Electricity Industry Participation Code Reconciliation Participant Audit Report

for

Mercury NZ Limited

Prepared by Rebecca Elliot – Veritek Limited

Date of Audit: 26/06/17 to 27/06/17

Date Audit Report Complete: 25/08/17

Audit Report Due Date: 28/08/17

Executive Summary

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Mercury NZ Limited** (**Mercury),** 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

This audit evaluated the codes MRPL for HHR activities and the MEEN code for both NHH and HHR activities. Findings relate to both codes unless specifically stated otherwise.

The audit found 35 non-compliance issues, nine recommendations are made and two issues are raised. Ten of the non-compliance issues relate to switching which has increased from the five recorded in the last audit, and it appears that the SAP switch management logic needs to be reviewed. Five non-compliance issues relate to the management of meter reading. Three of the recommendations made relate to meter reading improvement opportunities.

Mercury has made good progress in relation to registry management. They have specifically focussed on strengthening their registry discrepancy reporting and resolving the unmetered load discrepancies found in the last audit. All distributed unmetered loads have been audited during the audit period and remedial actions are underway to improve compliance.

There have been further improvements to the reconciliation processes. Non-compliances relating to ICP days reported against an incorrect NSP, over submission due to zeroing not being completed, and revisions for DUML corrections have been cleared.

Some of the matters raised have led to incorrect information being provided to the Reconciliation Manager, including the incorrect calculation of historic estimate where an ICP has switched out, and then back to Mercury, resulting in a portion of consumption being reported with an incorrect period. A small number of corrections had not been processed.

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 77, which results in an indicative audit frequency of three months. I have considered this result in conjunction with Mercury's responses and taking into consideration that they have a major system enhancement in progress before any system changes cannot be implemented until the first half of 2018. My recommendation for the next audit date is nine months. This will allow time for Mercury to make the changes necessary and improve the level of compliance.

The matters raised are shown in the tables below:

Table of Non-Compliance

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	11.2 of part 11	Some registry discrepancies.	Moderate	Low	2	Identified
Electrical Connection of an ICP	2.9	10.32	1 backdated electrically connected ICP.	Moderate	Low	2	Cleared
Metering certification	2.10	10.33(2) of part	4 ICPs not certified within 5 business days of energisation.	Moderate	Low	2	Investigating
Changes to registry	3.3	10 of schedule 11.1	Registry not updated within 5 business days of the event.	Moderate	Low	2	Investigating
Provision of registry information	3.5	Clause 9 of schedule 11.1	Registry information not provided within 5 business days of commencement of supply.	Strong	Low	1	No action planned
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	1,664 active ICPs with no or incorrect ANZSIC codes assigned.	Moderate	Low	2	Identified
Unmetered load	3.7	9(1)(f) of schedule 11.1	Unmetered loads populated incorrectly for five ICPs.	Moderate	Low	2	Identified
Active status	3.8	17 of schedule 11.1	Six newly connected ICPs with incorrect active dates. Incorrect active date recorded for some reconnected ICPs.	Moderate	Low	2	Investigating
Inactive status	3.9	19 of schedule 11.1	Incorrect status recorded for one HHR ICP.	Strong	Low	1	Cleared
Change of MEP	3.11	10.22(1)(a)	The sending of erroneous MEP nominations when an ANZSIC code is being updated. No MEP rejection process in place.	Weak	Low	3	Investigating
Switching	4.2	3 & 4 of schedule 11.3	Incorrect sending of the AA and PD AN response codes for transfer switches.	Moderate	Low	2	Identified
	4.3	5 of schedule 11.3	Incorrect last read date and average daily consumption figures being sent in some instances. Some late CS files.	Weak	Medium	6	Identified
	4.4	6 of schedule 11.3	One RR sent without being processed via the registry. 24 late RR files sent.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
	4.5	6(2) & (3) of schedule 11.3	One RR incorrectly rejected by Mercury.	Moderate	Low	2	Identified
	4.8	10 of schedule 11.3	PD code not used for Move switch ICPs. One late AN file. Some late CS files.	Moderate	Low	2	Identified
	4.9	10 (2) of schedule 11.3	46 ICPs where the event date was set earlier than the gaining traders. 1,183 ICPs where the event date was set greater than 10 days from the gaining traders request date.	Weak	Low	3	Identified
	4.10	11 of schedule 11.3	Incorrect last read date and average daily consumption figures being sent in some instances. Estimated reads sent for the incorrect event date.	Weak	Medium	6	Identified
	4.11	12 of schedule 11.3	33 late RR files sent. 1 late AC file sent.	Strong	Low	1	Investigating
	4.14	16 of schedule 11.3	20 late CS files sent.	Moderate	Low	2	Identified
	4.15	17 of schedule 11.3	19 switch withdrawals sent later than 2 months of the event date. 2 incorrect switch withdrawal codes sent.	Strong	Low	1	Cleared
Distributed unmetered load	5.4	11(1) of schedule 15.3, 10.14 & 15.13	Some incorrect submission information for DUML ICPs.	Moderate	Low	2	Identified
Electricity conveyed	6.1	10.13 and 15.2	Energy is not metered and quantified according to the code where meters are bridged. NHH ICPs with distributed generation do not have the PV profile recorded on the registry.	Moderate	Low	2	Investigating
Responsibility for metering at	6.2	10.26(7) of Part 10	Meter certification expired in April 2017 for ATI0111 and	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
GIP			ATI0112.				
		10.26(11) of Part 10	One certification expiry date change was processed late.	Strong	Low	1	Identified
Derivation of meter readings	6.6	Clause 5 of schedule 15.2	Photo readings were recorded as actual readings.	Moderate	Low	2	Cleared
Interrogate meters once	6.8	7(1) & (2) of schedule 15.2	No reporting in place to quantify ICPs not interrogated at least once during the period of supply.	Weak	Low	3	Identified
90% read target	6.10	9 of schedule 15.2	For four ICPs without an actual read for four months, exceptional circumstances could not be confirmed, and there was insufficient evidence that the best endeavours requirement was met.	Moderate	Low	2	Identified
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	One bridged meter did not have consumption estimated during the bridged period. Five ICPs with consumption while disconnected, have not had their consumption reported while disconnected Where a meter reading is modified by Mercury, it should be recorded as an estimated reading but is recorded as an actual.	Moderate	Low	2	Investigating
NHH data validation	9.5	15.2	Where a subsequent read is lower than the switch in reading, the negative consumption is zeroed out.	Moderate	Low	2	Investigating
Event logs	9.6	17 of schedule 15.2	AMI event information not adequately obtained and monitored.	Weak	Low	3	Investigating
HHR aggregates file	11.4	15.8 of part 15	There are differences between HHR volume and aggregate information that do not appear to be caused by rounding. HHR aggregates file does not contain electricity supplied information.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Permanence of meter readings	12.8	4 of schedule 15.2 and clause 15.2 of part 15	Not all meter readings were made permanent estimates by the 14 month revision. Forward estimate remained for the September, October and November 2015 14 month revisions.	Moderate	Low	2	Identified
Historic Estimate Process	12.11	4 & 5 of Schedule 15.3	Historic estimate is not calculated correctly for the switch in month, where an ICP has switched back to Mercury after being supplied by another retailer.	Moderate	Low	2	Investigating
Forward estimate accuracy	12.12	6 of Schedule 15.3	FE accuracy threshold not met for some balancing areas.	Moderate	Low	2	No action planned
HE targets	13.4	10 of Schedule 15.3	Historic estimate targets were not met for all revisions.	Moderate	Low	2	Identified
				Future Risk Rating	77		
				Indicative Next Audit Frequency	3 months		

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

Table of Recommendations

Subject	Section	Clause	Recommendation	Remedial action
Active status	3.8	17 of schedule 11.1	Check any variances between Mercury's active date and the Distributor's initial energisation date.	Investigating
Switching	4.2	3 & 4 of schedule 11.3	Review the system logic for the assignment of AN codes is as accurate as possible.	Investigating
	4.11	12 of schedule 11.3	Send AMI reads for active vacant sites and this will reduce the volume of RR requests being sent by gaining traders.	Investigating

Subject	Section	Clause	Recommendation	Remedial action
Electricity conveyed	6.1	10.24(b) of part 10	Select ICPs by generation capacity and fuel type not by installation type indicator "B". Continue to liaise with Orion regarding 4 ICPs with generation recorded but with no "I" channel. Check whether ICP 0219952000LC610 has generation installed and whether it needs a meter change to import/export.	Investigating
Responsibility for metering at GIP	6.2	15.2	Confirm the reconciliation type for ATI2201MRPLG and update the NSP table if necessary.	Investigating
Interrogate meters once	6.8	9(1) & (2) of schedule 15.2 and clause 15.2	If an actual read is received for a date which is not the customer's scheduled read date, and the customer has already been billed on an estimated reading, the actual read will not be marked as billable and will not be used for billing or reconciliation. If the read is marked as billable, another invoice will be generated. I recommend that Mercury considers reversing the previous invoice and using these reads for billing where the ICP risks breaching the read attainment requirements.	Investigating
			Where reads are not received from AMI meters, Mercury should advise the MEP so they can investigate and update the AMI flag on the registry if necessary.	Investigating
			Develop reporting to measure ICPs not reads during period of supply.	Identified
HHR aggregates and volumes file	11.4	15.8	Check HHR volume and aggregate submissions are consistent, and investigate any significant inconsistencies prior to submission.	Investigating

Table of Issues

Issue	Description	Remedial action
10.33(2) of part	The issue of BTS supplies not loaded to the registry for four ICPs to be examined as part of the next AMS and Metrix MEP audits.	Pass to MEP auditor for investigation.
15.3	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.	Pass to EA for investigation.

Persons Involved in This Audit

Auditor:

Name	Company	Role
Rebecca Elliot	Veritek Limited	Lead Auditor
Tara Gannon	Veritek Limited	Supporting Auditor

Mercury personnel assisting in this audit were:

Name	Title
Chris Posa	Compliance and Process Improvement Coordinator
Rachel Fogl	Compliance and Process Improvement Coordinator
Dayne Robinson	Complex Billing and Contracts Co-ordinator
Danette van Aswegen	Customer Data Analyst
Chandrashi Mehta	Data Analyst
Anurag Sharda	Energy Analyst
William Turner	Complex Billing and Contracts Team Leader
Barbara O'Connor	Field Services Manager
Kiryn Savage	Switch Analyst
Mokram Al-Zibaree	Validations Analyst – Team Leader
Deirdre Costello	Customer Risk Manager
Ranjesh Kumar	Pricing Operations and Energy Services Manager

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1. Administrative

1.1 Summary of Previous Audit

Mercury provided a copy of their previous audit report conducted in June 2016 by Steve Woods (lead auditor) of Veritek Limited. The summary tables below show that some of the issues have been resolved and some are still existing. Further comment is made in the relevant sections of this report.

Table of Non-Compliance

Subject	Section	Clause	Non compliance	Status
Metering Certification	1.10.5 now 2.10	10.33(2) of part 10	Certification of three ICPs not completed within five days of energisation.	Still existing
Electricity Conveyed & Notified by Embedded Generators	1.10.6 now 6,1	10.24(b) of part 10	Electricity not quantified for 36 ICPs where meters were bridged. Metering installations interfered with.	Still existing
Relevant Information	1.11 now 2.1	15.2 of part 15	Incomplete validation between SAP and registry. DUML revisions not conducted.	Still existing
Provide Accurate Information	1.12 now 2.1	11.2 of part 11	Incomplete validation between SAP and registry.	Still existing
Switching	2.1.4 now 4.3	5 of schedule 11.3	270 late CS files. Incorrect read date being sent in some instances.	Still existing
	2.1.5 now 4.4	6 of schedule 11.3	32 late RR files for MEEN.	Still existing
	2.2.2 now 4.8	10 of schedule 11.3	Some late CS files.	Still existing
	2.2.3 now 4.10	11 of schedule 11.3	Incorrect read date being sent in some instances.	Still existing
	2.2.4 now 4.11	12 of schedule 11.3	63 late RR files.	Still existing
Provision of Information to the Registry	2.8.2 now 3.5	9 of schedule 11.1	Registry information not provided within 5 business days of commencement of supply. Incorrect event dates for reconnections and some were backdated.	Still existing
Changes to Registry Information	2.8.3 now 3.3	10 of schedule 11.1	Registry status not updated within 5 business days of the event.	Still existing
Nomination and recording of MEP on the Registry	2.8.8 now 3.5 & 3.11	10.18 of part 10 & 11.18(4)&(5) of part 11	No MEP nomination sent for a downgraded site.	Still existing

Subject	Section	Clause	Non compliance	Status
Registry Discrepancies	2.8.9 now 2.1	11 of schedule 11.1	Registry discrepancies between SAP and the registry.	Still existing
ANZSIC Codes	2.8.10 now 3.6	9(1)(k) of schedule 11.1	Active ICPs with no or incorrect ANZSIC codes assigned.	Still existing
Management of "Inactive" Status	2.8.13 now 3.9	19 of schedule 11.1	Incorrect inactive status code recorded for one ICP.	Still existing
Changes to Unmetered Load	2.10.1 now 3.7	9(1)(f) of schedule 11.1	Three unmetered load ICPs with zero daily kWh populated.	Cleared
Maintaining Shared Unmetered Load	2.10.3 now 5.1	11.14 of part 11	7 ICPs with no shared unmetered load populated.	Cleared
Distributed Unmetered Load	2.10.4 now 5.4	11 of schedule 15.3	Various non-compliance in relation to DUML databases and processes.	Still existing
HHR Data Interrogation Requirement	3.2.2 now 9.6	11(2)(d) of schedule 15.2	No event logs collected for manually read data storage devices.	Still existing
Data Storage Device Clock Synchronisation	3.2.4 now 7.5	2(5) of schedule 15.2	No clock synchronisation occurring for manually read meters.	Cleared
NHH metering information	3.3.3 now 6.6	5 (b) & (c) of schedule 15.2	Checks for phase failure and broken or missing seals not conducted and recorded.	Cleared
Interrogate Meters Once	3.3.5 now 6.8	7(1) & (2) of schedule 15.2	No measure or active management of ICPs not interrogated at least once during the period of supply.	Still existing
Interrogate NHH Meters Annually	3.3.6 now 6.9	8(1) & (2) of schedule 15.2	Incorrect reporting of unread ICPs.	Cleared
NHH Meters 90% read at 4 months	3.3.7 now 6.10	9(1)&9(2) of schedule 15.3	Incorrect reporting of unread ICPs. Three NSPs below 90% read threshold.	Still existing
AMI event logs	4.2.5 now 9.6	17 (4) of schedule15.2	AMI event logs not checked as part of the validation process.	Still existing
ICP days	5.3 now 11.2	15.6 of part 15	Incorrect NSPs in ICP days file.	Cleared
HHR aggregates	5.4 now 11.4	15.8 of part 15	HHR aggregates file does not contain electricity supplied information.	Not planned
Permanence of Meter Readings for Reconciliation	6.1.2 now 12.8	4 of schedule 15.2	Some estimates not replaced by the 14 month revision. Some volume incorrectly identified as FE.	Still existing
Revisions	6.1.3 now 12.7	15.12 of part 15	Revisions not conducted for changes to unmetered load submissions.	Cleared
Forward Estimate	6.1.5 now 12.12	6 of schedule 15.3	FE accuracy threshold not met for some balancing areas.	Still existing

Subject	Section	Clause	Non compliance	Status
Provision of Submission Information	6.2.3 now 13.2	8 of schedule 15.3	Some HHR submissions incorrect at the 1-month and 3-month revisions. Zeroing did not occur for NSPs ROS1101 and WTU0331, leading to over submission.	Cleared
Historical Estimates	6.2.4 now 13.4	10 of schedule 15.3	HE targets not met for all NSPs.	Still existing
DUML Non Compliance				
Deriving submission information	2.10.4	11(1) of schedule 15.3	Not compliant 3 databases.	Still existing
ICP identifier	2.10.4	11(2)(a) of schedule 15.3	Not compliant 2 databases.	Still existing
Description of load	2.10.4	11(2)(c) of schedule 15.3	Not compliant 2 databases.	Still existing
Capacity of load	2.10.4	11(2)(d) of schedule 15.3	Not compliant 3 databases.	Still existing
Tracking of load changes	2.10.4	11(3) of schedule 15.3	Not compliant 1 database.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Status
Electricity Conveyed & Notified by Embedded Generators	1.10.7	10.24(b) of part 10	Select ICPs by generation capacity and fuel type not by installation type indicator "B". Continue to liaise with Orion regarding 4 ICPs with generation recorded but with no "I" channel. Check whether ICP 0219952000LC610 has generation installed and whether it needs a meter change to import/export.	Still existing
Nomination and Recording of MEP in the Registry	2.8.8	11.18(4) of schedule 11.1	Run MEP rejection report on a weekly basis. Review ICP downgrade process to ensure all actions have an owner and get actioned.	Still existing
ANZSIC Codes	2.8.10	9(1)(k) of schedule 11.1	Update the 1,754 known residential ICPs with "don't know" with the correct residential ANZSIC code.	Still existing
Maintaining Shared Unmetered Load	2.10.3	11.14 of part 11	Review registry discrepancy reporting to capture all shared unmetered load discrepancies.	Cleared
Interrogate meters once	3.3.4	7(1) & (2) of schedule 15.2	Develop reporting to measure ICPs not reads during period of supply include period of supply with MRPL.	Still existing

Subject	Section	Clause	Recommendation for Improvement	Status
NHH Metering Information Data Validation	4.2.4	16 of schedule 15.2	Check first invoices for all CT metered installations. Compare compensation factors against those on the registry on a monthly basis.	

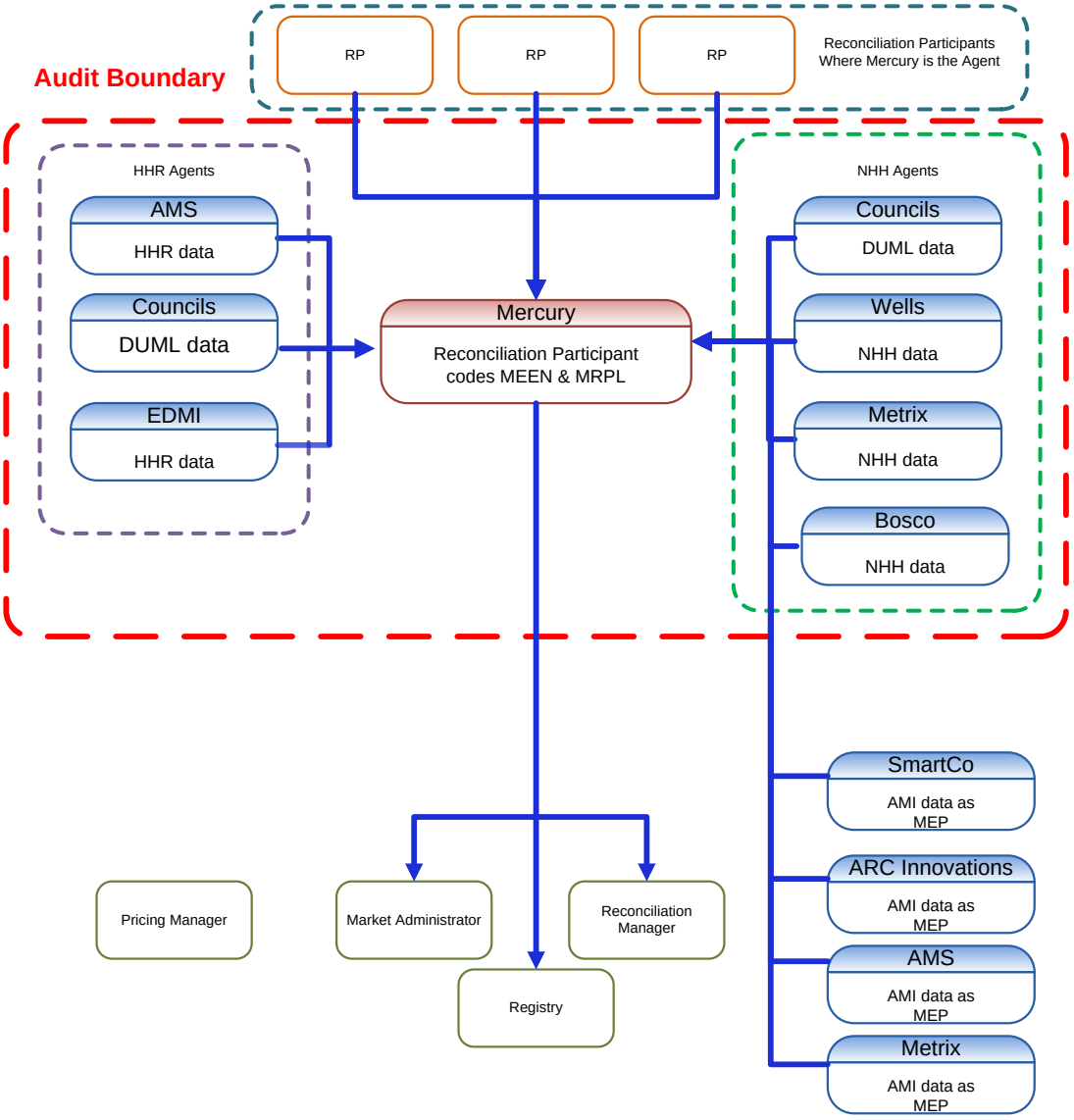
1.2 Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Mercury, 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 Mercury's premises in Auckland on June 26th and 27th, 2017.

The scope of the audit is shown in the diagram below, with the Mercury audit boundary shown for clarity. This report is for the MEEN and, MRPL participant codes.



The table below shows the tasks under clause 15.38 of part 15, for which MRPL requires certification. This table also lists those agents who assist with these tasks.

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks
(a) - Maintaining registry information and performing customer and embedded generator switching	
(b) – Gathering and storing raw meter data	Metrix – NHH Wells – NHH Bosco – NHH AMS – HHR EDMI – HHR
(c)(iii) - Creation and management of HHR and NHH volume information	AMS – HHR EDMI – HHR Various Councils – DUML data
(d) – Calculation of ICP days	
(da) - delivery of electricity supplied information under clause 15.7	
(db) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8	
(e) – Provision of submission information for reconciliation	
(f) - Provision of metering information to the Grid Owner	

ARC Innovations, AMS, SmartCo and Metrix conduct AMI data collection as MEPs and not as agents to reconciliation participants. Metrix also conducts validation for Mercury so they are included as an agent, and they are also an MEP.

Mercury receives distributed unmetered load (DUML) data from three Councils, who are considered agents under clause 15.34. Veritek has audited all of these Councils and the audit reports are attached as appendices.

The remaining agents listed above were audited prior to June 1st,2017 and were therefore audited in accordance with the Guidelines for Reconciliation Participant Audits V6.2. Their audit reports are attached as appendices, and comments are included in this report in relation to any issues found.

Mercury also acts as an agent to other Reconciliation Participants, and this report will be provided to those parties as required.

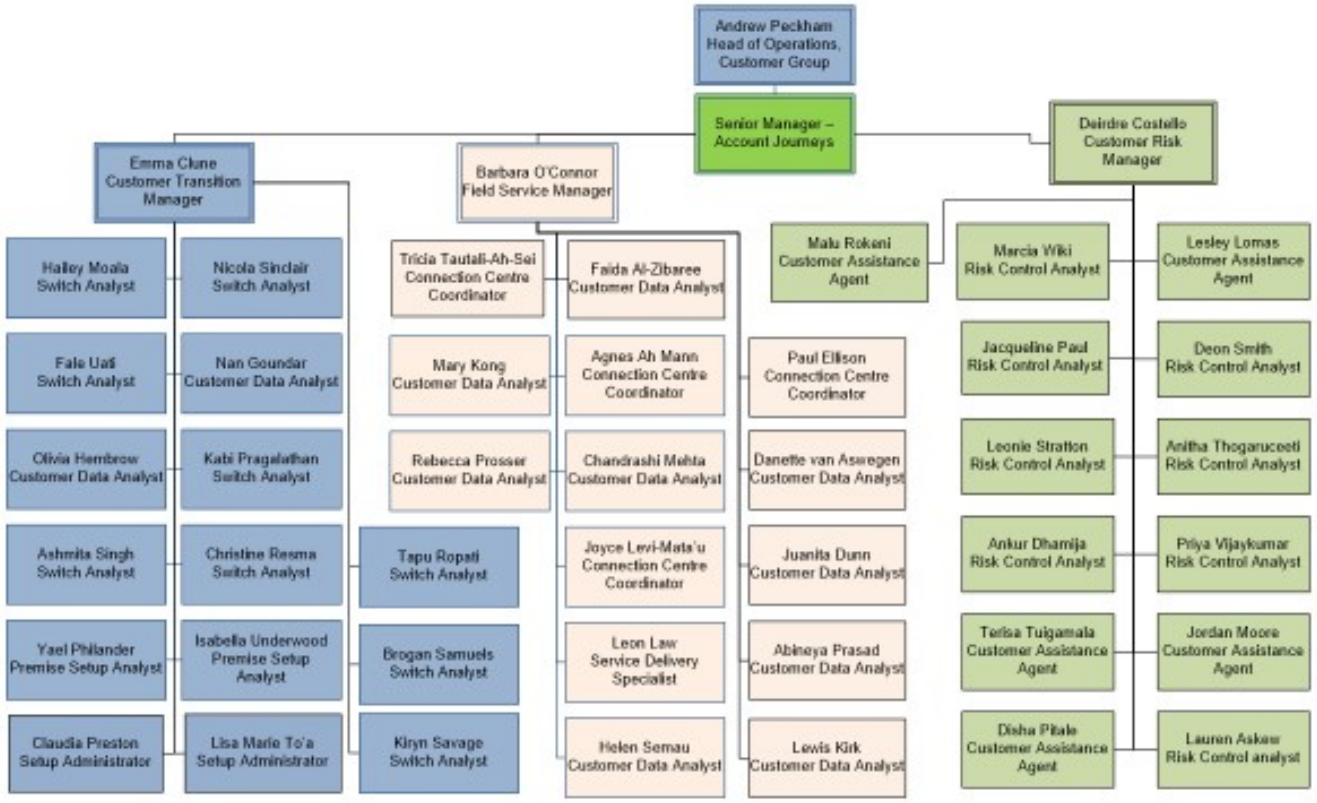
1.3 Exemptions From Obligations to Comply With Code (Section 11 of Electricity Industry Act 2010)

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.

Mercury has been granted exemption No. 233. This allows them to provide half-hour ("HHR") submission information instead of non half-hour ("NHH") submission information for distributed unmetered load ("DUML"). This exemption expires on 31 October 2023:

1.4 Organisation Structure

Mercury provided their current organisational structure:



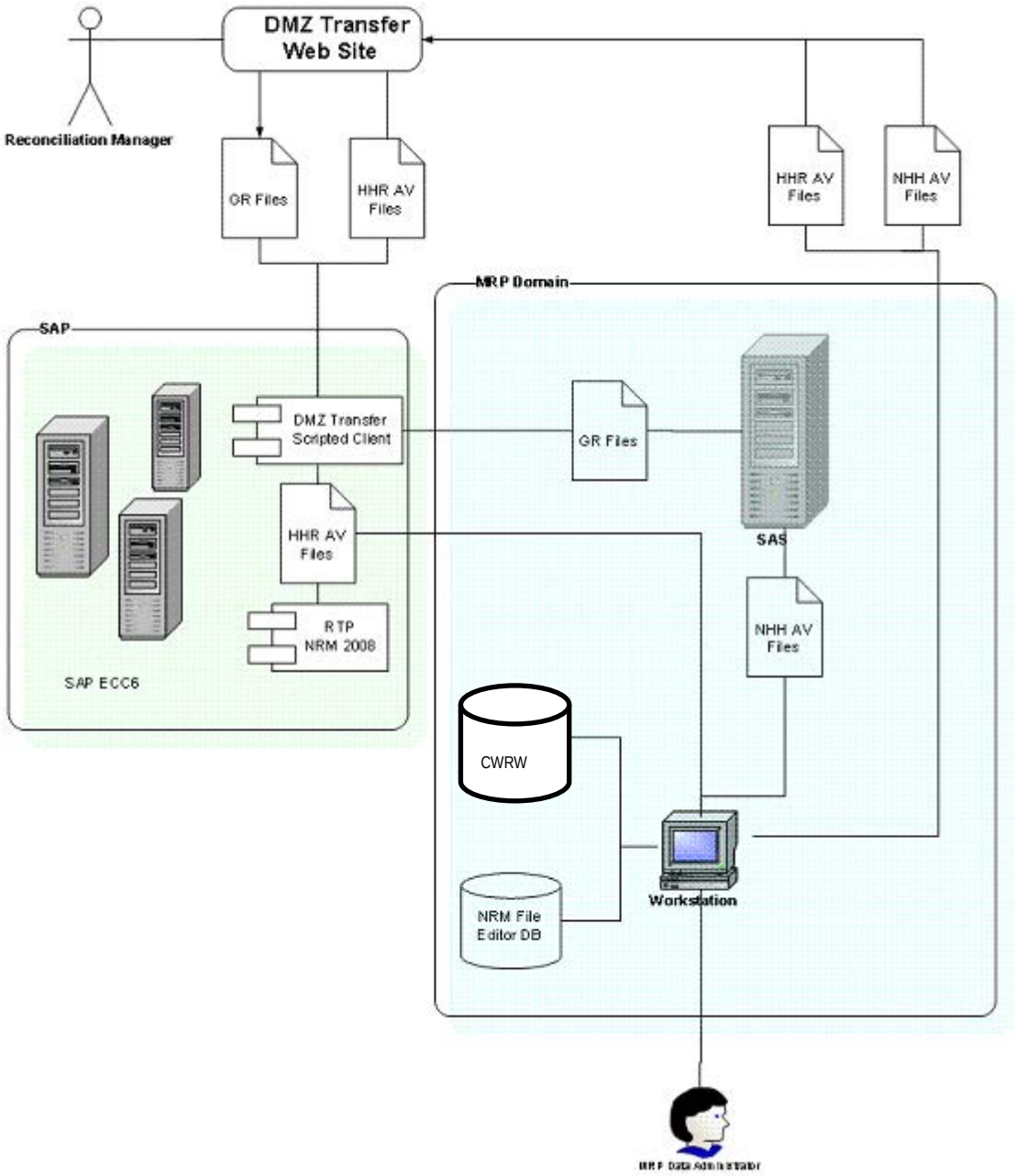
1.5 Use of Agents (Clause 15.34 of Part 15)

MRPL uses a number of agents in relation to the functions covered by the scope of this audit. They are identified in Section 1.2.

The outcomes of all agents audits are commented on in the body of this report, and copies of the audits are attached as appendices.

1.6 Hardware and Software

A diagram of MRPL's system configuration is shown below.



1.7 Breaches or Breach Allegations

Mercury has had one alleged breach relevant to this audit recorded during the period May 1st, 2016 through to April 30th, 2017. This related to MEEN requesting an amended switch read outside of the four month time frame. This issue was closed early with no further action.

1.8 ICP Data

Mercury Energy provided a list file for each of their participant codes as at June 2017 by status:

ICP Status	Number of ICPs 2017	Number of ICPs 2016	Number of ICPs 2015
Active (2)	343,392	326,093	338,294
Inactive - new connection in progress (1,12)	2	2	0
Inactive – vacant (1,4)	4,201	3,575	3,685
Inactive - reconciled elsewhere (1,5)	5	5	4
Inactive – ready for decommissioning (1,6)	511	714	433
Inactive – de-energised remotely by AMI (1,7)	13	5	0
Inactive – de-energised at pole fuse (1,8)	10	1	1
Inactive – de-energised due to meter disconnected (1,9)	226	25	4
Decommissioned (3)	21,852	20,269	19,518

The active ICPs from the list file are summarised by meter category in the table below.

Category	2017	2016	2015	2014	2013	2012	2011
1	338,896	321,299	332,650	334,450	363,560	358,634	376,424
2	3,288	3,297	3,093	3,417	3,978	3,855	3,663
3	622	612	542	633	676	641	492
4	159	127	109	151	165	169	131
5	16	16	10	14	6	5	7
9	107	186	530	648	-	-	-
Blank	304	556	1,360	1,204	-	-	-

1.9 Authorisation Received

Mercury provided a letter of authorisation to Veritek, permitting the collection of data from other parties for matters directly related to the audit.

2. Operational Infrastructure

2.1 Relevant Information (Clause 10.6 of Part 10 & Clause 11.2 of Part 11 &15.2 of Part 15)

A participant must take all practicable steps to ensure that information that the participant is required to provide to any person under Part 15 is:
(a) complete and accurate
(b) not misleading or deceptive
(c) not likely to mislead or deceive.

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

Audit Observation

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

Audit Commentary

Registry notifications and exceptions are managed on a daily basis. In addition to this registry discrepancy reporting is run using a suite of reports on a weekly basis. This checks for mismatches between SAP and the registry. Any discrepancies are reviewed and actioned accordingly.

The list file was analysed and I found the following:

Issue	2017 Qty	2016 Qty	2015 Qty	Comments
Blank ANZSIC codes	2	4	8	See section 3.6 "ANZSIC Codes" below
ANZSIC "T999" not stated	2	0	6	See section 3.6 "ANZSIC Codes" below
ANZSIC "T994" don't know	1,662	3,454	26,267	See section 3.6 "ANZSIC Codes" below
Status 1,7 -De-energised remotely	0	5	-	Compliance confirmed
Status 1,8 -De-energised at pole fuse	0	1	1	Compliance confirmed
Status 1,9 - De-energised due to meter disconnected	0	25	4	Compliance confirmed
UML load = zero	3	3	1	2 are SB ICPs and ICP 0000002011TR196 was a wrong property switched in. Genesis refused to accept the withdrawal. Has since been confirmed and updated to vacant disconnected. This is discussed further in section 3.7 "Changes to unmetered load"
Incorrect UML load	2	1	4	See section 3.7 "Changes to Unmetered Load"

Issue	2017 Qty	2016 Qty	2015 Qty	Comments
No MEP recorded or nominated and UML= "N"	2	1	1	See section 3.7 "Changes to Unmetered Load"
UML load removed and an MEP is nominated but is still UML in SAP	2	-	-	The discrepancy reporting is not picking up ICPs with the UML flag N in the registry but still has UML recorded in SAP. This is discussed further in section 3.7 "Changes to unmetered load
Shared unmetered load incorrect	0	7	17	Compliant
ICPs with different UNM load to that recorded by the Distributor	2	5	4	See section 3.7 "Changes to Unmetered Load"
ICPs with Distributor unmetered load populated but retail unmetered load is blank and UML flag =N	45	63	204	See section 3.7 "Changes to Unmetered Load"
Incorrect profile	1	0	0	ICP 0251578046LCF83 is a category 3 site recorded on the registry with an RPS profile and a NHH submission flag. This is a site in the process of being downgraded. The registry was changed at time of MEP nomination but shouldn't have been changed until the metering was confirmed as installed. This is a training issue that will be addressed.

The registry discrepancy reporting continues to be refined to ensure all discrepancies are addressed. A recommendation to improve discrepancy reporting for distributed generation is recorded in **section 6.1**. The main area of additional discrepancies found in this audit relate to unmetered load discrepancies and the management of MEP changes.

Non-compliance	Description
Audit ref: 2.1 With: Clause 10.6,11.2 & 15.2 From/to: 1/6/16-31/5/17	Some registry discrepancies. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	The controls are moderate and most issues have been identified. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
Overall we have made significant improvement in this area, particularly ANZSIC codes. We are in the process of making the relevant corrections.	30.09.2017	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have increased our focus on compliance and are continually reviewing our processes to ensure that we are meeting the requirements of the Code.	Ongoing	

2.2 Provision of information (Clause 15.35)

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

Audit Observation

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

Audit Commentary

This area is discussed in a number of sections in this report and compliance is confirmed

2.3 Data Transmission (Clause 20 of Schedule 15.2)

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

Audit Observation

I reviewed the method to receive meter reading information, and traced a sample of reads for 35 ICPs from the source files to SAP.

Audit Commentary

NHH read data is transmitted via FTP for Metrix, AMS and Wells. HHR read data is transferred via SFTP for EDMI and AMCI. These methods ensure the security and integrity of the data. I saw evidence that the data transfers are via FTP and SFTP.

Metrix provides readings for their own meters and Counties Power. AMS provides reads for their own meters, Smartco and Arc. I traced a typical sample of five meter readings and volumes each for AMS, Smartco, Arc, Metrix (including Counties Power), Wells, EDMI and AMCI from the source files to SAP. Reads and volumes matched in all cases.

Compliance is confirmed.

2.4 Audit Trails (Clause 21 of Schedule 15.2)

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

The audit trail must include details of information:
- provided to and received from the registry
- provided to and received from the reconciliation manager
- provided and received from other reconciliation participants and their agents.

The logs must include (at a minimum) the following:
- an activity identifier (clause 21(4)(a))
- the date and time of the activity (clause 21(4)(b))
- the operator identifier (clause 21(4)(c)).

Audit Observation

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

Audit Commentary

A complete audit trail was viewed for all data gathering, validation and processing functions. The logs of these activities for Mercury and all agents include the activity identifier, date and time and an operator identifier.

Compliance is confirmed.

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

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 Mercury's current terms and conditions.

Audit Commentary

Mercury's current terms and conditions with their customers includes consent to access for authorised parties for the duration of the contract. Compliance is confirmed.

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

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.

Audit Observation

I reviewed Mercury's current terms and conditions, and discussed compliance with these clauses.

Audit Commentary

Mercury's contract with their customers includes consent to access for authorised parties for the duration of the contract. Mercury confirmed that they have been able to arrange access for other parties when requested. Compliance is confirmed.

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

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
Mercury was requested to provide details of any installations with loss compensation.

Audit Commentary
Mercury confirmed they do not deal with any installations with loss compensation.

2.8 Trader Contracts to Permit Assignment by the Authority (Clause 11.15B of Part 11)

A trader must at all times ensure that the terms of each contract between a customer and a trader permit the Authority to assign the rights and obligations of the trader under the contract to another trader if the trader commits an event of default

Audit Observation
I reviewed Mercury's current terms and conditions.

Audit Commentary
Mercury's terms and conditions contain the appropriate clauses to achieve compliance with this requirement.

2.9 Electrical connection of an ICP (Clause 10.32)

A reconciliation participant must only request electrical connection of a point of connection if they:
- accept responsibility for the ICP and the obligations under Parts 10 and 11, and, under Part 15; and
- have an arrangement with an MEP to provide metering at the point of connection under Part 15.

Audit Observation
The new connection process was examined in detail to evaluate the strength of controls. The list file and event detail report for the six-month period from 1/11/16 to 31/5/17 were analysed to confirm process compliance and controls are functioning as expected.

Audit Commentary

NHH New Connections

New connections on the Vector and Powerco networks are advised by the network. For the other networks, the application is received from the customer's agent such as the electrician. They then contact the network and request the creation of an ICP. Mercury accept responsibility for the ICP and work with the MEP and electrician to progress the connection. Mercury discourage any new unmetered connections. They do not use the "new connection in progress" status. The ICP remains at the "ready" status on the registry until confirmation of the energisation is received. They then move the ICP to "active" status and nominate the MEP at this point. No examples were found of NHH ICPs with backdated creation dates. The list file and event detail reports were examined and found there were no backdated electrically connected ICPs. Compliance is confirmed.

Half Hour New Connections

Half hour new connections are initiated by the sales team. An ICP is requested from the relevant network. Once the ICP is created the half hour team move the ICP to the "new connection in progress" status and nominate the relevant MEP. All new connections in progress are managed via the WIP spreadsheet. A work requisition is sent to the MEP for the metering. The ICP is updated to active once confirmation of the energisation is received from the field.

The list file and event detail reports were examined and I found ICP 1001302776LCA20 was a backdated electrically connected ICP. The original ICP 0276035925LC5EA should have had the NHH meter removed and been decommissioned before the TOU meter was installed but this was not done. The new ICP for the TOU meter was created in January 2017 with a backdated start date of 1/7/16 which is when the TOU meter was installed. The TOU meter was removed from the now decommissioned ICP from this date and recorded against the correct ICP. Consumption for this meter has been billed to the new ICP. The backdating of this ICP is recorded as non-compliance.

Non-compliance	Description
Audit ref: 2.9 With: Clause 10.32 of part 10 From/to: 1/07/16-23/01/17	1 backdated electrically connected ICP. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	This occurred because the AMCI contractor went ahead with the installation of before the previous NHH had been removed. This is not a widespread issue hence I rate the controls as moderate. This was one ICP therefore the impact is minor and risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
This was a one off issue which has been corrected.	Completed	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

2.10 Metering certification (Clause 10.33(2))

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

Audit Observation

The new connection process was examined in detail and the list file as at May 2017 and event detail report for the period November 2016 - May 2017 was analysed.

Audit Commentary

Analysis of the list file and event detail report found three HHR ICPs and one NHH ICP that were not certified within five business days of the energisation date. ICP 0000233634MP5AC is also discussed in **Section 3.5 "Provision of information to the registry"**. Certification is an MEP responsibility but their delay has caused MRPL to be non-compliant.

ICP	MEP	Energisation date	Certification date	Days elapsed
HHR New Connections				
0000041383WE21B	AMCI	24/01/17	21/04/17	60
1001158611CKA9B	AMCI	3/06/16	23/06/16	20
0000233634MP5AC	AMCI	26/8/16	7/12/16	103
NHH New Connections				
1001299610LC113	MTRX	15/12/16	8/02/17	55

When checking the new connections that appeared to have late certification, I found the following four ICPs that had had metered builder's temporary supplies installed but these meters were never loaded to the registry. I sighted the paperwork for all four sites. The first metering loaded to the registry by the MEP was the permanent supply. This is non-compliance for the MEP. I raise this as an issue to be examined in MEP's next audit.

ICP	MEP	Energisation date	BTS Certification date	First Metering Certification loaded
0000504915CE74A	NGCM	28/11/16	28/11/16	10/3/17
0000568382NR415	NGCM	21/02/17	21/02/17	2/05/17
1001298249LCAEB	MTRX	11/11/16	11/11/16	24/04/17
1001300137LC186	MTRX	18/01/2017	18/01/2017	7/05/17

Issue	Description	Action
With: Clause 7 of schedule 11.4 & 10.6	The issue of BTS supplies not loaded to the registry for four ICPs to be examined as part of the next AMS and Metrix MEP audits.	Pass to MEP auditor for investigation.

ICP 1001298522LC4CD appeared to have been certified late but upon examination of all available paperwork I confirmed that Mercury have the correct active date of 18/11/16 however the MEP has recorded the meter certification date as 28/11/16 incorrectly on the registry.

Non-compliance	Description
Audit ref: 2.10 With: Clause 10.33(2) of part 10 From/to: 3/06/16-21/04/17	4 ICPs not certified within 5 business days of energisation. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	The controls are moderate particularly in relation to HHR new connections where meter certification sometimes occurs after energisation. The sample checked over 7 months found 4 ICPs with late certification, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
We are in the process of investigating what is causing the issue with late certifications with a view to strengthening our controls. Where relevant we will liaise with the MEPs and contractors to stress the importance of providing us with relevant information and documents in an accurate and timely manner.	30.09.2017	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Based on the outcome of our investigation we will improve our current process.	Before end of 2017	

2.11 Arrangements for line function services (Clause 11.16)

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

Audit Observation

The process to ensure an arrangement is in place before trading commences on a Network was examined, and controls within SAP were checked.

Audit Commentary

Mercury demonstrated the existence of either a UoSA or other trading arrangement for all networks it trades on. Compliance is confirmed.

2.12 Arrangements for metering equipment provision (Clause 10.36)

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

Audit Observation

The process to ensure an arrangement is in place with the metering equipment provider before an ICP can be created or switched in was checked, and a check of controls within SAP.

Audit Commentary

Mercury has an arrangement in place with all MEPs that manage metering in relation to their customer base. The new connection process also contains a step that requires the nomination of an MEP. Compliance is confirmed.

3. Maintaining registry information

3.1 Obtaining ICP Identifiers (Clause 11.3 of Part 11)

The following participants must obtain an ICP identifier for any point of connection, as defined in clause 11.3(3) of part 11, to any local network or embedded network:

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.*

Audit Observation

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

Audit Commentary

This requirement is well understood and managed by Mercury. The process is detailed in Section 2.9 above.

3.2 Providing registry information (Clause 11.7(2))

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

Audit Observation

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

Audit Commentary

The new connection process is detailed in **Section 2.9** above. The process in place ensures that the trader required information is populated as required by this clause. Compliance is confirmed.

3.3 Changes to registry information (Clause 10 Schedule 11.1)

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

Audit Observation

The process to manage status changes is discussed in detail in **Sections 3.8 and 3.9** below. In this Section I have examined the event detail report for the period from November 2016 through to May 2017 to determine the overall performance for that period. I used the extreme case methodology examining a sample of nine ICPs that were updated greater than 30 days from the event date for each of the event type updates, with the exclusion of new connections in progress (these can only be non-compliant if not updated within five business days of energisation). The nine ICPs that were updated greater than five business days from energisation were examined in relation to this.

Audit Commentary

Event	Year	Total ICPs	ICPs notified within 5 days	ICPs notified greater than 5 days	Average notification days	Percentage compliant
Change to active - Reconnections	2015	1,061	776	285	3.5	73%
	2016	847	657	190	24	78%
	2017	1,182	977	205	21.2	83%
Change to de-energised vacant (excluding new connection in progress and ready for decommissioning statuses)	2015	36	25	11	6.3	69%
	2016	148	59	89	230	40%
	2017	1,865	1,653	212	12.2	89%
Change to de-energised	2015	177	64	113	8.98	36%

Event	Year	Total ICPs	ICPs notified within 5 days	ICPs notified greater than 5 days	Average notification days	Percentage compliant
ready for decommissioning	2016	231	59	172	66	26%
	2017	906	302	604	69.2	33%
Change to de-energised new connection in progress	2016	6	1	5	19	83%
	2017	17	8	9	24.2	76%
Change of MEP	2017	978	126	852	24.6	13%

Reconnections

The level of compliance for reconnections has continued to improve. There is an automated process that triggers an update to SAP and then the registry for all status updates. Any rejections from the registry are managed by exception in the field services team. Controls for this process are now robust. The issue identified during the last audit was corrected in March of this year. This was where the automated update had not been successful and the registry was being populated manually by uploading a file, and this was found not to be using the correct event date for vacant disconnected sites reconnecting. Mercury had no way of identifying the sites that have had incorrect status dates applied prior to this. Any found are being corrected upon discovery. The incorrect recording of status event dates is recorded as non-compliance in **Section 3.8 "Management of "active" status".**

The sample of nine backdated reconnections found:

- Three were corrections to the start date for an ICP
- Two were corrections to the correct active date caused by the SAP issue discussed above
- Two were human error where an ICP was incorrectly changed to active and then corrected to inactive on the same day for the correct date
- ICP 0000024993EA3A2 was a backdated reconnection that has been made active for the incorrect date, as it was during the time of the known SAP bug described above. It was updated to active for 16/11/16 but was reconnected on 10/11/16. This is being corrected.
- ICP 0000015120UN576 was a backdated switch in and was updated to active as soon as the switch completed.

Inactive - New Connection in Progress

The MEEN HHR team use the "inactive – new connection in progress" status where required. As this action occurs before energisation, non-compliance can only occur if this status update occurs greater than five business days after energisation (i.e. a backdated new connection). Analysis of the nine ICPs updated greater than five days found:

- Three were compliant
- ICP 0000041383WE21B was a backdated new connection. This is recorded as non-compliance below.
- ICP 1001302776LCA20 is still at the status "inactive - new connection in progress" with metering recorded on the registry. This is a backdated created ICP and is discussed in detail in **Section 2.9 "Electrical connection of an ICP"**. This site has been energised since 1/07/16. This is recorded as non-compliance below.
- Four were NHH new connections that were updated to this status in error on 3/5/17. These were all corrected to active on 8/6/17. This is recorded as non-compliance below.

Inactive - "vacant"

The table above shows a significant improvement from 40% in 2016 to 89% for ICPs that are updated to an inactive "vacant" for the six months assessed. The process is automated so that the status in SAP updates when the service request is completed. It appears that this process is not always completing these as expected for a small number of jobs and Mercury has a "Disconnection for vacant project" underway to identify and clean these up. Evidence of this work is detailed in the sample checked below.

The management of the field contractors remains unchanged from last year. For standard disconnection activities, field contractors are managed closely. Not all have the same level of technology available to them and delayed paperwork can still be a problem with those contractors using traditional paperwork trails. The largest contractor Vircom EMS use PDAs in the field and once the job is updated in the handheld the notification is sent back to MEEN remotely. Daily reporting is in place that picks up any of their jobs outstanding. A specific team actively work through these service requests. The status updates for credit disconnections are updated on a weekly basis back to the first full day of no power.

The sample checked found:

- Six were backdated due to the workflow not closing out correctly and therefore not being updated to the correct status.
- Two were ICPs switching in as active and then found to be inactive. These were updated as soon as the correct status was confirmed.
- Two were corrections due to sites being incorrectly updated to active and then confirmed to be inactive.

The late updating of these to "inactive" is recorded as non-compliance below.

Inactive - Ready for Decommissioning

The request for ICPs to be decommissioned can come from the MEP, the customer or the Network. A read is attempted to be gained in all instances. The issue identified in the last audit of Vector only advising Metrix of these requests has been resolved and they are now sending these requests directly to Mercury. Once the request is received it is updated in SAP which then updates to the registry. This change came into effect February 2017. The sample of backdated updates checked found:

- Four of the delays were prior to the change of process coming into effect
- Two were due to human error.
- Four were due to notification from either the customer or the Distributor that the sites had been decommissioned and it was the Meter reader who advised Mercury. Mercury then investigated and updated the registry once the decommission had been confirmed.

Change of MEP

The process to manage MEP changes is discussed in detail in **Section 3.11** below. The event detail analysis identified 1,170 MEP nomination events. The nomination date was compared to the metering event effective date to identify any ICPs that were not nominated within five business days and found the majority (87%) of these were not sent within five days of the meter certification. The sample checked found:

- four were late notification from the MEP of a change of meter ownership from CTCT to LMGL
- two related to a meter shift occurring, but no MEP nomination was issued.
- one related to meter changes where the new MEP SMCO did not advise Mercury of the change of meter. For example, the meter reader advised of the meter change for ICP 0000012217NT6AF.
- one was not a valid MEP nomination but an updating of the ANZSIC code. This is discussed in **section 3.11.**

The late updating to the registry is recorded as non-compliance.

Non-compliance	Description
Audit ref: 3.3 With: Clause 10 of schedule 11.1 From/to: 1/11/16-31/5/17	Registry not updated within 5 business days of the event. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	The controls are moderate due to the errors occurring with MEP nominations The sample checked found the overall level of compliance has improved, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
We are reviewing our processes in this area.	30.09.2017	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are also investigating our system to ascertain whether any fixes are required.	Before end of 2017	

3.4 Trader responsibility for an ICP (Clause 11.18)

A trader becomes responsible for an ICP when the trader is recorded in the registry as being responsible for the ICP. The responsible trader must ensure that an MEP is recorded in the Registry.

A trader ceases to be responsible for an ICP if another trader accepts responsibility in the registry; the ICP is decommissioned. If decommissioning an ICP, the trader must ensure that a final meter interrogation takes place, and that the MEP is notified.

Audit Observation

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process was discussed and the list file, as at May 2017, was examined to identify that all active ICPs have an MEP recorded. This analysis found 63 active ICPs that do not have an MEP recorded in the registry. A sample using the typical case sampling methodology were checked.

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

The new connection process is discussed in detail in **Section 2.9 "Electrical connection of an ICP"** above. Mercury nominate the MEP at the same time as taking the ICP to the "active" status. Therefore, if this is late the MEP nomination will also be late. This is recorded as non-compliance in **Section 3.5 "Provision of information to the registry"**. All new connections have an MEP nominated. As discussed in **Section 3.11 "Change of MEP"** there is no process in place to manage MEP rejections. I also found that SAP is sending an MEP nomination in some instances when an ANZSIC code is updated.

The 63 ICPs with no MEP recorded in the registry were examined and found all had had an MEP nominated and the MEP has accepted. It is the MEPs responsibility to load metering to the registry. Compliance is confirmed.

ICP Decommissioning

Mercury continues with their obligations under this clause. ICPs that are vacant and active, or inactive are still maintained in SAP.

In all cases, an attempt is made to read the meter at the time of removal and if this is not possible then the last actual meter reading is used. This last actual reading is normally the one taken at the time of de-energisation. Mercury also advise the MEP responsible that a site is to be decommissioned. A sample of ten ICPs were examined to confirm an attempt to read the meter was made at the time of removal. Compliance is confirmed.

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

The content of files provided to the registry contains the information set out in clause 9 of schedule 11.1.

Audit Observation

The new connection process was examined in detail. The list file was analysed in conjunction with the event detail report for the period from November 2016 through to May 2017 to evaluate the updating of the registry in relation to new connections. I used the extreme case methodology examining a sample of ten ICPs that were updated greater than 30 days from the event date.

Audit Commentary

The table below shows a consistent level of compliance with the last audit with an average notification day of 3.9 days. 15 (0.009% of all new connections) of these were not updated for 30 days or more. A sample of ten of these were checked.

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Change to active - New connections	2015	280	209	71	4.9	74%
	2016	413	355	58	4.1	86%
	2017	1,523	1,323	200	3.9	87%

New Connections

Half Hour

The team use the "new connection in progress" status. The new connection process as described in **Section 2.9 "Electrical connection of an ICP**" is largely manual and tracked through a spreadsheet. My analysis found the incorrect active is being applied in some instances.

One of the late new connections updated greater than 30 days from the event date was a HHR site. ICP 0000039373HB3FB was updated late due to Unison updating the status to "ready" late. This has caused Mercury to be non-compliant.

Non Half Hour

The non-half hour new connections team do not use the "new connection in progress" status. The cycle time to complete and update the registry for new connections shows a year on year improvement. There have been no changes to this process during the audit period. The process is robust.

The sample of late updates to the registry found:

- Six were updated late due to late paperwork back from the field. If the paperwork has not been received then the contractors are not paid, which generally ensures that paperwork is returned promptly.
- ICP 1001298399UN4B9 was a correction to the active date.
- ICP 1099575748CN4BC was taken to active for the incorrect date therefore making appear to be backdated. Paperwork sighted confirmed the correct active date is 1/02/17. This is being corrected.
- ICP 1001298720UN45B was due to human error where the paperwork missed internal processing and was therefore delayed. As the contractor doesn't get paid until paperwork is processed the contractor would normally query why they hadn't been paid, and this would be picked up but this did not occur in this instance. No other instances of this occurring were found.

The late updating of the registry to active is recorded as non-compliance below.

Non-compliance	Description
Audit ref: 3.5 With: Clause 9 of schedule 11.1 From/to: 1/11/16-31/5/17	Registry information not provided within 5 business days of commencement of supply. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach Risk Rating: 1
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have recorded the controls as strong as the processes in place to manage new connections are robust and this is reflected in the short cycle time and 87% compliance achievement. The sample checked found the overall level of compliance has improved, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have achieved a high level of compliance in this area and we have a focus on continued improvement. We note that we are reliant on Distributors and contractors (which in some cases are one in the same and have a monopoly) and there is no system or process change we can make to remedy this.		No action planned
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments.		

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

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

Audit Observation

The process to capture and manage ANZISC codes was examined. A Registry List was reviewed to check ANZSIC codes.

Audit Commentary

Mercury still has an issue with SAP populating the ANZSIC code to the registry. The correct code is applied in SAP but the registry is being populated with the "Don't know" ANZSIC code. Mercury are managing the accuracy of these via the registry discrepancy reporting. When I compared the number of ICPs from the list file with the registry discrepancy reporting I found that almost half of these were not identified. This is because the ANZSIC code is held against the customers record, not the premise record therefore if the site is "active vacant" these are not being checked for accuracy. This is being added to the registry discrepancy reporting.

Analysis of active ICPs in the list file noted the following:

- Two ICPs with no ANZSIC code. These are the same two ICPs as detailed in last year's audit. The registry will not allow an update to the trader details until an MEP is registered for a HHR site even though these are UML ICPs. Mercury are working with the Authority to resolve this issue.

- 1,662 ICPs with ANZSIC code T994 "Don't know". This is a reduction of 48% from the 3,454 reported in the last audit and an excellent reduction from the 27,267 ICPs reported in 2015.

The lack of or incorrect recording ANZSIC codes is recorded as non-compliance.

Non-compliance	Description
Audit ref: 3.6 With: Clause 9(1)(k) of schedule 11.1 From/to: 1/6/16-31/5/17	1,664 active ICPs with no or incorrect ANZSIC codes assigned. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	The controls are moderate for the management of ANZSIC codes. Improvements to the management of this area are under way and the overall level of accuracy has continued to improve year on year, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
Working to resolve the issue of two ICPs with no ANZSIC code, as noted above. We are in the process of updating the T994 codes.	Before end of 2017	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We've identified that vacant ICPs were not including in our reporting for ANZSIC codes and this affected our T994 numbers.	Completed	

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

Traders must populate the unmetered load details for all ICPs with unmetered load for which they are responsible.

Audit Observation

The process to manage unmetered load was examined. The list file as at May 2017 was examined to identify any ICPs where:

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

Audit Commentary

All unmetered load new connections or capacity changes require an application to Mercury, which then follows the "new connections" process.

Examination of the MEEN list file found 403 active ICPs have unmetered load recorded, excluding shared unmetered load. The load for these was checked against those where the distributor has used the recommended unmetered load format (75 out of 403 ICPs). Only two ICPs had a discrepancy. ICP 0904114678LC7E9 is a DUML ICP for Ardmore Airport. The average daily kWh should be removed and be flagged as DUML. ICP 1099569132CN617 has 0.72kWh per day recorded by MEEN but the distributor has 0.36 kWh per day. This connection is a radio repeater. Mercury has the incorrect load recorded and this is being corrected. This is recorded as non-compliance.

Registry discrepancy reporting is in place to identify unmetered load discrepancies. This is run against all ICPs with UML flag "Y" but not against any ICPs with UML indicated by the Distributor where the UML flag is "N". This will be added. There are 45 active ICPs where the distributor has unmetered load populated, but the retailer has no unmetered load indicated (i.e. UML flag is "N"). This has reduced from the 63 ICPs identified in last year's audit. These will be investigated with the customer and the networks concerned.

Two ICPs are ICPs recorded on the registry with no MEP nominated, no metering and UML set to "N". These were examined and found:

- ICP 1000510806PC47F is the Matamata Piako DUML ICP. This is being reconciled HHR but has the incorrect NHH flag selected and the UML flag set to "N".
- ICP 0502786092LC34D is an electronic gate and the UML flag and unmetered load were removed from the registry on 3/08/16 for the event date 14/12/15. The unmetered load is still present. This is being corrected.

The incorrect UML load details are recorded below as non-compliance.

There are three ICPs with zero populated in the daily UML kWh field. These are different ICPs to those recorded in the 2016 audit. Two of these are SB ICPs. ICP 0000002011TR196 was switched in in error from Genesis. It has been confirmed as a vacant property and the status is being corrected to vacant. This is recorded as non-compliance.

Non-compliance	Description
Audit ref: 3.7 With: Clause 9(1)(f) of schedule 11.1 From/to: 1/6/1/16-31/5/17	Unmetered loads populated incorrectly for three ICPs. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate as the registry discrepancy process picks the majority of errors up. Mercury are focussing on getting the UML records accurate. Overall there has been an improvement in this area, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
Issues with ICP 0502786092LC34D and 0000002011TR196 have been corrected. For ICP 1000510806PC47F, we are currently in discussions with the EA and AMS to try and arrange for the logger to be certified. Can't change flag if no meter claimed, can't claim meter until certified.	Before end of 2017	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
A robust process is in place; we will monitor and review the process as required.		

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

Before being given an "Active" status the retailer is required to ensure that the ICP has only one customer, embedded generator, or direct purchaser; and that the electricity consumed is quantified by a metering installation(s) or other approved method of calculation.

Audit Observation

The new connection process was examined in detail as discussed in **Sections 2.9 & 3.5**. The list file as at May 2017 was examined to identify any ICPs still at the status "Inactive - new connection in progress" with an initial energisation date populated. The event detail report and list file report was checked for any variances between the initial energisation date and the active date. I checked a sample using the typical case methodology of ten ICPs with a variance between the active date and the initial energisation date and the meter certification.

The process for the management of ICP reconnection was examined. The event detail report for the audit period was analysed and the findings in relation to the timeliness of updates to registry is recorded in **Section 3.3 Changes to registry information**.

Audit Commentary

The status of an ICP is only changed to "Active" once confirmation has been received from a contractor. Submission information is provided for all "Active" ICPs. SAP will not allow more than one party per ICP nor will it allow an ICP to be set up without either a meter, or if it is unmetered, the daily kWh.

Analysis of discrepancies between the initial energisation date and the active date found:

Half hour new connections

I checked four HHR ICPs that have a variance between the active date, the initial energisation date and the meter certification date and found:

ICP	Active date	Initial energisation date	Meter certification date	Comments
0000007024TCCAB	20/07/16	20/07/16	30/06/16	Meter was certified on 30/6/17 but consumption didn't commence until 1/11/17. Mercury advised this started as a NHH site and was upgraded to HHR 31/10/16 but no NHH metering has ever been recorded on the registry
0000233634MP5AC	26/8/16	26/8/16	7/12/16	Mercury advised this was a NHH site and then upgraded to HHR on 7/12/16 but no NHH metering has ever been recorded on the registry.
0007176680RN184	6/10/16	6/10/16	16/12/16	Orion record the electrical connection date as the initial energisation date where they are the energisation agent. Mercury have used the same date but the data flow check confirmed that the correct active date for this site is 16/12/16. This is being corrected.
0007178721RN41A	18/02/17	18/02/17	17/02/17	The data flow was checked and confirmed that consumption commenced on 17/02/17. This is being corrected.

The recording of the incorrect active date is recorded as non-compliance below.

Non-half hour new connections

The accuracy of the active dates for the new connections was checked against the meter certification date and the initial energisation date across all identifiable new connections. The tables below show the results.

Active Date vs. Initial Energisation Date

	New Connections	Of those populated Active vs. IED Matched	Different
Distributor Initial Energisation Date	1,523	1,469 (96%)	54

27 of the ICPs with a different initial energisation date were found to have a meter certification date that matched to Mercury's active date suggesting that the Distributors date is incorrect in these instances.

Active Date vs. Meter Certification Date (excluding UML connections and where cert date was not recorded in the EDA)

	New Connections	Matched	Different
Meter Certification	1,485	1,451 (98%)	34

I note that metering certification may not be the same day as energisation occurs.

The sample with a variance was checked and found:

- seven have the incorrect active date due to human error.
- two found that Mercury's active date was correct.
- ICP 1001299610LC113 has the correct active date. The meter was certified late and this is recorded as non-compliance in **Section 2.10 Metering certification**.

I note that there is no check in place to compare any variances between Mercury's active date and the initial energisation date recorded by the Distributor. I recommend this is added as a check to highlight any potential incorrect active dates.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 17 of schedule 11.1	Check any variances between Mercury's active date and the Distributor's initial energisation date.	We will review further and consider the recommendation.	Investigating

Reconnections

The issue discussed in **Section 3.3 "Changes to registry information"** where the automated update of the "active" status had not been successful, and the registry was being populated manually by uploading a file that was found to be using the incorrect active event date for vacant disconnected sites reconnecting. Mercury had no way of identifying the sites that have had incorrect status dates prior to March. Any found are now being corrected upon discovery. The incorrect recording of status event dates is recorded as non-compliance.

Non-compliance	Description
Audit ref: 3.8 With: Clause 17 of schedule 11.1 From/to: 1/11/16-31/5/17	Six newly connected ICPs with incorrect active dates. Incorrect active date recorded for some reconnected ICPs. Potential impact: Low Actual impact: Unknown Audit history: None Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate due to the manual processes in place for HHR new connections and some incorrect active dates being applied for NHH new connections. The sample checked found the overall level of compliance has improved, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
Investigating, will make corrections if required.	30.09.2017	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments.		

3.9 Management of "inactive" status (Clause 19 Schedule 11.1)

The ICP status of "inactive" must be managed by the relevant trader and indicates that:
- electricity cannot flow at that ICP; or
- submission information related to the ICP is not required by the reconciliation manager for the purpose of compiling reconciliation information.

Audit Observation

An event detail report for the period of November 2016 to May 2017 was reviewed, to identify all changes to inactive during the audit period.

The inactive status of "new connections in progress" is only used in for HHR new connections. The list file was examined to identify any ICPs that had been at the "Inactive - new connection in progress" for greater than 24 months.

The process to manage ICPs at the other inactive statuses was examined. A sample of five ICPs at each inactive status using the typical characteristics methodology were checked. The findings in relation to the timeliness of updates to registry is recorded in **Section 3.3 "Changes to registry information"**.

Audit Commentary

Inactive - New Connection in progress

Mercury's NHH connection team do not use status (1,12) "New Connection in progress" so there is no doubt about energisation dates. I did find four NHH new connections that were updated to this status in error on 3/05/17. These were all corrected to active on 8/06/17. This was due to human error and is not a systematic issue. The late updating of these to the correct status is recorded as non-compliance in **Section 3.3.**

Examination of the list file found only two HHR new connections in progress. ICP 1001302776LCA20 is a backdated created ICP and is detailed in **Sections 2.9 & 3.3**. This ICP is active and is recorded as non-compliance below. ICP 1001300453LCA79 has been at this status since 6/03/17 and is confirmed to be still in progress.

Inactive Status (excluding new connection in progress)

The status of "Inactive" is only used once a Mercury approved contractor has confirmed that the ICP has been disconnected. Contractors are audited periodically to ensure the appropriate policies and procedures are being complied with. The sample checked of the ICPs at the various inactive statuses aligned with SAP. Compliance is confirmed.

Non-compliance	Description
Audit ref: 3.9 With: Clause 19 of schedule 11.1 From/to: 1/07/16-31/5/17	Incorrect status recorded for one HHR ICP. Potential impact: Low Actual impact: None Audit history: Twice Controls: Strong Breach Risk Rating: 1
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate. This ICP was an exception and the issue found is not indicative of a systematic issue and therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
As noted in 2.9, this occurrence was an anomaly and has been corrected.	Completed	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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

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

Audit Observation

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

Audit Commentary

An estimated 75% of Mercury's new connections occur on the Vector network and they have not received any requests of this nature for two years. Any requests received from Distributors are actioned. I also checked any open job requests for new connections and none were found to be open for 24 months or more.

3.11 Change of MEP (Clause 10.22(1)(a)(i))

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

Audit Observation

The process to manage a change of MEP on an existing ICP was examined. The timeliness of these being updated on the registry is recorded in **Section 3.3** above. A sample of 20 active ICPs with no MEP were checked to confirm, using the typical case methodology were checked.

Audit Commentary

HHR ICPs

For HHR ICPs any change of MEP requires a meter lease form to be used to formally request the metering. This process of MEP nomination is managed directly in the registry and any MEP rejections would be investigated. As the MEP is known no MEP rejections have been received.

NHH ICPs

MEP nominations for bulk roll outs are well managed with the affected ICPs identified in advance and the correct MEP is nominated in advance via a file. Meter moves and import/export meter changes are managed manually. Examination of the late nominations in the **Section 3.3 "Changes to registry information"** highlighted that the controls in this area are weak with the majority of MEP nominations not being made within five business days of the event. There is no process to manage MEP rejections and this is further compounding the number of backdated nominations. I checked a sample of MEP rejections received and found none to be valid nominations. As discussed in **Section 3.4**, SAP appears to be sometimes generating a bogus MEP nomination when an ANZSIC code is updated. The late nominations are recorded as non-compliance in **Section 3.3**. The incorrect nominations are recorded as non-compliance below.

The list file analysis found 63 active ICPs with no MEP recorded on the registry and found an MEP had been nominated in all cases.

The list file identified 16 active ICPs with metering removed (category 9) and the UML flag set to N. I checked all 16 and the table below shows the results.

ICP	UNM Flag	MEP	Metering Category	Comments
0000271549WA0BA	N	TRUM	9	Cat 1 Metering now populated to registry by new MEP
0000341877TP234	N	TPCO	9	Metering was removed on 22/3/17. MEEN nominated SMCO 5/4/17. SMCO accepted but no metering was loaded. MEEN re-nominated SMCO on 14/7/17 and they have now loaded metering with certification date 23/3/17. Late nomination is recorded as non-compliance in Section 3.3.
0000381527TPB84	N	TPCO	9	TPCO removed meters awaiting SMCO meters.
0000523163NRC98	N	MTRX	9	Metrix removed meters awaiting NGCM meters.
0001010336ALD8E	N	AMCI	9	Site downgrade on 9/03/17. NGCM nominated and accepted but SMCO are the MEP. SMCO have since been nominated and metering is loaded.
0004141175TP18B	N	TPCO	9	TPCO removed meters awaiting SMCO meters.
0005366526RN65C	N	ARCS	9	Now decommissioned.
0106084143LCFBF	N	MTRX	9	Now de-energised – inactive meter removed.
0186990316LCDD4	N	MTRX	9	Now de-energised – inactive meter removed.
0196786606LC7C0	N	MTRX	9	Now de-energised – inactive meter removed.
0239515047LC152	N	MTRX	9	Notification never received from Metrix to advise metering has been removed, but staff should have made inactive once Metrix removed its meters from the registry. Has now been corrected.
0293412154LCFD2	N	MTRX	9	Same as above
0320055442LCDAE	N	MTRX	9	Same as above
0567849399LC658	N	MTRX	9	Now de-energised – inactive meter removed
1000510806PC47F	N	MNON	9	Matamata Piako SL- UML should be Y
1001298584UN749	N	MTRX	9	Now decommissioned

The reporting of sites with meter category nine is being reviewed as a result of the findings above as not all scenarios are being identified.

Non-compliance	Description
Audit ref: 3.11 With: Clause 10.22(1)(a) From/to: 1/07/16-31/5/17	The sending of erroneous MEP nominations when an ANZSIC code is being updated. No MEP rejection process in place. Potential impact: Low Actual impact: None Audit history: Once Controls: Weak Breach Risk Rating: 3
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as weak as there is no process to manage MEP rejections. I have recorded the audit risk rating as low as the effect of this is unlikely to have a direct impact on settlement outcomes.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have identified the issue of erroneous MEP nominations as a system issue and are currently investigating solutions with our IT team.	First half of 2018	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are developing a process for MEP rejections including creating reporting.	Before end of 2017	

4. Performing customer and embedded network switching

I note that the switch breach reporting is in the process of being updated by Jade to align with the current code. Therefore, the switch breach report has been used to indicate non-compliance, but due to inaccuracies it is not always possible to give a definitive number of the volume of late files

4.1 Inform Registry of Switch Request for ICPs (Clause 2 of Schedule 11.3)

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 of a switch no later than two business days after the arrangement comes into effect and include in its advice to the registry 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 Mercury deem all conditions to be met. A sample of five ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

Audit Commentary

Mercury'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. The ICPs checked and confirmed all were sent within two days of all conditions being met. Compliance is confirmed.

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

Within three business days after receipt of notification of a switch from the registry, 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 providing the proposed event date to the registry and a valid switch response code; or providing a request for withdrawal.

Audit Observation

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

The switch breach report was examined for the audit period.

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

Audit Commentary

The check of the AN codes found all were correct with the exception of:

- The AA code was sent when both sites were AMI, and therefore the AD code should have been sent. I note that the AD code is being used in correctly in the sample checked.
- Two transfer switches were sent with the "PD" code. Both sites were de-energised vacant, therefore should have been withdrawn and a move switch requested by the gaining trader.

The AN codes are determined by system logic. I recommend these are reviewed to ensure the most appropriate code is selected. The incorrect codes being sent are recorded as non-compliance below.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 3 & 4 of schedule 11.3	Review the system logic for the assignment of AN codes is as accurate as possible.	We will review further and consider the recommendation	Investigating

The MEEN switch breach report was checked and found two late AN files recorded. Both of these were checked and found to be compliant.

The event detail report for MEEN records that all event dates with the exception of one ICP were five days or less. ICP 0000012030CP62C event date was set seven days after the NT was received.

Non-compliance	Description
Audit ref: 4.2 With: Clauses 3 & 4 of schedule 11.3 From/to: 1/06/16-31/5/17	Incorrect sending of the AA and PD AN response codes for transfer switches. Potential impact: None Actual impact: None Audit history: None Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate as the correct code is being sent for all but two scenarios. I have recorded the audit risk rating as low as there is no direct effect on settlement outcomes in relation to this clause.

Actions taken to resolve the issue	Completion date	Remedial action Status
System enhancement required to rectify AA issue. Regarding PD code being sent in error, we note that this is not a breach, however it is Mercury's policy to withdraw in these circumstances, this was human error.	First half of 2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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

If the losing trader provides information to the registry 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 a CS file.

Audit Observation

An event detail report for the audit period was reviewed, to identify CS files issued by Mercury during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of five records. The content checked included:

- correct identification of meter readings and correct date of last meter reading
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

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

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

Audit Commentary

The CS file content was checked for accuracy and found all was correct with the exception of:

- the last estimated date being recorded as the last actual read date whenever an estimate is sent.
- the average daily consumption was not calculating correctly for three of the five ICPs checked.

The incorrect CS file content is recorded as non-compliance below.

The MEEN SHD report contained 351 breaches which is an increase from the 270 breaches recorded in the last audit. Six were recorded as breach code "CS". The remaining 345 were recorded as breach code "E2". I checked all "CS" coded breaches and found only one was a valid breach. A sample of ten "E2" coded files were checked and found eight were non-compliant and two were compliant.

The issue found last year where the logic set in SAP was found to be causing the CS files to be held if a read was received after the event date has been changed. AMI reads are being pulled through for all occupied sites where available, so these switches do not get held.

The switch breach report is still being used to manage the switch completion process.

The incorrect CS file content and the late sending of CS files are recorded as non-compliance.

Non-compliance	Description
Audit ref: 4.3 With: Clause 5 of schedule 11.3 From/to: 1/06/16-31/5/17	Incorrect last read date and average daily consumption figures being sent in some instances. Some late CS files. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach Risk Rating: 6
Audit Risk Rating	**Rationale for audit risk rating**
Medium	I have rated the controls as weak as the volume of late CS files has increased despite the SAP logic being changed. I have recorded the audit risk rating as medium as other traders rely on the CS content being correct and if this is inaccurate this can have a direct effect on settlement outcomes.

Actions taken to resolve the issue	Completion date	Remedial action Status
System enhancement required to rectify the incorrect last read date issue.	First half of 2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Regarding late CS files, we have increased our focus on sending quicker, we also have a system enhancement in the pipeline with will assist in improving our compliance.	Before end of 2017	

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

If the validated meter reading or permanent estimate provided by the losing trader differs by less than 200 kWh from a value established by the gaining trader for a Transfer Switch event, the gaining trader uses the losing trader's validated meter reading or permanent estimate as the switch event meter reading.

Audit Observation

The process for the management of read requests was examined.

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

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

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

The switch breach history report for the audit period was reviewed, and 24 late read change requests were identified for transfer switches and no late acknowledgements were recorded. Five of these were checked using a diverse characteristics sample.

Audit Commentary

RR requests are generally initiated via email between the two parties and only once an agreement has been reached an RR file is sent to complete. All RR requests are evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

The sample checked for the read requests checked found that in some instances it was the losing trader requesting the read change. All examples checked had two supporting reads. The RR request for ICP 0000010562NT2FF was rejected as it was outside of the four month period, but was completed offline therefore not creating a record of the event. It was traded by Mercury as a Category 2 HHR site and switched to a NHH site when it switched to Pulse. This is recorded as non-compliance below.

The switch breach reports found 24 late RR files for MEEN. This is a decrease from the 32 from the last audit. The sample of these were checked found that four of these were delayed due to not getting two actual reads within four months. ICP 0007100704RN3B9 was late due to a faulty meter being found and Mercury negotiated with Genesis to correct the start read once the meter fault was resolved. Whilst these are technically late MEEN are compliant with the requirement to provide complete and accurate information. The 24 late RR files are recorded as non-compliance.

Non-compliance	Description
Audit ref: 4.3 With: Clauses 6 of schedule 11.3 From/to: 1/06/16-31/5/17	One RR sent without being processed via the registry. 24 late RR files sent. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate as overall the controls are robust, but the processing of an RR offline indicates some opportunities for improvement. I have recorded the audit risk rating as low as the volume of RR's processed in relation to the errors found will have minimal effect on settlement outcomes.

Actions taken to resolve the issue	Completion date	Remedial action Status
Mercury was advised by the EA that we were not to send or accept RR files that are initiated greater than four months from the event date per the Code. While our preference was to accept the read amendment, we followed the EA's advice and rejected the RR file. We came to an agreement with the gaining retailer outside the RR process. Going forward we will ensure that read amendments are managed through the RR file process, regardless of the age of the switch.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We believe the industry should move towards switching out on actual reads for all smart-metered sites.		

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

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 on the registry: and
- the gaining trader will trade electricity from a meter with a half hour submission type in the registry;
- the gaining trader within five business days after receiving final information from the registry, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading.

Audit Observation

The process for the management of read requests was examined. The event detail report and switch breach report were analysed. A sample of five ICPs (or all were checked if less than five were found) for each of the following scenarios were selected using the typical sample methodology from the event detail report. The sample covered both transfer and gaining trader read requests, and a variety of other participants.

- other retailer's request accepted by Mercury
- other retailer's request rejected by Mercury.

Audit Commentary

These RR requests are processed in the same way as those received for greater than 200 kWh except that emails are not normally exchanged in advance for these. Each request is evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

The sample checked found all were correctly rejected with the exception of ICP 0001395588UN654. The CS file was sent with an actual read, but as Mercury was not trading this ICP as a HHR site they must accept the gaining half hour trader's actual read request if received within five business days of the event. This is recorded as non-compliance.

Non-compliance	Description
Audit ref: 4.5 With: Clauses 6(2) & (3) of schedule 11.3 From/to: 23/06/17-28/03/17	One RR incorrectly rejected by Mercury. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate as overall the controls are robust, but the rejection of a valid RR request indicates some opportunities for improvement. I have recorded the audit risk rating as low as the volume off RR's processed in relation to the errors found will have minimal effect on settlement outcomes.

Actions taken to resolve the issue	Completion date	Remedial action Status
This one instance occurred due to human error. We are reviewing our processes and training.	31.08.2017	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

4.6 Disputes – standard switch (Clause 7 Schedule 11.3)

A losing trader or gaining trader may notify the other that it disputes a switch event meter reading, notified under clauses 1 to 6. Such a dispute must be resolved in accordance with clause 15.29.

Audit Observation

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

Audit Commentary

Mercury confirms that no disputes have needed to be resolved in accordance with this clause.

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

The code requires that "for each ICP, to which a switch relates, the gaining trader must advise the registry of the switch no later than two business days after the arrangement with the customer or embedded generator comes into effect."

Audit Observation

The switch gain process was examined to determine when Mercury deem all conditions to be met. A sample of five ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

Audit Commentary

A sample of ICPs were checked and I confirmed all were sent within two days of all conditions being met. Compliance is confirmed.

4.8 Losing trader provides information – switch move (Clause 10 Schedule 11.3)

After receiving notification of a switch request from the registry, the losing trader must respond to the switch request within five business days.

Audit Observation

An event detail report for the period from November 2016 to May 2017 was reviewed, to identify AN files issued by Mercury during the audit period. A sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied.

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

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

Audit Commentary

The switching process was examined in relation to MEEN as the "losing trader" for a selection of NHH ICPs. The correct code was used with the exception of:

- As recorded in **Section 4.2**, the AA code was sent when both sites were AMI, and therefore the AD code should have been sent. I note that the AD code is being used in correctly in the sample checked.
- The "PD" code was not found for any move switches and I did find two transfer switches were sent with the "PD" code. Both sites were de-energised vacant, therefore should have been withdrawn and a move switch requested by the gaining trader.

The AN codes are determined by system logic. I recommend in **Section 4.2** that these are reviewed to ensure the most appropriate code is selected. The incorrect codes being sent are recorded as non-compliance below.

The MEEN switch breach report was checked and found four late AN files recorded. All of these were checked and found three to be compliant. ICP 0009003503NV035 is a HHR category 2 site and no AN was sent. This is recorded as non-compliance.

MEEN use the switch breach report to manage the switch completion process. AMI reads are being pulled through for all occupied sites where available so these switches do not get held, but this not in place for any active vacant sites. The MEEN SHD report contained 5,567 late CS file breaches: Four of these are recorded as "CS" file breaches. These were checked and found two to be compliant and two to be valid breaches. The remaining 5,567 ICPs were recorded as "E2" breaches. A sample of ten of these were checked using the diverse sampling methodology. All were confirmed to be compliant, and as noted at the start of the switching section the switch breach reporting is not working correctly. The issue found with the late CS files in relation to transfer switches in **Section 4.3** was not evident in the sample checked. The sending of late CS files is recorded as non-compliance but as I cannot quantify how many are valid I have recorded "some".

Non-compliance	Description
Audit ref: 4.8 With: Clauses 10 of schedule 11.3 From/to: 1/06/16-31/5/17	PD code not used for Move switch ICPs. One late AN file. Some late CS files. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate as the sample of late CS files checked indicated the report is incorrectly recording these. I have recorded the audit risk rating as low as the analysis indicated that the bulk of AN and CS files are being sent on time therefore there is little or no impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action Status
Regarding PD code being sent in error, it is Mercury's policy to withdraw in these circumstances, this was human error. Regarding the one late AN file, we have reviewed our processes and have improved our management of the breach report. No AN was sent for ICP 0009003503NV035 as a result of human error; we have reviewed our process and training.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Regarding late CS files, we have increased our focus on sending quicker, we also have a system enhancement in the pipeline with will assist in improving our compliance.	Before end of 2017	

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

If the losing trader determines a different date, the losing trader must also complete the switch by providing to the registry as described in sub-clause (1)(a):
- the event date proposed by the losing trader; and
- a valid switch response code; and
- final information as required under clause 1.

Audit Observation

The setting of event dates for move switches was examined. The event detail report for the audit period was examined comparing the NT requested event date with the AN event date sent by Mercury for any switches dated earlier than the NT requested date for the 8,067 switch moves recorded. The report was also checked for any event dates that were set greater than ten days from the NT receipt date and a sample of ten checked using the typical sample methodology.

Audit Commentary

Analysis found 46 ICPs where the event date was set earlier than the gaining trader requested date. A sample of ten of these was checked and found six where the logic in SAP is setting the event date one day earlier than the gaining trader requested date. The CS was sent for the gaining trader's requested date so there is no impact on reconciliation but the AN information in these instances is misleading.

Analysis found 1,183 ICPs where the proposed event date was set greater than ten days in advance. The sample checked found that the SAP logic is incorrectly adding eight business days to some AN responses. The CS is being sent earlier than this. This requires further investigation as to the cause of this issue.

Non-compliance is recorded for the incorrect event dates being recorded in the AN files.

Non-compliance	Description
Audit ref: 4.9 **With:** Clauses 10 (2) of schedule 11.3 **From/to:** 1/06/16-31/5/17	46 ICPs where the event date was set earlier than the gaining traders. 1,183 ICPs where the event date was set greater than 10 days from the gaining traders request date. **Potential impact:** Low **Actual impact:** Low **Audit history:** None **Controls:** Weak Breach Risk Rating: 3
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as weak as the logic in place is incorrect and there are no checks to confirm its validity. I have recorded the audit risk rating as low as the those set with an earlier date are not being switched with an earlier date, and those with an event date set greater than ten days are being completed earlier than this.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have identified this as a system issue and are working with our IT team to rectify.	First half of 2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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

If the losing trader has provided information to the registry in accordance with clause 10(a), within three business days after the later of the actual event date or date of receipt of the switch request, the losing trader must:

- *provide the event date (clause 11(a)); and*
- *provide the switch event meter reading as at the event date for each meter or data storage device noted on the registry (clause 11(b)); and*
- *if switch event meter reading is not a validated meter reading, provide the date of the last reading of the meter or storage device (clause (11(c)).*

Audit Observation

An event detail report for the audit period was reviewed to identify CS files issued by Mercury during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of five records. The content checked included:

- correct identification of meter readings and correct date of last meter reading
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

Audit Commentary

The CS file content was checked for accuracy and found all was correct with the exception of:

- The last estimated date being recorded as the last actual read date.
- The average daily consumption was not calculating correctly for two of the five ICPs checked.
- The estimated reads provided for ICP 0000000504CPE7A were from the 9/03/17 when the event date was 13/03/17. The last estimated read was also incorrectly recorded as the last actual read.

The incorrect CS file content and the late sending of CS files are recorded as non-compliance.

Non-compliance	Description
Audit ref: 4.10 With: Clauses 11 of schedule 11.3 From/to: 1/06/16-31/5/17	Incorrect last read date and average daily consumption figures being sent in some instances. Estimated reads sent for the incorrect event date. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach Risk Rating: 6
Audit Risk Rating	**Rationale for audit risk rating**
Medium	I have rated the controls as weak as these were issues identified last year and they are still evident this year. I have recorded the audit risk rating as medium as other traders rely on the CS content being correct, and if this is inaccurate this can have a direct effect on settlement outcomes in relation to this clause.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have identified this as a system issue and are working with our IT team to rectify.	First half of 2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

4.11 Gaining trader changes to switch meter reading – switch move (Clause 12 Schedule 11.3)

As of October 9th, 2015, the gaining trader may provide an AMI switch event meter reading within five business days of the event date to the losing trader. In this instance the losing trader MUST use the gaining traders switch event meter reading. If no AMI switch event meter reading is available the gaining trader MUST use the losing traders switch event meter reading. If the validated meter reading or permanent estimate provided by the losing trader differs by less than 200 kWh from a value established by the gaining trader for a Move Switch event, the gaining trader uses the losing trader's validated meter reading or permanent estimate as the switch event meter reading.

Audit Observation

The process for the management of read requests was examined.

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

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

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

The switch breach history report for the audit period was reviewed, and 33 late read change requests were identified for transfer switches and one late acknowledgements was recorded. Five of these were checked using a diverse characteristics sample.

Audit Commentary

RR requests are generally initiated via email between the two parties and only once an agreement has been reached an RR file is sent to complete. All RR requests are evaluated and validated against the ICP information. If the request is within validation requirements these are accepted. The sample checked for the read requests checked found that as MEEN is sending estimates on active vacant sites and therefore the gaining trader is requesting read changes based on the actual midnight read. I found these were accepted when they were sent within five business days of the event date but were rejected if sent later than five business days as allowed by the code. I recommend that the AMI read is sent for active vacant sites and this will reduce the volume of RR requests being sent by gaining traders.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 12 of schedule 11.3	Send AMI reads for active vacant sites and this will reduce the volume of RR requests being sent by gaining traders.	We will review further and consider the recommendation	Investigating

The 33 late RR files reported this year is half the volume than that found in the last audit. A sample of five of these were checked found that two of these were delayed due to not getting two actual reads within four months. A further two were backdated move switches and the RR was sent within one month of the switch completing. ICP 0223116041LC1AD was requested based on a customer photo read in April 2016. A customer photo read must not be used as a validated read as therefore the read request should not have been initiated based on this. This practice has ceased. This is recorded as non-compliance in Section 6.6.

One late AC file was sent late for ICP 1001138042LC464 due to human error. This was the only instance and is recorded as non-compliance below.

Non-compliance	Description
Audit ref: 4.11 With: Clauses 12 of schedule 11.3 From/to: 1/06/16-31/5/17	33 late RR files sent. 1 late AC file sent. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach Risk Rating: 1
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate as overall the controls are robust and backdated move switches will cause some late RR requests. I have recorded the audit risk rating as low as the volume off RR's is minor compared to the volume of switches processed.

Actions taken to resolve the issue	Completion date	Remedial action Status
As with 4.4, We will raise this with the EA to get guidance on how to be compliant in situations where a RR is required but it is outside of the allowed timeframe.	Before end of 2017	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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

The gaining trader switch process applies where a trader and a customer or embedded generator enters into an arrangement in which the trader commences trading electricity with the customer or embedded generator to trade electricity through or assume responsibility for:
- a half hour metering installation that is not a category 1 or 2 metering installation, that has an ICP with a submission type half hour on the registry and an AMI flag of "N"; or
- a half hour metering installation that has a submission flag of half hour and an AMI flag of "N" and is traded by the losing trader as non-half hour; or
- a non half hour metering installation at an ICP with the losing trader trades through a half hour metering installation with an AMI flag of "N".

Audit Observation

The HHR switch process was examined and a sample of five ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

Audit Commentary

The Half Hour team are advised as soon as the contract pre-conditions have been satisfied. All switch requests are actioned the same day as they are received. The ICPs checked confirmed compliance.

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

Within three business days after the losing trader is informed about the switch by the registry, the losing trader must:
15(a) - provide to the registry a valid switch response code as approved by the Authority; or
15(b) - provide a request for withdrawal of the switch in accordance with clause 17.

Audit Observation

The HHR switch process was examined and the event detail report and switch breach report were analysed to identify all HHR switch files sent during the audit period. The switch breach report recorded no breaches. Analysis of the event detail report found one late AN file.

Audit Commentary

The switching team advise the HHR team that a site switch request has been received. This is pushed through to sales team to review and if cleared to go AN will be sent or NW same day. The one late AN file for ICP 0000840487WE6C2 was examined and found that the switch was withdrawn on the same day. This was withdrawn with the incorrect switch withdrawal code of "DF" date failed when the customer was contracted and the "CO" code should have been sent. This is recorded as non-compliance in **Section 4.15**. Compliance is confirmed for the sending of switch response codes.

4.14 Gaining trader to notify registry – gaining trader switch (Clause 16 Schedule 11.3)

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

Audit Observation

The HHR switching process was examined and the switch breach report was analysed. The switch breach report recorded 20 late CS files. A sample of three of these were examined using the diverse case methodology.

Audit Commentary

These are managed manually in the WIP file (excel spreadsheet). The progress of these is checked on a daily basis, but the findings from the sample checked found that due to the manual processes in place these can be missed. This is recorded as non-compliance.

Non-compliance	Description
Audit ref: 4.14 With: Clauses 16 of schedule 11.3 From/to: 1/006/16-11/4/17	20 late CS files sent. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as moderate as they are manual with and open to human error. I have recorded the audit risk rating as low as the HHR CS is for notification purposes only. Submission is unaffected by a late CS.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have improved our process and the team that handles HHR switching now has visibility on switch files on the registry. we will monitor and review the process as required.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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

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.

Within five business days after receiving a notification from the registry of a switch, the trader receiving the withdrawal must notify the registry that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal.

On receipt of a rejection notification from the registry, a trader may re-submit the switch withdrawal request for an ICP. All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request.

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 receipt of notification from the registry 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.

Audit Observation

The switch withdrawal process was examined. The content of a sample of two ICPs for each withdrawal code from the event detail report were checked using the typical sampling methodology. A sample of five switch rejections were checked using the typical sample methodology. The event detail report was also analysed to confirm timeliness of switch requests, as this is not currently being identified in the switch breach report. This identified 19 ICPs of 4,006 withdrawal requests that were backdated greater than two months from the event date. A sample of ten of these were checked using the diverse case methodology. The switch breach report was checked for any late switch withdrawal acknowledgements and found none were recorded and none were found in the event detail report either.

Audit Commentary

Each switch withdrawal request is assessed and actioned based on the staff members findings. The content of a selection of NW files was compared to SAP details and in all cases the withdrawal reason provided were accurate with the exception for ICP 0000001337ENE36 which was withdrawn for reason code "WP" wrong premise but should have been for reason code "CX". This was due to human error and is recorded as non- compliance below.

The sample checked for the rejected switch withdrawals checked found all were valid withdrawal rejections.

I checked the reason codes for the 19 switches backdated greater than two months and found:

- 11 were the wrong premise being switched in.
- four were coded as customer cancellations
- two were coded as metering issues
- ICP 0000403704WE7F0 was coded as customer error
- ICP 0000149316TRF46 was coded as date failed.

The sample checked found the correct withdrawal code was used and these were actioned as soon as possible.

As noted in **Section 4.13**, ICP 0000840487WE6C2 was withdrawn using the code of "DF" date failed when the customer was contracted until 2019 and the "CO" code should have been sent. This is recorded as non-compliance.

Non-compliance	Description
Audit ref: 4.15 With: Clauses 17 & 18 of schedule 11.3 From/to: 1/006/16-31/5/17	19 switch withdrawals sent later than 2 months of the event date. 2 incorrect switch withdrawal codes sent. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach Risk Rating: 1
Audit Risk Rating	**Rationale for audit risk rating**
Low	I have rated the controls as strong as the process to manage switch withdrawals is well understood and those backdated were actioned as soon as possible. I have recorded the audit risk rating as low as these are actioned as soon as possible with the intent that submission is as accurate as possible.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have a robust process in place. The 2 instances of incorrect codes were due to human error. Although technically non-compliant, these withdrawals needed to be done and we are open to guidance from the EA on whether there are compliant work-arounds for these circumstances.	Before end of 2017	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

4.16 Metering information (Clause 21 Schedule 11.3)

For an interrogation or validated meter reading or permanent estimate carried out in accordance with Schedule 11.3:
- 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.
- the cost of every interrogation or switch event meter reading carried out in accordance with clauses 5(b) or 11(b) or (c) must be met by the losing trader. The costs in every other case must be met by the gaining trader.

Audit Observation

The meter reading process in relation to meter reads for switching purposes was examined. Examples to confirm this procedure have been examined as part of the sending of final information for switches and read requests made.

Audit Commentary

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

Mercury's policy regarding the management of meter reading expenses is compliant.

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

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

If a protected trader enters into an arrangement with a customer of another trader (the losing trader), or a trader enters into an arrangement with a customer of a protected trader, to commence trading electricity with the customer, the losing trader must not, by any means, initiate contact with the customer to attempt to persuade the customer to terminate the arrangement during the period from the receipt of the NT to the event date of the switch including by:
11.15AB(4)(a)- making a counter offer to the customer; or
11.15AB(4)(b)- offering an enticement to the customer.

Audit Observation
The Electricity Registry switch save protected retailer list was examined to confirm that Mercury is not a save protected retailer.

Winback processes were examined to determine whether they are compliant.

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

Audit Commentary
MEEN exclude any switch save protected retailer files from their pre switch completion save programme, and all staff have been trained in relation to these requirements. The event detail report was checked and no "CX" coded switch withdrawal requests were sent prior to the switch completion date. Compliance is confirmed.

5. Maintenance of unmetered load

5.1 Maintaining shared unmetered load (Clause 11.14)

The trader must adhere to the process for maintaining shared unmetered load.

Audit Observation
The registry list was reviewed and found Mercury has 98 ICPs with shared unmetered load.

I reviewed the processes to identify shared unmetered load.

Audit Commentary

This is checked regularly as part of the registry discrepancy process. The analysis found that all ICPs had the correct load and the UML flag "Y". Compliance is confirmed.

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

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

Examination of the MEEN list file found 403 active ICPs have unmetered load recorded, excluding shared unmetered load. Eight of these have a UML load that exceeds 6,000 kWh. Seven ICPs were identified as having a load of between 3-6,000 kWh. These were all examined.

Audit Commentary

Of those ICPs with a load greater than 6,000 kWh, all have been confirmed as DUML and a streetlight audit has been undertaken for these. These reports are attached as an appendix to this report.

Of the seven with a load between 3-6,000 kWh, these were all of an approved load type. ICP 1001127337LCEF4 appears to have an incorrect daily kWh figure of 8.4. This was checked and confirmed that the Mercury's figure is correct and the Distributors figures is incorrect. The individual ICPs are listed below:

ICP	Retailer details	Distributor details	Comments
0000565921NR0E0	54 aerials Total 0.594 kW; Distributed Unmetered	54 aerials; Total 0.594 kW; Distributed Unmetered	Approved load type
0415362313LCAB8	800.00;12.00;UNM_UnKnown	0.80kW:ENG:800Watts 12hrs	Approved load type
0066132578LC01D	0600;24.0;VODAFONECELLSITE	0.60kW:24:Cabinet 600W	Approved load type
0624015343LCDD6	0600;24.0;VODAFONE	0.60kW:24:Cabinet 600W	Approved load type
1000023063BPC22	1287.5;12.0;streetlights3fittings	Street Lights	Approved load type
1001127337LCEF4	0350;24.0;UNM_UNKNOWN	0.33kW:24:VODAFONE 325W	Approved load type
0000557870UN171	0400;24.0;4x100wRadioTransmitters	0400;24.0; 4 x 100w Radio Transmitters	Approved load type

Compliance is confirmed

5.3 Unmetered threshold exceeded (Clause 10.14 (5))

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

Audit Observation

Examination of the MEEN list file found 403 active ICPs have unmetered load recorded, excluding shared unmetered load. Eight of these have a UML load that exceeds 6,000 kWh. The process to manage UML loads was examined.

Audit Commentary

Loads of this type are managed through the commercial team. In addition to this the registry discrepancy reporting regularly checks for any unmetered load between 3-6,000 kWh to ensure that any sites are picked up if they are missed in the commercial process.

All ICPs with an annual consumption exceeding the 6,000 kWh per annum are distributed unmetered loads and have an associated database, and an audit has been undertaken for these. They are discussed in Section 5.4 below. Compliance is confirmed.

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

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

Mercury has seven distributed unmetered load databases. All have been audited during the audit period. The findings are detailed in the table at the end of this section.

Audit Commentary

The table below indicates all of the DUML databases held by Mercury and the current level of compliance.

		Compliance Achieved (Yes/No)						
Database	Last audit 11(5) of schedule 15.3	Deriving submission information 11(1) of schedule 15.3	ICP identifier 11(2)(a) of schedule 15.3	Location of items of load 11(2)(b) of schedule 15.3	Description of load 11(2)(c) of schedule 15.3	Capacity of load 11(2)(d) of schedule 15.3	Tracking of load changes 11(3) of schedule 15.3	Audit trail 11(4) of schedule 15.3
Palmerston North Airport-	08/08/2017	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rotorua DC	8/5/17	No	No	Yes	Yes	No	No	Yes
Matamata Piako DC	19/2/17	No	No	Yes	Yes	Yes	Yes	Yes
Greenwood Park Retirement Village	2016	Yes	Yes	Yes	No	No	Yes	Yes
Avondale Business Association	8/3/17	No	Yes	Yes	Yes	No	No	Yes
Ardmore	8/3/17	No	Yes	Yes	No	No	No	Yes
NuLite	8/3/17	No	No	Yes	No	Yes	No	Yes
Arcacia Cove	8/3/17	No	Yes	Yes	Yes	No	No	Yes
Metrix Gatekeeper ICPs	4/5/17	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Metrix Gatekeeper ICPs - Dunedin	29/5/17	Yes	Yes	Yes	Yes	Yes	Yes	Yes

All databases have had an audit report undertaken during the audit period. Those undertaken before June 1st were undertaken under the regime current at the time. All of the DUML audit reports will be submitted as part of this audit.

Non-compliance	Description
Audit ref:5.4 With: Clauses 11(1) of schedule 15.3, 10.14 & 15.13 From/to: 01/6/16 – 31/5/17	Some incorrect submission information for DUML ICPs. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as all databases have been audited and corrections are made as soon as possible. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action Status
Refer to DUML audit reports. We have corrected where possible and are liaising with the respective customers to address any outstanding issues.	Before end of 2017	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

6. Gathering raw meter data

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

A trader must ensure that for each energised ICP that electricity is conveyed is in accordance with the code.

A participant is not required to quantify the electricity at a point of connection if the electricity is supplied by an embedded generator who has given the Reconciliation Manager a notification under clause 15.13 of Part 15.

Audit Observation

A registry list was examined to confirm whether Mercury had supplied any ICPs with generation during the audit period.

Audit Commentary

The list file contained 1,690 NHH ICPs with distributed generation recorded by the Distributor. All had RPS, HHR or HHM profiles. The PV1 profile is correctly applied on the AV080 NHH submissions for NHH ICPs with generation, but the PV1 profile is not recorded against the ICPs on the registry. This is recorded as non-compliance below.

As part of the registry discrepancy process discussed in **section 2.1** Mercury checks for any ICPs that have generation indicated by the Distributor but have no export/injection metering recorded. This list is currently selected by using the installation type "B". I repeat last year's recommendation that the report is selected by using the generation capacity and fuel type fields. This will ensure that all ICPs are captured.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 10.24(b) of part 10	Select ICPs by generation capacity and fuel type not by installation type indicator "B". Continue to liaise with Orion regarding 4 ICPs with generation recorded but with no "I" channel. Check whether ICP 0219952000LC610 has generation installed and whether it needs a meter change to import/export	We will review further and consider the recommendation	Investigating

Mercury also checks meter lease invoices to identify ICPs billed for import/export metering which do not have import registers, and ICPs where generation data files are received but have failed to load because the register is not recorded.

The identified customers are then contacted to confirm if distributed generation is installed or not, and appropriate action is taken to resolve these. A sample of nine ICPs were checked. I confirmed that the registry had been updated to remove the distributor distributed generation details in eight cases, and in the other case, distributed generation was confirmed.

All ten HHR ICPs with generation indicated by the distributor were checked and found to have export/ injection metering recorded in SAP and on the registry. Seven of these had been assigned the HHM profile and have since been changed back to RPS and submission type NHH, because generation information was not correctly handled by the HHM profile.

Mercury provided a list of six ICPs where remote disconnection had occurred then the meter had been bridged to reconnect. This is recorded as non-compliance below. I reviewed the six bridged meters and noted that they had all been unbridged at a later date. Five of the ICPs had consumption during the bridged period estimated, one did not. This is recorded as non-compliance in **section 8.1**.

Non-compliance	Description		
Audit ref:6.1 With: Clause 10.13 and clause 15.2 From/to: entire audit period	Energy is not metered and quantified according to the code where meters are bridged. NHH ICPs with distributed generation do not have the PV profile recorded on the registry. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Moderate Breach Risk Rating:2		
Audit Risk Rating	Rationale for audit risk rating		
Low	Bridging only occurs where a soft reconnection cannot be performed after hours and the customer urgently requires their energy supply for health and safety reasons. PV1 profile is correctly reported on reconciliation submissions.		
Actions taken to resolve the issue		Completion date	Remedial action Status
Process in place to reconcile estimated bridged usage.		Completed.	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
We have corresponded with the EA regarding the distributed generation PV issue. We can update the profile field in the Trader section of the registry, however due to system limitations we can't update the relevant field in SAP (there is not enough space to fit the required characters). If the registry and SAP don't align then our system will fall over. A system change is required.		First half of 2018	

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

An asset owner must, for each GIP that connects to the grid, ensure that there is one or more certified metering installations for the GIP.

Audit Observation

The NSP table was reviewed to confirm the GIPs which Mercury is responsible for, and the certification expiry date for those GIPs.

Audit Commentary

Mercury is responsible for the GIPs shown in the table below.

Responsible party	Description	NSP	MEP	Certification expiry date (NSP table)	Reconciliation Type
MRPL	ARATIATIA	ARA2201MRPLGG	MRPL	11/11/2018	GG
MRPL	ARAPUNI	ARI1101MRPLGG	MRPL	13/01/2020	GG
MRPL	ARAPUNI	ARI1102MRPLGG	MRPL	8/05/2019	GG
MRPL	ATIAMURI	ATI0111LINENP	MRPL	9/04/2018	NP
MRPL	ATIAMURI	ATI0111MRPDNP	MRPL	13/04/2017	NP
MRPL	ATIAMURI	ATI0112HAWKNP	MRPL	13/04/2017	NP
MRPL	ATIAMURI	ATI0112MRPDNP	MRPL	9/04/2018	NP
MRPL	ATIAMURI	ATI2201MRPLGN	MRPL	1/10/2017	GN
MRPL	KAWERAU GEOTHERMAL	KAW1101KRGLGG	MRPL	11/02/2018	GG
MRPL	KARAPIRO	KPO1101MRPLGG	MRPL	25/02/2018	GG
MRPL	MARAETAI	MTI2201MRPLGG	MRPL	17/10/2017	GG
MRPL	NGA AWA PURUA	NAP2201NAPJGG	MRPL	29/10/2017	GG
MRPL	NGATAMARIKI	NAP2202MRPLGG	MRPL	4/09/2018	GG
MRPL	OHAKURI	OHK2201MRPLGG	MRPL	3/02/2018	GG
MRPL	SOUTHDOWN	SWN2201MRPLGG	MRPL	15/09/2017	GG
MRPL	WHAKAMARU	WKM2201MRPLGG	MRPL	8/10/2017	GG
MRPL	WHAKAMARU	WKM2201TUARGN	MRPL	30/09/2017	GN

Certification is not current for all metering installations; the certifications for ATI0111 and ATI0112 expired on 13/04/2017. This is recorded as non-compliance below.

Non-compliance	Description
Audit ref: 6.2 **With:** Clause 10.26(7) of Part 10 **From/to:** 14 April 2017 onwards	Meter certification expired in April 2017 for ATI0111 and ATI0112. **Potential impact:** Low **Actual impact:** Low **Audit history:** None **Controls:** Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	Certification expired recently, and only two NSPs are affected.

Actions taken to resolve the issue	Completion date	Remedial action Status
The meters were certified however due to human error were not uploaded via the EA portal. We were alerted to this by the EA in July 2017 and we took the appropriate steps to rectify.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have improved our process to avoid upload errors occurring in the future.	Completed	

The process to make changes to the NSP table was stepped through, and all changes to the NSP table in the past year were reviewed. The Mercury Senior Electrical Engineer advises the Mercury Energy Services team of any changes to the NSP table required via email. The Energy Services team create an AV180 report detailing the NSP changes and submit it to the Reconciliation Manager. For all changes reviewed, the details provided to the Reconciliation Manager matched the information provided by the Senior Electrical Engineer. One certification expiry date change was processed more than 10 business days after re-certification. This is recorded as non-compliance below.

Non-compliance	Description
Audit ref:6.2 With: Clause 10.26(11) of Part 10 From/to: 1/6/16-31/5/17	One certification expiry date change was processed late. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach Risk Rating: 1
Audit Risk Rating	Rationale for audit risk rating
Low	There are strong controls in place, but one notification missed being updated on time due to an oversight. The meter was appropriately certified.

Actions taken to resolve the issue	Completion date	Remedial action Status
As noted above, we have improved our process to ensure that we are compliant going forward.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments	Completed	

During the previous audit, Mercury advised that ATI2201 should be recorded with reconciliation type GG not GN. This NSP still shows reconciliation type GN in the NSP table. I recommend that the reconciliation type is investigated and confirmed.

NSP	Responsible party	MEP	Certification expiry	Comments
ATI2201MRPLG	MRPL	MRPL	1/10/2017	Mercury believes this should be GG not GN.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 15.2	Confirm the reconciliation type for ATI2201MRPLG and update the NSP table if necessary.	We are currently investigating and will correct as appropriate	Investigating

No new NSPs were created during the audit period.

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

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

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

Audit Observation

A registry list was reviewed to confirm that Mercury has used the HHM, HHR, DFP and RPS profiles during the audit period.

The process to confirm that control devices are certified was reviewed.

Audit Observation

Mercury has service level agreements in place to ensure that meters installed are final certified, with certified control devices. Certification details are checked prior to changing profiles.

The profiles used by Mercury do not rely on use of control devices for reconciliation purposes.

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

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. Ten examples of defective meters 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 meter read provider.

Upon identifying a possible defective meter, Mercury raises a field services job to investigate. I reviewed ten examples of potential defective meters, including stopped or faulty and bridged meters. In all cases a field services job was raised and the MEP advised. Compliance is confirmed.

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

A reconciliation participant must obtain raw meter data used to determine volume information from the services access interface. Except when only the Metering Equipment Provider can electronically interrogate a metering installation for which it is responsible and they have an arrangement with the reconciliation participant which prevents them from interrogating the metering installation themselves.

Audit Observation

The data collection process was examined. A sample of meter reads for 35 ICPs checked using the typical case sample methodology.

Audit Commentary

NHH read data is transmitted to Mercury via FTP for Metrix, AMS and Wells. HHR read data is transferred via SFTP for EDMI and AMCI.

I traced a typical sample of five meter readings and volumes each for AMS, Smartco, Arc, Metrix (including Counties Power), Wells, EDMI and AMCI from the source files to SAP. Reads and volumes matched in all cases.

Readings are appropriately labelled. Compliance is confirmed.

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

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

All validated meter readings must be derived from meter readings.

A meter reading provided by a consumer may be used as a validated meter reading only if another set of validated meter readings not provided by the consumer are used during the validation process. 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. A sample of five meter reads for Wells were checked using the typical case sample methodology.

Processes for customer reads were reviewed.

Audit Commentary

Readings are appropriately labelled. I checked five readings for Wells to confirm the data in SAP matched the data in the files.

Wells provides information on meter condition along with the daily reads. I saw that this meter information was pulled into the readers' notes database. It is possible for staff to run queries to identify ICPs where meter condition issues, such as tampering or damage are present. Staff work through the notes provided each day, and the database is used to provide additional information and support when investigating ICPs. Suspected tampering and faulty meters are addressed as top priority.

Wells also provide a monthly summary report containing all tampering events.

During Wells' audit an example of suspected theft for a Mercury ICP was identified, I reviewed this to confirm the action taken. The issue related to metering, the ICP switched in with one register but two were present. The issue was resolved with the meter owner and the registry and SAP has been updated.

I reviewed four more examples where meter condition information had been provided by Wells, in all cases field services jobs were raised where needed and the issues were resolved.

In the previous audit non-compliance was recorded because Wells did not complete checks for phase failure or missing or broken seals. Wells' 2017 audit confirmed that these checks are now completed, and condition information is provided to Mercury. No examples of phase failure or electrically unsafe installations were found for review during the audit, but phase failure and safety hazard codes exist for these issues to be recorded against.

Wells records customer readings in their meter reader notes. On initial import they fail validation due to the read type being customer, and during the validation checks the customer read is entered manually with read type 01-02 (customer). One example of a customer supplied read was provided by Wells, I checked it in SAP and confirmed that it was correctly recorded as customer read.

Prior to June 2016, if a photo read was provided it was recorded as actual. This is recorded as non-compliance below. Following recent confirmation from the EA, this practice has ceased, and photo reads provided by customers are entered as customer reads. No recent examples could be located to check.

Non-compliance	Description
Audit ref:6.6 With: Clause 5 of schedule 15.2 From/to: prior to June 2017	Photo readings were recorded as actual readings. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating:2
Audit Risk Rating	**Rationale for audit risk rating**
Low	It is expected a relatively small number of ICPs will not have their meters read during the period of supply.

Actions taken to resolve the issue	Completion date	Remedial action Status
Following clarification from the EA we are no longer entering customer photo reads as actual readings.	Completed	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments	Completed	

6.7 NHH meter reading application (Clause 6 Schedule 15.2)

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

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

Audit Observation

The process of the application of meter readings was examined.

Audit Commentary

Mercury imports the midnight AMI midnight readings, which are applied as at 2400hrs. Application of reads was reviewed as part of the historic estimate checks, discussed in **section 12.11**.

Only one read per day is provided.

I traced a sample of reads for five NHH ICPs per provider from the source files to Mercury's system.

Compliance is confirmed.

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

A validated meter reading must be 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, unless exceptional circumstances prevent this from occurring. This may be a validated meter reading at the time the ICP is switched to, or from, the reconciliation participant.

The NHH meter reading frequency guidelines published by the Electricity Authority define "Exceptional circumstances" as meaning "circumstances in which access to the relevant meter is not achieved despite the reconciliation participant's best endeavours". "Best endeavours" is defined as "Where a reconciliation participant failed to interrogate an ICP as a result of access issues, the reconciliation participant had made a minimum of three attempts to contact the customer, by using at least two methods of communication".

Audit Observation

The process to manage missed reads was examined.

Audit Commentary

Mercury has put considerable effort into improving read attainment rates, with the meter validation and risk control teams working closely to resolve issues. The risk control team reviews the read attainment information monthly, and works through ICPs with reading issues. Where possible, they contact the customer to try to resolve access issues or arrange for AMI metering to be installed. Mercury has trialled attempting to contact customers and obtain readings outside of business hours with limited success. They are investigating other options to contact customers to resolve access issues, including contacting them via mail or email.

I observed an alert built into SAP, where a message pops up if a customer account is viewed where no actual reads have been received for the past 90 days. This prompts the staff member speaking to the customer to talk to them about the meter reading issues.

Mercury has processes in place to move non communicating AMI meters to manual meter reading rounds. I stepped through the process to identify non communicating meters, including viewing reports used in the process.

Metrix provide no read code information where they cannot retrieve a meter read. This reporting is reviewed monthly, and any issues relating to codes NR1 (wrong retailer), NR2 (no comms) or NR6 (meter set up issues) are followed up with Metrix.

All MEPs provide information where meters are consistently not communicating, so that service orders can be raised. Mercury is currently investigating how they can work more closely with AMS to resolve AMI read attainment issues.

A SAS report is run monthly showing all sites not read for the previous four months. The report is reviewed and staff work through and try to resolve the issues. I saw evidence of files containing meter communication issues to be resolved sent to Arc, AMS and Metrix.

Meters with intermittent communications are harder to identify, and continue to cause read attainment issues. Mercury normally imports one AMI read per month on the scheduled read date. Where a read is not available on the scheduled read date, an estimate is entered on the read date and billed. If an actual read is available on a nearby date, the read will be imported into SAP but marked as unbillable. Unbillable reads are not used for reconciliation, billing or read attainment reporting. This practice affects Mercury's read attainment results, submission accuracy and historic estimate proportions.

SAP will not allow reads to be imported with a read date prior to the last date the ICP was billed to, and if a read is entered on a later date as billable, the customer will receive a short bill. The only alternative is to reverse the previous invoice, import the read, and then rebill the customer to the read date. Unfortunately, this process is labour intensive and can inconvenience or confuse the customer. I recommend Mercury consider reversing and rebilling in situations where a read has not be obtained for an extended period, so that the actual read can be marked as billable and the ICP will meet the historic estimate and meter read frequency requirements.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 9(1) & (2) of schedule 15.2 and clause 15.2	If an actual read is received for a date which is not the customer's scheduled read date, and the customer has already been billed on an estimated reading, the actual read will not be marked as billable and will not be used for billing or reconciliation. If the read is marked as billable, another invoice will be generated. I recommend that Mercury considers reversing the previous invoice and using these reads for billing where the ICP risks breaching the read attainment requirements.	We will review further and consider the recommendation	Investigating

If communications issues are long term and cannot be resolved, Mercury moves the meters to a manual meter reading route. Unfortunately, the reason the communication issues cannot be resolved is sometimes lack of access to the meter, and moving them to a manual round may not achieve readings. The metering team work closely with risk control to try to contact customers and eliminate any issues preventing access. Mercury is planning to complete analysis to confirm how successful movement of these meters has been. Once five days of consistent readings are received via AMI, the ICP is moved back into an AMI route.

I reviewed a sample of six ICPs with AMI meters where reads had not been attained for at least four months. All the meters had communications issues. Two had intermittent reads, but these were not received on the scheduled read dates. One was changed to a manual route, and then back to AMI when some reads were received, and Mercury found they could not arrange access to read the meter manually. One had received a manual read arranged through the risk control team.

When ICPs are removed from the AMI routes, Mercury does not advise the MEP. It is recommended that Mercury advise the MEP where communication issues are present, so that the MEP can investigate and update the AMI flag on the registry if necessary. The sample of AMI meters without actual reads for over four months all still showed AMI flag = yes on the Registry.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 9(1) & (2) of schedule 15.2 and clause 15.2	Where reads are not received from AMI meters, Mercury should advise the MEP so they can investigate and update the AMI flag on the registry if necessary.	We will review further and consider the recommendation	Investigating

There is no reporting in place to quantify how many ICPs are not read during the period of supply. I was unable to efficiently identify ICPs not read during the period of supply, so compliance with the best endeavours requirement was unable to be assessed. I repeat last year's recommendation that reporting should be developed, and record non-compliance below.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 7(1) & (2) of schedule 15.2	Develop reporting to measure ICPs not reads during period of supply.	We are now able to generate this report.	Identified

Non-compliance	Description
Audit ref:6.8 With: Clause 7(1) & (2) of schedule 15.2 From/to: 1/6/16-31/5/17	No reporting in place to quantify ICPs not interrogated at least once during the period of supply. Potential impact: Low Actual impact: Unknown Audit history: Seven times previously Controls: Weak Breach Risk Rating:3
Audit Risk Rating	**Rationale for audit risk rating**
Low	It is expected a relatively small number of ICPs will not have their meters read during the period of supply.

Actions taken to resolve the issue	Completion date	Remedial action Status
We are now able to generate this report.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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

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

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

Audit Observation

The meter reading process was examined. Monthly reports for the months of November 2016 to May 2017 were provided.

A sample of ten ICPs not read in the previous 12 months were reviewed to determine whether reasonable endeavours were used to attain reads, and if exceptional circumstances existed.

Audit Commentary

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
November 2016	288	92	647	99.76%
December 2016	289	94	684	99.74%
January 2017	292	97	686	99.75%
February 2017	293	98	686	99.75%
March 2017	294	98	637	99.77%
April 2017	297	102	617	99.77%
May 2017	298	99	501	99.76%

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment.

I reviewed ten ICPs not read in the previous 12 months determine whether exceptional circumstances exist, and if Mercury had used their best endeavours to obtain readings.

- Seven cases relate to vacant sites, where access cannot be gained to read or disconnect.
- One case relates to an active customer whose meter cannot be accessed, best endeavours have been used to attempt to contact the customer to arrange access.
- In two cases the meter cannot be located, and best endeavours have been used to contact the customer and attempt to resolve the issue with the MEP.

Compliance is confirmed.

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

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

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

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

Audit Observation

The meter reading process was examined. Monthly reports for the months of November 2016 to May 2017 were provided.

A sample of ten ICPs not read in the previous 12 months were reviewed to determine whether reasonable endeavours were used to attain reads, and if exceptional circumstances existed.

Audit Commentary

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	Total ICPs unread for 4 months	Overall percentage read
November 2016	288	142	2665	99.13%
December 2016	289	147	2735	99.12%
January 2017	292	146	2847	99.09%
February 2017	293	151	2884	99.09%
March 2017	294	151	2748	99.13%
April 2017	297	158	2798	99.12%
May 2017	298	153	2444	99.00%

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment.

I reviewed a sample of ten ICPs not read in the previous four months determine whether exceptional circumstances exist, and if Mercury had used their best endeavours to obtain readings. In most cases, reads were unable to be obtained due to access issues, and only meter reader cards had been left. Two of these ICPs are in the process of having their meter relocated and reads are expected to be obtained as part of this process, and a read was obtained for another two ICPs since the report was run. Of the remaining six ICPs, I confirmed that the best endeavours requirement was met for two.

Exceptional circumstances, or compliance with the best endeavours requirement could not be confirmed in all cases. This is recorded as non-compliance below.

Non-compliance	Description
Audit ref:6.10 With: Clause 8(1) & (2) of schedule 15.2 From/to: May 2017	For four ICPs without an actual read for four months, exceptional circumstances could not be confirmed, and there was insufficient evidence that the best endeavours requirement was met. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating:2
Audit Risk Rating	**Rationale for audit risk rating**
Low	Four cases were identified where exceptional circumstances could not be confirmed, and there was insufficient evidence that the best endeavours requirement was met.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have a 99% read rate overall. We have identified ways to ensure that we are meeting the best endeavours requirements and are developing processes.	30.09.2017	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

6.11 NHH meter interrogation log (Clause 10 Schedule 15.2)

The following information must be logged as the result of each interrogation of the NHH metering:
10(a) - the means to establish the identity of the individual meter reader
10(b) - the ICP identifier of the ICP, and the meter and register identification
10(c) - the method being used for the interrogation and the device ID of equipment being used for interrogation of the meter.
10(d) - the date and time of the meter interrogation.

Audit Observation

NHH data is collected by AMS, Metrix and Wells. The data collection processes were reviewed as part of their MEP and agent audits.

A sample of five readings each for provider were traced from the source reading files to Mercury's systems including review of the content of the files provided.

Audit Commentary

Compliance with this clause has been demonstrated by the agents and MEPs, and is discussed in their audit reports.

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

Raw meter data from all electronically interrogated metering installations must be obtained via the services access interface. This may be carried out by a portable device or remotely.

Audit Observation

HHR data is collected by EDMI and AMCI. I traced a sample of volumes for five ICPs for each provider from the source files to SAP.

Audit Commentary

This clause requires that data from all half hour metering must be obtained by electronic interrogation of meters or data loggers. The clause also allows manual data collection to occur. These processes were reviewed as part of the MEP and agent audits.

The volumes recorded in SAP matched the source files.

Compliance is confirmed.

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

The following information is collected during each interrogation of HHR metering:

- *the unique identifier (device ID) of the meter or data logger;*
- *the connection time, disconnection time and recorder time;*
- *the half-hour metering information for each trading period;*
- *events log.*

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

A walkthrough of the HHR data collection function was performed to confirm compliance.

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

Audit Commentary

Data interrogation requirements were reviewed in EDMI and AMCI's audits.

Manual data collection processes were also examined and compliance is confirmed. In the previous audit, non-compliance was recorded because event logs were not provided by EDMI where data was collected manually. This issue has now been cleared, event logs and clock synchronisation information were confirmed to be provided to EDMI and passed on to their customers during the EDMI audit.

Compliance is confirmed.

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

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
A walkthrough of the HHR data collection function was performed to confirm compliance.

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

Audit Commentary
Data interrogation log requirements were reviewed in EDMI and AMCI's audits.

Compliance is confirmed

7. Storing raw meter data

7.1 Trading period duration (Clause 13 Schedule 15.2)

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

Audit Observation
A sample five read files each for EDMI and AMCI were checked using the typical case sample methodology.

Trading period duration for MEPs was reviewed as part of their agent audits.

Audit Commentary
Review of five meter interrogation logs per agent confirmed that trading period duration is 30 minutes.

Compliance is confirmed.

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

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

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

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

Audit Observation

Processes to archive and store raw meter data were reviewed. Raw meter data from 2013 was reviewed to ensure that it is retained.

Audit Commentary

When this data reaches SAP the level of security is also robust, and unauthorised personnel cannot access data. Metering, billing and risk control staff have access to modify meter reading information in SAP.

I reviewed raw NHH and HHR meter data from as early as 1999 recorded in SAP, confirming that meter reading data is retained for at least 48 months.

Compliance with clause 18.3 of schedule 15.2 was examined, which requires that ".....meter readings cannot be modified without an audit trail being created." Readings cannot be modified without an audit trail being created. Validation occurs in a temporary table before it becomes a permanent record and meter readings are not edited. I viewed these audit trails, and they are discussed in further detail in **section 2.4**.

No paper based readings are received.

Compliance is confirmed.

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

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

Mercury collects unmetered data in relation to streetlights, and this information is appropriately archived.

Compliance is confirmed.

7.4 Data Storage Device Clock Synchronisation (Clause 2(5)&(6) of Schedule 15.2)

When electronically interrogating the meter the participant must ensure that the clock is synchronised and correct the clock and raw data where necessary.

Audit Observation

Clock synchronisation processes for MEPs were reviewed as part of their MEP audits. MEPs and their agents are to advise Mercury of clock synchronisation discrepancies and adjustments.

Review of clock synchronisation event information.

Audit Commentary

Clock synchronisation processes for MEPs were reviewed as part of their MEP audits.

Clock synchronisation event information is emailed to Mercury. No examples of these emails were available for EDMI during the audit period. I saw one example of a clock synchronisation event emailed to Mercury by AMCI, where two intervals of consumption were recorded in one interval due to a clock synchronisation event. Mercury appropriately used estimation to split the consumption between the two intervals for reporting.

Compliance is confirmed.

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)

If errors are detected during validation of non-half hour meter readings, one of the following must be undertaken:
- confirmation of the original meter reading by carrying out another meter reading
- replacement of the original meter reading by another meter reading (even if the replacement meter reading may be at a different date)
- if the original meter reading cannot be confirmed or replaced by a meter reading from another interrogation, then an estimated reading is substituted and the estimated reading is marked as an estimate and it is subsequently replaced in accordance with clause 4(2).

Audit Observation

Processes for correction of NHH meter readings were reviewed.

Audit Commentary

Where errors are detected during validation of NHH meter readings, a check reading is performed. If an original meter reading cannot be confirmed by a check reading then an estimated reading is used.

The estimate is calculated using data from a period with a quantity and profile similar to that expected is used. The estimate is based on the previous 12 months consumption, or if this is not available then consumption from the previous two readings are used. This estimated reading is labelled as an estimate and a "contact" is entered which describes the reason for the change.

I checked five examples where meters had stopped recording. Mercury's process is to correct the consumption for the entire period and to then apportion it over the previous 14 months to ensure all consumption is accounted for. There may be delays in identifying stopped and faulty meters due to the bi-monthly reading cycle. I also confirmed that the relevant consumption flowed through to the revision files.

One ICP was found to have an incorrect multiplier applied. Multipliers of 30 and 50 were transposed between the two meters on the ICP. I reviewed the correction calculations and confirmed that the whole correction was processed within 14 months.

When AMI meters have been bridged, the consumption information is appropriately corrected and this flows through to submission files. This is achieved through a meter reprogram process. The meter is closed on an estimated read which captures the estimated consumption during the bridged period, and then restarted on the meter read that applied when the meter was unbridged. I reviewed six examples of bridged meters and noted that consumption during the bridged period has been appropriately entered in five cases. For ICP 0005246865RN090, the meter was found to be bridged on switch in. A job was raised and the meter unbridged. Paperwork was received on 27/03/17 but no estimate of consumption during the bridged period was entered. This is recorded as non-compliance below.

Consumption that has occurred while an ICP is inactive will only be reported if the status is corrected back to active. The historic estimate process apportions consumption between reads to the days that the ICP has been active during the read period. I reviewed ten ICPs where consumption had been detected during a disconnected period. Of those, five ICPs had been made active and the consumption was captured on the reconciliation reports. The other five ICPs remained inactive, and no correction has been completed. Four of the affected ICPs have been disconnected since 2014, and one since 2016.

When a meter reading is found to be transposed, Mercury swaps the readings between registers but leaves both readings as actual. If a reading is found to be one unit different to a previous reading, it may be modified to match the previous reading. Some staff leave these readings as actual, and some will make the reads estimate. This is recorded as non-compliance below.

Non-compliance	Description
Audit ref: 8.1 With: 19(1) Schedule 15.2 From/to: 1/6/16-31/5/17	One bridged meter did not have consumption estimated during the bridged period. Five ICPs with consumption while disconnected, have not had their consumption while disconnected reported. Where a meter reading is modified by Mercury, including being recorded against a different meter or register or having its value changed, it should be recorded as an estimated reading. Only readings that exactly match the details in the source file should be recorded as actual validated readings. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating:2
Audit Risk Rating	**Rationale for audit risk rating**
Low	Consumption during the bridged period is normally entered. I identified one instance where the correction was not processed due to human error. The ICP is domestic and consumption during the bridged period is expected to be low. The total consumption while disconnected for the affected ICPs is 844 kWh. There is a process in place to report consumption while disconnected, but in some cases, there are delays in processing, or ICPs may be missed. In situations where meters are transposed, it is likely that the meter readings are correct. In other cases where reads are changed but remain actual, small volumes are usually involved.

Actions taken to resolve the issue	Completion date	Remedial action Status
For ICP 0005246865RN090, usage did not need to be estimated as start read was lower than unbridge reading. Investigating regarding Five ICPs with consumption while disconnected that have not had their consumption while disconnected reported; will correct. We are formalising a new process so that modified readings (for example for transposed or rollback reads) are noted as estimates.	31.08.2017	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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

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

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

- 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.

Audit Commentary

Where errors are detected during validation of half-hour metering information, and check metering data is not available, then data from a period with a quantity and profile similar to that expected is used. SAP has a dropdown list for the user to select the correction technique. The common techniques are as follows:

- Extrapolate - a previous similar time period is used
- Interpolate - a previous time period is used and the result is permanent
- Divide/multiply - this technique is used for examples like phase failure
- Add - data is added to existing data
- Type in - if a manual calculation is performed or if check metering is used the result can be entered in.

When previous time periods are used, the day of the week is considered, so if data is missing for a Tuesday, the previous time period used will be a Tuesday. Stat holidays are also taken into consideration. SAP has a built in audit trail for all estimations and corrections

Five HHR correction examples and five estimation examples were reviewed and found to have used the best data available. Compliance is confirmed.

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

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

Audit Observation

Error and loss compensation arrangements were discussed.

Audit Commentary

Mercury does not deal with any loss and compensation arrangements. If a compensation arrangement was in place, this would be identified through the load check process employed at the time of certification or recertification. Compliance is confirmed.

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

In correcting a meter reading in accordance with clause 19, the raw meter data must not be overwritten. If the raw meter data and the meter readings are the same, an automatic secure backup of the affected data must be made and archived by the processing or data correction application. If data is corrected or altered, a journal must be generated and archived with the raw meter data file. The journal must contain the following:
22(2)(a) - the date of the correction or alteration
22(2)(b) - the time of the correction or alteration
22(2)(c) - the operator identifier of the reconciliation participant
22(2)(d) - the half-hour metering data or the non-half hour metering data corrected or altered, and the total difference in volume of such corrected or altered data
22(2)(e) - the technique used to arrive at the corrected data
22(2)(f) - the reason for the correction or alteration.

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

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

Audit Commentary
I reviewed journals for HHR and NHH data corrections and noted that they were compliant with the requirements of this clause.

Compliance is confirmed.

9. Estimating and validating volume information

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

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

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

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

Audit Commentary
Readings are clearly identified as required by this clause. Compliance is confirmed.

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

Volume information must be directly derived, in accordance with Schedule 15.2, from:
3(4)(a) - validated meter readings
3(4)(b) - estimated readings
3(4)(c) - permanent estimates.

Audit Observation

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

Audit Commentary

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

Compliance is confirmed.

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

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

Audit Observation

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

I reviewed the method to receive meter reading information, and traced a sample of reads from the source files to Mercury's systems as discussed in **section 6.5**.

Audit Commentary

The MEP retains the raw, unrounded data.

NHH data

Manual meter readings do not record decimal places, and are not rounded or truncated on import into SAP. AMI data provided by AMS and Metrix is truncated on import, readings are recorded to zero decimal places.

HHR data

HHR volumes provided by EDMI are truncated. Volumes provided by AMCI are not truncated.

Generation data

I traced a sample of volumes from the source files to SAP for a sample of five NSPs for two days each and noted that the data was not rounded or truncated.

Compliance is confirmed.

9.4 Half hour estimates (Clause 15 Schedule 15.2)

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 five estimates were reviewed.

Audit Commentary

When Mercury has not received data prior to the deadline for providing submission information, then estimated data is provided. There is a requirement to use "reasonable endeavours" to ensure this data is accurate to within 10%.

HHR data corrections and estimations were reviewed in **section 8.2**, and found to use the best data available.

All the estimate examples provided were based on manual downloads, and the corrections provided were made using the best data available.

Compliance is confirmed.

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

Each validity check of non-half hour meter readings and estimated readings must include the following:
16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register
16(2)(b) - checks for invalid dates and times
16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend
16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected zero values.

Audit Observation

I reviewed and observed the NHH data validation process, including checking a sample of data validations. Review of SAP system parameters for read and consumption validation.

Audit Commentary

Data validation for NHH metering information occurs at multiple levels.

For manually read meters, Wells performs a localised validation within their hand held devices to ensure the reading is within expected high/low parameters. This is described further in the Wells audit report. Wells also provide information on meter condition, where it could affect meter accuracy or safety. This is discussed further in **section 6.6**.

All NHH read data undergoes validation as it is imported into SAP, I observed the exception reports generated by this process. The validation process includes:

- Checks that the data relates to an ICP, meter and register held within the system.
- Check that the read matches the number of digits expected for the meter.
- Checks for missing data. Reads are loaded against orders. Any outstanding orders are investigated to determine why a read was not received.
- The read import process identifies reads with invalid dates and times, or a date that does not match the expected read order date. It will also identify obvious data corruption.
- Billing validations, including checks for high reads and reads lower than previous will identify consumption not in line with the history for the ICP, or unexpected zero values.
- It is not possible to enter a read for a period which has already been billed.

A validation is also conducted to ensure readings are within an acceptable range, the validation process contains a graphical tool, which enables the current reading to be viewed in relation to historic consumption based on the last two actual reads. The high setting is 200% and the low setting is zero. Overall, this validation process is considered very robust. If a read is not validated, it will not be used by the billing or reconciliation process.

The credit team monitors meters with zero consumption and also consumption on vacant and disconnected ICPs. Zero consumption is checked periodically, a report of all meters with zero consumption is run for one day and worked through until each has been investigated. Where consumption is identified on vacant and disconnected ICPs, a field visit is conducted to identify whether there is a customer requiring registration or whether the normal “dunning” process needs to start so the ICP is ultimately disconnected. Submission occurs for all of this consumption regardless of whether it is billed or not.

Negative consumption is reviewed. Where an actual reading is received that is lower than the estimated switch in reading provided by the losing retailer, Mercury makes the actual reading unbillable and enters an estimated reading which matches the switch in read. Once the actual meter readings exceed the switch in reading the estimation process stops, and actual readings are applied. Where difference between the switch readings and subsequent actual readings is more than -200kWh, the read renegotiation process applies. This is discussed further in **sections 4.5** and **4.11**. It is expected that actual reads should be applied where received, even if that causes negative consumption for an ICP. This ensures that the sum of total consumption reported by the gaining and losing retailer will be correct. If the negative consumption is zeroed out, total consumption reported by the gaining and losing retailer will be overstated. The only exception is situations where the total consumption for the AV080 aggregation line will be negative, which will prevent the report from being uploaded into the allocation portal.

Non-compliance	Description
Audit ref:9.5 With: Clause 15.2 From/to: 1/6/16-31/5/17	Where a subsequent read is lower than the switch in reading, the negative consumption is zeroed out. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	Rationale for audit risk rating
Low	Any read differences greater than 200 kWh are expected to be dealt with through the read renegotiation process. Once reads catch up to the switch read, all consumption will be accounted for.

Actions taken to resolve the issue	Completion date	Remedial action Status
The customer benefits from our current process. Due to system limitations we are not able to enter a reading that is lower than the previous reading. If we do, rather than billing for negative consumption, our system treats it as if the meter has rolled over which makes it appear that usage has occurred vastly in excess of what has actually been used. This would be detrimental both from a customer and reconciliation standpoint.		Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have strong controls in general but are reviewing our process.	Before end of 2017	

The matter of bridged metering was evaluated to ensure validation processes are comprehensive enough to identify any meters that have been bridged. Mercury's zero consumption process will identify any bridged meters. I confirmed that consumption information is appropriately corrected and flows through to submission files, but found one example that had not been processed correctly. This is raised as non-compliance in **section 8.1**.

A further validation occurs in the billing process. Any invoices that fail validation and cannot be reasonably explained are held and investigated.

In the previous audit, a recommendation was raised to check the first invoice for all CT metered installations and compare compensation factors against the registry. Mercury decided to rely on their processes to match data to the registry to ensure compensation factors and CT metering details are accurate. These processes are discussed further in **section 2.1**. It was considered impractical to check all first invoices due to the high volumes.

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

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

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

Audit Observation
Review of meter event logs and validation checks. Walk through of the validation process.

Audit Commentary
Information used to determine volume information is provided by MEPs and agents. This function was examined as part of their respective audits.

Readings are appropriately labelled. I checked the content of a sample of reading files in **section 6.5** and confirmed that the raw information matched SAP.

HHR
Interrogation occurs regularly so there is little risk that data will be overwritten.

The validation process was examined. Each validity check for HHR metering information includes:

- a master data check to ensure data is for the correct ICP
- checks for missing data
- checks for invalid dates and times
- checks of unexpected zero values (these settings are at ICP and some are set to allow for a certain number of zeros depending on the customer type)
- comparison with expected or previous flow patterns (these can be viewed graphically)
- max kW for the relevant CT/VT ratio
- negative values
- a sum check is completed as part of the billing validations.

In situations where data fails validation and a logical reason cannot be found, the issue is referred to the account manager for further investigation. If the account manager's findings are inconclusive or indicate a problem, a site visit is arranged.

HHR meter event information is managed by EDMI and AMCI, who email Mercury if events have occurred that require their attention. No examples were available for EDMI. I reviewed examples of voltage and tamper alerts sent by AMCI, and noted that they had been appropriately followed up by Mercury.

Generation

Reads are received via SFTP. They are imported into SAP automatically, and validated using the same process as other HHR data. I observed the validation process and noted that checks include:

- a master data check to ensure data is for the correct ICP
- checks for missing data
- checks for invalid dates and times
- checks of unexpected zero values (these settings are at ICP and some are set to allow for a certain number of zeros depending on the customer type)
- comparison with expected or previous flow patterns (these can be viewed graphically)
- max kW for the relevant CT/VT ratio
- negative values.

No event logs are provided. A web based system provides information on any outages or issues, and was viewed during the audit. Generation staff monitor metered consumption, and notify the Energy Services team if they become aware of any issues.

I traced a sample of volumes from the source files to SAP for a sample of five NSPs for two days each and noted that the data matched.

AMI

The Code requires *"…a review of meter and data storage device event log. Any event that could have affected the integrity of metering data must be investigated."*

Mercury receives AMI data from some MEPs. The MEPs must check the event log for evidence of malfunctioning or tampering and they must pass relevant event log entries to the reconciliation participant for the metering installation. The reconciliation participant must conduct a review of meter and data storage device event log. Any event that could have affected the integrity of metering data must be investigated. Event information provided by the MEPs is not investigated or reviewed in accordance with this clause. I recommend the examination of at least the following events:

- generation consumption indicating unknown solar installations (reverse power)
- phase failure on CT metered installations
- tampering
- large clock discrepancies.

Metering events emailed to Mercury by the MEPs are reviewed and actioned. I saw evidence of field service jobs raised with Metrix and AMS as a result of these reviews. In most cases a field services job was raised the day the email was received.

Non-compliance	Description
Audit ref:9.6 With: Clause 17 of schedule 15.2 From/to: 1/6/16-31/5/17	AMI event information not adequately obtained and monitored. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Weak Breach Risk Rating: 3
Audit Risk Rating	**Rationale for audit risk rating**
Low	Mercury is monitoring and actioning emailed event information.

Actions taken to resolve the issue	Completion date	Remedial action Status
We will liaise with MEPs to ensure we are receiving the AMI event logs and will develop and implement a process so that we are taking the appropriate action.	Before end of 2017	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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)

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

Mercury confirmed that no information is provided to the pricing manager in accordance with this clause.

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

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

Mercury confirmed that no information is provided to the pricing manager in accordance with this clause. No estimates or corrections have been made.

10.3 Loss adjustment of HHR metering information (Clause 13.138)

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

Mercury confirmed that no information is provided to the pricing manager in accordance with this clause.

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

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

Mercury confirmed that no information is provided to the pricing manager or grid owner in accordance with this clause.

11. Provision of submission information for reconciliation

11.1 Buying and selling notifications (Clause 15.3)

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

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

Audit Observation

A registry list was reviewed for the audit period to confirm the profiles used. Processes to create buying and selling notifications were reviewed. The NZX Reconciliation User Guide was reviewed.

Audit Commentary

AV080 and AV090 submissions are checked against open trading notifications as part of the electricity reconciliation portal validation checks. If a trader notification is required but has not been provided, the submission will fail to upload.

The registry also provides a daily AV-160 trading notifications report to the reconciliation manager, which shows the first and last date each participant traded at each NSP.

When needed, trading notifications are created on the electricity reconciliation portal. There is no facility to enter profile code on the portal, so notifications are only created where Mercury begins or ceases trading on an NSP.

Clause	Issue	Remedial action
With: Clause 15.3	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.	Pass to EA for investigation.

I reviewed the registry list and confirmed that notifications were provided where required. Compliance is confirmed.

11.2 Calculation of ICP days (Clause 15.6)

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.

Audit Observation

The process for the calculation of ICP days was examined by checking five NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct.

I reviewed variances for 11 months of GR100 reports, and investigated any large discrepancies.

Audit Commentary

The process for the calculation of ICP days was examined by checking five NSPs with a small number of ICPs. The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between Mercury files and the RM return file (GR100) for all available revisions for 11 months. Negative percentage figures indicate that the Mercury ICP days figures are higher than those contained on the registry. The discrepancies are very small and consistent.

Month	Ri	R1	R3	R7	R14
Jul-15	-	-	-	-	-0.03%
Aug-15	-	-	-	-	-0.03%
Sep-15	-	-	-	-0.02%	-0.02%
Oct-15	-	-	-	-0.02%	-0.03%
Aug-16	-0.02%	-0.03%	-0.03%	-0.02%	-
Sep-16	-0.03%	-0.03%	-0.03%	-0.02%	-
Oct-16	-0.02%	-0.02%	-0.02%	-0.02%	-
Nov-16	-0.02%	-0.03%	-0.03%	-	-
Dec-16	-0.02%	-0.03%	-0.02%	-	-
Jan-17	-0.01%	-	-0.02%	-	-
Feb-17	-0.01%	-0.02%	-0.02%	-	-

During the last audit, some ICPs were found to have the incorrect NSP assigned in the ICP days file. This issue is now resolved. The 11 affected ICPs were checked during the audit, and all are now recorded with the correct NSP.

Compliance is confirmed.

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

A retailer must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each NSP, aggregated by invoice month, for which it has provided submission information to the reconciliation manager, including revised submission information for that period as non- loss adjusted values in respect of:
15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period
15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

Audit Observation

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

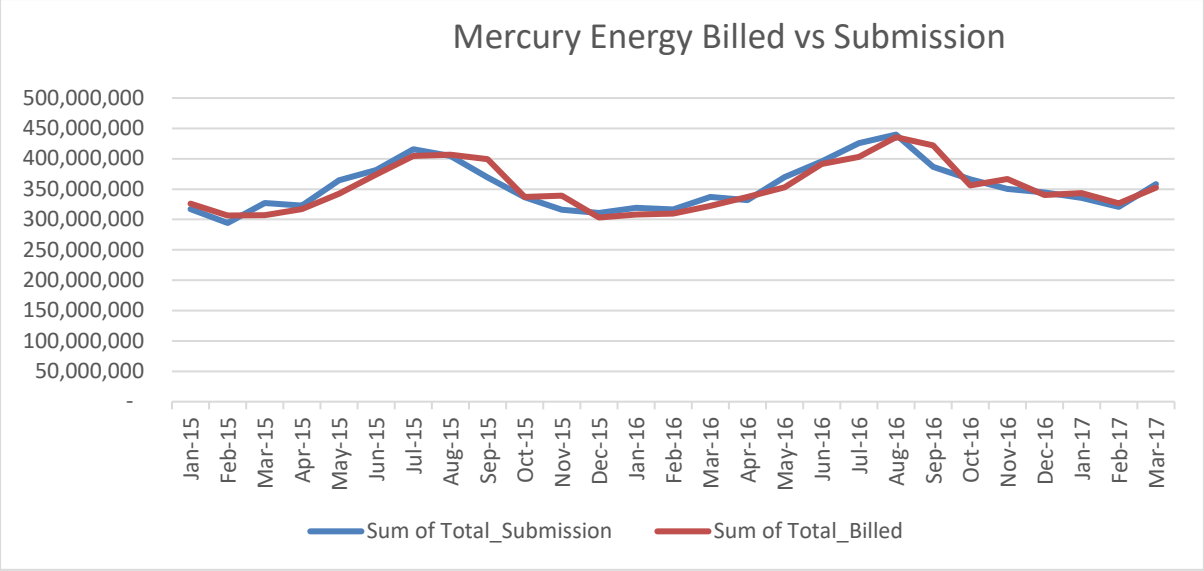
GR130 reports for January 2015 onwards were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

Audit Commentary

The process for calculating and submitting electricity supplied information was examined by checking individual invoices for a typical sample of five NSPs to ensure the billed amount equalled the figure in the ICP level file which forms the basis of the aggregate file sent to the RM. The file is correct for the sample checked. Compliance is confirmed.

The table below shows a comparison between submissions and electricity supplied information. At an aggregate level, submitted data is -0.35% higher than billed data for the two years ended March 2017.

Comparison between Submitted Volumes and Electricity Supplied



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

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, and matching a sample of volumes to the values recorded in SAP.

The "ICP Missing" files were examined for January to May 2017. An extreme case sample of the ten ICPs with the largest number of months containing missing data were reviewed.

Audit Commentary

The "ICP Missing" files were examined for all revisions for January to May 2017. All the missing ICPs reviewed related to either unmetered ICPs with HHR profile, backdated status changes, or timing issues around switches, switch withdrawals, metering changes, or MEP changes. Delays in updating registry information or processing of switch files are discussed in other sections of the report. No issues with missing data were identified.

Mercury reviews the ICP missing files, on business day 5 and 10, to identify any issues that require correction. I saw evidence of this review.

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data for January 2017 3 month, February 2017 initial, April 2017 initial and one month, and May 2017 one month submissions. A sample of volumes reported were traced through to SAP and found to match.

For the January three month submission and both April submissions, I confirmed that there were only small rounding differences between the volumes and aggregate files. These submissions had a maximum NSP level difference of ±7 kWh and an overall difference less than ±120 kWh.

For the February and May submissions, there were some larger differences between the volumes and aggregates files, although each pair of files appears to have been generated on the same day.

Submission month	Date generated	HHR Volumes Total	HHR Aggregates Total	Difference	Maximum NSP level difference
Feb 2017	06/03/2017	121,842,738.89	121,728,620	144,119	144,025
May 2017	06/06/2017	187,198,624.22	187,198,246	378	-1,478
May 2017	20/06/2017	188,239,477.27	188,239,239	238	-1,478

It is expected that the volume and aggregate submissions should be based on the same information. The differences between submission and aggregate information are recorded as non-compliance below. I recommend investigating the reason for these differences and ensuring that wash up submissions for these months are consistent and correct.

The HHR Aggregates files are prepared at ICP level based on submission information. This has previously been recorded as compliant and this is the information expected by the reconciliation manager. It has recently been found that clause 15.8 states that the aggregates file should contain electricity supplied information rather than submission information and electricity supplied information is defined as shown below:

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

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

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

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

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

Whilst the Code clearly states this file should be derived from financial records, I recommend Mercury liaises with other participants to consider recommending a Code change which will allow for the aggregates files used in the industry to remain unchanged.

Non-compliance	Description
Audit ref: 11.4 With: Clause 15.8 of part 15 From/to: 1/2/17-31/5/17	There are differences between HHR volume and aggregate information that do not appear to be caused by rounding. HHR aggregates file does not contain electricity supplied information. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	Only a small number of NSPs and months appear to be affected. Most submission information checked contained only the expected rounding differences. Mercury is reporting submission volumes at ICP level as expected by the reconciliation manager.

Actions taken to resolve the issue	Completion date	Remedial action Status
Regarding HHR volume and aggregate information issue, we do have a robust process in place however we are currently investigating what is causing this with a view to rectifying.	Before end of 2017	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The HHR aggregates file issue is a known issue as noted, Impossible for participants to be compliant due to anomaly within code. Regarding the recommendation to liaise with other participants to consider recommending a Code change, a code change request was submitted to the EA by Switch Utilities Limited in August 2016.		

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 15.8	Check HHR volume and aggregate submissions are consistent, and investigate any significant inconsistencies prior to submission.	We will review further and consider the recommendation	Investigating

12. Submission computation

12.1 Daylight saving adjustment (Clause 15.36)

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

Data processes for agents were reviewed as part of their agent audits.

A diverse characteristics sample of six daylight savings adjustments were reviewed, covering changes to and from daylight savings, and different MEPs and agents.

Audit Commentary

Data processes for agents and MEPs were reviewed as part of their audits.

The "trading period run on" technique is used for daylight saving adjustment. This was confirmed by checking a sample of six daylight savings adjustments, including adjustments for the start and end of daylight saving. The correct number of trading periods were recorded.

Compliance is confirmed.

12.2 Creation of submission information (Clause 15.4)

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

Actual AV080, AV090, AV110 and AV140 submission dates and times on the allocation portal were compared to a list of expected submission dates and times. A typical sample of two months and 20 reports was reviewed.

A list of breaches was obtained from the Electricity Authority. There were no breaches for late provision of submission information.

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

A sample of NHH ICPs were checked to make sure they are handled correctly, including unmetered load, 11 ICPs with distributed generation, and 10 vacant ICPs with consumption. Further information on calculation of historic estimate is recorded in **section 12.11**.

A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **section 8.1 and 8.2**.

Audit Commentary

No breaches had been recorded for late provision of submission information.

I checked reconciliation submission dates and times on the allocation portal against a list of expected due dates and times for submissions made in April and May 2017. All submissions were made on time.

In the last audit, non-compliance was raised in relation to Mercury not completing revisions for DUML corrections. This alleged breach was investigated by the Electricity Authority's Compliance Committee, who decided not to take any action on the alleged breach, as the impact was minor. The Mercury Energy Services team advise that they intend to complete wash ups for DUML corrections.

The NHH pre-submission review process includes:

- GXP level comparison to the same period last year and previous month for initial submission. For revision submissions, a comparison to previous submissions for the month is also completed. If anomalies are identified, it is possible to drill down to ICP level to identify and investigate the cause of the difference.
- ICPs with consumption over 70,000 kWh are checked against a list of known high users. Any ICPs with high consumption not on the list will be investigated, and added to the list if necessary.
- Exception reports are run to identify possible situations where meter rollovers have not been processed correctly, usually due to an incorrect number of dials being recorded. These are then investigated and corrected.

A recommendation to check HHR aggregates and volumes submissions are consistent is raised in **section 11.4**.

All pre-submission checks are reviewed by the Pricing Operations and Energy Services Manager, who provides approval via email. I saw evidence of this approval process for HHR and NHH submissions.

I checked the process for NHH to HHR upgrades, and HHR to NHH downgrades, to ensure all consumption information was accounted for. I walked through one example of each.

- For upgrades, the process is to end the NHH meter the day before and consider the ICP HHR all day, with the trading periods prior to the meter change populated with zeros.
- For downgrades the process is to end the HHR meter on the day of the change, and begin the NHH meter from the installation read the following day.

This process ensures all consumption is accounted for.

Compliance is confirmed.

12.3 Allocation of submission information (Clause 15.5)

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

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

Audit Observation

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

The process to ensure that AV080 submissions are accurate was discussed. The process for aggregating the AV080 was examined by checking five NSPs with a small number of ICPs.

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

Audit Commentary

The process for the calculation of NHH volumes was examined by checking five NSPs with a small number of ICPs. NHH volume calculation was confirmed to be correct.

The Energy Services team check NHH submissions against balancing data received from the reconciliation manager and NSP notifications using an Access database. This process identifies and adds any zero rows that are needed, and confirms that the before and after volume totals remain the same. This process was observed, and compliance is confirmed.

GR170 and AV080 files for September 2015 to November 2015 were compared, and found to contain the same NSPs, confirming that zeroing is occurring as required.

Raw volumes provided for five ICPs were traced from the read files through to the HHR aggregates submissions. All data matched as expected.

I reviewed submissions for a sample of ten ICPs with injection/export registers, and confirmed that generation consumption is correctly submitted. A sample of eleven ICPs with vacant consumption were checked, and I confirmed that vacant consumption is reported.

Compliance is confirmed.

12.4 Grid owner volumes information (Clause 15.9)

The participant (if a grid owner) must deliver to the reconciliation manager for each point of connection for all of its GXPs, the following:
- submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.9(a))
- revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period (clause 15.9(b)).

Audit Observation
A registry list was reviewed to confirm that Mercury has not supplied any GIPs.

Audit Commentary
Examination of the list file found that Mercury has not supplied any GIPs. Mercury is not required to report any grid owner volume information.

12.5 Provision of NSP submission information (Clause 15.10)

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 that Mercury does not own any local or embedded networks.

Audit Commentary
Examination of the list file found that Mercury does not own any local or embedded networks. Mercury is not required to provide NSP submission information.

12.6 Grid connected generation (Clause 15.11)

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 process to create AV130 (NSP volume information) was reviewed.

Data for a sample of six NSPs was traced from the meter data received through to the AV130 submission files.

A sample of five submissions were checked for timeliness on the allocation portal.

Audit Commentary
Mercury creates AV130 submissions for grid connected generation.

Data for a sample of six NSPs was traced from the meter data received through to the AV130 submission files; all values matched.

The five initial submissions reviewed were submitted on time. Revision submissions are not provided, unless data has changed. Mercury confirmed that there had been no changes since the data was originally submitted.

Compliance is confirmed.

12.7 Accuracy of submission information (Clause 15.12)

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
AV080, AV090, AV110 and AV140 submission dates and times were reviewed on the allocation portal, to confirm that revised submissions are provided at the next available opportunity. Where revised submissions were not provided, I reviewed the data to confirm whether there had been any changes from the previous submission.

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

Audit Commentary

Review of submissions on the allocation portal confirmed revisions were submitted as expected.

Compliance is confirmed.

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

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

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

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

Audit Observation

AV080 14 month revisions were reviewed for September, October and November 2015 to identify any forward estimate still existing.

Audit Commentary

Forward estimate remained for the September, October and November 2015 14 month revisions. Mercury does not replace estimates with permanent estimates by revision 14. This is recorded as non-compliance below.

Non-compliance	Description
Audit ref:12.8 With: Clause 4 of Schedule 15.2 From/to: September, October and November 2015 14 month revisions	Not all meter readings were made permanent estimates by the 14 month revision. Forward estimate remained for the September, October and November 2015 14 month revisions. Potential impact: Medium Actual impact: Unknown Audit history: Seven times previously Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	The forward estimate amount was 352,138 kWh across the three revisions checked.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have changed our process to make the estimated reading a permanent estimate. This was done in January, backdated 14 months, going forward should be correct.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

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

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)):

- half hour volume information for the ICP; or

- non half hour volumes information calculated under clauses 4 to 6 (as applicable).

- unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information (clause 2(1)(c)).

- to create non half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):

(a) the certification of the control device is recorded on the registry; or

(b) the metering installation in which the control device is location has interim certification.

- to create submission information for a point of connection the reconciliation participant must apply to the raw meter data (clause 2(3):

- for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))

- 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.

The Registry list was reviewed to ensure that all ICPs with category 3 higher metering installations have half hour data provided.

Audit Commentary

Aggregation of the AV080 and AV110 submissions are covered in **sections 13.2 and 11.2** respectively. Aggregation of AV090 and AV140 submissions is discussed in **section 11.4**.

There were no active ICPs with meter category 3 or higher that did not have HHR data reported.

Unmetered load was checked and confirmed to be reported correctly in **section 12.2**. Certification of control devices is discussed in **section 6.3**.

Mercury does not deal with any loss and compensation arrangements, as discussed in **section 8.3**.

Compliance is confirmed.

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

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

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

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

Audit Observation

Review of 15 AV080 submissions for revisions 3 to 14, to confirm that historic estimates are included and identified.

Permanence of meter readings is reviewed in **section 12.8**. The methodology to create forward estimates is reviewed in **section 12.12**.

Audit Commentary

I reviewed 15 AV080 submissions for a diverse sample of months and revisions and confirm that forward and historic estimates are included, and identified as such. Compliance is confirmed.

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

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

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

Audit Observation

To assist with determining compliance of the Historical Estimate (HE) processes, Mercury was supplied with a list of scenarios, and for some individual ICPs a manual HE calculation was conducted, and compared to the result from Mercury's system.

Audit Commentary

Mercury provided examples of historic estimate calculations which were reviewed. The check of calculations included confirming that readings and Seasonal Adjusted Shape Values (SASV) were applied correctly.

The process for managing shape files was examined. There is an automated process where the RM web server is polled for new files, which are moved to the system production files. I viewed the data capture process and noted that files had been processed as expected, and the most recent files were available.

Test	Scenario	Test expectation	Result
A	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
B	ICP becomes Active then Inactive within a month.	Consumption is only calculated for the Active portion of the month.	Has not occurred
C	ICP becomes Inactive, then Active, then Inactive again within a month.	Consumption is only calculated for the Active portion of the month.	Has not occurred
D	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
E	ICP Starts on the 1st day of a month.	Consumption is calculated to include the 1st day of responsibility.	Compliant
F	ICP Ends on the Last Day of the month.	Consumption is calculated to include the last day of responsibility.	Compliant
G	ICP Starts part way through a month.	Consumption is calculated to include the 1st day of responsibility.	Compliant
H	ICP Ends part way through a month.	Consumption is calculated to include the last day of responsibility.	Compliant
I & J	ICP is Lost and Won Back in a month.	Consumption is calculated for each day of responsibility.	Not compliant

Test	Scenario	Test expectation	Result
K	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant
L	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant
M	ICP Starts on 1st and Ends on Last day of month.	Consumption is calculated for each day of responsibility.	Compliant
N	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant

The historic estimate calculations for scenario H and M were correct, but for the examples provided (ICPs 0000006712TE442 and 0000035407HRB8B respectively) the switch read in the CS files did not relate to the last day Mercury supplied the ICP. This issue is raised as non-compliance in **section 4.10**.

Compliance is confirmed for all scenarios tested, except where an ICP switches back to Mercury after switching out to another retailer. In these cases, the SASV calculation does not include the second (or subsequent) switch in date. For any site that switches in, we expect part of the period's consumption to be apportioned to this opening read date. While Mercury will still capture all consumption that occurred during the period of supply, it may not be recorded within the correct consumption period. This is recorded as non-compliance below.

Non-compliance	Description
Audit ref:12.11 With: Clause 4 & 5 of Schedule 15.3 From/to: entire audit period	Historic estimate is not calculated correctly for the switch in month, where an ICP has switched back to Mercury after being supplied by another retailer. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	**Rationale for audit risk rating**
Low	All consumption will be reported, but some consumption may not be reported in the correct period. All other historic estimate scenarios were compliant, and this scenario is not common.

Actions taken to resolve the issue	Completion date	Remedial action Status
We have identified this as a system issue and are currently scoping resource to rectify.	First half of 2018	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

Consumption while inactive will only be reported if the ICP status is corrected to active. This is recorded as non-compliance in **section 8.1**.

12.12 Forward estimate process (Clause 6 Schedule 15.3)

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

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

Audit Observation

The process to create forward estimates was reviewed.

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

Audit Commentary

Mercury's forward estimates are based on either:

- historic readings
- historic daily average consumption based on price plan and billing group.

Mercury's forward estimate process also includes a "factoring" process, which involves the use of the average of the previous two-year's profile shape. This ensures that submission information is not understated or overstated during "shoulder" months.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. The table below shows the target was not met for all revisions. Non-compliance is recorded below.

Quantity of balancing areas with differences over 15% and 100,000 kWh

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total
Sept 2015	0	1	0	0	225
Oct 2015	3	2	2	1	216
Nov 2015	0	1	1	1	217
Jun 2016	4	2	3	-	227
Jul 2016	1	0	0	-	227
Aug 2016	0	0	0	-	230
Sep 2016	0	1	-	-	234
Oct 2016	1	1	-	-	244

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total
Nov 2016	3	2	-	-	246

The total variation between revisions at an aggregate level is shown below.

Month	Revision 1	Revision 3	Revision 7	Revision 14
Sept 2015	-1.72%	-1.27%	-1.16%	-1.14%
Oct 2015	1.34%	2.02%	2.14%	1.94%
Nov 2015	0.52%	1.17%	1.29%	1.47%
Jun 2016	4.55%	4.08%	4.22%	-
Jul 2016	2.04%	2.07%	2.15%	-
Aug 2016	-1.31%	-1.37%	-1.18%	-
Sep 2016	-0.35%	-0.45%	-	-
Oct 2016	0.91%	0.90%	-	-
Nov 2016	0.67%	0.67%	-	-

I checked some balancing area specific variations and in most cases, the issues relate to areas where there are frequent NSP changes, or where forward estimates were later replaced with actuals.

Non-compliance	Description
Audit ref:12.12 With: Clause 6 of Schedule 15.3 From/to: Sep 15, Oct 15, Nov 15, Jun 16, Jul 16, Sep 16, Oct 16 and Nov 16	FE accuracy threshold not met for some balancing areas. Potential impact: Low Actual impact: Low Audit history: Eight times previously Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	Rationale for audit risk rating
Low	Initial data is replaced with revised data, and washed up.

Actions taken to resolve the issue	Completion date	Remedial action Status
A robust process is in place; we will monitor and review the process as required. Some variance is to be expected due to no reads or estimated reads on the initial submission. To some extent, these variances are unavoidable (for example, as a result of a small numbers of ICPs having seasonal consumption only) and should be considered likely to recur.		No action planned
Preventative actions taken to ensure no further issues will occur	Completion date	
Refer above comments		

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

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

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

Audit Observation

The registry list was examined to identify all ICPs which had a profile change during the audit period. A typical sample of five ICPs with profile changes were reviewed to confirm that there was an actual reading on the day of the profile change.

Audit Commentary

All profile changes are conducted using a meter reading or a permanent estimate on the day of the profile change. Compliance is confirmed.

13. Submission format and timing

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

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

Audit Observation

I reviewed meter reading reports for March to May 2017, to confirm that they meet the meter reading frequency report requirements.

I reviewed processes to ensure the reports are accurate and submitted on time, and the timeliness of submission for a sample of reports.

Audit Commentary

I reviewed meter reading reports for March to May 2017, and confirmed that they met the meter reading frequency report requirements and were sent before the 20th business day of each month.

I saw the Energy Services team task schedule, which has submission of these reports listed to be completed by day 20.

Compliance is confirmed.

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

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

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

Audit Observation

The process to ensure that AV080 submissions are accurate was discussed. Aggregation of the AV080 report was checked for a sample of small NSPs for one month.

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

Audit Commentary

I checked aggregation for a sample of five NSPs on the March 2017 report, and found that the AV080 was aggregated correctly. Compliance with the requirement to use correct aggregation factors is confirmed.

13.3 Reporting resolution (Clause 9 Schedule 15.3)

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, AV140 and AV080 reports as part of the aggregation checks.

Audit Commentary

Review of 15 AV080 non half hour volumes reports confirmed that submission data is rounded to zero decimal places.

Review of six AV-090 half hour volumes reports confirmed that submission data is rounded to zero decimal places

Review of six AV-140 half hour aggregates reports confirmed that submission data is rounded to two decimal places.

Compliance is confirmed, as no volume information is rounded to more than two decimal places.

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

By 1600 hours on the 13th business day of each reconciliation period the reconciliation participant must report to the reconciliation manager the proportion of historical estimates per NSP contained within its non-half hour submission information.
The proportion of submission information per NSP that is comprised of historical estimates must (unless exceptional circumstances exist) be:
- at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))
- at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))
- 100% for revised data provided at the month 14 revision (clause 10(3)(c)).

Audit Observation

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

I reviewed eight months of AV080 reports to confirm that historic estimate requirements were met.

Audit Commentary

The quantity of historical estimates is contained in the submission file and is not a separate report. Historic estimate targets were not met for all revisions.

Quantity of NSPs where revision targets were met.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Sep 2015	-	301	183	315
Oct 2015	-	300	174	306
Nov 2015	-	303	187	308
April 2016	313	316	-	317
May 2016	312	317	-	317
Jun 2016	316	319	-	319
Oct 2016	331	-	-	336
Nov 2016	334	-	-	337
Dec 2016	334	-	-	341

The table below shows that the percentage HE at a summary level is below the required targets.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Sep 2015	-	99.43%	99.62%
Oct 2015	-	99.39%	99.70%
Nov 2015	-	99.32%	99.69%
April 2016	98.87%	99.63%	-
May 2016	98.85%	99.90%	-
Jun 2016	98.96%	99.98%	-
Oct 2016	99.06%	-	-
Nov 2016	98.86%	-	-
Dec 2016	98.89%	-	-

Non-compliance	Description
Audit ref:13.4 With: Clause 10 of Schedule 15.3 From/to: Sep-Nov 2015, Apr-Jun 2016 and Oct-Dec 2016	Historic estimate targets were not met for all revisions. Potential impact: Low Actual impact: Low Audit history: Eight times previously Controls: Moderate Breach Risk Rating: 2
Audit Risk Rating	Rationale for audit risk rating
Low	Mercury were close to the target in all cases.

Actions taken to resolve the issue	Completion date	Remedial action Status
The improvements that we are implementing in terms of read attainment should be reflected in higher compliance in this area.	Before end of 2017	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Refer above comments		

14. Conclusions

This audit found 35 non-compliance issues, nine recommendations are made and two issues are raised. Ten of the non-compliance issues relate to switching which has increased from the five recorded in the last audit, and it appears that the SAP switch management logic needs to be reviewed. Five non-compliance issues relate to the management of meter reading. Three of the recommendations made relate to meter reading improvement opportunities.

Mercury has made good progress in relation to registry management. They have specifically focussed on strengthening their registry discrepancy reporting and resolving the unmetered load discrepancies found in the last audit. All distributed unmetered loads have been audited during the audit period and remedial actions are underway to improve compliance.

There have been further improvements to the reconciliation processes. Non-compliances relating to ICP days reported against an incorrect NSP, over submission due to zeroing not being completed, and revisions for DUML corrections have been cleared.

Some of the matters raised have led to incorrect information being provided to the Reconciliation Manager, including the incorrect calculation of historic estimate where an ICP has switched out, and then back to Mercury, resulting in a portion of consumption being reported with an incorrect period. A small number of corrections had not been processed.

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 77, which results in an indicative audit frequency of three months. I have considered this result in conjunction with Mercury's responses and taking into consideration that they have a major system enhancement in progress before any system changes cannot be implemented until the first half of 2018. My recommendation for the next audit date is nine months. This will allow time for Mercury to make the changes necessary and improve the level of compliance.

The matters raised are shown in the tables below:

Table of Non-Compliance

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	11.2 of part 11	Some registry discrepancies.	Moderate	Low	2	Identified
Electrical Connection of an ICP	2.9	10.32	1 backdated electrically connected ICP.	Moderate	Low	2	Cleared
Metering certification	2.10	10.33(2) of part	4 ICPs not certified within 5 business days of energisation.	Moderate	Low	2	Investigating
Changes to registry	3.3	10 of schedule 11.1	Registry not updated within 5 business days of the event.	Moderate	Low	2	Investigating
Provision of registry	3.5	Clause 9 of	Registry information not provided within 5 business	Strong	Low	1	No action planned

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
information		schedule 11.1	days of commencement of supply.				
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	1,664 active ICPs with no or incorrect ANZSIC codes assigned.	Moderate	Low	2	Identified
Unmetered load	3.7	9(1)(f) of schedule 11.1	Unmetered loads populated incorrectly for five ICPs.	Moderate	Low	2	Identified
Active status	3.8	17 of schedule 11.1	Six newly connected ICPs with incorrect active dates. Incorrect active date recorded for some reconnected ICPs.	Moderate	Low	2	Investigating
Inactive status	3.9	19 of schedule 11.1	Incorrect status recorded for one HHR ICP.	Strong	Low	1	Cleared
Change of MEP	3.11	10.22(1)(a)	The sending of erroneous MEP nominations when an ANZSIC code is being updated. No MEP rejection process in place.	Weak	Low	3	Investigating
Switching	4.2	3 & 4 of schedule 11.3	Incorrect sending of the AA and PD AN response codes for transfer switches.	Moderate	Low	2	Identified
	4.3	5 of schedule 11.3	Incorrect last read date and average daily consumption figures being sent in some instances. Some late CS files.	Weak	Medium	6	Identified
	4.4	6 of schedule 11.3	One RR sent without being processed via the registry. 24 late RR files sent.	Moderate	Low	2	Identified
	4.5	6(2) & (3) of schedule 11.3	One RR incorrectly rejected by Mercury.	Moderate	Low	2	Identified
	4.8	10 of schedule 11.3	PD code not used for Move switch ICPs. One late AN file. Some late CS files.	Moderate	Low	2	Identified
	4.9	10 (2) of schedule 11.3	46 ICPs where the event date was set earlier than the gaining traders. 1,183 ICPs where the event date was set greater than 10 days from the gaining traders	Weak	Low	3	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			request date.				
	4.10	11 of schedule 11.3	Incorrect last read date and average daily consumption figures being sent in some instances. Estimated reads sent for the incorrect event date.	Weak	Medium	6	Identified
	4.11	12 of schedule 11.3	33 late RR files sent. 1 late AC file sent.	Strong	Low	1	Investigating
	4.14	16 of schedule 11.3	20 late CS files sent.	Moderate	Low	2	Identified
	4.15	17 of schedule 11.3	19 switch withdrawals sent later than 2 months of the event date. 2 incorrect switch withdrawal codes sent.	Strong	Low	1	Cleared
Distributed unmetered load	5.4	11(1) of schedule 15.3, 10.14 & 15.13	Some incorrect submission information for DUML ICPs.	Moderate	Low	2	Identified
Electricity conveyed	6.1	10.13 and 15.2	Energy is not metered and quantified according to the code where meters are bridged. NHH ICPs with distributed generation do not have the PV profile recorded on the registry.	Moderate	Low	2	Investigating
Responsibility for metering at GIP	6.2	10.26(7) of Part 10	Meter certification expired in April 2017 for ATI0111 and ATI0112.	Moderate	Low	2	Identified
		10.26(11) of Part 10	One certification expiry date change was processed late.	Strong	Low	1	Identified
Derivation of meter readings	6.6	Clause 5 of schedule 15.2	Photo readings were recorded as actual readings.	Moderate	Low	2	Cleared
Interrogate meters once	6.8	7(1) & (2) of schedule 15.2	No reporting in place to quantify ICPs not interrogated at least once during the period of supply.	Weak	Low	3	Identified
90% read target	6.10	9 of schedule 15.2	For four ICPs without an actual read for four months, exceptional circumstances	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			could not be confirmed, and there was insufficient evidence that the best endeavours requirement was met.				
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	One bridged meter did not have consumption estimated during the bridged period. Five ICPs with consumption while disconnected, have not had their consumption reported while disconnected Where a meter reading is modified by Mercury, it should be recorded as an estimated reading but is recorded as an actual.	Moderate	Low	2	Investigating
NHH data validation	9.5	15.2	Where a subsequent read is lower than the switch in reading, the negative consumption is zeroed out.	Moderate	Low	2	Investigating
Event logs	9.6	17 of schedule 15.2	AMI event information not adequately obtained and monitored.	Weak	Low	3	Investigating
HHR aggregates file	11.4	15.8 of part 15	There are differences between HHR volume and aggregate information that do not appear to be caused by rounding. HHR aggregates file does not contain electricity supplied information.	Moderate	Low	2	Investigating
Permanence of meter readings	12.8	4 of schedule 15.2 and clause 15.2 of part 15	Not all meter readings were made permanent estimates by the 14 month revision. Forward estimate remained for the September, October and November 2015 14 month revisions.	Moderate	Low	2	Identified
Historic Estimate Process	12.11	4 & 5 of Schedule 15.3	Historic estimate is not calculated correctly for the switch in month, where an ICP has switched back to Mercury after being supplied by another retailer.	Moderate	Low	2	Investigating
Forward	12.12	6 of	FE accuracy threshold not met	Moderate	Low	2	No action

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
estimate accuracy		Schedule 15.3	for some balancing areas.				planned
HE targets	13.4	10 of Schedule 15.3	Historic estimate targets were not met for all revisions.	Moderate	Low	2	Identified
				Future Risk Rating	77		
				Indicative Next Audit Frequency	3 months		

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

Table of Recommendations

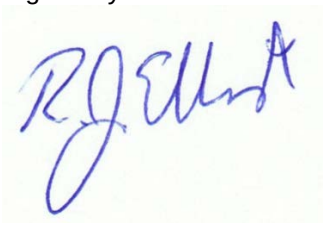
Subject	Section	Clause	Recommendation	Remedial action
Active status	3.8	17 of schedule 11.1	Check any variances between Mercury's active date and the Distributor's initial energisation date.	Investigating
Switching	4.2	3 & 4 of schedule 11.3	Review the system logic for the assignment of AN codes is as accurate as possible.	Investigating
	4.11	12 of schedule 11.3	Send AMI reads for active vacant sites and this will reduce the volume of RR requests being sent by gaining traders.	Investigating
Electricity conveyed	6.1	10.24(b) of part 10	Select ICPs by generation capacity and fuel type not by installation type indicator "B". Continue to liaise with Orion regarding 4 ICPs with generation recorded but with no "I" channel. Check whether ICP 0219952000LC610 has generation installed and whether it needs a meter change to import/export.	Investigating
Responsibility for metering at GIP	6.2	15.2	Confirm the reconciliation type for ATI2201MRPLG and update the NSP table if necessary.	Investigating
Interrogate meters once	6.8	9(1) & (2) of schedule 15.2 and clause 15.2	If an actual read is received for a date which is not the customer's scheduled read date, and the customer has already been billed on an estimated reading, the actual read will not be marked as billable and will not be used for billing or reconciliation. If the read is marked as billable, another invoice will be generated. I recommend that Mercury considers reversing the previous invoice and using these reads for billing where the ICP risks breaching the read attainment requirements.	Investigating

Subject	Section	Clause	Recommendation	Remedial action
			Where reads are not received from AMI meters, Mercury should advise the MEP so they can investigate and update the AMI flag on the registry if necessary.	Investigating
			Develop reporting to measure ICPs not reads during period of supply.	Identified
HHR aggregates and volumes file	11.4	15.8	Check HHR volume and aggregate submissions are consistent, and investigate any significant inconsistencies prior to submission.	Investigating

Table of Issues

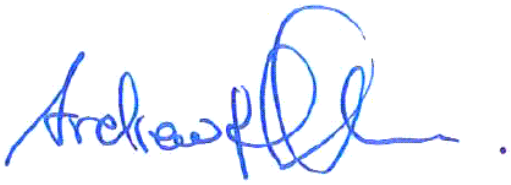
Issue	Description	Remedial action
10.33(2) of part	The issue of BTS supplies not loaded to the registry for four ICPs to be examined as part of the next AMS and Metrix MEP audits.	Pass to MEP auditor for investigation.
15.3	Traders are unable to enter profile codes when creating buying and selling notifications on the electricity reconciliation portal, making it difficult to comply with the requirements of clause 15.3.	Pass to EA for investigation.

Signed by:



Rebecca Elliot
Veritek Limited
Electricity Authority Approved Auditor

Signed by:



Andrew Peckham
Operations Manager

6. Mercury Response

Mercury have reviewed this report and their comments are recorded within the report. No further comments were provided.

7. Agent's Audit Reports

AMS
Bosco
EDMI
Wells