-25/09/18 was reviewed to identify all new connections and confirm process controls and compliance.

### Audit commentary

32 new connections were completed. No temporary electrical connections were identified.

### Audit outcome

Compliant

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

### Code reference

*Clause 10.33A(1)*

### Code related audit information

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

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

### Audit observation

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

The event detail report for 01/11/17 to 16/11/18 was reviewed to identify all new connections and confirm process controls and compliance.

### Audit commentary

32 new connections and two reconnections were completed during the audit period.

- All 32 new connections were fully certified on their electrical connection date.
- Both reconnections were fully certified on the reconnection date.

No meters were bridged during the audit period, and emhTrade is aware of the requirement to certify meters when they are unbridged.

### Audit outcome

Compliant

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

### Code reference

*Clause 11.16*

### Code related audit information

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

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

### Audit observation

The process to ensure an arrangement is in place before trading commences on a network was examined. The process to validate and approve customer applications was observed.

### Audit commentary

emhTrade has arrangements in place for line function services on all networks they trade on.

When a customer applies to become a customer on emhTrade's website registry data for the ICP is retrieved and validated. emhTrade's system will only create an NT if all the following criteria are met:

- the ICP is connected to a network where arrangements are in place
- the MEP is Metrix, FCLM or AMS
- the ICP has half hour metering and the AMI flag set to yes.

I observed the process and noted that applications that do not meet these criteria are declined automatically.

If an application is declined for an ICP within a region emhTrade supplies, the customer had the option of leaving their contact details if they would like to be contacted. emhTrade reviews these applications manually to determine whether the metering could be upgraded, with the NHH period supplied in accordance with their approved HEM profile. If approved, the application is accepted and a meter upgrade is initiated once the ICP switches in.

### Audit outcome

Compliant

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

### Code reference

Clause 10.36

### Code related audit information

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

### Audit observation

The process to ensure an arrangement is in place with the MEP before an ICP can be created or switched in was checked.

### Audit commentary

emhTrade demonstrated that arrangements are in place with AMS, FCLM, Metrix, and Trustpower. Four Trustpower NHH non AMI meters were briefly supplied before being upgraded to HHR.

As discussed in **section 2.12**, emhTrade's customer application validation and approval process will only accept ICPs where emhTrade has an arrangement with the MEP.

### Audit outcome

Compliant

### 3. MAINTAINING REGISTRY INFORMATION

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

##### Code reference

Clause 11.3

##### Code related audit information

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

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

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

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

##### Audit observation

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

The event detail report for 01/11/17 to 16/11/18 was reviewed to identify all new connections and confirm process controls and compliance.

##### Audit commentary

This requirement is well understood and managed by emhTrade. The process is detailed in **section 2.9**.

##### Audit outcome

Compliant

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

##### Code reference

Clause 11.7(2)

##### Code related audit information

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

### Audit observation

The new connection, MEP nomination, and switching processes were examined in detail.

The event detail report for 01/11/17 to 16/11/18 was analysed in relation to updating of the registry.

This clause links directly to **sections 3.3** and **3.5** below, where findings on the timeliness of updates are recorded.

### Audit commentary

emhTrade's processes are designed to ensure that trader information is populated as required by this clause. Late updates are recorded as non-compliance in **section 3.3**.

### Audit outcome

Compliant

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

### Code reference

Clause 10 Schedule 11.1

### Code related audit information

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

### Audit observation

The process to manage status changes is discussed in detail in **sections 3.8** and **3.9**. In this section, the event detail report for 01/11/17 to 16/11/18 was analysed determine the overall performance for that period. All late updates were checked.

### Audit commentary

Status and trader updates are processed manually on the registry. The status is updated once disconnection or reconnection paperwork is received, confirming the correct status and status date.

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

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Status updates						
Change to active (2,0)	2017	1	1	0	2	100%
	<b>2018</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>50%</b>

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Change to electrically disconnected ready for decommissioning (1,6)	<b>2018</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>100%</b>
Trader updates						
MEP nominations	<b>2018</b>	<b>36</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>100%</b>
Trader updates (excluding MEP nominations and NT updates)	<b>2018</b>	<b>13</b>	<b>10</b>	<b>3</b>	<b>101</b>	<b>77%</b>

#### Status updates

One update to active status was three business days late. The reconnection paperwork was directed to a junk email folder, and was processed as soon as it was found.

There were no late updates to inactive statuses.

#### MEP nominations

36 MEP nominations were identified. All were made within one business day, and were accepted by the MEP.

#### Trader updates

Three late trader updates were identified, all were backdated corrections to ANZSIC codes or profiles.

#### Audit outcome

Compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 Schedule 11.1  From: 01-Nov-17 To: 17-Mar-18	One late status update to active. Three late trader updates. 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>	<p>The controls are adequate to ensure that the registry is updated on time most of the time, but there is room for improvement.</p> <p>The risk is low as most updates were completed on time or soon after they were due. The late trader updates checked were found to relate to corrections.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
emhTrade had corrected all the exceptions noted.		November 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>emhTrade have implemented a new daily checks procedure to review “junk” email folders.</p> <p>emhTrade have updated the operations procedures so that ANZSIC codes are selected based on the individual ICP (rather than customer level information).</p>		November 2018	

### 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

### Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection and MEP nomination processes were discussed. An MEP nomination process flow chart was reviewed.

The registry list as at 16/11/18 and event detail report for 01/11/17 to 16/11/18 were examined to identify:

- any active ICPs that do not have an MEP recorded
- any MEP nomination rejections.

### ICP Decommissioning

The process for the decommissioning of ICPs was examined. A selection of ten decommissioned ICPs were checked using the typical case method of sampling to prove the process and confirm controls are in place.

## Audit commentary

### Retailers Responsibility to Nominate and Record MEP in the Registry

All active ICPs have a valid MEP recorded.

For new connections, emhTrade nominates the MEP in the registry when the ICP is claimed and moved to “inactive new connection in progress” status. For MEP changes, emhTrade nominates the MEP at the time the service request is issued.

All MEP nominations were accepted by the MEP. Any rejections would be identified through the daily check of registry files and notifications described in **section 2.1**.

### ICP Decommissioning

ICPs that are vacant and active, or inactive are maintained in the system.

One ICP was decommissioned during the audit period. emhTrade had met their obligation to arrange a meter interrogation prior to or upon meter removal. The MEP notified emhTrade of the 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 five business days of trading (clause 9(2)).

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

#### Audit observation

The new connection process was discussed.

The event detail report from 01/11/17 to 16/11/18 was examined to identify all new connections, and the timeliness of new connection status updates.

#### Audit commentary

The new connection process is described in detail in **section 2.9**. The table below shows that all status updates for new connections were on time.

Event	Year	Total ICPs	ICPs notified within 5 days	ICPs notified greater than 5 days	Average notification days	Percentage compliant
Status updates						
Status update to active new connection (2,0)	2018	32	32	0	3.8	100%
Status update to inactive new connection in progress (1,12)	2018	32	32	0	0	100%

#### Audit outcome

Compliant

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

#### Code reference

Clause 9 (1(k) of Schedule 11.1

#### Code related audit information

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

#### Audit observation

The process to capture and manage ANZSIC codes was examined. The registry list as at 16/11/18 was reviewed to check ANZSIC codes.

I selected a diverse sample of 29 ICPs to confirm the validity of the ANZSIC codes applied, including at least one ICP for each ANZSIC code applied, and ten domestic ANZSIC codes.

#### Audit commentary

ANZSIC codes are determined as part of the customer application process.

No ICPs had T99 series (unknown) ANZSIC codes, and no ICPs with meter categories above 1 had residential ANZSIC codes.

The accuracy of the ANZSIC codes for 29 ICPs were checked. 25 were confirmed to be correct, and the findings for one ICP were inconclusive, but there was insufficient evidence to confirm the code was incorrect. Three ICPs were found to have incorrect ANZSIC codes:

ICP	Applied Code	Comment
9501100032WAB68	G42 (Other Store-Based Retailing)	Food outlet
0051800167WA4DB	O753000 (Local Government Administration)	Property development (pump)
0415087066LC740	M692 (Architectural Engineering and Technical Services)	Food wholesale supplier

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.6 With: Clause 9 (1)(k) of Schedule 11.1 From: 01-Mar-18 To: 27-Nov-18	Three ICPs had incorrect ANZSIC codes. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as strong as they were sufficient to reduce the risk of incorrect ANZSIC codes most of the time. The audit risk rating is low, as three incorrect ANZSIC codes and no unknown ANZSIC codes were identified.		
Actions taken to resolve the issue		Completion date	Remedial action status
EMHT will review and correct the current codes. It was identified that ANZSIC codes was based on our customer type and not by ICP type services		March 2019	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
EMHT will update and adjust our onboarding process to ensure that correct ANZSIC code is applied based on the ICP type. Further additional training to be given to operational staff.	March 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 process to identify and monitor unmetered load was discussed. The registry list for 01/11/17 to 16/11/18 was reviewed to identify all ICPs with unmetered load.

#### Audit commentary

emhTrade does not supply any ICPs with unmetered load, and does not intend to.

There are checks at the time of registration to ensure customers are eligible to be supplied by emhTrade, including a check for unmetered load. If a customer is found to have unmetered load their application will be declined.

Unmetered load details are checked as part of the monthly validation against the registry. If unmetered load is discovered for an existing customer in the future, emhTrade may implement unmetered load processes at that time, or the ICP may be switched out.

#### Audit outcome

Compliant

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

#### Code reference

Clause 17 Schedule 11.1

#### Code related audit information

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

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

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

- *the ICP has only one customer, embedded generator, or direct purchaser (clause 17(2)(a))*

- *the electricity consumed is quantified by a metering installation or a method of calculation approved by the Authority (clause 17(2)(b)).*

#### Audit observation

##### New connections

The new connection process was examined in detail as discussed in **sections 2.9** and **3.5** above. Review of the registry list as at 16/11/18 confirmed that no ICPs had “inactive - new connection in progress” status with an initial electrical connection date populated.

32 new connections were completed during the audit period. I checked for variances between the active date, meter certification date, and the initial electrical connection date.

Two reconnections were completed during the audit period. I checked that the correct status and dates were applied.

##### Reconnections

The process for the management of ICP reconnection was examined. The event detail report for 01/11/17 to 16/11/18 was analysed, and the findings on the timeliness of registry updates are recorded in **section 3.3**.

#### Audit commentary

emhTrade’s system will not allow more than one party per ICP, nor will it allow an ICP to be set up without both a meter and MEP. emhTrade does not accept unmetered ICPs.

##### New connections

emhTrade processed 32 new connections during the audit period.

In 31 cases, emhTrade’s active date was consistent with the initial electrical connection date and meter certification date. ICP 9501100022WA1C5 had a discrepancy between the active date recorded by emhTrade and the initial electrical connection date recorded by the network. I verified that emhTrade’s connection date was correct by reviewing the connection paperwork.

##### Reconnections

Status updates are processed manually on the registry once reconnection paperwork is received confirming the correct status and status date.

Both reconnections were checked and confirmed to have the correct status and dates applied. One late status update to active is recorded as a non-compliance in **section 3.3**.

#### 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 list file as at 16/11/18 was examined and confirmed no ICPs were at “inactive - new connection in progress status”.

The event detail report for 01/11/17 to 16/11/18 was examined to identify all status changes to inactive. One disconnection was completed during the period, and I checked that the correct status and dates were applied.

### Audit commentary

Disconnections are completed remotely. Status updates are processed manually on the registry once disconnection paperwork is received confirming the correct status and status date.

One disconnection was processed during the audit period. The update was on time, and the correct status and date were applied.

### Audit outcome

Compliant

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

### Code reference

*Clause 15 Schedule 11.1*

### Code related audit information

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

### Audit observation

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

A registry list as at 16/11/2018 was reviewed to identify all ICPs with “new” or “ready” status and emhTrade recorded as the proposed trader.

### Audit commentary

emhTrade completed 32 new connections during the audit period.

No ICPs currently have “new” or “ready” status and emhTrade recorded as the proposed trader. No requests for information on “new” or “ready” ICPs have been received from distributors. If received these will be actioned on a case by case basis.

There is no regular monitoring of ICPs at “new” or “ready” status. I recommend that ICPs with “new” or “ready” status should be monitored:

Description	Recommendation	Audited party comment	Remedial action
Monitoring of new and ready ICPs	A Registry List (type P) with proposed trader = EMHT and status = 000 and 999 should be run at least quarterly to identify ICPs which have been at "new" or "ready" status for more than 18 months and require follow up.	EMHT to implement additional reporting steps to identify proposed trader and follow up where required.	Identified

**Audit outcome**

Compliant

## 4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

#### Code reference

Clause 2 Schedule 11.3

#### Code related audit information

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

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

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

#### Audit observation

The switch gain process was examined to determine when emhTrade deem all conditions to be met.

A typical sample of five transfer switches were checked to confirm that they were notified to the registry within two business days, and that the correct switch type was selected.

I walked through the application process and confirmed that information is collected to determine the correct switch type.

#### Audit commentary

emhTrade's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met, and the withdrawal process is used if the customer changes their mind.

Switch type is selected based on information provided by the customer on application. The customer is asked whether they have recently moved into the property and their move in date as part of the application process.

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

#### Audit outcome

Compliant

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

#### Code reference

Clauses 3 and 4 Schedule 11.3

#### Code related audit information

*Within three business days after receiving notice of a switch from the registry manager, the losing trader must establish a proposed event date. The event date must be no more than 10 business days after the*

date of receipt of such notification, and in any 12 month period, at least 50% of the event dates must be no more than five business days after the date of notification. The losing trader must then:

- provide acknowledgement of the switch request by (clause 3(a) of Schedule 11.3):
  - o 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
  - o providing a request for withdrawal of the switch in accordance with clause 17 (clause 3(c) of Schedule 11.3).

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

#### Audit observation

An event detail report for 01/11/17 to 16/11/18 was reviewed to:

- identify AN files issued by emhTrade during the period; and
- assess compliance with the setting of event dates requirement.

Only the AD response code was applied for transfer switches. I checked typical sample of ten ANs to confirm the correct codes were applied.

The switch breach report was examined for the audit period.

#### Audit commentary

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

All transfer AN files were examined on the event detail report. All proposed event dates were within five business days of NT receipt.

Total transfer switches	Total over 10 business days	Total within 10 business days	Total within 5 business days	% within 5 business days
22	0	22	22	100%

The AN response codes were correctly applied for the sample of ten ANs checked.

The switch breach report confirmed all AN files were sent within the allowable timeframes.

#### Audit outcome

Compliant

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

#### Code reference

Clause 5 Schedule 11.3

#### Code related audit information

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

- providing event date to the registry manager (clause 5(a)); and



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

#### **Audit observation**

An event detail report for the period from 01/11/17 to 16/11/18 was reviewed to identify all CS files issued by emhTrade. The accuracy of the content of CS files was confirmed by checking a sample of five records. The content checked included:

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

I checked the average daily consumption for all transfer CS files and did not identify any transfer CS files with negative average daily consumption, zero average daily consumption, or average daily consumption over 200 kWh.

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

#### **Audit commentary**

emhTrade uses Slack to monitor switch progress, and checks the registry daily to identify files that require processing. The switch breach history report recorded one late transfer CS file, and I confirmed that the breach was not genuine.

The Registry Functional Specification v22.21 states that average daily consumption within the CS file should be the average kWh per day for the last read period. Because emhTrade receives daily readings, estimated daily consumption is calculated as the average daily consumption over the period of supply. While this is not technically consumption for the last read to read period, it provides a reasonable indication of the average daily consumption.

The accuracy of the content of CS files was confirmed by checking a sample of five transfer CS files. The sample checked found meter readings, read types, estimated daily kWh and last actual read dates were all recorded correctly. The last actual read date reflects the last actual read received by emhTrade at the time the CS was processed, which was after the switch event date.

#### **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 four calendar months of the actual event date, provide to the losing trader a changed switch event meter reading supported by two validated meter readings.*

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

### Audit observation

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

The event detail report for 01/11/17 to 16/11/18 was reviewed to identify all read change requests and acknowledgements during the audit period.

- No RR files were issued to emhTrade by other traders for transfer switches.
- 16 RR files were issued by emhTrade for transfer switches, relating to six ICPs. 12 files were rejected and four were accepted. I reviewed all the files to confirm that the content was accurate, and that emhTrade's system reflected the outcome of the read change process.

I also checked a sample of five estimated CS files provided by other traders where no RR was issued to determine whether the correct readings were recorded in emhTrade's system.

The switch breach history report was reviewed to identify late RR and AC files.

### Audit commentary

emhTrade identifies ICPs which require meter read changes through its daily Admin Panel checks described in **section 2.1**. Where there is a difference between the switch reading and reading calculated from AMI data of more than  $\pm 50$  kWh an RR request is issued.

emhTrade's switch read adjustment process ensures that the correct switch readings are applied for settlement. Switch event readings (CS, or accepted RR) take precedence over all other readings in their system. If there is a difference between the agreed switch reading and AMI data, the consumption difference is automatically spread over 43 days.

The 16 RR files issued by emhTrade for transfer switches were reviewed. In all cases, emhTrade had the correct readings recorded in their system, the requests were supported by AMI data, and the content of the files was correct.

Review of five transfer CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in emhTrade's system. RRs were not requested because the difference was not considered to be material, and was less than emhTrade's  $\pm 50$  kWh threshold.

The switch breach report recorded one late RR file. The breach was not genuine, and related to a subsequent RR sent after the first file was rejected by the other trader.

### 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 five business days after receiving final information from the registry manager, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading.*

##### Audit observation

The event detail report for the period from 01/11/17 to 16/11/18 was reviewed to identify all read change requests and acknowledgements where clause 6(2) and (3) of schedule 11.3 applied.

##### Audit commentary

Other retailers cannot issue read change requests to emhTrade under clause 6(2) and (3) of schedule 11.3 because emhTrade is a HHR only trader.

Review of the event detail report identified one RR file issued by emhTrade within five business days of the CS receipt, where the CS file contained estimated readings. The file for ICP 1000560321PCD57 was invalidly rejected by Genesis, but was accepted on reissue.

##### Audit outcome

Compliant

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

##### Code reference

Clause 7 Schedule 11.3

##### Code related audit information

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

##### Audit observation

I confirmed with emhTrade whether any disputes have needed to be resolved in accordance with this clause.

##### Audit commentary

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

##### Audit outcome

Compliant

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

##### Code reference

Clause 9 Schedule 11.3

##### Code related audit information

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

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

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

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

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

##### Audit observation

The switch gain process was examined to determine when emhTrade deem all conditions to be met.

A typical sample of five switch moves were checked to confirm that they were notified to the registry within two business days, and that the correct switch type was selected.

I walked through the application process and confirmed that information is collected to determine the correct switch type.

##### Audit commentary

emhTrade's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met, and the withdrawal process is used if the customer changes their mind.

Switch type is selected based on information provided by the customer on application. The customer is asked whether they have recently moved into the property and their move in date as part of the application process.

The five NT files checked had the correct switch type selected. Four NT files were sent on time but the file for 0000175903UN2DA on 03/08/18 was sent three business days after agreement was reached due to a delay in processing the file.

##### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.7 With: Clause 9 Schedule 11.3  From: 03-Aug-18 To: 03-Aug-18	One switch move was requested more than two business days after pre conditions were cleared.  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>	The controls are assessed to be strong, NTs are normally requested on time and there are controls in place to detect failed registry updates and re-send the files.  The impact is low. One NT file was requested one business day late.		
Actions taken to resolve the issue		Completion date	Remedial action status
EMHT were able to identify the issue and resolve as soon as practical with only one NT file request one day late.		November 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
EMHT have implemented and updated our daily procedures, additional training has been given to operational staff.		December 2018	

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

##### Code reference

Clause 10(1) Schedule 11.3

##### Code related audit information

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

- 10(1)(a) If the losing trader accepts the event date proposed by the gaining trader, the losing trader must complete the switch by providing to the registry manager:
  - 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**

An event detail report for 01/11/17 to 16/11/18 was reviewed to:

- identify AN files issued by emhTrade during the period; and
- assess compliance with the setting of event dates requirement.

Only the AD response code was applied for transfer switches. I checked typical sample of ten ANs to confirm the correct codes were applied.

The switch breach report was examined for the audit period.

**Audit commentary**

All 49 switch move AN files were examined on the event detail report:

- no ANs had proposed event dates later than 10 business days after receipt of the NT; and
- the AN for ICP 0000154110UNCD7 had a proposed transfer date earlier than the gaining trader’s proposed date - the ICP had recently switched to emhTrade, and the customer wanted to switch directly from the previous retailer to a new retailer so emhTrade provided an AN response date that would remove their period of supply, and then processed a withdrawal.

The AN response codes were correctly applied for the sample of ten ANs checked.

The switch breach report confirmed all AN files were sent within the allowable timeframes.

**Audit outcome**

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) Schedule 11.3  From: 15-Apr-18 To: 15-Dec-18	One AN had a proposed transfer date earlier than the gaining trader’s proposed date.  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, as they are sufficient to ensure that AN content is compliant most of the time.  The impact is assessed to be low. One non-compliant AN date was identified, and the switch was subsequently withdrawn.

Actions taken to resolve the issue	Completion date	Remedial action status
<p>This arose from operator manual keying error and was a single event. Operators have been advised to carefully validate the date as it is not validated within the system (at emhTrade or the Registry).</p> <p>EMHT remedied the switch as a correction after the issue was advised to use.</p>	November 2018	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>emhTrade have implemented and updated our daily procedures to validate our event dates, additional training has been given to operational staff.</p> <p>Management will monitor for repeat exceptions and take further action if multiple instances occur.</p>	December 2018	

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

##### Code reference

Clause 10(2) Schedule 11.3

##### Code related audit information

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

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

##### Audit observation

An event detail report for 01/11/17 to 16/11/18 was reviewed to:

- identify AN files issued by emhTrade during the period; and
- assess compliance with the setting of event dates requirement.

##### Audit commentary

Switches were completed as required by this clause.

Non-compliance is recorded in **section 4.8** in relation to proposed event dates for switch moves.

##### Audit outcome

Compliant

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

##### Code reference

Clause 11 Schedule 11.3

### Code related audit information

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

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

### Audit observation

An event detail report for the period from 01/11/17 to 16/11/18 was reviewed, to identify CS files issued by emhTrade. The accuracy of the content of CS files was confirmed by checking a sample of five records. The content checked included:

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

I checked the average daily consumption for all transfer CS files, and identified:

- none with negative average daily consumption;
- two with zero average daily consumption; and
- one with average daily consumption over 200 kWh.

The three files with zero or high average daily consumption were checked.

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

### Audit commentary

emhTrade uses Slack to monitor switch progress, and checks the registry daily to identify files that require processing. The switch breach history report recorded one late switch move CS file, and I confirmed that the breach was not genuine.

The Registry Functional Specification v22.21 states that average daily consumption within the CS file should be the average kWh per day for the last read period. Because emhTrade receives daily readings, estimated daily consumption is calculated as the average daily consumption over the period of supply. While this is not technically consumption for the last read to read period, it provides a reasonable indication of the average daily consumption.

The two files with zero and one file with high average daily consumption were checked. The estimated daily consumption was found to be recorded correctly.

The accuracy of the content of CS files was confirmed by checking a sample of five transfer CS files. The sample checked found meter readings, read types, estimated daily kWh and last actual read dates were all recorded correctly. The last actual read date reflects the last actual read received by emhTrade at the time the CS was processed, which was after the switch event date.

### Audit outcome

Compliant



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

##### Code reference

Clause 12 Schedule 11.3

##### Code related audit information

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

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

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

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

##### Audit observation

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

The event detail report for 01/11/17 to 16/11/18 was reviewed to identify all read change requests and acknowledgements during the audit period. No RR or AC files were issued by emhTrade for switch moves.

I also checked a sample of five estimated CS files provided by other traders where no RR was issued to determine whether the correct readings were recorded in emhTrade's system.

The switch breach history report was reviewed to identify late RR and AC files.

##### Audit commentary

emhTrade identifies ICPs which require meter read changes through its daily Admin Panel checks described in **section 2.1**. Where there is a difference between the switch reading and reading calculated from AMI data of more than  $\pm 50$  kWh an RR request is issued.

emhTrade's switch read adjustment process ensures that the correct switch readings are applied for settlement. Switch event readings (CS, or accepted RR) take precedence over all other readings in their

system. If there is a difference between the agreed switch reading and AMI data, the consumption difference is automatically spread over 43 days.

No read changes for switch moves were initiated during the audit period, and the switch breach report did not record any late RR or AC files for switch moves.

Review of five transfer CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in emhTrade's system. RRs were not requested because the difference was not considered to be material, and was less than emhTrade's  $\pm 50$  kWh threshold.

#### Audit outcome

Compliant

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

#### Code reference

Clause 13 Schedule 11.3

#### Code related audit information

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

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

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

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

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

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

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

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

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

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

#### **Audit observation**

The event detail report for the period from 01/11/2016 to 25/09/2017 was reviewed to identify all gaining trader switches.

The HH switch process was examined, and all HH NTs were checked to confirm that these were notified to the registry within three business days.

#### **Audit commentary**

All NT files were sent within three business days, and the correct switch type was applied.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 15 Schedule 11.3*

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

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

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

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

#### **Audit observation**

The HH switch process was examined.

The event detail report for 01/11/17 to 16/11/18 was examined, and confirmed that no HH switches were requested by other traders and emhTrade did not send any HH AN files during the period.

#### **Audit observation**

emhTrade did not provide any HH AN files during the audit period.

Processes are in place to ensure that correct AN codes are applied for HH switches.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 16 Schedule 11.3*

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

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

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

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

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

**Audit observation**

The HH switching process was examined

The switch breach report was analysed and found one late HH CS file recorded.

**Audit observation**

emhTrade uses Slack to monitor switch progress, and checks the registry daily to identify files that require processing. The switch breach report for the audit period recorded one late CS file for a HH switch, which was genuinely 15 business days late. The CS was delayed while emhTrade waited to obtain HHR data for this ICP.

If there are delays in receiving meter data for future gaining trader switches, emhTrade will complete the switch and estimate the affected period if necessary.

The content of all three HH CS files was reviewed, and found to be compliant.

**Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 4.14 With: Clause 16 Schedule 11.3  From: 19-Jan-18 To: 19-Jan-18	One HH CS file was late.  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>	The controls are rated as strong and the impact as low. This was an isolated incident because emhTrade could not obtain meter data, and the switch was completed as soon as the data was received.  emhTrade intends to send future HH CS files on time.		
Actions taken to resolve the issue		Completion date	Remedial action status
Following receipt of the required data, emhTrade completed the switch resolving this specific exception event.		November 2018	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Processes are being updated to ensure the timely submission of HH CS files and take additional/ alternative actions to process these files eg; estimation, notify other parties within the timeframe to provide necessary data, notify participant and agree on actions	November 2018 & ongoing	

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

##### Code reference

*Clauses 17 and 18 Schedule 11.3*

##### Code related audit information

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

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

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

##### Audit observation

The switch withdrawal process was examined.

The event detail report for 01/11/17 to 16/11/18 was reviewed to:

- identify all switch withdrawal requests (NWs) issued by emhTrade; and check the content of a sample of two (or all) withdrawals per withdrawal code;
- identify all switch withdrawal acknowledgements (AWs) issued by emhTrade and check all AW rejections; and
- confirm timeliness of withdrawal requests (as this is not currently being identified in the switch breach report); an extreme case sample of ten late withdrawal requests were checked.

The switch breach report was checked for any late NW and AW files.

### Audit commentary

18 NWs were issued by emhTrade; 5 (27%) were rejected by the other trader. The content of a sample of 10 files were checked, including the five files which had been rejected. All had the correct withdrawal reasons.

17 NWs were issued to emhTrade, and one (5%) of these was rejected. I reviewed the rejection, and found it was valid based on the information available at the time the response was issued.

The switch breach report did not record any late NW or AW files. Analysis of the event detail report found no NWs were issued more than two months after the switch date.

### 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

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

### Audit commentary

All meter readings used in the switching process are validated meter readings or permanent estimates. emhTrade's policy regarding the management of meter reading expenses is compliant.

### Audit outcome

Compliant

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

### Code reference

*Clause 11.15AA to 11.15AB*

### Code related audit information

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

*If a protected trader enters into an arrangement with a customer of another trader (the losing trader), or a trader enters into an arrangement with a customer of a protected trader, to commence trading electricity with the customer, the losing trader must not, by any means, initiate contact with the*

*customer to attempt to persuade the customer to terminate the arrangement during the period from the receipt of the NT to the event date of the switch including by:*

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

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

#### **Audit observation**

The Electricity Registry switch save protected retailer list was examined.

Win-back processes were examined to determine whether they are compliant. The event detail report for 01/11/17 to 16/11/18 was analysed to identify all withdrawn switches with a CX code applied prior to the switch completion date for any switch save protected retailer.

#### **Audit commentary**

emhTrade is not a save protected retailer.

emhTrade contacts the customers for ICPs requested by another retailer only to confirm that the switch request is valid. No win-back activity is initiated with lost customers during the switch.

The event detail report identified five CX coded switch withdrawal requests; all were sent after the switch was completed.

#### **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 process to identify and monitor unmetered load was discussed. The registry list for 01/11/17 to 16/11/18 was reviewed to identify all ICPs with unmetered load.

#### Audit commentary

emhTrade does not supply any ICPs with unmetered load, and does not intend to.

Processes to prevent ICPs with unmetered load from switching in, and to monitor existing ICPs for addition of unmetered load are discussed in **section 3.7**.

#### Audit outcome

Compliant



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

### Code reference

Clause 10.14 (2)(b)

### Code related audit information

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

### Audit observation

The process to identify and monitor unmetered load was discussed. The registry list for 01/11/17 to 16/11/18 was reviewed to identify all ICPs with unmetered load.

### Audit commentary

emhTrade does not supply any ICPs with unmetered load, and does not intend to.

### Audit outcome

Compliant

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

### Code reference

Clause 10.14 (5)

### Code related audit information

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

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

### Audit observation

The process to identify and monitor unmetered load was discussed. The registry list for 01/11/17 to 16/11/18 was reviewed to identify all ICPs with unmetered load.

### Audit commentary

emhTrade does not supply any ICPs with unmetered load, and does not intend to.

### Audit outcome

Compliant

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

##### **Code reference**

*Clause 11 Schedule 15.3, Clause 15.37B*

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

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

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

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

##### **Audit observation**

The process to identify and monitor unmetered load was discussed. The registry list for 01/11/17 to 16/11/18 was reviewed to identify all ICPs with unmetered load.

##### **Audit commentary**

emhTrade does not supply any ICPs with unmetered load, and does not intend to.

##### **Audit outcome**

Compliant

## 6. GATHERING RAW METER DATA

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

#### Code reference

Clause 10.13, Clause 10.24 and Clause 15.13

#### Code related audit information

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

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

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

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

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

#### Audit observation

Processes for distributed generation were reviewed. A registry list as at 16/11/18 was examined to confirm whether emhTrade had supplied any ICPs with generation .

#### Audit commentary

##### **Metering installations installed**

32 new connections were processed during the audit period. emhTrade ensured that metering was installed prior to electrical connection.

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

##### **Distributed Generation**

Changes to distributed generation details are identified through the monthly review of registry data changes described in **section 2.1**. If changes are detected, emhTrade checks the Admin Panel to determine whether compliant metering is installed or in the process of being installed. If a change to metering has not been requested, emhTrade contacts the customer to confirm whether they intend to generate electricity and send electricity into the network, and arranges for appropriate metering to be installed.

Analysis of the registry list found that emhTrade supplies 90 ICPs with generation recorded by the distributor, all of which have import/export metering installed. Submission data was checked for the 71 ICPs which had generation recorded in May 2018. I verified that injection consumption was correctly reported with flow direction I for all 71 ICPs.

The 2017 audit identified that ICP 0007120079RNF70 was expected to have generation installed in the future, and I confirmed that generation metering was installed for this ICP on 22/12/17.

## **Bridged meters**

emhTrade did not identify any examples of bridged meters during the audit period.

Disconnected ICPs are only switched in where the status indicates that they were disconnected remotely, making successful remote reconnection more likely. emhTrade rarely disconnects ICPs. Only one ICP was disconnected during the audit period, and the ICP was to be decommissioned.

### **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 three months for the grid owner to review and comment on the design*
- *respond within three business days of receipt to any request from the grid owner for additional details or changes to the design*
- *ensure any reasonable changes from the grid owner are carried out.*

*The participant responsible for the metering installation must:*

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

### **Audit observation**

The NSP table was reviewed to confirm whether emhTrade is responsible for any GIPs.

### **Audit commentary**

Review of the NSP table confirmed that emhTrade are not responsible for any GIPs.

### **Audit outcome**

Not applicable

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

### **Code reference**

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

### **Code related audit information**

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

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

#### **Audit observation**

The registry list for 01/11/17 to 16/11/18 was reviewed, to identify any ICPs with profiles that require certification of the control device.

#### **Audit commentary**

Examination of the list file found that emhTrade has only used the HHE, HEM, and HHR profiles, and control devices are not used for reconciliation purposes.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 10.43(2) and (3)*

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

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

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

#### **Audit observation**

Processes relating to defective metering were examined.

emhTrade provided 12 examples of defective meters. These were reviewed to determine whether the MEP was advised and if appropriate action was taken.

#### **Audit commentary**

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

I reviewed 12 examples of potential defective meters, which were identified through emhTrade's validation processes. All 12 defects related to communications issues, and the MEP was notified.

#### **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**

HHR data is provided by AMS, FCLM, and Metrix as MEPs. Interrogation requirements and clock synchronisation were reviewed as part of their MEP audits.

#### **Audit commentary**

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

emhTrade had not received notification of any clock synchronisation events outside the maximum permissible errors during the audit period.

#### **Audit outcome**

Compliant

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

#### **Code reference**

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

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

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

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

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

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

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

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

#### **Audit observation**

The data collection process was examined.

Under their HEM profile, emhTrade is allowed to temporarily supply NHH non-AMI meters until they are upgraded to HHR or AMI meters. emhTrade submits the volumes as HHR using their approved HEM profile. Volumes are calculated from the switch event reading and meter removal reading from the NHH meter.

The registry list for 01/11/17 to 16/11/18 was examined and identified five ICPs which were temporarily supplied with NHH meters and the HEM profile. All were checked.

emhTrade does not currently supply any ICPs with NHH non AMI metering.

#### **Audit commentary**

All five ICPs were assigned the HEM profile from their switch in date until the meter was upgraded to HHR. In all cases this period was less than 27 days, and the switch gain read and meter removal read were used to calculate consumption for the HEM profile period.

No customer or photo readings were received or used.

#### **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**

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters. None of the affected ICPs switched out before the upgrade could be completed.

AMI meters with metering category 1 or 2 are switched as NHH:

- switch event meter readings in CS files were reviewed in **sections 4.3** and **4.10**.
- switch event meter readings in RR files were reviewed in **section 4.4**.

#### **Audit commentary**

Reads applied in switching files were found to be compliant.

### 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

Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

The registry list for 01/11/17 to 16/11/18 was examined and identified five ICPs which were temporarily supplied with NHH meters and the HEM profile. All were checked.

### Audit commentary

All five ICPs which had NHH non AMI metering had at least one 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

Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

The registry list for 01/11/17 to 16/11/18 was examined and identified five ICPs which were temporarily supplied with NHH meters and the HEM profile. All were checked.



### Audit commentary

Review of the registry list confirmed that all NHH non-AMI meters were replaced within 27 days of switch in. Meter reading frequency reporting to the Electricity Authority was not required during the audit period.

### Audit outcome

Compliant

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

### Code reference

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

### Code related audit information

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

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

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

### Audit observation

Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

The registry list for 01/11/17 to 16/11/18 was examined and identified five ICPs which were temporarily supplied with NHH meters and the HEM profile. All were checked.

### Audit commentary

Review of the registry list confirmed that all NHH non-AMI meters were replaced within 27 days of switch in. Meter reading frequency reporting to the Electricity Authority was not required during the audit period.

### Audit outcome

Compliant

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

### Code reference

*Clause 10 Schedule 15.2*

### Code related audit information

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

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

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

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

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

#### Audit observation

Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters. emhTrade submits the volumes as HHR using their approved HEM profile, based on the switch event reading and meter removal reading from the NHH meter.

#### Audit commentary

emhTrade does not receive readings from NHH meter interrogation logs.

All validated NHH reads are received from incoming CS files, and meter exchange paperwork. Customer photo reads are not used, as discussed in **section 6.6**.

#### Audit outcome

Compliant

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

#### Code reference

Clause 11(1) Schedule 15.2

#### Code related audit information

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

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

#### Audit observation

HHR data is provided by AMS, FCLM, and Metrix as MEPs.

#### Audit commentary

MEPs are responsible for HHR data collection, and this is reviewed as part of their audits.

#### Audit outcome

Compliant

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

#### Code reference

Clause 11(2) Schedule 15.2

#### Code related audit information

*The following information is collected during each interrogation:*

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

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

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

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

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

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

#### **Audit observation**

HHR data is provided by AMS, FCLM, and Metrix as MEPs.

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 11(3) Schedule 15.2*

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

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

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

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

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

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

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

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

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

#### **Audit observation**

HHR data is provided by AMS, FCLM, and Metrix as MEPs.

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

## 7. STORING RAW METER DATA

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

#### Code reference

*Clause 13 Schedule 15.2*

#### Code related audit information

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

#### Audit observation

HHR data is provided by AMS, FCLM, and Metrix as MEPs. Compliance was assessed as part of their MEP audits.

#### Audit commentary

MEPs are responsible for trading period duration, and compliance is recorded in their audit reports.

#### Audit outcome

Compliant

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

#### Code reference

*Clause 18 Schedule 15.2*

#### Code related audit information

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

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

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

#### Audit observation

Raw meter data is retained by MEPs, and compliance is assessed as part of their MEP audits.

Processes to archive and store raw meter data were reviewed.

#### Audit commentary

emhTrade intends to retain meter reading data for over 48 months. I viewed the earliest meter readings recorded in emhTrade's data repository, which matched the switch in date for their earliest customer (24/11/2014).

I traced a sample of data for three HHR ICPs from the source files to system and the HHR aggregates files. All volumes matched, confirming that the reads had not been modified.

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

#### Audit outcome

Compliant

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

#### **Code reference**

*Clause 21(5) Schedule 15.2*

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

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

#### **Audit observation**

Processes to record non-metering information were discussed.

#### **Audit commentary**

No non metering information is collected by emhTrade.

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

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

*19(1)(b) - replacement of the original meter reading by another meter reading (even if the replacement meter reading may be at a different date)*

*19(1)(c) - if the original meter reading cannot be confirmed or replaced by a meter reading from another interrogation, then an estimated reading is substituted and the estimated reading is marked as an estimate and it is subsequently replaced in accordance with clause 4(2).*

#### Audit observation

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

#### Audit commentary

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

#### Audit outcome

Compliant

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

#### Code reference

Clause 19(2) Schedule 15.2

#### Code related audit information

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

*19(2)(a) - if a check meter or data storage device is installed at the metering installation, data from this source may be substituted*

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

#### Audit observation

Processes for correction of HHR meter readings were reviewed, including review of system and process documentation.

#### Audit commentary

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

Where errors are detected replacement data is estimated in accordance with the code. The estimation process is discussed in **section 9.4**.

I reviewed 12 examples of potential defective meters, which were identified through emhTrade's validation processes. All 12 defects related to communications issues, and no corrections were required.

emhTrade's reconciliation reporting processes always use the most recent data available for the half hour period, along with any switch, read change, or meter change readings. If volumes have been estimated and actual data later becomes available, the data is automatically replaced in the data repository and an audit trail is created. The original data is also retained in the data repository tables. I stepped through this process in the system, and viewed system documentation.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 19(3) Schedule 15.2*

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

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

#### **Audit observation**

The registry list with history for 01/11/17 to 16/11/18 was reviewed.

#### **Audit commentary**

emhTrade has only supplied three ICPs with metering category 3 or above. No ICPs have required loss compensation.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 22(1) and (2) Schedule 15.2*

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

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

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

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

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

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

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

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

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

#### **Audit observation**

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

Raw meter data is collected by AMS, FCLM, and Metrix; data retention was reviewed as part of their MEP audits.

#### **Audit commentary**

Raw meter data is held by MEPs. emhTrade only corrects working data and they keep an audit trail. These audit trails were viewed during the audit, and are discussed further in **section 2.4**.

The method of correction is system based as discussed in **section 8.2**, and retention of raw metering data is discussed in **section 7.2**.

#### **Audit outcome**

Compliant



## 9. ESTIMATING AND VALIDATING VOLUME INFORMATION

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

#### Code reference

*Clause 3(3) Schedule 15.2*

#### Code related audit information

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

#### Audit observation

Provision of estimated reads to other participants during switching was reviewed in **sections 4.3, 4.4, 4.5, 4.10 and 4.11.**

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

#### Audit commentary

Readings are clearly identified in emhTrade's systems.

#### Audit outcome

Compliant

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

#### Code reference

*Clause 3(4) Schedule 15.2*

#### Code related audit information

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

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

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

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

#### Audit observation

Processes for derivation of volumes were discussed and observed.

#### Audit commentary

All reads are received from the MEP, or via the switching process. emhTrade does not complete any manual readings, or accept customer readings.

Where AMI HHR readings are received, volumes are sourced from the AMI metering information. Where an estimated or switch reading is used, the HHR volumes are derived from actual readings or estimates.

#### Audit outcome

Compliant

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

#### Code reference

Clause 3(5) Schedule 15.2

#### Code related audit information

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

#### Audit observation

A sample of submission data was reviewed in **sections 11** and **12**, to confirm that volume was based on readings as required.

HHR data is collected by AMS, FCLM, and Metrix as MEPs. Compliance was assessed as part of their MEP audits.

#### Audit commentary

The MEP retains raw, unrounded data. Meter reading data is not rounded or truncated on import.

#### Audit outcome

Compliant

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

#### Code reference

Clause 15 Schedule 15.2

#### Code related audit information

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

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

#### Audit observation

The HHR estimate process was examined, and a sample of four estimates were reviewed.

#### Audit commentary

Estimates are typically required where there is missing data, or an event reading is not provided on the registry for a meter change. It is not mandatory for MEPs to provide event readings for meter changes on the registry.

emhTrade uses the same data estimation process for correction and estimation. A script automatically creates the estimates. The process is sound, and ensures that estimates are as accurate as possible by backfilling data based on the values available, or using profiles if insufficient actual data is available. A sample of four estimates were checked, which confirmed that the documented process is being used to create estimates. emhTrade used reasonable endeavours to ensure that submitted information was within the percentage specified by the Authority in all cases.

emhTrade's reconciliation reporting processes always use the most recent data available for the half hour period, along with any switch, read change, or meter change readings. If volumes have been estimated and actual data later becomes available, the data is automatically replaced in the data

repository and an audit trail created. The original data is also retained in the data repository tables. I stepped through this process in the system, and viewed system documentation.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 16 Schedule 15.2*

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

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

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

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

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

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

#### **Audit observation**

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

#### **Audit commentary**

All NHH ICPs have HHR consumption calculated during the NHH period. This consumption is subject to the HHR validation process described in **section 9.6**.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 17 Schedule 15.2*

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

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

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

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

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

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

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

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

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

#### **Audit observation**

I reviewed the HHR data validation process, including meter event logs, the reconciliation validation and estimate procedure, and system parameters for validations.

#### **Audit commentary**

Electronic meter reading information is provided by MEPs. Meters are interrogated regularly, and there is little risk that data can be overwritten. Data is held for a longer period at the meter and can be re-interrogated later if required.

emhTrade's system conducts validity checks on files prior to uploading, these checks are for file format and number of intervals. Once the data is uploaded, estimation occurs for any missing values as discussed in **section 9.4**. All data is then validated further, regardless of whether it is estimated or actual data. This validation includes checks for:

- missing data
- unexpected zeros
- negative values
- differences to previous or expected flow patterns
- midnight reads that are not monotonic increasing; and
- inconsistency between the difference between the midnight reads and the sum of the day's trading periods.

Billing validation exceptions are also reviewed on the Admin Panel as described in **section 2.1**. The billing validations include checks for:

- negative consumption
- estimates that were more or less than actual consumption data for the period; and
- ICPs with missing actual data.

If any issues are identified, an exception is created. The exception will be investigated and either approved, or a system estimate will be created.

emhTrade receives meter event reports from Metrix and AMS. The files are reviewed on the first business day of each month to identify any events which could affect meter accuracy and require investigation or action. I reviewed a sample of meter event reports provided by AMS, and found that events had been investigated and field services jobs raised as required. All Metrix meter event files reviewed were blank.

FCLM review meter event data, and advise emhTrade if any events occur that affect the accuracy of meter data or action is required. Only 23 ICPs currently have FCLM meters, and no examples of events affecting the accuracy of meters were available.

#### **Audit outcome**

Compliant

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

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

#### Code reference

Clause 13.136

#### Code related audit information

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

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

#### Audit observation

The NSP table on the registry was reviewed.

#### Audit commentary

emhTrade is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

#### Audit outcome

Not applicable

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

#### Code reference

Clause 13.137

#### Code related audit information

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

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

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

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

#### Audit observation

The NSP table on the registry was reviewed.

#### Audit commentary

emhTrade is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 13.138*

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

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

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

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

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

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

#### **Audit observation**

The NSP table on the registry was reviewed.

#### **Audit commentary**

emhTrade is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 13.140*

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

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

#### **Audit observation**

The NSP table on the registry was reviewed.

#### **Audit commentary**

emhTrade is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

#### **Audit outcome**

Not applicable

## 11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

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

#### Code reference

Clause 15.3

#### Code related audit information

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

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

#### Audit observation

Processes to create buying and selling notifications were reviewed.

A registry list for 01/11/17 to 16/11/18 was reviewed confirm the profiles used.

#### Audit commentary

emhTrade has used the HHR, HHE and HEM profiles.

I identified three instances where emhTrade began trading on HHE or HEM profile at an NSP during the audit period. In each case a trading notification was created, but the profile could not be entered because there is no facility to enter profiles into the trader notifications created on the reconciliation manager portal. This is recorded as a technical non-compliance below.

#### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.1 With: Clause 15.3  From: 16-Jan-18 To: 14-Aug-18	No trading notification was provided for HHE profile for HEP0331, or the HEM profile for HWB1101 or MTM0331.  Potential impact: None  Actual impact: None  Audit history: None  Controls: Strong  Breach risk rating: 1
Audit risk rating	Rationale for audit risk rating
<b>Low</b>	There is no impact. The reconciliation manager's system recorded the profile correctly, and the notification process does not allow the trader to enter the profile.

Actions taken to resolve the issue	Completion date	Remedial action status
The profile is recorded correctly on the reconciliation manager's system so no further action is required.	November 2018	Investigating
Preventative actions taken to ensure no further issues will occur	Completion date	
As the "new trader" option only allows HHR or NHH , emhTrade cannot prevent this technical non-compliance. We will review the practicality of notifying RM by email of intended HHE & and HEM trade profiles.	February 2019	

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

### Code reference

Clause 15.6

### Code related audit information

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

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

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

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

### Audit observation

The process for the calculation of ICP days was examined by checking ten NSPs with a small number of ICPs on the August 2018 submission to confirm the AV110 ICP days calculation was correct.

Review of the registry list for 01/11/17 to 16/11/18 confirmed that there have been no changes of submission type between HHR and NHH.

I reviewed variances for 12 months of GR100 reports. All variances were reviewed to determine the cause.

### Audit commentary

The process for the calculation of ICP days was examined by checking ten NSPs a small number of ICPs on the August 2018 ICP days submission. The ICP days calculation was confirmed to be correct for the sample checked.

The GR100 differences for the past 12 months are set out below.



### ICP Days difference between the registry and emhTrade

(Positive = emhTrade data is lower than that on the registry).

Month	Ri	R1	R3	R7	R14
Sep 2017	0.00%	0.00%	0.00%	0.00%	-
Oct 2017	0.00%	0.00%	0.00%	0.00%	-
Nov 2017	-0.49%	-0.49%	-0.49%	-0.49%	-
Dec 2017	-0.49%	-0.49%	-0.49%	-0.49%	-
Jan 2018	-1.94%	-1.95%	-1.95%	-1.46%	-
Feb 2018	-1.91%	-1.91%	-1.91%	-1.43%	-
Mar 2018	-2.23%	-2.23%	-2.23%	-1.39%	-
Apr 2018	-2.39%	-2.23%	-1.79%	-	-
May 2018	-2.11%	-2.11%	-1.27%	-	-
Jun 2018	-1.64%	-1.64%	-1.23%	-	-
Jul 2018	-1.08%	-1.08%	-1.08%	-	-
Aug 2018	-1.02%	-1.02%	-	-	-

I reviewed all ICP days variances and found they had occurred for the following reasons.

- ICP days are reported for ICPs with an installation type of G. Only ICPs with installation types B or L are expected to be included in the AV110 report. This issue affected two ICPs connected to HTI0331 and one ICP connected to TUI1101 from January 2018 onwards. Corrected information will be washed up.
- A decommissioned ICP continued to have ICP days reported after decommissioning. A system fix has been applied to prevent recurrence of this issue, and corrected information has been washed up.
- An incorrectly processed meter change resulted in ICP days being double counted for one ICP connected to HEN0331. The new meter was entered without a transfer date, which caused it to be double counted. Switched in ICPs without a transfer date are now identified and corrected during the daily Admin Panel checks described in **section 2.1**. Corrected information has been washed up.
- A timing difference occurred due to a backdated withdrawal.

**Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 11.2 With: Clause 15.6  From: 01-Apr-18 To: 16-Nov-18	Inaccurate ICP days were reported for a small number of ICPs. Corrected data has been washed up, and processes have been corrected.  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 currently rated as strong as they are sufficient to ensure that ICPs with installation type G or decommissioned status are not included in the ICP days calculation, and that new meters without a transfer date are identified.  The impact is assessed to be low, as updated data will be provided through the revision process.		
Actions taken to resolve the issue		Completion date	Remedial action status
emhTrade had corrected a system error related to the ICPs that reported incorrect days and produced a wash up of the correction. EMHT has taken actions to prevent any further issues arising.		November 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
emhTrade have implemented a system upgrade to only include installation types B and L. Operational staff have also been reminded of these changes.		November 2018	

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

**Code reference**

Clause 15.7

**Code related audit information**

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

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

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

#### Audit observation

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

GR130 reports for January 2016 to August 2017 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

#### Audit commentary

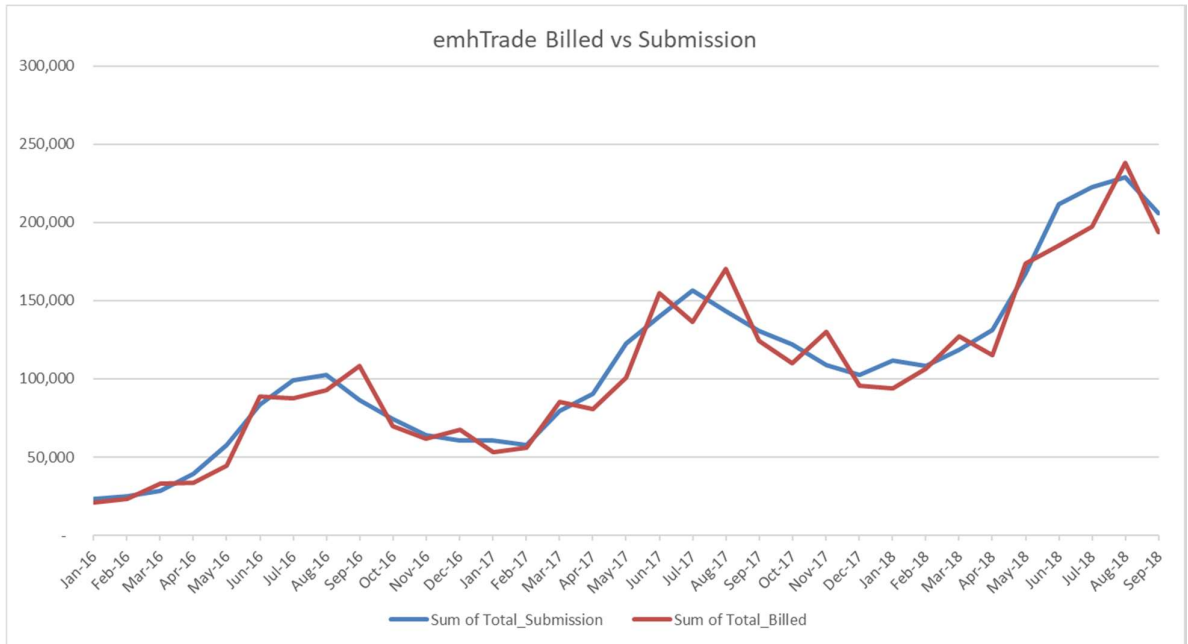
The process for the calculation of as billed volumes was examined by checking five NSPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

I also checked the difference between submission and electricity supplied information for a 33 month period, and the results are shown in the chart below.

The total difference is -3.21% for the two years ended September 2018 and -4.15% for the year ended September 2018 (billed lower than submission). emhTrade splits its customers into two billing streams, which are billed on alternate weeks, and has added a new monthly billing stream for commercial customers. Invoice timing for the billing streams and customer growth are believed to have contributed to the increased differences between billed and submitted data.

emhTrade monitors the difference between billed and submitted consumption monthly, and has not identified any issues. Because the difference between billed and submitted data is larger than expected and has increased since last year, I recommend emhTrade continue to monitor billed and submitted data to try to determine the reasons for the difference, and whether there are any issues with the billed or submitted data.

Description	Recommendation	Audited party comment	Remedial action
Billed data	Monitor as billed versus submission volumes over the coming months. Investigate to confirm the reason for the variance between billed and submitted volumes.	The billed versus submission variances are actively monitored and remain within expected bounds.	Identified



**Audit outcome**

Compliant

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

**Code reference**

Clause 15.8

**Code related audit information**

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

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

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

**Audit observation**

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data 12 submissions.

The GR090 ICP Missing files were examined for September 2017 to October 2018. All differences were reviewed.

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

**Audit commentary**

emhTrade’s HHR aggregates report contains submission information, not electricity supplied information as specified under clause 15.8. Although the reports emhTrade produces are consistent with the Reconciliation Manager Functional Specification, this is recorded as non-compliance below.

I checked the process for aggregation of HHR data was correct, by matching HHR aggregates information to the volumes for 12 submissions. Compliance was confirmed.

The GR090 ICP Missing files were examined for all revisions for September 2017 to October 2018. All differences were due to timing, or have been corrected.

- A decommissioned ICP continued to have zero volumes reported after decommissioning. A system fix has been applied to prevent recurrence of this issue. This is not recorded as non-compliance because the volumes recorded are correct.
- Two timing differences occurred due to backdated withdrawals.

I also reviewed emhTrade’s volumes and aggregates for September and October 2018 for reasonableness, and did not find any evidence of under submission of volumes for these months.

As described in **section 1.6**, an alleged breach was recorded for late submission for the September 2018 initial allocation. The alleged breach is currently being investigated and the outcome will be decided by the Compliance Committee. It is likely that the alleged breach had no market impact, and steps have been taken to prevent recurrence.

#### Audit outcome

Non-compliant

Non-compliance	Description	
Audit Ref: 11.4 With: Clause 15.8  From: entire audit period	Alleged breach 1810EMHL1 was recorded for late provision of September 2018 initial submission information.  HHR aggregates file does not contain electricity supplied information.  Potential impact: Low  Actual impact: Low  Audit history: Twice  Controls: Strong  Breach risk rating: 1	
Audit risk rating	Rationale for audit risk rating	
<b>Low</b>	Controls are rated as strong and the risk as low, because submissions are normally completed on time. The alleged breach is currently being investigated and the outcome will be decided by the Compliance Committee. It is likely that the alleged breach had no market impact. Steps have been taken to prevent recurrence.  The issue relating to content of the aggregates file is an error in the code, emhTrade is providing submission information as expected.	
Actions taken to resolve the issue	Completion date	Remedial action status
The data was submitted late on the reporting date following notification by the reconciliation manager and internal verification of the issue.	Sep 2018	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
We are reviewing our confirmation process for BD4 & BD13 reconciliation submissions. Remedial actions include a new operations process management function tasked with updating our key KPIs to ensure compliance, effective from the start of 2019 and a refresh for Operations staff on the processes to ensure timely submission.	January 2019	

## 12. SUBMISSION COMPUTATION

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

#### Code reference

Clause 15.36

#### Code related audit information

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

#### Audit observation

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

Daylight savings processes in emhTrade's system were observed.

#### Audit commentary

Daylight savings processes for the MEPS were reviewed as part of their audits, and found to be compliant.

The "trading period run on" technique is used for daylight saving adjustment. This was confirmed by checking data recorded in the emhTrade's system during daylight savings and standard time. The correct number of trading periods were recorded.

#### Audit outcome

Compliant

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

#### Code reference

Clause 15.4

#### Code related audit information

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

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

#### Audit observation

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

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade has temporarily supplied NHH non-AMI meters as HHR until they are upgraded to HHR or AMI meters.

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

### Audit commentary

I checked the accuracy of the HHR aggregates and HHR volumes files in **section 11.4** and confirm compliance. NHH meters have HHR volumes calculated based on the switch event reading and meter removal reading.

As described in **section 1.6**, an alleged breach was recorded for late submission for the September 2018 initial allocation. The alleged breach is currently being investigated and the outcome will be decided by the Compliance Committee. It is likely that the alleged breach had no market impact, and steps have been taken to prevent recurrence.

### Audit outcome

Compliant

Non-compliance	Description		
Audit Ref: 12.2 With: Clause 15.4  From: 01-Sep-18 To: 30-Sep-18	Alleged breach 1810EMHL1 was recorded for late provision of September 2018 initial submission information.  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 and the risk as low, because submissions are normally completed on time. The alleged breach is currently being investigated and the outcome will be decided by the Compliance Committee. It is likely that the alleged breach had no market impact. Steps have been taken to prevent recurrence.		
Actions taken to resolve the issue		Completion date	Remedial action status
As per comments noted on Audit Ref: 11.4 With: Clause 15.8		See 11.4	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As per comments noted on Audit Ref: 11.4 With: Clause 15.8		See 11.4	

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

#### Code reference

Clause 15.5



### Code related audit information

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

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

### Audit observation

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

I walked through the HHR volumes and aggregates validation process, including reviewing historic validations.

### Audit commentary

emhTrade has validation processes to ensure that aggregation factors and volumes reported are correct. These validation processes are discussed in **sections 2.1** and **9.6**.

### Audit outcome

Compliant

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

### Code reference

*Clause 15.9*

### Code related audit information

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

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

### Audit observation

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

### Audit commentary

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

### Audit outcome

Not applicable

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

### Code reference

Clause 15.10

### Code related audit information

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

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

### Audit observation

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

### Audit commentary

emhTrade is not required to provide NSP submission information.

### Audit outcome

Not applicable

## 12.6. Grid connected generation (Clause 15.11)

### Code reference

Clause 15.11

### Code related audit information

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

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

### Audit observation

The registry list and NSP table were reviewed.

### Audit commentary

emhTrade is not a grid connected generator, therefore compliance was not assessed.

### Audit outcome

Not applicable

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

### Code reference

Clause 15.12

**Code related audit information**

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

**Audit observation**

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

Corrections were reviewed in **sections 8.1 and 8.2**.

**Audit commentary**

Review of alleged breaches confirmed that no revision submissions were made late.

The following issues which impacted on the accuracy of volume information submitted to the reconciliation manager were identified.

- HHE profile was invalidly recorded on the registry and applied for submission for 211 ICPs with certified HHR metering. According to the approved profile application, the HHE profile should be applied only where the meter can provide HHR volumes but is not certified as HHR. Once an ICP is HHR certified the ICP should be assigned the HHR profile. emhTrade had left the ICPs on HHE profile because they are still receiving data for these ICPs from Metrix’s legacy data feed.
- Inaccurate ICP days were reported for a small number of ICPs which had installation type G, were decommissioned, or had an incorrectly processed meter change. The data has since been corrected, and revision submissions have been provided.

**Audit outcome**

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12  From: 01-Dec-17 To: 27-Nov-18	211 ICPs were assigned the HHE profile for periods when HHR certified metering was installed.  Inaccurate ICP days were reported for a small number of ICPs. Corrected data has been washed up, and processes have been corrected.  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 as they are sufficient to ensure that submission data is accurate most of the time.  The audit risk rating is low volumes submitted were correct and submission information can be corrected washed up through the revision process.

Actions taken to resolve the issue	Completion date	Remedial action status
<p>Both were resolved with our below response also noted within the report. (inclusive)</p> <p>Audit Ref: 12.7. Refer to response in section 2.1 Relevant information (Clause 10.6, 11.2, 15.2)</p> <p>Audit Ref: 11.2 With: Clause 15.6 Refer to response in section 11.2</p>	As per section 2.1 and 11.2	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>Audit Ref: 12.7. Refer to response in section 2.1 Relevant information (Clause 10.6, 11.2, 15.2)</p> <p>Audit Ref: 11.2 With: Clause 15.6 Refer to response in section 11.2</p>	As per above	

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

### Code reference

Clause 4 Schedule 15.2

### Code related audit information

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

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

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

### Audit observation

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

### Audit commentary

All ICPs were submitted as HHR, and this clause does not apply.

### 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 must comprise the following:

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

### Audit observation

Aggregation and content of reconciliation submissions was reviewed.

### Audit commentary

Compliance with this clause was assessed:

- all emhTrade's ICPs have metering category 1, 2, or 4 and are submitted as HHR;
- no ICPs with unmetered load are supplied;
- no profiles requiring a certified control device are used;
- no loss or compensation arrangements are required; and
- aggregation of the AV090 and AV140 reports is compliant.

### Audit outcome

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**

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

Review of the registry list for 01/11/17 to 16/11/18 confirmed that all ICPs had submission type HHR.

**Audit commentary**

All ICPs were submitted as HHR, and this clause does not apply.

**Audit outcome**

Not applicable

**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**

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

Review of the registry list for 01/11/17 to 16/11/18 confirmed that all ICPs had submission type HHR.

**Audit commentary**

All ICPs were submitted as HHR, and this clause does not apply.

**Audit outcome**

Not applicable

**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**

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

Review of the registry list for 01/11/17 to 16/11/18 confirmed that all ICPs had submission type HHR.

#### **Audit commentary**

All ICPs were submitted as HHR, and this clause does not apply.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 7 Schedule 15.3*

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

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

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

#### **Audit observation**

Review of the registry list and event detail report for 01/11/17 to 16/11/18 identified five ICPs which had a profile change from HEM to HHR. All five ICPs were checked.

#### **Audit commentary**

All five profile changes coincided with meter changes, and actual readings were available as required by this clause.

#### **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

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

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

#### Audit observation

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

Aggregation of NHH volumes is discussed in **section 12.3**, aggregation of HHR volumes is discussed in **section 11.4**.

#### Audit commentary

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level:

- NSP code
- reconciliation type
- profile
- loss category code
- flow direction
- dedicated NSP
- consumption period.

#### Audit outcome

Compliant

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

#### Code reference

*Clause 9 Schedule 15.3*

#### Code related audit information

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



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

#### **Audit observation**

I reviewed the rounding of data on the AV090 and AV140 reports as part of the aggregation checks.

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 10 Schedule 15.3*

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

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

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

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

#### **Audit observation**

emhTrade has not submitted any NHH volumes. Using the HEM profile, emhTrade temporarily supplied NHH non-AMI meters as HHR until they were upgraded to HHR or AMI meters.

Review of the registry list for 01/11/17 to 16/11/18 confirmed that all ICPs had submission type HHR.

#### **Audit commentary**

All ICPs were submitted as HHR, and this clause does not apply.

#### **Audit outcome**

Not applicable

## CONCLUSION

emhTrade is a HHR only trader. Under their HEM profile, emhTrade is allowed to temporarily supply NHH non-AMI meters until they are upgraded to HHR or AMI meters. Volumes are calculated from the switch event reading and meter removal reading from the NHH meter, and submitted as HHR using the HEM profile. Five upgrades were compliantly processed during the audit period.

emhTrade began completing new connections during the audit period. 32 new connections were processed, and full compliance was achieved for all of them.

emhTrade continues to maintain a high level of compliance, with good controls. The audit found 12 non-compliances. Of those:

- two were technical breaches relating to provision of trader notifications and content of the HHR aggregates files;
- three non-compliances were duplicated because one issue caused non-compliance in more than one report section, the duplicated non-compliances include some incorrect profiles, late provision of one submission, and some incorrect ICP days information;
- most of the remaining non-compliances affected small numbers of ICPs or updates and appeared to be isolated.

I have also made three recommendations for improvement, and no issues are raised.

I found that five of the six non-compliances recorded in the previous audit have been cleared, or partly cleared. The recommendation made in the previous audit has also been implemented.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The future risk rating table provides some guidance on this matter and contains a future risk rating score of 13, which results in an indicative audit frequency of 18 months. I have considered this result in conjunction with emhTrade's responses and recommend a next audit period of 24 months.

## PARTICIPANT RESPONSE

emhTrade strives for excellence in our operational processes and understand the need for all participants to act in accordance with the Code in order to facilitate a well functioning retail market. We welcome the opportunities to improve that have been highlighted through the audit process and broadly accept the recommendations of this report.