ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

For

CONTACT ENERGY LIMITED

Prepared by: Rebecca Elliot

Date audit commenced: 25 June 2019

Date audit report completed: 26 August 2019

Audit report due date: 30 August 2019

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EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Contact Energy Limited (Contact),** 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 7.2.

The audit found 37 non-compliance issues and three recommendations are made.

Improvements have been made in the following areas since the last audit:

1. **Meter event management**
   Contact's issues relating to meter event management have been cleared, and further work is underway to improve these processes. Non-compliance is recorded in relation to meter event reporting for EDMI's manual downloads.

2. **Registry – SAP discrepancies**
   Significant progress has been on reducing the number of reconciliation profile discrepancies between SAP and the registry from 17,257 during the 2018 audit to 3,301 during this audit.

3. **Status changes to registry for reconnection and disconnection (excluding making ready for decommissioning)**
   The automated process has improved the timeliness of updates to the registry of these updates.

The audit found improvement has been made in some areas of non-compliance identified in the previous audit. Further improvement is still required for the following areas:

1. **Registry – SAP discrepancies**
   Whilst significant progress has been on reducing the number of reconciliation profile discrepancies, this audit identified a small number of instances where SAP and registry data was not aligned for submission types and statuses. The mismatch was caused by process issues (such as where registry and SAP data is maintained by different teams and changes were not communicated, or registry updates had been rejected and not reprocessed) or system issues (where a system update had not triggered an automatic registry update). Contact's technical team are investigating the reasons for these discrepancies, and any corrective actions required.

2. **Read attainment**
   Some improvements have been made, including attempting to contact the customer by phone and text message which has increased compliance with the best endeavours requirements. The read attainment process still begins after 130 days, making it unlikely that the best endeavours requirements for read attainment will be met where the period of supply is less than 11 months.

3. **Reconciliation**
   Contact has made significant progress in resolving system defects that were affecting the completeness and accuracy of reconciliation submissions for some ICPs and meters. These defects resulted in some ICPs and consumption being incorrectly included in or excluded from certain reconciliation submissions.
   As known defects have been resolved, some further issues have been identified. Contact is working to investigate and resolve these issues. Monitoring controls are in place, to find and correct issues in the meantime.
   Permanent estimate processes also require some improvement.

4. **Corrections**
   Contact is still working through historic corrections for inactive consumption. I found a small number of corrections had not been processed, or had not been processed accurately.

5. **Distributed unmetered load**
   Some distributed unmetered load issues are still existing, leading to incorrect submission information. Contact are working with their customers regarding these issues.

6. **NHH New Connections**
   This is the second year where timeliness of updates to the registry has declined from 84% to 77% completed within seven days and the average time to update has declined from six to eight days. The process has been brought in house and is still being bedded in. Not all expected validations and checks are in place. Examples checked indicate some late paperwork and some internal delays.

7. **Switching**
   The CS file content for NHH switches indicates some data issues with the application of switch event meter reads and incorrect last read dates being applied.

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 69, which results in an indicative audit frequency of three months. I have considered this result in conjunction with Contact's responses and my recommendation for next audit date is 12 months.

The matters raised are shown in the tables below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	11.2 of part 11	Some incorrect registry information.	Moderate	Low	2	Identified
Audit trails	2.4	21 Schedule 15.2	EDMI's IE2 and DQM audit trails do not record the operator identifier for the person who completed the activity; operator identifiers correspond to a user group not an individual.	Strong	Low	1	Investigating
Connection of an ICP	2.9	10.32	No arrangement in place with Intellihub.	Strong	Low	1	Identified
Metering certification	2.11	10.33A(2) of part 10	15 ICPs were not certified within five business days of becoming active. 74 ICPs were reconnected without having metering certification in place. 45 ICPs were not recertified on unbridging.	Moderate	Low	2	Investigating
Arrangements for metering equipment provision	2.13	10.36	No arrangement in place with Intellihub	Strong	Low	1	Identified
Changes to registry	3.3	10 of schedule 11.1	Registry information not provided within 5 business days of change.	Moderate	Low	2	Identified
MEP nomination	3.4	11.8 of part 11	One incorrect MEP nomination not actioned to ensure that an MEP is recorded on the registry.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Provision of registry information	3.5	Clause 9 of schedule 11.1	231 late changes to Active. Contact was not recorded as the responsible participant in the registry on the active date for 231 ICPs.	Weak	Low	3	Identified
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	Some incorrect ANZSIC codes.	Moderate	Low	2	Identified
Unmetered load	3.7	9(1)(f) of schedule 11.1	Daily unmetered kWh values are incorrect for 184 ICPs on the registry (2 ICPs where Distributor has load and Contact has none + 179 BTS supplies still incorrectly recorded +3 ICPs with the incorrect load when compared to the Distributor's load).	Weak	Low	3	Identified
Active status	3.8	17 of schedule 11.1	Some incorrect Active dates.	Weak	Low	3	Identified
Inactive status	3.9	19 of schedule 11.1	ICPs 0000632467TP11F, 0000132680TE1E4, 0005018218RN3F0, 0000922323TUB0B, 0000381890TP1F4, and 0000339665TP9AE incorrectly show inactive status on the registry for periods when they were electrically connected.	Strong	Low	1	Identified
Switching	4.2	3(a)(ii) of schedule 11.3	"MU" AN code incorrectly being sent.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
	4.3	5 of schedule 11.3	Eight late CS files. The average daily consumption calculation is not calculated from the read to read period. Incorrect average daily consumption of zero when ICPs switch in and out in a short period. Incorrect average daily consumption recorded in the CS file for ICP 0000570809UN7D0. Incorrect last read dates where a meter has been removed and reinstalled. One instance of the incorrect switch event meter read sent as an estimate for an AMI site.	Moderate	Low	2	Identified
	4.4	6 of schedule 11.3	45 Late RR files.	Strong	Low	1	Identified
	4.7	9 of Schedule 11.3	Incorrect switch type used for 2 DUML ICPs switching in.	Strong	Low	1	Disputed
	4.10	11 Schedule 11.3	1 late CS file. The daily consumption calculation is not calculated from the read to read period. Incorrect daily consumption of zero when ICPs switch in and out in a short period. Incorrect last read dates for seven of ten examples checked.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Two instances of the incorrect switch event meter read sent as an estimate for an AMI site.				
	4.11	12 of schedule 11.3	104 late RR files.	Strong	Low	1	Investigating
	4.13	15 of Schedule 11.3	"CO" AN code sent incorrectly.	Moderate	Low	2	Investigating
	4.15	17 of schedule 11.3	124 Late NW files.	Strong	Low	1	Identified
Shared unmetered load	5.1	11.14 of part 11	One ICP with missing shared unmetered load due to a registry update failing.	Strong	Low	1	Cleared
Unmetered threshold	5.2	10.14(2)(b) of part 10	One standard unmetered ICP has an estimated annual consumption over 6,000 kWh per annum.	Strong	Low	1	Identified
	5.3	10.14(5) of part 10	One standard unmetered ICP has estimated annual consumption over 6,000 kWh per annum and has not been resolved within 20 business days.	Strong	Low	1	Identified
Distributed unmetered load	5.4	11 of schedule 15.3	The monthly database extracts used to derive submission from are provided as a snapshot and do not track changes at a daily basis as required by the code. Inaccurate submission information for several databases.	Moderate	High	6	Investigating
Electricity conveyed	6.1	10.13 of part 10	While meters were bridged, energy was not metered and	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			quantified according to the code for 48 ICPs. ICPs 0000008616TE48C, 0000011195HREA1, 0000012341NT62C, 0000025072UN5D3, 0000036741HB1E7, and 0000038430HB33C have generation consumption submitted under the PV1 profile but only have RPS profile recorded on the registry. ICPs 0001186517MLCC3, 0002333286ALA6A, and 0004001818ALD5D only have PV1 profile recorded on the registry, but also have X flow registers.				
Responsibility for metering at GIP	6.2	10.13	Updated meter certification details were provided ten business days late for CYD2201CTCTG.	Strong	Low	1	Identified
Collection of information by certified reconciliation participant	6.5	2 Schedule 15.2	FCLM does not usually provide a screen shot confirming time differences for meters which are manually read using MV90. If this information is not provided, EDMI is unable compare the system time to the meter time.	Strong	Low	1	Identified
NHH reading application	6.7	6 Schedule 15.2	Incorrect switch event meter reads sent. NHH meter readings not applied at 2400 on the day of the meter	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			reading for NHH to HHR upgrades.				
Interrogate meters once	6.8	7(1) & (2) of schedule 15.2	For ten ICPs unread during the period of supply, exceptional circumstances did not exist, and the best endeavours requirement was not met.	Weak	Low	3	Investigating
Annual interrogation	6.9	8(1) & (2) of schedule 15.2	For two ICPs supplied for over 12 months, exceptional circumstances did not exist, and the best endeavours requirements were not met. Some report accuracy issues were identified, and Contact is developing a replacement report to resolve this.	Strong	Low	1	Investigating
NHH meters 90% read rate	6.10	8(1) and (2) Schedule 15.2	For eight ICPs supplied for over four months, exceptional circumstances did not exist, and the best endeavours requirements were not met.	Moderate	Low	2	Investigating
NHH correction	8.1	19(1) Schedule 15.2	A correction for inactive consumption for ICP 0000246174TP7F1 was not processed correctly resulting in 3775 kWh of inactive consumption being excluded from submissions. The correction will be updated. ICP 0002361613TPE7A was bridged from 31/08/18 to 10/09/18, and a	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			correction has not been processed yet, Contact intends to correct this ICP before revision 14.				
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	For EDMI's manual downloads, the meter event information is not imported into IE2 and is not reviewed and sent to the retailer.	Moderate	Low	2	Identified
Buying and selling notifications	11.1	15.3	Notifications are not provided where Contact began or ceased trading at an NSP using a profile other than HHR, RPS, UML, EG1, or PV1 for 30 combinations of NSP and profile. There is no facility to provide the profile when entering a trading notification on the reconciliation manager portal.	Strong	Low	1	Investigating
Calculation of ICP days	11.2	15.6	AV110 data is not zeroed where Contact has previously submitted ICP days, but there are no ICP days reported in the current revision. Because no replacement data was submitted, the original ICP days remain in the reconciliation manager's database. ICP days were over reported at CAM0011 (June 2018), CGE0011 (July 2018), TKM0011 (August 2018), TPS0011 (July & August 2018), TWG0011 (June & July 2018) due to inactive	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			settlement units not being created for some ICPs.				
HHR aggregates file	11.4	15.8 of part 15	HHR aggregates file does not contain electricity supplied information. Data for ten ICPs was incorrectly included in some wash up files, and data for three ICPs was incorrectly excluded from some wash up files. Corrections have now been processed or are due to be processed for the affected ICPs.	Strong	Low	1	Identified
Accuracy of submission information	12.7	15.12 of part 15	Some submission data was inaccurate, and was not corrected at the next available opportunity for submission for ICPs 0000442007UN246, 1001150655CK434, 0000470070HB2B2 and 0278411762CL033. Some ICP days submissions contained some inaccurate information. Some NHH volumes submissions contained some invalid forward estimates.	Moderate	Low	2	Identified
Permanence of meter readings	12.8	4 of schedule 15.2 and clause 15.2 of part 15	Some estimates not replaced at R14.	Moderate	Low	2	Identified
Forward estimate accuracy	12.12	6 of Schedule 15.3	The accuracy threshold was not met	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			for all months and revisions.				
HE targets	13.3	10 of Schedule 15.3	HE targets were not met for some NSPs.	Moderate	Low	2	Identified
					Future Risk Rating	**69**	
					Indicative 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

RECOMMENDATIONS

Subject	Section	Recommendation	Response
Changes to unmetered load	3.7	Review reporting to ensure that discrepancies are identified.	Contact has implemented additional reporting to also ensure registry updates are generated and sent consistently
Management of active	3.8	Liaise with WEL Network to progress the completion of the new connection for ICP 0000044423WE226.	Resolved. Contact has now claimed the ICP after GENE has reversed their claim and provided the paperwork.
		Check new connections for first active date discrepancies against the initial electrical connection date.	Contact has recommenced the process to check the accuracy of first active dates against the initial electrical connection date and meter certification date which should reduce the number of these potential miss-matches in future.

ISSUES

Subject	Section	Description	Issue
		Nil	

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

Exemption No. 223 expired on 01/01/2019 when the ICP switched to Meridian. Up to 31/12/18 this **e**xemption to clause 10.24(c) of the Electricity Industry Participation Code 2010 allowed subtraction to determine submission information for ICP 0000840407WE388.

There are four exemptions currently in place relevant to the scope of this audit:

Exemption No. 177: Exemption to clause 8(g) of schedule 15.3 of the Electricity Industry Participation Code 2010 in respect of providing half-hour ("HHR") submission information instead of non half-hour ("NHH") submission information for distributed unmetered load ("DUML"). This exemption expires at the close of 31 October 2023.

Exemption No. 185: Exemption to clause 11 of schedule 15.3 of the Electricity Industry Participation Code 2010 in respect of creating DUML databases for the following ICPs. This exemption expires on the date on which Contact no longer has responsibility as the trader for these ICPs on the registry.

ICP identifier	Comments
0000038627NTADB	Decommissioned 17/05/17
0000557925UND32	Switched out 28/02/14
0000600085HBD8B	Switched out 23/01/13
0000916610TEA3F	Switched out 01/12/16
0001183605HB0B0	Contact still has responsibility for this ICP, under verandah lights with load of 3.7 kWh per day are connected.
0005000772HBA61	Switched out 28/08/14
0008801012TP900	Unmetered load details have been removed on the registry effective 23/06/14
0014189134HBC96	Switched out 03/11/15
0016096032EL6DD	Switched out 16/07/16
0018137292HB7F1	Decommissioned 05/02/13
0046054751HBFE7	Switched out 08/11/12

Exemption No. 191: Exemption to clause 10.24(c) of the Electricity Industry Participation Code 2010 to allow subtraction to determine submission information for ICP 0000032431HR99C. This exemption expires on the earlier of:

- the close of 31 December 2023; and
- the completion date of a major upgrade to the Ohaaki substation.

The major upgrade has not occurred; therefore, this exemption is still valid.

Exemption No. 203: Exemption to clause 10.24(c) of the Electricity Industry Participation Code 2010 to allow subtraction to determine submission information for ICP 0000880392WEA92. This exemption expires on the earlier of:

- the close of 31 December 2022; and
- the completion date of a major upgrade to the switchboards at Contact's co-generation plant at the Te Rapa dairy factory.

The major upgrade has not occurred; therefore, this exemption is still valid.

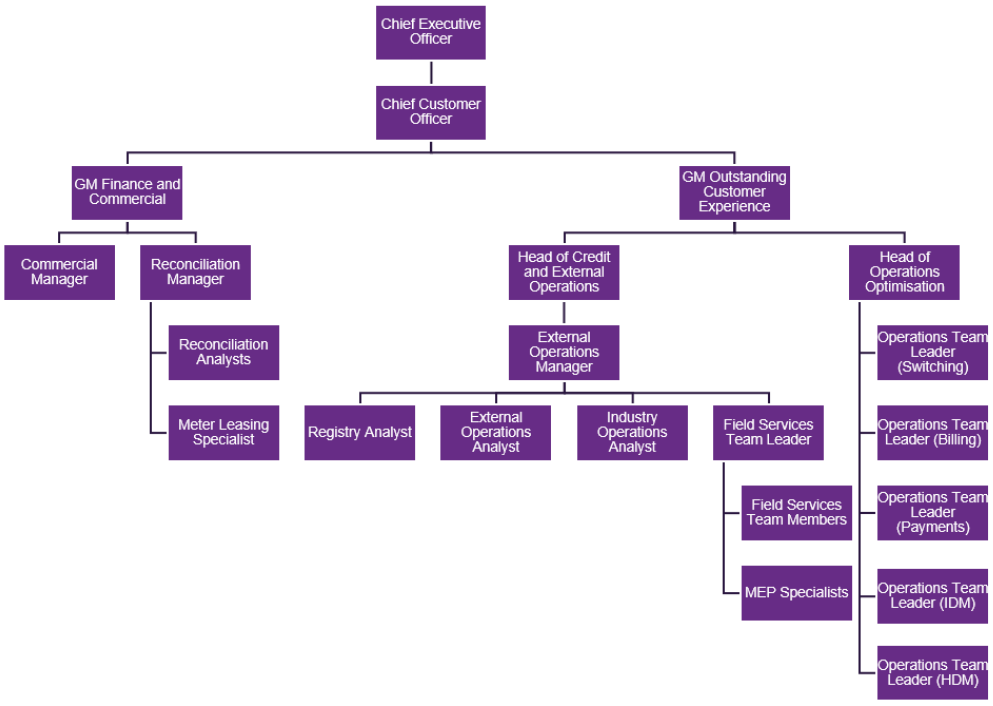
Exemption No. 275: Exemption to clause 10.24(c) of the Electricity Industry Participation Code 2010 to allow subtraction to determine submission information for ICP 00008803342WEFC3. This exemption expires on the earlier of:

- the close of 31 December 2020;
- the date when Contact is no longer recorded in the registry as being the trader;
- the date when AMS is no longer recorded in the registry as being the MEP;
- replacement of the existing 11kV line that feeds ICP 00008803342WEFC3 with a corresponding low voltage line.

1.2. Structure of Organisation

Contact Energy provided a copy of their organisational structure.

Contact Organisational Diagram



1.3. Persons involved in this audit

Auditors:

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

Contact personnel assisting in this audit were:

Name	Title
Aaron Collins	Field Services Team Member
Aaron Wall	Operations Team Leader (HDM)
Adam Ward	Operations Team Leader (Billing)
Allie Jones	External Operations Analyst
Ashley Teh	Operations Team Member
Bernie Cross	Reconciliation Manager
Chris Golder	Operations Team Member
Darren Law	Field Services Team Leader
Debby Abrahams	Commercial Manager
George Fleming	Collections and Assurance Team Member
James Buckley	Reconciliation Analyst
Joel Kisteria	Senior Data & Insight Analyst
KP Chiew	Senior Reconciliation Analyst
Nathan Joyce	Network Operations Analyst
Nick Russell	Operations Team Member
Norma Wynne	Operations Team Member

Name	Title
Rajdeep Kaur	Registry and Reconciliation Analyst
Roy Burne	Operations Team Member
Simon Makrogianni	Operations Team Member
Tina Papadopoulos	Operations Team Member

1.4. Use of Agents (Clause 15.34)

Code reference

Clause 15.34

Code related audit information

A reconciliation participant who uses an agent

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

Audit observation

Use of agents was discussed with Contact.

Audit commentary

Contact uses a number of agents in relation to the functions covered by the scope of this audit as discussed in **section 1.9**. Contact provided a list of service providers:

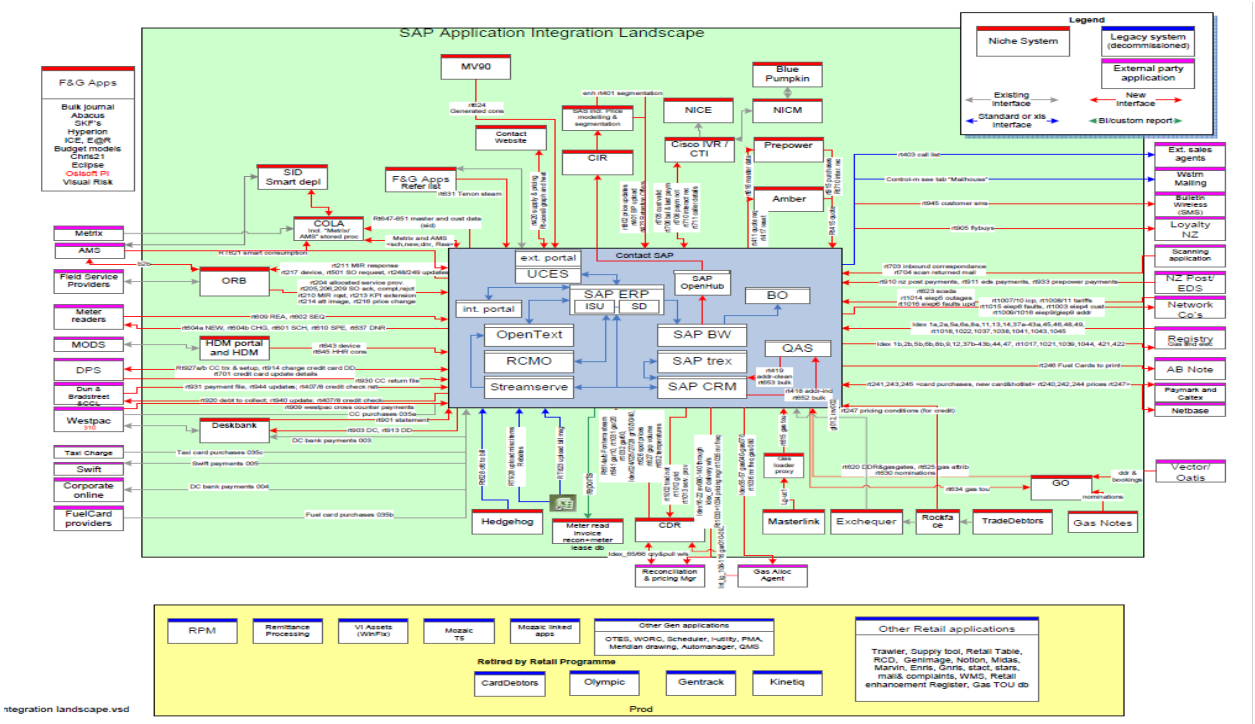
HHR agent	NHH agent
AMS – C&I + HHR settlement of smart meter data	DUML Streetlight database owners (Generally Councils)
EDMI – C&I	Datacol – meter reading
EMS – Pricing Manager files	Wells – meter reading
SMCO – HHR settlement of smart meter data	DELTA – field services
MTRX – HHR settlement of smart meter data	AMS – smart meter reads used for billing settlement
ARC – HHR settlement of smart meter data	MTRX – smart meter reads used for billing settlement
	FCLM – smart meter reads used for billing settlement
	SMCO – smart meter reads used for billing settlement
	ARC – smart meter reads used for billing settlement

AMS, Metrix, FCLM, Smartco and Arc provide AMI meter reads as MEPs, and are subject to a separate audit regime.

Some DUML audit reports contain a number of non-compliance issues. I have noted a "summary" non-compliance in **section 5.4**.

1.5. Hardware and Software

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

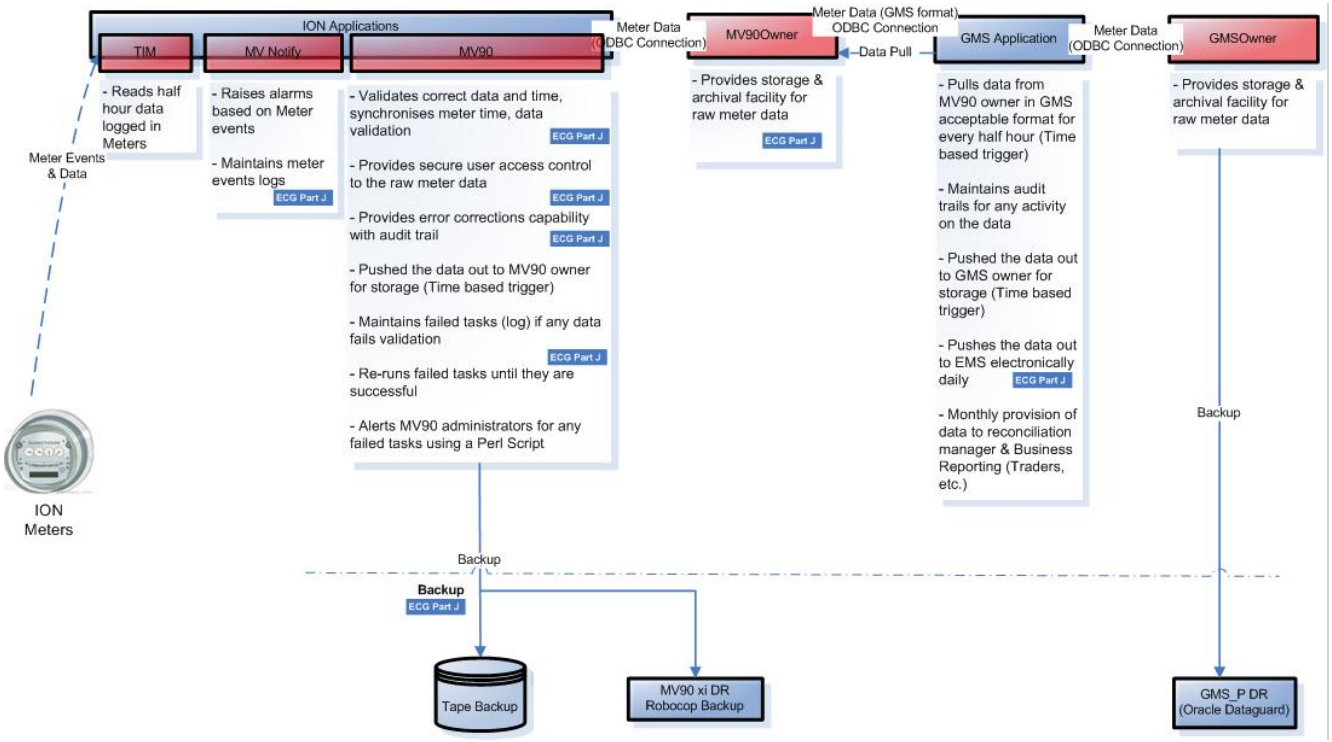


SAP is cloud based, and can continue to operate in the event of the failure of any single data centre. Backups occur according to the following schedule:

Backup	SAP System	Full Backup	Differential Backup	Transaction Log backup
SAP Database Backups	ECC	Weekly (Sunday)	Daily	Every 30 minutes
	CRM			
	Gateway			
	Portal			
	PO			

Generation Meter data

The diagram below shows an overview of data flow, validation, storage and backup arrangements for generation.



1.6. Breaches or Breach Allegations

There have been no breach allegations relevant to the scope of this audit during the audit period.

1.7. ICP Data

All active ICPs are summarised by metering category in the table below. 435 of the 605 active ICPs with a metering category of 9 or blank have trader unmetered load details recorded. The remaining 170 ICPs are active but have no metering details entered on the registry and are discussed in **section 2.9**.

Metering Category	**(2019)**	**(2018)**	**(2017)**	**(2016)**
1	408039	413,110	417,819	419,055
2	4774	5,136	5,201	5,460
3	816	857	942	990
4	322	337	383	388
5	35	41	52	49
9	152	198	250	273
Blank	453	645	676	1,042

Status	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	414,591	420,324	425,323	427,257
Inactive – new connection in progress (1,12)	2	2	-	-
Inactive – electrically disconnected vacant property (1,4)	7,313	7,734	8,135	8,564
Inactive – electrically disconnected remotely by AMI meter (1,7)	2,208	1,778	1,678	1,283
Inactive – electrically disconnected at pole fuse (1,8)	62	26	103	2
Inactive – electrically disconnected due to meter disconnected (1,9)	73	11	1	1
Inactive – electrically disconnected at meter box fuse (1,10)	24	-	-	-
Inactive – electrically disconnected at meter box switch (1,11)	-	-	-	-
Inactive – electrically disconnected ready for decommissioning (1,6)	1,104	1,354	1,951	2,876
Inactive – reconciled elsewhere (1,5)	3	5	2	4
Decommissioned (3)	49,518	47,987	45,670	42,970

1.8. Authorisation Received

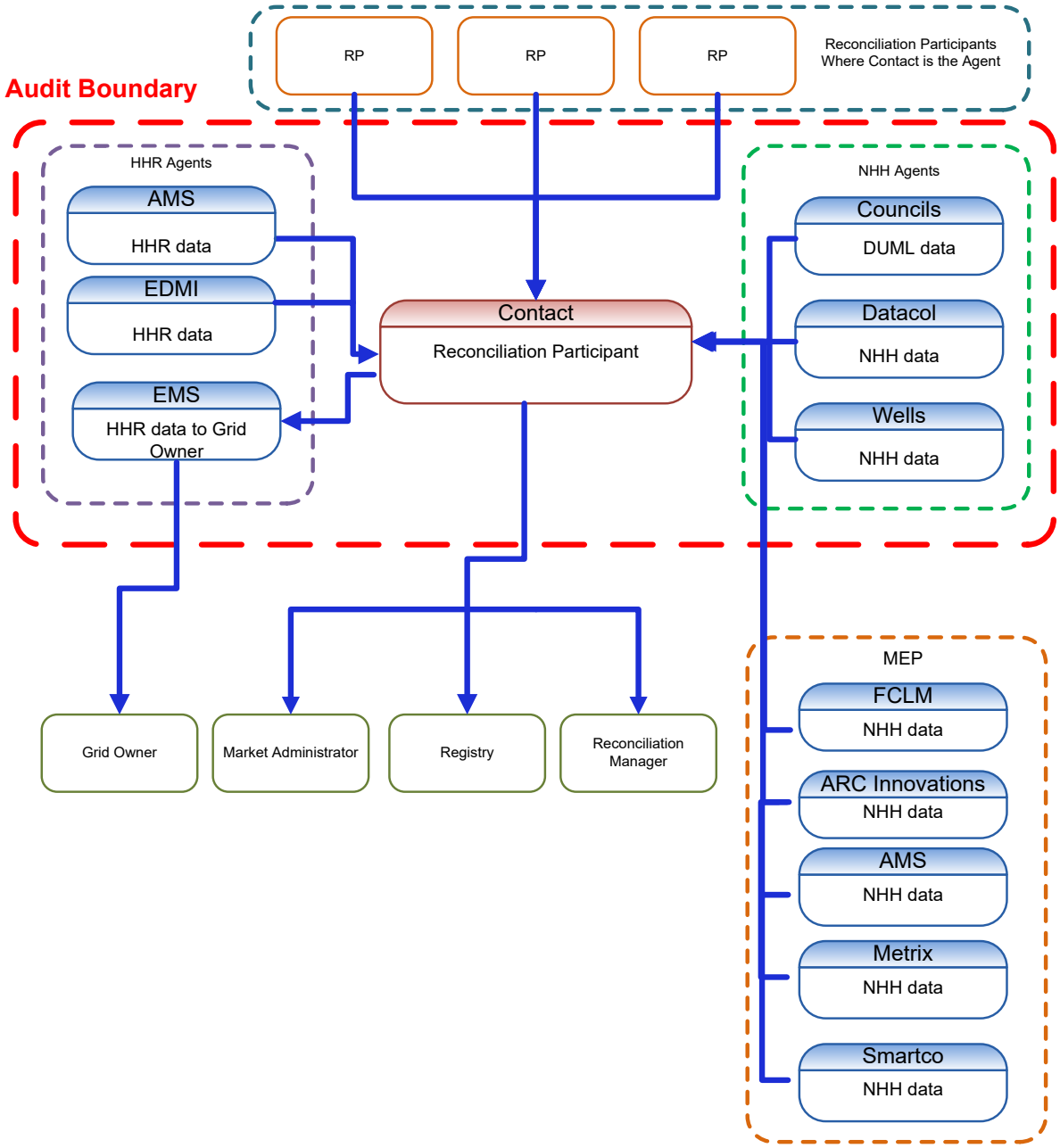
Contact provided a letter of authorisation.

1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Contact, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.2

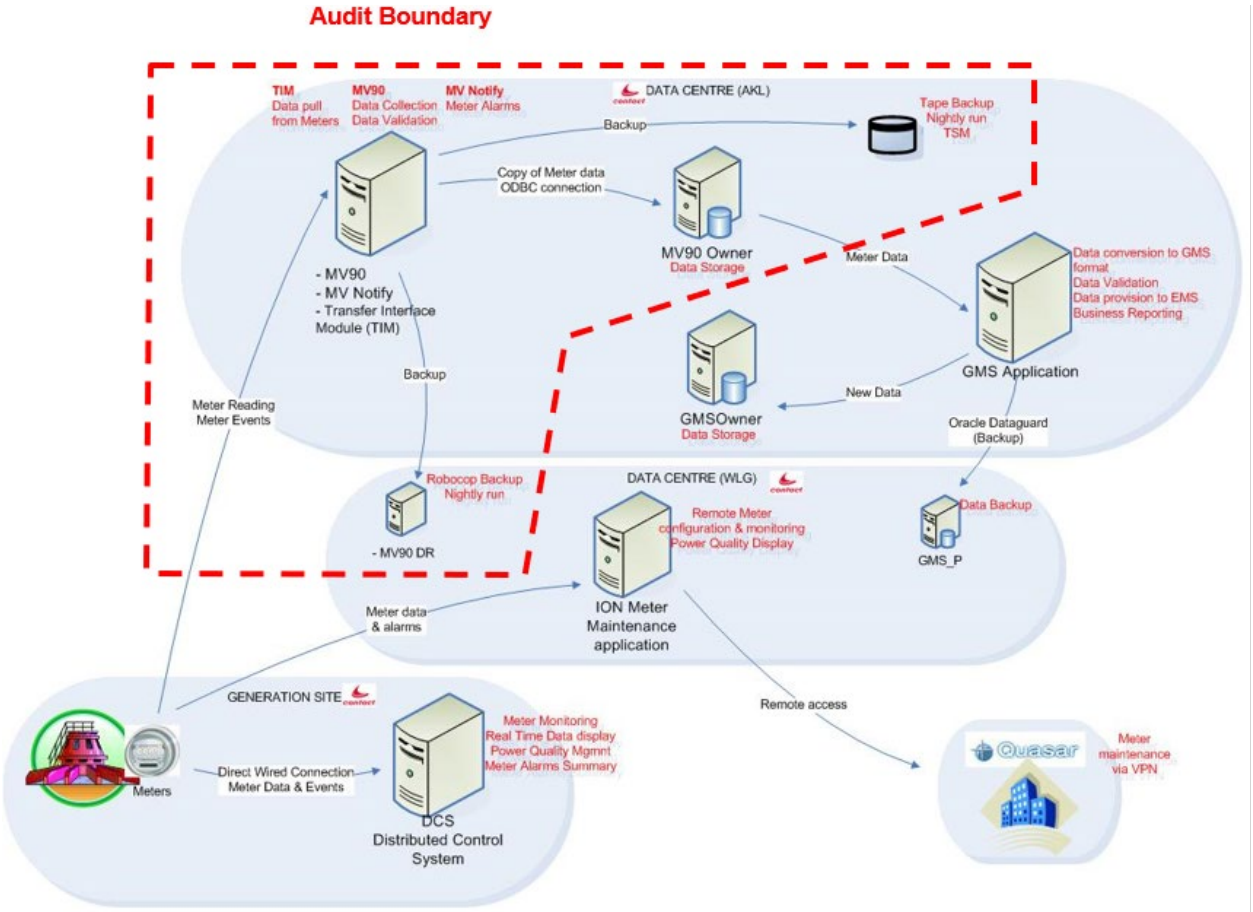
The audit was carried out at Contact's premises in Wellington on 25-27 June 2019.

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



Contact acts as an agent to other Reconciliation Participants who have responsibility for embedded network "gate" ICPs. It is intended that these parties will use Contact's audit report to support their application for certification.

The diagram below is specific to Contact's HHR data collection activities for generation metering, and it shows the audit boundary for this area.



The table below shows the tasks under clause 15.38 of part 15, for which Contact 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	MEPs Providing Data to Contact
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data	Datacol – NHH Wells – NHH AMS – HHR EDMI – HHR Smartco - HHR Metrix - HHR Arc - HHR	AMS NHH AMI data Metrix NHH AMI data FCLM NHH AMI data ARC Innovations NHH AMI data Smartco NHH AMI data
(c)(iii) - Creation and management of volume information	AMS – HHR EDMI – HHR	

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs Providing Data to Contact
	Smartco - HHR Metrix - HHR Arc - HHR	
(d)(i)– Calculation of ICP days		
(d)(ii) - delivery of electricity supplied information under clause 15.7		
(d)(iii) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8		
(e) – Provision of submission information for reconciliation		
(f) - Provision of metering information to the Grid Owner	EMS	

1.10. Summary of previous audit

Contact provided a copy of their previous audit report conducted in August 2018 by Steve Woods (lead auditor) of Veritek Limited. The summary tables below show the statuses of the non-compliances and recommendations raised in the previous audit. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	11.2 of part 11	Some incorrect registry information.	Still existing
Metering certification	2.11	10.33A(2) of part 10	4 ICPs were not certified within five business days of becoming active. 54 ICPs were reconnected without having metering certification in place.	Still existing
Changes to registry	3.3	10 of schedule 11.1	Registry information not provided within 5 business days of change.	Still existing
MEP nomination	3.4	11.8 of part 11	Four incorrect MEP nominations.	Still existing

Subject	Section	Clause	Non-compliance	Status
Provision of registry information	3.5	Clause 9 of schedule 11.1	Some late changes to Active. Some late MEP notifications. Some incorrect Active dates.	Still existing
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	Some incorrect ANZSIC codes.	Still existing
Unmetered load	3.7	9(1)(f) of schedule 11.1	Daily unmetered kWh values are blank or incorrect for some ICPs.	Still existing
Active status	3.8	17 of schedule 11.1	Some incorrect Active dates.	Still existing
Inactive status	3.9	19 of schedule 11.1	Incorrect de-energised status for some ICPs.	Still existing
Switching	4.3	5 of schedule 11.3	3 late CS files.	Still existing
	4.4	6 of schedule 11.3	35 Late RR files.	Still existing
	4.10	11 Schedule 11.3	1 late CS file.	Still existing
	4.11	12 of schedule 11.3	150 Late RR files.	Still existing
	4.12	14 of Schedule 11.3	1 late NT file.	Cleared
	4.14	16 of schedule 11.3	1 Late CS file.	Cleared
	4.15	17 of schedule 11.3	68 Late NW files.	Still existing

Subject	Section	Clause	Non-compliance	Status
Shared unmetered	5.1	11.14 of part 11	One ICP with incorrect shared unmetered load and one ICP with missing shared unmetered load.	Still existing
Unmetered threshold	5.2	10.14(2)(b) of part 10	Seven standard unmetered ICPs have estimated annual consumption over 6000 kWh per annum.	Still existing
	5.3	10.14(5) of part 10	11 standard unmetered ICPs have estimated annual consumption over 6,000 kWh per annum and were not resolved within 20 business days.	Still existing
Distributed unmetered load	5.4	11 of schedule 15.3	Inaccurate submission information for several databases.	Still existing
Electricity conveyed	6.1	10.13 of part 10	While meters were bridged, energy was not metered and quantified according to the code. 12 ICPs with generation have an incorrect profile used for submission and recorded on the registry.	Still existing Still existing
Derivation of meter readings	6.6	Clause 5 of schedule 15.2	Datacol does not conduct checks for phase failure.	Cleared
NHH reading application	6.7	6 Schedule 15.2	NHH meter readings not applied at 2400 on the day of the meter reading for NHH to HHR upgrades.	Still existing
Interrogate meters once	6.8	7(1) & (2) of schedule 15.2	For eight ICPs unread during the period of supply, exceptional circumstances did not exist, and the best endeavours requirement was not met.	Still existing
Annual interrogation	6.9	8(1) & (2) of schedule 15.2	For one ICP supplied for over one year exceptional circumstances did not exist and the best endeavours requirement was not met. Some report accuracy issues were identified and require further investigation.	Still existing Identified, a replacement report is being developed.

Subject	Section	Clause	Non-compliance	Status
NHH correction	8.1	19(1) Schedule 15.2	One correction for addition of a missing register was overwritten. One bridged meter did not have a correction processed.	Still existing
Event logs	9.6	17 of schedule 15.2	HHR meter event information is not formally reviewed and acted upon. Full NHH meter event information is not reviewed, but events emailed by the MEPs are reviewed and acted upon.	Cleared
HHR aggregates file	11.4	15.8 of part 15	HHR aggregates file does not contain electricity supplied information. Data for eight ICPs was missing from some volume files, due to inaccurate profiles and missing loss factors. The data has been corrected and will be washed up.	Cleared Some non-compliance is still existing
Accuracy of submission information	12.7	15.12 of part 15	Some submission data was inaccurate.	Still existing
Permanence of meter readings	12.8	4 of schedule 15.2 and clause 15.2 of part 15	Some estimates not replaced at R14.	Still existing
Forward estimate accuracy	12.12	6 of Schedule 15.3	The accuracy threshold was not met for all months and revisions.	Still existing
HE targets	13.3	10 of Schedule 15.3	HE targets were not met for some NSPs.	Still existing

Subject	Section	Clause	Recommendation	Status
Interrogate meters once	6.8	Clause 7(1) and (2) Schedule 15.2	The POS report includes ICPs within the period of supply, as well as ICPs where the period of supply has ended. The start and end dates for the report are incorrect in some cases. Some ICPs which have end dates of 31Dec9999 indicating they are still active with Contact, despite switching out more than six months before the report was generated.	Not implemented, this report is primarily used during the audit and can be filtered to obtain the information required.
Annual interrogation	6.9	8(1) & (2) of schedule 15.2	Review and update the meter read frequency reports, including: • check the accuracy of the read attainment rates and the reads required to reach targets • check that the report is based only on the reads used to generate reconciliation consumption • check that only continuous periods of supply are considered • check that pre-pay meters are included.	Underway, a replacement report is being developed.

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

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

Audit observation

The process to find and correct incorrect information was examined. The registry validation process was examined in detail in relation to the achievement of this requirement. The registry list as at 17/04/19 was examined to identify any registry discrepancies, and to confirm that all information was correct and not misleading.

Audit commentary

Registry data is verified against Contact's own records on a regular basis. All fields in the registry are validated against SAP. Contact demonstrated a comprehensive schedule detailing fields that are validated monthly and other fields that are validated on a more frequent basis determined by the discrepancy being assessed. This includes the submission aggregation factors. As recorded during the previous audit, the resulting discrepancies identified are not always being actioned within the required timeframe, leading to late updates to the registry.

The registry list as at 17/04/19 was analysed and I found the following issues.

Issue	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
ICP at status "new connection in progress" (1,12)	2	2	0	0	See **section 2.9**
Active date variance with Initial Energisation Date	41	11	50	658	See **section 3.5**
Active ICPs with metering category 3 or higher with NHH submission flag	0	0	0	2	Compliant
Active ICPs with blank ANZSIC codes	0	0	0	0	Compliant
Active ICPs with ANZSIC "T994" or "T994000" don't know	140	183	524	448	Unknown ANZSIC codes are recorded as non-compliance. See **section 3.6**.

Issue	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Active ICPs with ANZSIC "T997 "response unidentifiable	0	0	0	1	Compliant
Active ICPs with ANZSIC "T998 "response outside of scope	0	0	1	0	Compliant
Active ICPs with ANZSIC "T99", "T999" or "T999999" not stated	28	30	161	54	Unknown ANZSIC codes are recorded as non-compliance. See **section 3.6**.
Active ICPs with metering category 3 or above with a residential ANZSIC code	0	0	1	2	Compliant
Active ICP with no MEP and unmetered flag set to N	302	97	116	1	See **sections 2.9** and **3.4**
Active ICP with meter category 9 or blank and unmetered flag set to N	170	-	-	-	See **sections 2.9, 3.4** and **3.8**
Active ICP with metering category 9 but MEP MNON nominated and unmetered flag set to N	0	32	72	1	Compliant
ICPs with Distributor unmetered load populated but retail unmetered load is blank or 0	15	17	31	33	See **section 3.7**
ICPs with unmetered load flag Y but load is recorded as zero, excluding SB ICPs	2	6	0	0	See **section 3.7.**
ICP with incorrect standard unmetered load	184	1	0	0	See **section 3.7.**
ICPs with incorrect shared unmetered load	0	2	7	11	See **section 5.1**
ICPs have UML flag N and no unmetered load but Dist field shows shared unmetered load.	1	1	14	4	See **section 5.1**
Status 1,11 disconnected at meter box	0	0	0	0	Compliant
Submission against the RPS profile where the registry has a controlled profile.	1,918	16,816	19,821	4,510	Contact's reconciliation process applies RPS if a profile requiring a certified control device is recorded on the registry and the ICP does not meet the metering or

Issue	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
					certification requirements for that profile to be applied. 1,918 ICPs have a controlled profile recorded on the registry but are submitted as RPS. This is a dramatic improvement from 16,816 ICPs with a controlled profile recorded on the registry but submitted as RPS during the last audit. The improvement has been achieved by working with the MEPs to update their certification details on the registry, including correction of control device certification flags. See **section 6.3**.
Active ICPs with invalid NHH and/or HHR profiles recorded on the registry.	1,373	396	10	41	**NHH submission type HHR profile** 826 ICPs have NHH submission type with a HHR profile recorded on the registry. 813 of these ICPs have HHR and NHH profiles recorded. A sample of ten ICPs were checked. I found the inconsistencies were caused by: 1. An AMI meter which has some registers which are not used for settlement, and SAP has applied the HHR profile for the unsettled HHR register to a registry update. 2. A switch in or meter change has occurred, and the registry update was completed by SAP before the ICP set up was complete, resulting in incorrect profiles being recorded on the registry. **HHR submission type NHH profile** 199 ICPs have HHR submission type with RPS and HHR profiles recorded. A sample of ten ICPs were checked. Three were DUML and should have HHR submission type and profile, and seven were both metered and unmetered, with the unmetered load reported as NHH.

Issue	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
					HHR profile without full HHR certification and with metering category 1 or 2 348 ICPs have NHH interim or full certification. The ICPs are submitted with HHE profile, but recorded on the registry with HHR profiles. Seven ICPs have HHR interim certification, and 15 ICPs have expired HHR full certification. These are believed to have incorrect certification records recorded on the registry, and have been provided to Contact to follow up with the MEP.
Incorrect generation profiles recorded on the registry.	10	45	-	-	ICPs 0000008616TE48C, 0000011195HREA1, 0000012341NT62C, 0000025072UN5D3, 0000036741HB1E7, and 0000038430HB33C have generation consumption submitted under the PV1 profile but only have RPS profile recorded on the registry. ICPs 0001186517MLCC3, 0002333286ALA6A, and 0004001818ALD5D only have PV1 profile recorded on the registry, but also have X flow registers. ICP 0011006802PCDFA was confirmed to have wind generation and the PV1 profile was recorded in error. The generation profile has been corrected to EG1. Refer to **section 6.1**.
Arc category 2 meters submitted as HHR	10	-	-	-	These ICPs had HHR submission type at the time the registry list was provided, but were all subsequently changed to NHH because Arc only provides data with one decimal place, which can cause non-compliance with Clause 4 of schedule 10.7 once the multiplier is applied. Application of NHH submission type for these ICPs is considered compliant.

Issue	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Incorrect status recorded on the registry	5	-	-	-	ICPs 0000132680TE1E4, 0005018218RN3F0, 0000922323TUB0B, 0000381890TP1F4, and 0000339665TP9AE incorrectly show inactive status on the registry for periods when they were electrically connected. Refer to **section 3.9**.

There has been significant progress in reducing the number of reconciliation profile discrepancies, this audit identified a small number of instances where SAP and registry data was not aligned for submission types and statuses. The mismatch was caused by process issues (such as where registry and SAP data is maintained by different teams and changes were not communicated, or registry updates had been rejected and not reprocessed) or system issues (where a system update had not triggered an automatic registry update). Contact's technical team are investigating the reasons for these discrepancies, and any corrective actions required.

Two corrections identified as being required in the 2018 audit have not yet been processed, and are discussed in **section 12.7**:

- For ICP 0000442007UN246, no correction for a bridged period was processed due to a misunderstanding; because the gain read was low, the consumption between the gain read and next actual read was much larger than expected and was thought to be sufficient to cover bridged consumption after the ICP switched in.
- Contact is waiting for a new read period to be added so that bridged consumption can be added for ICP 1001150655CK434 for March 2018.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.6, 11.2, 15.2 From: 01-Jul-18 To: 17-Apr-19	Some incorrect registry information. 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 rated as moderate catching most discrepancies, but improvement opportunities have been identified. And as reported in previous audits there are some delays in resolving these in some instances. The audit risk rating is low, because the impact on submission information and other participants is minor.

Actions taken to resolve the issue	Completion date	Remedial action status

Active date variance with Initial Energisation date Contact is in the process of revamping their reporting to ensure all probabilities of a date variance between Active status event, IED, and certification dates are recognised. The frequency of the monitoring of the Active date variance reporting, and investigating/correcting mismatches identified will occur more frequently to improve the accuracy and timings related Contact's new connection events. **ANZSIC code discrepancies** Contact has raised a system enhancement (through its Continuous Improvement Programme (see at the end of this document)) to purge the 'T9' series ANZSIC codes from the contract creation/change process within SAP CRM, to prevent the 'T9' series ANZSIC codes being applied as part of the switch gain and move-in process documents. Contact also monitors ANZSIC code discrepancies between the customers' contracted end use and the Electricity Registry on a monthly basis which are being corrected via a manual correction process. **Active ICP with no MEP and unmetered flag set to "N"** Contact has increased the priority in our Business Process Exception Management System for exceptions raised relating to rejected MN responses to warrant the exceptions being worked on a more frequent basis (daily). Contact will also provide additional training to back office staff to pad gaps in their internal processes for cases where metering is physically removed from site due to a physical disconnection, where an inactive status has not been applied in SAP ISU or the Electricity Registry. **UNM non-compliances** Contact are in the process of widening the scope of existing UNM monitoring to further increase the accuracy of UNM data loaded in the Electricity Registry. Contact has raised a system enhancement (through its Continuous Improvement Programme of work) to fix known defects that cause inaccuracies in UNM data populated in the Electricity Registry. **Submission against the RPS profile where the Registry has a controlled profile** Since the last RPS Audit we have worked hard to improve our interactions with MEPs on accurate LCD flag population and we have made good progress with getting the registry to correctly reflect the certification status of the relay and hence the controlled profile associated. We are continuing our efforts working this the MEPs as the cost to traders, such as Contact, of having to submit controlled load as RPS is significant and we believe also has the ability to distort the accurate application of UFE to all traders. **Active ICPs with invalid NHH and/or HHR profiles recorded on the Registry**	In progress	Identified

Prior to the audit Contact had identified a system issue where the profile codes for registers of an AMI meter (NHH and HHR) were being included in our registry updates irrespective of the settlement methodology assigned to the ICP in our settlement system. We have implemented regular manual reporting and correction of these while we investigate the root cause of this issue / defect. **Incorrect generation profiles recorded on the Registry** Contact are in the process of updating their internal processes to align with Code requirements previously misinterpreted, which the auditors provided clarification on during the audit. The intended enhancements to internal processes will ensure the appropriate remedial action is being taken internally and externally to resolve non-compliances identified. **Arc category 2 meters submitted as HHR** Contact has been actively working with Arc to resolve this issue and we had believed we had quarantined these affected ICPs from HHR settlement as part of our investigations. However it appears that as new ICPs switched to Contact these new Cat 2 ICPs were not added to the quarantine list. We have now corrected the settlement methodology for these affected ICPs which will flow through to the scheduled submission wash ups. We have also updated our quarantine list with these additional ICPs **Incorrect status recorded on the registry** Contact has raised a system enhancement (through its Continuous Improvement Programme (see at the end of this document)) to change the logic behind how SAP handles ICPs switching to Contact in an Inactive state, resulting in the correct status event data being loaded in the Electricity Registry from our switch gain date. Contact is in the process of updating the methodology behind how status (connection) mismatches are allocated within the back office teams by creating an allocation matrix that identifies on a monthly/weekly basis the resource/time required to reduce historical, and clear new status exceptions identified.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact acknowledges the non-compliances identified by the auditors, and the underlying factors causing these. We are implementing new reports, as well as enhancing existing reporting, to increase visibility of non-compliances previously unidentified, and to assist in pinpointing further shortcomings in our internal processes and systems. Contact continues to examine all shortcomings realised, and explore improvements to internal reporting, processes, and systems to further decrease the opportunity for non-compliances to arise.	Ongoing	

2.2. Provision of information (Clause 15.35)

Code reference

Clause 15.35

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

2.3. Data transmission (Clause 20 Schedule 15.2)

Code reference

Clause 20 Schedule 15.2

Code related audit information

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

Audit observation

NHH read data is transferred via SFTP.

HHR volume data is transferred via Contact's portal by EDMI, and using TIBCO Virtual FTP by AMS.

Generation data is automatically imported into SAP.

To confirm the process:

- I traced a sample of readings received from Contact's agents and MEPs for 24 ICPs from the source files to SAP (and the Smart Reads Console for AMI readings). The sample included all reading providers.
- I traced a sample of volumes for three HHR ICPs from the source to HDM, SAP, and the HHR aggregates submissions and for one HHR AMI ICP from the source to SAP and the HHR aggregates submissions.
- for generation data, a sample of import validations were reviewed to confirm the transfer method.

Audit commentary

The data transfer method varies depending on the MEP or agent, and type of data being transferred.

NHH

NHH data is provided by SFTP. The accuracy of the data transfer was confirmed for the sample of reads checked.

AMI HHR

HHR data for AMI category 1 and 2 meters is received via SFTP from AMS, Arc, Metrix and FCLM and imported into the COLA database and where it is validated. The validated data is then imported into SAP.

Queries are run in Contact's COLA database to identify AMS ICPs with missing days of data weekly, and Arc ICPs with missing days of data twice weekly. Contact follows up the missing data with the MEPs via email. Arc provides the missing data via SFTP, and AMS provides the missing data in password protected zip files.

HHR

For all meters with category 3 and above, or category 1 and 2 HHR meters which are commercial or industrial, EDMI provides HHR data via Contact's portal and AMS provides data using TIBCO Virtual FTP. Data was checked for a sample of four ICPs. The accuracy of the data transfer was confirmed for all four ICPs, but ICP 0278411762LC033 was missing from the HHR aggregates submission in April and May 2019 due to a data set up error. This is discussed further in **section 12.7**.

Generation

Generation data is imported into SAP via MV90.

Audit outcome

Compliant

2.4. Audit trails (Clause 21 Schedule 15.2)

Code reference

Clause 21 Schedule 15.2

Code related audit information

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

The audit trail must include details of information:

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

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

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

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

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

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

Audit observation

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

Audit commentary

NHH and HHR

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

EDMI's agent audit recorded that their audit trails do not record the operator identifier for the person who completed the activity; operator identifiers correspond to a user group not an individual. From 1 November 2018, the code wording was clarified to confirm that the operator identifier recorded in audit trails should reflect the operator identifier for the person who performed the activity. The operator identifiers correspond to a user group, rather than an individual user, and this is recorded as non-compliance below.

Generation

Manual journals are created whenever generation data is updated or replaced, as discussed in **section 8.2**. The MV90 system does not have individual user logins, but users are required to record their initials in the system when data is updated. This is stored in the database and forms part of the audit trail.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.4 With: Clause 21 Schedule 15.2 From: 01-Jun-18 To: 29-May-19	EDMI's IE2 and DQM audit trails do not record the operator identifier for the person who completed the activity; operator identifiers correspond to a user group not an individual. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong and the impact as low. Audit trails are available and contain the required information, but the person who processed the change is not identifiable within the audit trail because there is only one operator identifier. A small number of users have access. For the sample of audit trails reviewed, the person responsible for processing the change was identified through supporting information in Fresh Desk.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact is in the process of establishing a monthly operational meeting between EDMI Data Administrator and Contact's HDM teams to discuss all business as usual operational issues. The first meeting will be held in August 2019. All relevant Electricity Authority RPS audit non compliances have been listed as separate agenda items to ensure corrective actions identified and implemented, whether systems, people or process related. This includes the exploration of all available avenues available to Contact to ensure these issues are resolved. Meeting minutes will be documented and published and all outstanding actions be followed up and resolved. First meeting to be held by 30/9/2019.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Ensure EDMI and FCLM have implemented a preventative process going forward to avoid this issue re-occurring.	31/3/2020	

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

Code reference

Clause 10.4

Code related audit information

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

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

Audit observation

I reviewed Contact's current terms and conditions.

Audit commentary

Contact's terms and conditions include arrangements for meter access and shutdowns and these clauses extend to Contact's agents and are mirrored in agreements with MEPs.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

The trader must use its best endeavours to provide access:

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

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

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

Audit observation

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

Audit commentary

Contact's contract with their customers includes consent to access for authorised parties for the duration of the contract. Contact confirmed that they have been able to arrange access for other parties when requested. This was observed with the meter reading process and with the field services process.

Audit outcome

Compliant

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

Code reference

Clause 10.35(1)&(2)

Code related audit information

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

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

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

Audit observation

A discussion was held regarding knowledge of any ICPs with loss compensation present. The presence of loss compensation factors was also checked with the HHR data team.

Audit commentary

Contact is not responsible for any metering installations with loss compensation factors.

Audit outcome

Compliant

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

Code reference

Clause 11.15B

Code related audit information

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

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

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

Audit observation

I reviewed Contact's current terms and conditions.

Audit commentary

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

Audit outcome

Compliant

2.9. Connection of an ICP (Clause 10.32)

Code reference

Clause 10.32

Code related audit information

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

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

Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The registry list as at 17/04/19, and event detail report for 27/12/18 to 17/04/19 were analysed to confirm process compliance and that controls are functioning as expected.

Late updates to active for new connections are discussed in **section 3.5**.

Audit commentary

Contact Energy has blanket agreements in place with most Distributors that if they are proposed as the trader for a new ICP they will always accept the nomination. Contact's first notification of a new connection is when they receive the notification from the network of the ICP. They then contact the customer and create a customer in SAP for the new connection to progress. If the customer makes contact directly, a request for an ICP is sent to the relevant Distributor to create. A weekly check is run in by the registry team to identify any ICPs where Contact is nominated but no customer exists in SAP. Any ICPs identified are investigated to determine the next action on a case by case basis. The management of ICPs at the "Ready" status where Contact is the nominated trader for greater than 24 months is discussed in **section 3.10**.

Contact do not use the "inactive-new connection in progress" status in the new connection process but instead claim the ICP from "Ready" and make it active. This practice is compliant providing the ICP is made active within five business days of the event. For any ICPs updated late, the MEP nomination will also be late, as this is sent at the same time as the ICP is made active. The late MEP nomination is recorded as non-compliance in **section 3.4**. There was one ICP that where the "Inactive - new connection in progress" status was used. ICP 0007186781RN159 was at the "inactive -new connection in progress" status when the list file was provided. The "inactive -new connection in progress" status was used to by the registry team to align the correct active date between SAP and the registry. The ICP is now active for the correct date. I checked 55 NHH ICPs and the only two HHR new connections identified. In all cases, Contact had accepted responsibility.

Contact has arrangements in place with all MEPs except Intellihub. Any new connections or reconnections where Intellihub was the MEP proceeded as required but there is no arrangement in place that meets the requirements of clause 10.36 (**section 2.13)**. This is recorded as non-compliance below.

The list file contained active 170 ICPs where the metering category was 9 or blank, indicating that no meters were present, and the unmetered flag was set to no. 153 of these ICPs also had no MEP recorded. All were checked:

Count	Comment	Outcome
136	MEP nomination made and accepted, awaiting meter details	Compliant
24	Meter details or the status was updated on the registry after the list report was run	Compliant
1	For ICP 0007188138RN37C the MEP nomination was rejected. A BPEM (Business Process Exception Management) was raised but was not actioned by the assigned team. The ICP was then recorded incorrectly as an unmetered builders temporary supply when it had an LGML meter on site. This was corrected in May 2019.	Non-compliant
9	Metering details have been removed. All were examined and found: • Five ICPs should have been recorded as "Inactive - ready to decommission status" (four ICPs) or "Inactive- vacant" (one ICP). The incorrect status is recorded as non-compliance in **section 3.8**. • Three ICPs have meters recorded in SAP but the MEP has not loaded these to the registry. ICP 0007101973RNC85 has since had metering loaded. • ICP 0369384768LC96F switched into Contact in April 2018. Metrix removed the meters from the registry in July 2018 but the service order indicates that no access was made. Contact are following this up with Metrix.	Non-compliant
170		

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.9 With: Clause 10.32 From: 01-Aug-18 To: 31-May-19	No arrangement in place with Intellihub. Potential impact: None Actual impact: Low Audit history: Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Contact has robust controls in place and are progressing getting an arrangement in place for Intellihub. The audit risk rating is low as the lack of an arrangement with Intellihub had no impact on reconciliation or customers getting connected.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact has received a draft Variation Agreement from Intellihub in terms of which all IHUB ICPs are to be included under the current Metrix (now renamed to Intellihub Limited) Agreement. On signature by Contact of the Variation Agreement, the action for this will have closed.	30 September 2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	As above	

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

Code reference

Clause 10.33(1)

Code related audit information

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

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

Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The registry list as at 17/04/19, and event detail report for 27/12/18 to 17/04/19 were analysed to confirm process compliance and controls are functioning as expected.

I identified all ICPs certified prior to their active date and reviewed them to determine whether they had been temporarily electrically connected.

Audit commentary

Review of the list and event detail reports did not identify any HHR ICPs which had been temporarily electrically connected.

Three NHH ICPs which may have been temporarily electrically connected were identified. All were examined and none were found to have been temporarily electrically connected.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

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

Audit observation

The new connection and reconnection processes were examined in detail to evaluate the strength of controls.

The registry list as at 17/04/19, meter installation details report, and event detail report for 27/12/18 to 17/04/19 were analysed to confirm process compliance and that controls are functioning as expected.

Audit commentary

<u>Active ICPs without metering</u>

435 of the 605 active ICPs with a metering category of 9 or blank have trader unmetered load details recorded. The remaining 170 ICPs are active but have no metering details entered on the registry. 163 ICPs were awaiting meter details to be loaded by the MEP. Five ICPs were recorded with the incorrect status and this is recorded as non-compliance in **section 3.8**. ICP 0369384768LC96F is recorded as active with no metering recorded and no unmetered load recorded. This is recorded as non-compliant below.

New Connections

As discussed in **section 2.9**, Contact does not normally use the "inactive - new connection in progress" status but this status was used for one ICP to ensure that the correct first active date was applied in SAP and the registry.

Contact had accepted responsibility for all newly electrically connected ICPs. The analysis found two NHH ICPs that were not certified within five business days of electrical connection. These were examined and found:

- ICP 1002051986UN0C3 had a meter certified on the same day as electrical connection occurred but Contact nominated the incorrect MEP who auto accepted the nomination, preventing the correct MEP to be nominated and therefore load their meter to the registry.
- ICP 0000055574NT568 is recorded as active for the incorrect date. The site was electrically connected and meter certified on 18/12/18 but Contact has the first active date as 12/12/18. The incorrect status is recorded as non-compliance in **section 3.8**.

All new HHR ICPs were certified within five business days of electrical connection. Compliance is recorded for all HHR new connections.

Reconnections

Certification details were checked for the 4,042 reconnections where meter certification details were available on the metering installation details report and/or event detail report and where the event state was active.

- 3968 reconnections (98.2%) had full certification at the time of reconnection.
- 54 reconnections (1.3%) had expired interim certification at the time of reconnection.
- 20 reconnections (0.4%) had expired full certification at the time of reconnection.

As reported in the last audit, Contact does not have a process in place to ensure metering installations are certified within five business days of a reconnection. This is recorded as non-compliance below.

Bridged meters

Contact confirmed 48 ICPs were bridged to reconnect during the audit period and were later unbridged. Meters are required to be certified on unbridging. Contact issues field services jobs to MEPs, and it is expected that the MEP will recertify the meter as part of this process. Contact's policy is to request recertification as part of the field services job, but review of a sample of jobs issued to MEPs confirmed that this is not consistently listed on the work order.

I reviewed the certification details for the 48 ICPs with bridged meters which were unbridged during the audit period:

- three ICPs (6%) were recertified on the date the contractor completed the unbridge;
- 37 ICPs (77%) were last certified prior to the meter being unbridged;
- eight ICPs (17%) were recertified after being unbridged, one recertification was within five business days, and the other seven were more than five business days after being unbridged.

The 45 ICPs which were not recertified upon being unbridged are recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: Clause 10.33A From: 01-Jul-18 To: 17-Apr-19	Two ICPs were not certified within five business days of becoming active. 74 ICPs were reconnected without having metering certification in place. 45 ICPs were not recertified on unbridging. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The overall controls are rated as moderate as but I note that the controls are not in place to ensure reconnected ICPs with uncertified metering are certified within five business days, and that meters are recertified on unbridging. The audit risk rating is low as this has no direct impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
ICPs not certified within five business days of becoming active Contact has had a number of discussions with the MEP's concerned and is also working with its ATH and Field Service Providers to ensure that ICP's are certified within 5 business days of the ICP being Livened **ICPs were reconnected without having metering certification in place** The scenario of reconnecting metering installations with previous interim certification is more complex than a simple case of not arranging for a MEP to certify the metering installation post reconnection. For the majority of ICPs identified be the auditor, Contact and the respective MEP have made multiple attempts to install compliant metering over the past number of years. There have been various reasons why this effort has been unsuccessful such as access issues, proximity of gas metering, wiring / switchboard issues, asbestos present. Where a customer requests a reconnection, Contact has a responsibility to complete this request as efficiently as possible and cannot delay this task in order to negotiate meter access or arrange metering certification to also occur at the same time. Contact is investigating an appropriate process to inform MEP whenever an interim certified ICP has been reconnected and to also request another attempt to certify this metering installation by the MEP	Ongoing	Investigating

Preventative actions taken to ensure no further issues will occur	Completion date	
Contact is currently reviewing its current processes to ensure that its reporting identifies each sites certification upon connection, reconnection and switch in. Upon identification we will work with all the relevant MEP's to ensure compliance. Where the reporting does not identify all sites, we will update processes to ensure these are included.	TBA	

2.12. Arrangements for line function services (Clause 11.16)

Code reference

Clause 11.16

Code related audit information

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

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

Audit observation

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

Audit commentary

Contact demonstrated the existence of either a UoSA or other trading arrangement for all relevant networks. The NSP is added to SAP once the UoSA is in place. Therefore, SAP will not accept a new ICP or ICP switching from a network where there is no agreement.

Contact did not begin trading on any new networks during the audit period.

Audit outcome

Compliant

2.13. Arrangements for metering equipment provision (Clause 10.36)

Code reference

Clause 10.36

Code related audit information

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

Audit observation

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

Audit commentary

Contact has an arrangement in place with all MEPs that manage metering in relation to their customer base with the exception of Intellihub. This is in the process of being put in place. Any ICPs that switch in with an Intellihub meter are treated as non-AMI and these are manually read. Examination of the list file identified Intellihub as the MEP for 45 active ICPs. The lack of an arrangement is recorded as non-compliance below.

The new connection process contains a step that requires nomination of an MEP. MEP MN rejections are monitored. There were nine incorrect nominations during the audit period that were subsequently corrected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.13 With: Clause 10.36 From: 08-Aug-18 To: 31-May-19	No arrangement in place with Intellihub Potential impact: Medium Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as there is an arrangement in place with all MEPs except in Intellihub and this is in the process of being addressed. The audit risk rating is low as only 45 ICPs have an Intellihub meter that is being read manually.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact has received a draft Variation Agreement from Intellihub in terms of which all IHUB ICPs are to be included under the current Metrix (now renamed to Intellihub Limited) Agreement. On signature by Contact of the Variation Agreement, the action for this will have closed.	30 September 2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	As above	

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

The "new 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

A walkthrough of the process confirmed that this requirement is well understood and managed by Contact. There were no connections to networks identified without ICPs.

Audit outcome

Compliant

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

Code reference

Clause 11.7(2)

Code related audit information

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

Audit observation

The new connection process was examined in detail. The registry list as at 17/04/19 was analysed in conjunction with the event detail report for 27/12/18 to 17/04/19 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 are 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.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

The process to manage status changes is discussed in detail in **sections 3.8** and **3.9** below. The process to manage MEP nominations and trader updates was discussed.

In this section I have examined the event detail report for 27/12/18 to 17/04/19, to identify all late status updates, MEP nominations, and trader updates. To determine the reasons for the late updates, I examined:

- 20 late updates to active made over 30 business days after the event date;
- a sample of ten late updates for inactive records over 30 business days (or all late updates over 30 business days) for each inactive status type;
- 20 late MEP nominations made over 30 business days after the event date; and
- 20 late trader updates over 30 business days.

Audit commentary

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

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Status updates						
Change to active - Reconnections	2014	84	60	24	14.4	71%
	2015	2,447	1,991	456	8.7	81%
	2016	3,249	2,760	489	7.6	85%
	2017	4,134	3,578	556	12.7	91%
	2018	3,141	2,707	434	10.2	86%
	2019	**4,177**	**3,762**	**415**	**5.4**	**90%**
Change to de-energised – all statuses except new connection in progress and ready for decommissioning	2014	9	4	5	170.0	44%
	2015	956	889	67	3.9	93%
	2016	4,138	3,978	160	9.6	96%
	2017	4,993	4,915	78	1.2	98%
	2018	4,243	3,982	262	4.0	94%
	2019	**5,963**	**5,818**	**145**	**2.0**	**98%**
Change to de-energised ready for decommissioning	2014	36	2	34	14.7	6%
	2015	1050	323	727	58.1	31%
	2016	483	181	302	90	38%
	2017	515	269	246	34.8	52%
	2018	485	286	199	41.0	59%
	2019	**634**	**293**	**341**	**33.9**	**46%**
Trader updates						
MEP nomination	2018	3,949	3,274	675	11.4	83%
	2019	**4,454**	**3,761**	**693**	**6.2**	**84%**
Trader updates (excluding MEP	**2019**	**49,987**	**43,302**	**6,685**	**6.0**	**87%**

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
nominations and NT updates)						

All status changes apart from moving an ICP to "Inactive - ready for decommissioning" are completed automatically upon the closure of the field service request providing all the relevant information is provided. This automation has reduced the time to update the registry.

Status updates – reconnections

The level of compliance has improved by 4% during the audit period, the average number of business days to update the registry decreased from 10.2 to 5.4.

415 status updates to active were late, and I found 272 were updated within 30 business days. I checked 20 late reconnections including the ten latest, and ten updated between 30 and 101 business days after the event date. I found that 14 related to consumption on electrically disconnected ICPs, three were backdated switch ins and three were identified by the registry team checking for status mismatches between the registry and SAP.

Status updates – inactive for reasons other than ready for decommissioning

The level of compliance has improved by 4% during the audit period, the average number of business days to update the registry decreased from 4.0 to 2.0.

145 status updates were late, and I found 85 of those were updated within 30 business days. I checked ten examples for each inactive reason code (50 in total) and found:

- 28 of these related to credit disconnections. If the job is closed out late by the field contractor this will delay the registry being updated.
- 12 of these related to Contact's practice of changing all ICPs to Active at the time of switch in. A reconnection is booked at the same time as they switch in. If the reconnection cannot be completed the ICP is reverted back to the relevant inactive status until the reconnection can be completed.
- Two were found via the registry status mismatch report and corrected.
- The remaining eight ICPs were updated via a manual intervention. This was required to complete the field service request. Only two of these were not completed within the five business days.

Status updates – inactive ready for decommissioning

The ready to decommission status updates are automated except for those that are notified by the network. Contact will only update these ICPs once they have been confirmed to be ready for decommissioning. This can cause further delays in updates for already late notifications. 293 (46.2%) of the 634 status updates to inactive ready for decommissioning were on time. 341 updates were late, and 159 were more than 30 business days late.

The ten latest updates were checked and found this was caused by:

- late notification from the Distributor for six ICPs;
- three ICPs that had been demolished without involvement from the Distributor or Contact, these were updated as soon as they were confirmed to have been removed; and
- ICP 0005425832RN48D required investigation before it could be confirmed to have been decommissioned.

MEP nominations

The nomination date was compared to the metering event effective date to identify any ICPs that were not nominated within five business days. I found 693 MEP nominations (16%) were late, and 64 were more than 30 business days late.

The ten latest updates and ten updates between 30 and 120 business days after the event date were checked and found to be caused by:

- the incorrect MEP being recorded by the field contractor in six instances;
- the incorrect MEP being nominated in two instances;
- late paperwork being returned in four instances;
- communication issues with the MEP causing the nomination to be late in four instances e.g. the contractor completed the work order in ORB but the work order did not record the change of meter which was picked up by a meter reader;
- other events prevented the MEP nomination being sent to the registry in two instances; and
- the remaining two related to new connections and not a change of MEP as such.

Whilst the examination of the sample indicates a variety of causes, as noted in **section 2.9**, I believe that the MEP nomination will be late for any late new connection, as this is sent at the same time as the ICP is made active.

Trader updates

43,302 (87%) of the 49,987 trader updates were on time. 6,685 updates were late, and 513 were more than 30 business days late.

The ten latest updates and ten updates between 30 and 120 business days after the event date were checked and found:

- 12 late trader updates were to correct trader details including profile updates, unmetered load values and/or descriptions.
- 8 late trader updates were created by SAP. An update in SAP caused trader events to be sent automatically to the registry (2 were unmetered load details for decommissioned ICPs e.g. ICP 9999003773NTD1B). For the active ICPs it appears to send an update of trader details with the same details as the last trader event for the same effective date and then one second later sends a trader event with the change included for the correct event date. See the example for ICP 0005641555HBBAB below:

Trader	01/01/2019	28/01/2019	21:12:12	REC-25683912 CTCT	CTCT	File	Replaced
Trader	01/11/2013	28/01/2019	21:12:11	REC-25683911 CTCT	CTCT	File	Active
Trader	01/11/2013	04/11/2013	09:07:50	REC-19567897 CTCT	CTCT	File	Replaced

It appears that multiple updates are being made in SAP by more than one part of the business and these are causing more than one update to hit the registry. I found no evidence that the incorrect updates are affecting the ICPs accuracy and therefore this has no direct impact on registry accuracy or reconciliation.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 Schedule 11.1 From: 27-Dec-18 To: 17-Apr-19	Registry information not provided within 5 business days of change. Potential impact: Medium 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 Contact has good controls to manage registry accuracy but there is room for improvement. Overall the level of compliance is high with the majority of updates being completed within five business days of the event therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status

Status Updates – reconnections Contact has raised a system enhancement (through its Continuous Improvement Programme (see at the end of this document)) to change the logic behind how SAP handles ICPs switching to Contact in an Inactive state, resulting in the correct status event data being loaded in the Electricity Registry from our switch gain date. Contact are currently investigating into improvements around internal processes and reporting opportunities for reconnection service requests returned as already reconnected/completed. Contact is in the process of updating the methodology behind how we allocate status (connection) mismatches within our back office teams by creating an allocation matrix that identifies on a monthly/weekly basis the resource/time required to reduce historical, and clear new status event discrepancies identified. Contact continues to investigate issues related to paperwork delays and accuracy from the field. These instances are addressed via the contractor performance provisions within the respective agreements. **Status updated – inactive for reasons other than ready for decommissioning** Contact has raised a system enhancement (through its Continuous Improvement Programme (see at the end of this document)) to change the logic behind how SAP treats ICPs switching to Contact in an Inactive state, resulting in the correct status event data being loaded in the Registry from our switch gain date. Contact continues to investigate issues related to paperwork delays and accuracy from the field. These instances are addressed via the contractor performance provisions within the respective agreements. **Status updated – inactive ready for decommissioning** If Contact is made aware of the decommissioning of an ICP after the fact (without our involvement in the process), we will complete an investigation to ensure accuracy of the data provided to us. This can cause further delays to an already late registry notification. We are planning to discuss this with other participants to further decrease these types of non-compliances. Contact continues to investigate issues related to paperwork delays and accuracy from the field. These instances are addressed via the contractor performance provisions within the respective agreements. **MEP nominations** Contact continues to investigate issues related to paperwork delays and accuracy from the field. These instances are addressed via the contractor performance provisions within the respective agreements. **Trader updates** Contact will provide additional training to back office teams, in particular around our systems specifications, to ensure they are	Ongoing	Identified

aware of the causes behind, and how to stop, trader event data being sent to the Registry in two separate files. Contact continues to investigate issues related to paperwork delays and accuracy from the field. These instances are addressed via the contractor performance provisions within the respective agreements. Contact continues to monitor Contacts event updates between SAP and the Electricity Registry via monthly Registry reporting to increase the accuracy of Registry data.		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact acknowledges the non-compliances identified by the auditors, and the underlying factors causing the late notifications to the Registry. We are implementing new reports, as well as enhancing existing reporting, to increase visibility of non-compliances previously unidentified, and to assist in pinpointing further shortcomings in our internal processes and systems. Contact continues to examine all shortcomings realised, and explore improvements to internal reporting, processes, and systems to further decrease the opportunity for non-compliances to arise.	TBA	

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process was discussed and the registry list as at 17/04/19 was examined to identify that all active ICPs have an MEP recorded. This analysis found 153 active ICPs that do not have an MEP recorded in the registry and have the unmetered flag set to no.

Nine MEP nomination rejections were identified on the event detail report, all were reviewed.

ICP Decommissioning

The process for the decommissioning of ICPs was examined. A typical sample of ten decommissioned ICPs was 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

Contact use BPEMs (Business Process Exception Management) generated in SAP to manage any MEP rejections.

All 153 active ICPs with no MEP recorded in the registry were examined. All had an MEP nomination made and accepted apart from the nine ICPs detailed below.

The nine MEP nomination rejected were examined. Three were accepted on reissue. The six not reissued were examined and found:

- Four distributed unmetered load ICPs that are traded as HHR. SAP incorrectly sent off an MEP nomination for AMCI. These were correctly rejected and not reissued. Contact are investigating why SAP sent these nominations.
- Delta rejected the nomination for ICP 0007188138RN37C. A BPEM (Business Process Exception Management) was raised to action this but it was not actioned by the assigned team. The ICP was then recorded incorrectly as an unmetered builders temporary supply when it had an LGML meter on site. This was corrected in May 2019.
- Contact was incorrectly nominated as the MEP for ICP 1000544995PCBA8. This was correctly rejected as it related to the wrong premise. The ICP has certified metering present so no reissue was required.

ICP Decommissioning

Contact 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. Contact also advise the MEP responsible that a site is to be decommissioned.

A sample of ten ICPs was examined to confirm an attempt to read the meter was made at the time of removal. Actual readings were obtained for all ten ICPs. Compliance is confirmed.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.4 With: Clause 11.18 From: 27-Dec-18 To: 17-Apr-19	One incorrect MEP nomination not actioned to ensure that an MEP is recorded on the registry. 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	The controls are rated as strong as the was only one ICP missed due to human error. The volumes for the affected ICP are being billed and submitted therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
As the Auditor has noted, we have strong control for this process. We will actively look in to any future MEP nomination rejections which should resolve non-compliance in this area moving forward.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact continuously monitors the MEP nomination exceptions to prevent this issue re-occurring.	Ongoing	

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

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

The registry list as at 17/04/19, meter installation details report, and event detail report for 27/12/18 to 17/04/19 were analysed to confirm process compliance and that controls are functioning as expected.

Audit commentary

New Connections

Half Hour

Half hour connections are managed by the HDM team in Contact. The level of activity in this area has reduced during the audit period. The new connection process is unchanged. Only two HHR new connections were identified. One was updated within in the required time frame and the other was late. ICP 0000045010WE4BF was updated to "active" eight business after the event date due the Sales team not completing the 'move in' process in a timely manner, therefore SAP did not send a notification to the registry. This is the same issue identified in the last audit. The new connection process in SAP requires a customer to be moved in before it will trigger a registry update.

The HDM team continue to work with the sales team ensuring that they are aware of the timeframe that Contact must update the registry. They actively monitor any ICPs at "Ready" that have an initial electrical connection date populated by the Distributor. As Contact does not use the "New connection in progress" status, the nomination of the MEP will be late for any ICPs not updated within the required timeframe.

Both new HHR connections were certified on their active date, and the active dates were consistent with the initial electrical connection date and meter certification date.

Non-half hour

Contact does not usually use the status "new connection in progress" (1,12). They claim ICPs from the "Ready" status and change them to "active" once electrical connection has occurred. As detailed **in section 2.9**, the registry team used this status for one ICP to ensure that the correct active date was applied.

The table below shows that the registry was updated within five business days for 77% of new connections. This is lower than the previous year and the average days to update the registry was longer.

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 NHH	2014	63	40	23	6.9	63%
	2015	1,587	1,077	510	9.7	68%
	2016	1,252	985	267	5.6	79%
	2017	1,275	1,138	137	3.1	89%
	2018	1,472	1,239	233	6.0	84%

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
	2019	**1,014**	**784**	**230**	**8.0**	**77%**
Change to inactive – new connection in progress	**2019**	**1**	**0**	**1**	**113**	**0%**

Timeliness of status updates

Contact have brought the new connection process back in house from their field agent. The process is largely unchanged. This change is still being bedded in and this has affected performance. It appears that whilst there is reporting in place to identify outstanding field work these are not always being reviewed in the operations team, resulting in jobs being missed and therefore being updated late. When jobs are identified it appears that they are not being worked from oldest to newest, which results in late updates to registry. Contact are aware of the challenges in this area and are working to refine and improve the new connection process.

Whilst the overall process has slowed, 1,001(99%) of the 1,014 updates to active were made within 30 business days of the event. A sample of the 20 latest updates backdated greater than 20 days were checked, and I found these were late due to the following reasons:

- Eight examples of late field notification.
- Four examples identified by either the MEP or the Distributor who have requested Contact to complete the new connection. I recommend in **section 3.8** that the check of ICPs with an initial electrical connection dates but not active is reinstated.
- Three examples of corrections to active for incorrectly decommissioned ICPs.
- Two examples of incorrect "Ready" dates preventing loading of "Active" date. The active date for ICP 0000507239CE8EF needs to be corrected by the Distributor to 9/11/18. Contact have submitted volumes for the intervening days but the registry is incorrect.
- ICP 0000570538NR7D1 was completed with incorrect paperwork. This was not updated until the work on site could be confirmed.
- ICP 0000700227MP1DF was at the "New" status and was delayed until the network corrected this.
- ICP 0007187565RN14E was a correction to the first active date.

The accuracy of the first active dates is discussed in **section 3.8**.

MEP nomination

As Contact does not use the "New connection in progress" status, the nomination of the MEP will be late for any ICPs not updated within the required timeframe. The 231 late new connections identified above have a late MEP nomination and are recorded as non-compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 Schedule 11.1 From: 27-Dec-18 To: 17-Apr-19	231 late changes to Active. Contact was not recorded as the responsible participant in the registry on the active date for 231 ICPs. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as weak as expected actions to monitor and manage new connections are not in place hence the decline in overall performance. The audit risk rating is low, because the impact on submission information is low. Late changes to Active can mean submission information is not provided at the earliest opportunity. Billing will also be delayed for some ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status

<u>New Connections – NHH/HHR</u> Contact is revamping their New Connection reporting to ensure all probabilities of a date variance between Active status event, IED, and certification dates are recognised. The frequency of the monitoring and resolving Active date variances, will occur more frequently, to improve the accuracy related our claiming event data. Contact have begun trailing a new report to improve our performance. Contact continues to monitor the timeliness around our new connection claiming process to ensure the timeliness of status and trader event data being loaded in the Registry meets regulatory obligations. **<u>Timeliness of status updates</u>** Contact continues to monitor the accuracy of status event data loaded in the Electricity Registry on a monthly basis. As a result we complete historical status event corrections in the Electricity Registry, resulting late status event updates. These corrections may exceed the regulatory requirements around timeliness of events, however we do feel the accuracy of Registry event data should take a precedence. Contact acknowledges that not all late status events are a result of correcting Registry data, and agrees that improvement is needed in the timeliness of status event updates. As a result we are in the process of updating our methodology behind how we allocate status (connection) mismatches identified within our back office teams by creating an allocation matrix that identifies on a monthly/weekly basis the resource/time required to reduce historical, and clear new status exceptions identified. We believe this matrix will assist in decreasing the amount our non-compliances in this area. Contact continues to investigate issues related to paperwork delays and accuracy from the field. These instances are addressed via the contractor performance provisions within the respective agreements. **<u>MEP nomination</u>** Contact continues to investigate issues related to paperwork delays and accuracy from the field. These instances are addressed via the contractor performance provisions within the respective agreements.	In progress	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

Contact acknowledges the non-compliances identified by the auditors, and the underlying factors causing late or inaccurate notifications to the Electricity Registry. We are implementing new reports, as well as enhancing existing reporting, to increase visibility of non-compliances previously unidentified, and to assist in pinpointing further shortcomings in our internal processes and systems. Contact continues to examine all shortcomings realised, and explore improvements to internal reporting, processes, and systems to further decrease the opportunity for non-compliances to arise.	Ongoing	

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

Code reference

Clause 9 (1(k) of Schedule 11.1

Code related audit information

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

Audit observation

The process to capture and manage ANZISC codes was examined.

The registry list as at 17/04/19 was reviewed to check ANZSIC codes. To confirm the validity of ANZSIC codes I checked 40 ICPs with an unknown ANZSIC code in the T99 series.

I selected a sample of 100 active ICPs across the top ten most popular ANZSIC codes to confirm the validity of the codes applied.

Audit commentary

Contact runs a monthly report to check ANZSIC code alignment between SAP and CRM. This identifies any ICPs with an ANZSIC code within the T99 series or mismatch between business class and ANZSIC, and/or the registry and SAP. Any exceptions are expected to be manually investigated and corrected.

The number of ANZSIC code exceptions has continued to reduce over time:

Issue	2019	2018	2017	2016
Active ICPs with blank ANZSIC codes	0	0	0	0
Active ICPs with ANZSIC “T994” or “T994000” don’t know	140	183	524	448
Active ICPs with ANZSIC “T997 “response unidentifiable	0	0	0	1
Active ICPs with ANZSIC “T998 “response outside of scope	0	0	1	0
Active ICPs with ANZSIC “T99”, “T999” or “T999999” not stated	28	30	161	54
Active ICPs with metering category 3 or above with a residential ANZSIC code	0	0	1	2

40 ICPs with an unknown ANZSIC code in the T99 series were checked and an ANZSIC code could be determined in all instances with the correct code. Contact intend to review this small group of ICPs to update them to a specific code. The enhancement detailed in the Contact response to address this in the last audit is still in the prioritisation queue for delivery.

I checked 100 ANZSIC codes to confirm they were correct compared to google street view. I was unable to determine the potential code for 26 records and 16 of the remaining 74 ICPs appeared to be incorrect. Contact are reviewing how ANZSIC codes are applied to accounts to improve the code accuracy. Active ICPs with the incorrect ANZSIC code are recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: Clause 9 (1(k) of Schedule 11.1 From: 31-May-19 To: 31-May-19	Some incorrect ANZSIC codes. 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 rated as moderate but as identified above there is room for improvement which Contact are working to put in place. There is no impact on settlement outcomes from incorrect ANZSIC codes but there is a low impact on the Electricity's reporting accuracy, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact has a system enhancement pending with our IT providers into eliminate the 'T9' series ANZSIC codes from being populated within our systems as part of a switch gain, to avoid these codes being applied in the future. We are awaiting prioritization of this enhancement. Contact has also implemented reporting and a process to identify all ICP's which has an ANZSIC code miss-match or a 'T9' series ANZSIC code applied at time of switch gain and these are being corrected via a manual correction process while we await the enhancement to be implemented. Contact uses its customer information and also the companies register to assist in identifying the correct ANZSIC code as part of its manual correction process rather than Google streetview due to the snapshot nature of the Google information. Contact is also extending our reporting to also review 'A1 to A100' ANZSIC codes for accuracy to ensure correct codes are being selected for ICPs	Ongoing	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
As above	Ongoing	

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

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

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

Audit observation

The process to manage unmetered load was examined. The list file as at 17/04/19 was examined to identify any ICPs where:

- unmetered load is identified by the distributor, but none is recorded by Contact; and
- Contact's unmetered load figure does not match with the Distributor's figure (where it was 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

Management of unmetered load information

All unmetered load new connections or capacity changes require an application to Contact, which then follows the "new connections" process. This includes a verification process, which includes the step of questioning whether the ICP can be metered, and if not then the appropriate information is collected to ensure the daily kWh is correct. There is also a check to ensure any unmetered new connections have an annual consumption less than 3,000 kWh per annum, or between 3,000 and 6,000 kWh for approved load types.

Contact has reporting in place to identify when a distributor makes changes to their unmetered field or where there is distributor information, but SAP does not have the unmetered field populated. I recommend that this reporting is reviewed as the findings below indicate it is not identifying discrepancies as expected.

Description	Recommendation	Audited party comment	Remedial action
Changes to unmetered load	Review reporting to ensure that discrepancies are identified.	Contact has implemented additional reporting to also ensure registry updates are generated and sent consistently	Identified

Active ICPs with no metering or unmetered load recorded by Contact

As discussed in **section 2.9**, the list file contained active 170 ICPs where the metering category was 9 or blank, indicating that no meters were present, and the unmetered flag was set to no. All the ICPs were checked and found that all ICPs were either metered but the metering details had yet to be loaded, or they were at the incorrect status.

ICPs with unmetered load recorded by the distributor but not by Contact

13 ICPs have distributor unmetered load details and no unmetered load populated by Contact, and one ICP has distributor unmetered load details and zero daily unmetered kWh populated by Contact. These were examined and found:

- Seven ICPs were originally unmetered temporary builders supplies and are now metered supplies, the Distributor's unmetered details need to be removed;
- Two ICPs were recorded by the Distributor as unmetered temporary builders supplies but these have always been metered, the Distributor's unmetered details are incorrect;
- Two ICPs no longer have unmetered load recorded as advised by the Distributor, the Distributor's unmetered details are incorrect; and
- Two ICPs have had the unmetered load details updated in SAP but the update has not flowed through to the registry. The volumes are being reconciled via SAP. This is recorded as non-compliance.

ICPs with unmetered load recorded by Contact but not the distributor

336 ICPs have unmetered load details recorded by Contact, but not the distributor. Of those 211 are indicated to be unmetered builder's temporary supplies, 25 are DUML ICPs, and 12 are SB ICPs. All were checked and found all are genuinely unmetered with the exception of 179 ICPs where the builders temporary supply is now a metered supply. The builder's temporary supply has been removed in SAP but the update to the registry has failed. SAP has the unmetered load recorded so reconciliation will be correct. This is recorded as non-compliance below.

Accuracy of trader unmetered daily kWh

Contact supplies 1,458 ICPs with unmetered load recorded, and all had a value recorded in the daily unmetered kWh field.

Two ICPs had daily unmetered load of zero populated but were not SB ICPs. These were both examined and found:

- ICP 0000041244WE13A is a DUML ICP and therefore the volume for this ICP is derived from the DUML database. The zero unmetered load value should be removed.
- ICP 0000516098NRD53 is disconnected. It switched in on 1/3/19 and was automatically updated to active and a service request issued for the reconnection. The field work was never completed but the robot incorrectly closed the work order and updated the status to active. The incorrect status is recorded as non-compliance in **section 3.8**. The unmetered load details will be updated if the ICP is changed to active.

For 809 ICPs, the distributor had not populated the unmetered load details in a format that allowed recalculation of the unmetered load based on their data, or the ICP was DUML. Unmetered load was recalculated based on the distributor values for the other 649 ICPs. For 635 ICPs (98%), the calculation was within ± 1 kWh of the trader unmetered daily kWh. For the other 14 ICPs the findings are detailed below:

ICP	Distributor unmetered load details	Trader unmetered load details	Trader kWh	Distrib kWh[1]	Comments
0006823839HB288	0020;12;Lighting	1xU01 20;11.7 1x 20w Led pole light	5.95	0.22	Registry update failed to load – now corrected.
0000033447CHA27	0002;24;SPEED INDICATOR DEVICE	0.2KW;24HRS;200 W SPEED INDICATOR SIGN	4.8	0.05	Distributor has the incorrect value recorded.
0000033686CHB8A	0002;24;SPEED INDICATOR DEVICE	0.2KW;24HRS;200 W SPEED INDICATOR SIGN	4.8	0.05	Distributor has the incorrect value recorded.
0000033687CH7CF	0002;24;SPEED INDICATOR DEVICE	0.2KW;24HRS;200 W SPEED INDICATOR SIGN	4.8	0.05	Distributor has the incorrect value recorded.
0000033688CH811	0002;24;SPEED INDICATOR DEVICE	0.2KW;24HRS;200 W SPEED INDICATOR SIGN	4.8	0.05	Distributor has the incorrect value recorded.
0000033689CH454	0002;24;SPEED INDICATOR DEVICE	0.2KW;24HRS;200 W SPEED INDICATOR SIGN	4.8	0.05	Distributor has the incorrect value recorded.
0000033690CH0A8	0002;24;SPEED INDICATOR DEVICE	0.2KW;24HRS;200 W SPEED INDICATOR SIGN	4.8	0.05	Distributor has the incorrect value recorded.
0000552757HB3CE	0125;12;Lighting		5.9	1.50	Registry update failed to load.
0000011088WECB8	0087;11.5;6 lights	300;11.8 6x 50w Car park lights	3.55	1.00	Being investigated to confirm the correct UML details.
0000617890TPE23	0120;04.0;Monitoring station	0120;24.0: River Monitoring station	2.8	0.48	Contact believe their hours of operation to be correct.
0007183576RN1A3	0000;08.0;	192;8.0; Builders Temp Supply	1.536	-	Registry update failed to load – BTS details removed.
0000006552TECE0	36:11.9	1.8	1.8	0.43	Being investigated – this is potentially DUML.

[1] Calculated based on the distributor unmetered load details

ICP	Distributor unmetered load details	Trader unmetered load details	Trader kWh	Distrib kWh[1]	Comments
1001139248LCD52	0.05kW:24:VECT Auto Gate	0050;1 Domestic Ac/Solar gate 50w x5 operations	0.05	1.20	Contact believe their hours of operation to be correct.
0000541168TUF0B	UNDER VARANDAH TAURANGA - 115W-24HR	115W;12H;UNDERVERANDAH	1.38	2.76	These are under verandah lights and Contact believe their hours of operation to be correct. Google maps indicates these lights are not on 24 hours a day.

This found three further examples of unmetered load updates to the registry failing which is discussed above under the heading "ICPs with unmetered load recorded by Contact but not the distributor".

The retailer daily unmetered kWh errors identified in the 2018 audit were re-checked and found to have been corrected to be consistent with the distributor's unmetered load details.

Standard unmetered load corrections are able to be processed in SAP and will flow through to reconciliation submissions. The correction process is discussed in **section 8.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 31-May-19 To: 31-May-19	Daily unmetered kWh values are incorrect for 184 ICPs on the registry (2 ICPs where Distributor has load and Contact has none + 179 BTS supplies still incorrectly recorded +3 ICPs with the incorrect load when compared to the Distributor's load). Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as weak as the updates for unmetered load are not updating to the registry as expected causing a misalignment between the registry and SAP. The audit risk rating is low, because reconciliation is occurring correctly.
Actions taken to resolve the issue	**Completion date** / **Remedial action status**

Contact applies the same process for both standard and shared unmetered load where we undertake monthly validations of distributor details with our unmetered load values used for submission. In addition, our SAP system generates an exception (BPEM) whenever a new ICP switches to Contact with the distributor's UNM details field populated or where for an existing ICP SAP detects a change in the distributors UNM details via a registry event update We have made steady progress reducing the volumes of exceptions however our systems failure to correctly reflect these changes on the registry does not accurately show these improvements. There were only 2 requiring correction and 2 ICPs where Contact needs to complete further investigation to the accuracy of our details. Additionally Contact has resolved its system limitation where corrections to unmetered load daily kWh values could only occur from the last billed read. Correction can now align with the date of the actual change in information. We have now implemented an additional weekly registry validation to identify and resolve any registry notification failures for unmetered load. The 184 ICPs identified by the auditor have been corrected on the registry. Contact is working with the DUML owner to correct this invalid transfer of DUML load from this EN ICP (0000041244WE13A) to its parent NSP (ICP 1001282126UN573). Once Contact has had conformation that the required DUML database updates have been made we will correct our submission data accordingly	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The connection and reconnection processes were examined. The event detail report for 27/12/18 to 17/04/19 was analysed.

- The timeliness and accuracy of data for new connections is assessed in **section 3.5**.
- The timeliness of data for reconnections is assessed in **section 3.3**, and a sample of 20 updates were checked for accuracy.

The list file as at 17/04/19 was analysed and found two ICPs at "new connection in progress" status, one of which had an initial electrical connection date populated. The ICP was checked to determine whether it was electrically connected.

For new connections which had been electrically connected during the audit period, the initial electrical connection date, earliest active date and meter certification date were compared to determine the accuracy of the connection dates.

Audit commentary

The status of an ICP is only changed to "Active" once confirmation has been received by a contractor. Submission information is provided for all "Active" ICPs.

Before being given an "Active" status the trader 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 Authority approved method of calculation. 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.

The two ICPs at "new connection in progress" status were examined and found:

- ICP 0000044423WE226 was claimed by Genesis but was never made active. The "New connection in progress" status has been reversed and the ICP is at the "Ready" status on the registry with Contact as the nominated trader. WEL Networks indicate that the ICP was electrically connected on 7/2/19. Contact's customer has advised that they moved in 8/3/19. Contact have been requesting metering information from Genesis, but none has been provided. I recommend that they go directly to WEL Network and the MEP to progress completing this new connection.

Description	Recommendation	Audited party comment	Remedial action
Management of active	Liaise with WEL Network to progress the completion of the new connection for ICP 0000044423WE226	Resolved. Contact has now claimed the ICP after GENE has reversed their claim and provided the paperwork.	Cleared

- ICP 1002053859UN81B switched into Contact as a new connection in progress. The switch was withdrawn and the ICP is now at the "ready" status with GENE as the nominated trader.

<u>Accuracy of status updates:</u>

Contact were checking the accuracy of first active dates with the initial electrical connection date and the meter certification date. This check has lapsed since the new connection process was brought in house. I recommend that this check is recommenced.

Description	Recommendation	Audited party comment	Remedial action
Management of active	Check new connections for first active date discrepancies against the initial electrical connection date.	Contact has recommenced the process to check the accuracy of first active dates against the initial electrical connection date and meter certification date which should reduce the number of these potential miss-matches in future.	Identified

The active date for new connections was matched to the initial electrical connection date and meter certification date for the 1,016 new connections which became active during the audit period. I identified 41 (4%) ICPs which had date discrepancies:

Count	Active date matches initial electrical connection date	Active date matches meter certification date
975	Yes	Yes
3	No	No
22	No	Yes
16	Yes	No
1,016		

A sample of 20 ICPs with mismatched dates were checked to confirm whether the active date was correct. I found:

- the initial electrical connection date was incorrect for 17 of the examples checked;
- Contact's active date was incorrect for three of the examples checked (these are detailed in the table below); and
- the meter certification date is correct for all examples checked.

The table below shows the two ICPs found to have a discrepancy.

ICP	Initial Electrical Connection date	Meter Certification	First Active date	Comments
0000055574NT568	18/12/2018	6/03/2019	12/12/2018	The correct active date is 18/12/2019. Network Tasman have provided proof of this. The meter certification is later as this was initially an unmetered builders temporary supply.
0007188810RN534	25/01/2019	25/01/2019	4/02/2019	Orion made it ready from 4/2/19 and were unwilling to make it ready for the earlier date despite evidence provided by Contact. Contact have billed and submitted based on the first active date which does not match the registry.
0000043847HRA5B	12/11/2018	15/11/2018	15/11/2018	Incorrect date taken from paperwork.

As detailed in **section 2.9**, five ICPs with no metering recorded and no unmetered load recorded were found to have been in the incorrect status. This is recorded as non-compliance.

As detailed in **section 3.7**, ICP 0000516098NRD53 is disconnected. It switched to Contact on 1/03/2019 and was automatically updated to active and a service request issued for the reconnection. The field work was never completed but the robot incorrectly closed the work order and updated the status to active.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 Schedule 11.1 From: 27-Dec-18 To: 17-Apr-19	Some incorrect Active dates. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as weak as date discrepancies are no longer being checked. The audit risk rating is low, because there is either no impact on submission information or a minor impact on submission information related to consumption being apportioned to the incorrect month as a result of incorrect start dates for a small number of ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status
ICP 0000055574NT568 – we have corrected both the registry and our settlement system with the correct active date. ICP 0000516098NRD53 – This ICP switched to Contact inactive while the property was being upgraded and now has metering reinstalled and livened from 27 May 2019. We have now correctly reflected the respective status on the registry. Contact has re-commenced the process to check the accuracy of first active dates against the initial electrical connection date and meter certification date which should reduce the number of these potential miss-matches in future.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

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

Code reference

Clause 19 Schedule 11.1

Code related audit information

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

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

Audit observation

The disconnection process was discussed. The event detail report for 27/12/18 to 17/04/19 was analysed to identify all disconnections during the period.

A typical sample of at least ten ICPs at each inactive status (or all ICPs if less than ten were available) were checked using the typical characteristics methodology.

The list file was examined to identify any ICPs that had been at the "Inactive - new connection in progress" for greater than 24 months.

Findings on the timeliness of inactive status updates are recorded in **section 3.3**.

Audit commentary

Management of inactive status

The status of "Inactive" is only used once a Contact approved contractor has confirmed that the ICP has been disconnected. This process is automated with the exception of ICPs to be made "Inactive - ready for decommissioning". The timeliness of these updates is detailed in **section 3.3**. Contact continues to read all disconnected ICPs to identify unauthorised reconnections and incorrect statuses. Credit disconnections are now correctly recorded in the registry.

10,141 updates to inactive statuses occurred during the audit period. I checked a sample of 60 updates to inactive and confirmed that the correct statuses and dates were applied except for the ICP detailed in the table below:

ICP	Incorrect status	From	To	Auditor comments	Contact comments
0000632467TP11F	Inactive but should have been recorded as Active	27/12/2018	8/01/2019	The service request was cancelled and the ICP was updated to disconnected in SAP. Then the event was reversed in SAP but this wasn't updated in the registry. Therefore, for the period from 27/12/18 - 8/1/19 the ICP should be active.	We have now corrected this ICP both on the registry and also in our settlement system.

Inactive new connections in progress

Contact does not use this status for the new connection process as part of the BAU new connection process. No ICPs have been at inactive new connection in progress status for more than 24 months.

Monitoring of consumption on ICPs with inactive status

Contact's reconciliation team monitors ICPs with consumption during periods with inactive status. Corrections to SAP for inactive ICPs with consumption are processed by the reconciliation team, and corrections to the registry are processed by the operations team. Where required changes are not communicated, the registry status and SAP status may not be aligned. The correction process is discussed further in **section 8.1**.

Contact provided a report of inactive ICPs with consumption recorded. The report contained 616 ICPs, and comments indicated that 355 of the ICPs with inactive consumption had been investigated. Of the 355 investigated:

- 22 did not have genuine inactive consumption;
- 252 were reconnected by the other trader prior to the switch being completed, Contact confirmed that they had contacted other retailers to advise them of this issue, and request that the switch dates be aligned to the reconnection dates to prevent recurrence;
- 12 had very low volumes likely to be caused by meters creeping; and
- the other 69 appear to have genuine consumption while disconnected, either due to the status not being updated to active immediately on reconnection, illegal reconnection, incorrect processing of the reconnection record or estimated disconnection reads being applied.

Excluding the ICPs without genuine inactive consumption the report contains 594 ICPs and 139,807 kWh of possible inactive consumption. During the 2018 audit it contained 472 ICPs and 124,345 kWh. A sample of the ten ICPs with the most inactive consumption where it was confirmed to be genuine were reviewed:

- for ICPs 0000132680TE1E4, 0005018218RN3F0, 0000922323TUB0B, 0000381890TP1F4, and 0000339665TP9AE the registry shows inactive status during the period where consumption occurred, the incorrect registry status is recorded as non-compliance below;
- for two ICPs the consumption was caused by the ICP being disconnected on estimated readings, and subsequent actual readings were obtained, the status recorded for the period was correct;
- for two ICPs the status on the registry had been corrected to active; and
- for one ICP, the meter was confirmed to be advancing post disconnection and had not been reconnected.

New ICPs appearing on the report are investigated as a priority. There are some historic ICPs still being resolved and all consumption is being reconciled within the 14-month window. Contact intends to allocate extra resources to clear the ICPs to be investigated.

Consumption for all active vacant ICPs where consumption is recorded is included in the relevant submission files, as discussed in **section 12.2**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 of schedule 11.1 From: 03-Mar-16 To: 17-Apr-19	ICPs 0000632467TP11F, 0000132680TE1E4, 0005018218RN3F0, 0000922323TUB0B, 0000381890TP1F4, and 0000339665TP9AE incorrectly show inactive status on the registry for periods when they were electrically connected. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Strong controls are in place for the identification and management of discrepancies and the historic issues regarding consumption on inactive ICPs are being worked through. There is an impact on the timeliness of settlement, but submission will occur during the revision cycles for all consumption, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
As auditor has noted, Contact has started looking at these as a priority and will continue to do so in the foreseeable future which will help in resolving this non-compliance. For the specific ICPs identified – we have updated our settlement system to ensure the consumption volumes for these periods is included in the next scheduled wash ups and we are attempting to update the registry for these historical status events where necessary. We are continuing to engage with other traders where we detect an ICP being reconnected prior to the switch date by these other traders in order improve the behaviour around this process between participants	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

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

Code reference

Clause 15 Schedule 11.1

Code related audit information

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

Audit observation

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

I analysed a registry list of ICPs with "new" or "ready" status and Contact as the proposed trader, and reviewed processes to monitor new connections.

Audit commentary

Any requests received from Distributors are actioned. As detailed in **section 2.9**, Contact run a weekly check to identify any ICPs where Contact is nominated but no customer exists in SAP. Any identified are investigated to determine the next action on a case by case basis. Analysis of the registry list found 174 ICPs at the "Ready" status and 36 ICPs at the "New" status for two years or more. These are detailed in the table below by status and network:

Network by Status	Count of ICP
0	**174**
ALPE	3
CHBP	1
COUP	2
DUNE	1
ELEC	10
ELIN	1
HAWK	27
LLNW	1
MOPO	2
MPOW	11
NPOW	5
OTPO	1
TOPE	33
TPCO	6
UNET	17
VECT	30
WAIK	23
999	**36**
COUP	1
DUNE	34
EAST	1
Grand Total	**210**

I checked a sample of ten ICPs with the "Ready" status and Contact has received no requests from in relation to check these.

Audit outcome

Compliant

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

Code reference

Clause 2 Schedule 11.3

Code related audit information

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

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

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

Audit observation

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

Audit commentary

Contact'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.

Transfer switch type is applied where a customer is transferring between retailers at an address. This information is collected as part of the customer application process.

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

I checked the metering category for the 5,964 transfer ICPs where this information was available on the registry list and found none had metering categories of three or above.

Audit outcome

Compliant

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

Code reference

Clauses 3 and 4 Schedule 11.3

Code related audit information

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

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

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

Audit observation

An event detail report for 01/12/18 to 17/04/19 was reviewed to identify AN files issued by Contact during the audit period, and:

- a sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied; and
- assess compliance with the requirement to meet the setting of event dates requirement.

The switch breach report was examined for the audit period.

Audit commentary

AN timeliness

SAP determines the AN code based on a hierarchy.

The switch breach report did not record any late AN files.

AN content

The switching process was examined in relation to Contact as the "losing trader" for a sample of NHH ICPs. In all cases except for the "MU" coded ICPs were correct. In both instances the ICP was not unmetered supplies. There was a total of 26 AN files sent with the "MU" code identified in the event detail report. I checked a further sample of ten ICPs. Four of these were incorrectly recorded as AN code "MU". Contact are investigating the application of the "MU" code.

The event detail report was reviewed for all 7,752 transfer ANs to assess compliance with the setting of event dates requirements.

- 7,724 (99.6%) had a proposed event date within five business days of the NT receipt date.
- All had proposed event dates within ten business days of the NT receipt date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: Clause 3(a)(ii) of schedule 11.3 From: 12-Feb-19 To: 17-Apr-19	"MU" AN code incorrectly being 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	The controls are rated as moderate as SAP assigns the AN code based on a hierarchy. The audit risk rating is low as this has no direct impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
1002043437LCA89: Recent switch into CTCT and the metering was not set-up in our system when switch loss file received. Because there was no metering set-up in SAP, it automatically sent MU so this was more of a timing issue. 0000504752DE035: Due to historic data issue with the unmetered flag in SAP, system had sent AN code as MU. Contact believes that there is a robust structure in place for the AN codes in SAP. The couple of issues found with 'MU' code being sent to registry were either due to timing or historic data issues which have now been addressed. Based on this, Contact believes that our controls are at the level of "strong" rather than "moderate".	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

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

Code reference

Clause 5 Schedule 11.3

Code related audit information

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

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

Audit observation

An event detail report for 27/12/18 to 17/04/19 was reviewed to identify CS files issued by Contact during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of ten files. The content checked included:

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

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

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

Audit commentary

<u>CS timeliness</u>

Contact has reporting in place that is run twice daily and this is monitored closely to ensure CS files are sent on time.

The switch breach history report contained 409 E2 breaches for late transfer CS files. I recalculated the days overdue for the 78 breaches which had CS files on the event detail report and/or were more than one day late. I found eight breaches were genuine. These were examined and found:

- two ICPs were delayed due to awaiting information from the sales team;
- two ICPs were delayed due to data corrections needing to be made in SAP;
- the incorrect event date 1/10/18 was recorded for ICP 0005352037RN21D when the event date should have been 24/9/18, this was changed when the CS file was sent but caused it to be late;
- the contract was still open for ICP 0001177091ML93F and had to be closed;
- ICP 0110408691LCD72 was sent late as the ICP had a jump in consumption and the CS file was held while the meter readings were confirmed; and
- ICP 0000854175NV7EC was received late from the gaining trader causing Contact to be late in sending the CS file.

Overall Contact has robust controls to ensure that CS files are sent on time. The eight late CS files are recorded as non-compliance below.

CS content

The registry functional specification requires estimated daily kWh to be based on the average daily consumption for the last read to read period. Contact calculates the average daily consumption from the customer's most recent invoice. This is not based on the average daily consumption from the two most recent reads. Contact's current process is likely to produce a more accurate indication of the average daily consumption especially where the read to read period may be for a day, but as it does not meet the codes requirements the current methodology is recorded as non-compliant.

Analysis of the estimated daily kWh on the event detail report identified:

Count of transfer CS files	Estimated daily kWh
Negative	-
Zero	137
More than 200 kWh	125

A sample of ten of these ICPs were checked (five with zero and the five highest with more than 200 kWh).

- The 2018 audit found that when an ICP switches in and out in a short period the daily consumption figure in SAP has not always refreshed and therefore zero consumption is recorded when there is consumption. The five examples checked confirmed that zero is still incorrectly being sent in this scenario. Contact are still working to put a fix in place for this.
- The ICPs sent with more than 200kWh as an average daily consumption found all were correct as they were ICPs with a multiplier with the exception of ICP 0000570809UN7D0 which had no multiplier. The average read to read daily consumption was 35 units but 822 units as recorded in the CS file. This is recorded as non-compliance below.

The accuracy of the content of CS files was checked.

- The average daily consumption was calculated incorrectly for seven of the ten ICPs samples. This is due to the way Contact calculates the average daily consumption from the customer's most recent invoice.
- Four instances where the incorrect last read date is being populated when the same meter is removed and reinstalled on an ICP. In this instance the last read date is the date of the meter removal.
- SAP sent the incorrect estimated read and read date for ICP 0001860740PCEB7. The switch event date was 27/12/19. The site is an AMI site and the read for midnight of 26/12/19 should have been sent as an actual but the midnight read on 27/12/19 was sent as an estimated read.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 Schedule 11.3 From: 01-May-18 To: 17-Apr-19	Eight late CS files. The average daily consumption calculation is not calculated from the read to read period. Incorrect average daily consumption of zero when ICPs switch in and out in a short period. Incorrect average daily consumption recorded in the CS file for ICP 0000570809UN7D0. Incorrect last read dates where a meter has been removed and reinstalled. One instance of the incorrect switch event meter read sent as an estimate for an AMI site. Potential impact: Medium 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 recorded as moderate as this audit found issues with the information SAP is populating into the CS file, indicating controls need review but will mitigate risk most of the time. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status

Eight late CS files 2 X ICPs delayed due to Contact awaiting confirmation on status of TOU contracts with internal sales team. We are looking in to strengthen our C&I switch loss process to resolve this non-compliance for future switch losses. 1 X ICPs is due to the other trader sending the NTTR late to CTCT. We have already improved our internal process so any late NTTR from an alt retailer can be picked up by Contact to avoid this non-compliance in future. The remaining 5 X ICPs are all due to technical issues that prevented us from sending the CS with correct data within the time frame, they were either due to no smart reads available for switch event date or metering data miss-match with registry and our system. Due to the technical nature of these issues, some of these delays are un-avoidable. **The average daily consumption calculation is not calculated from the read to read period.** Contact can confirm that a fix is in progress to recalculate the average daily consumption for the CS file. The delivery of this system fix is scheduled for approximately the end of this year. The authority has been consulted to validate our understanding of the requirements. Once the fix has been deployed in production, this issue will be resolved. **Incorrect average daily consumption of zero when ICPs switch in and out in a short period.** Contact can confirm that a fix is in progress to recalculate the average daily consumption for the CS file. The delivery of this system fix is scheduled for approximately the end of this year. The authority has been consulted to validate our understanding of the requirements. Once the fix has been deployed in production, this issue will be resolved **Incorrect average daily consumption recorded in the CS file for ICP 0000570809UN7D0.** Contact can confirm that a fix is in progress to recalculate the average daily consumption for the CS file. The delivery of this system fix is scheduled for approximately the end of this year. The authority has been consulted to validate our understanding of the requirements. Once the fix has been deployed in production, this issue will be resolved **Incorrect last read dates where a meter has been removed and reinstalled.** Resolved, a system fix was deployed on 24.07.2019. **One instance of the incorrect switch event meter read sent as an estimate for an AMI site.** Contact received intermittent AMI reads for this vacant ICP so no reading was available for the switch event date. However we did receive an AMI read for the day after. Our SAP system then interpolated an estimated switch read from the actual reads either side of the switch date. As the ICP was vacant,	Ongoing	Identified

SAP assumed no / low consumption to occur resulting, in this case, in the switch read essentially being the same as the actual AMI read the day after the switch event date but flagged as estimated. In this case the gaining trader provided an alternative read for this switch which was accepted by Contact A defect notice has been raised to our ICT team to investigate/resolve and improve our estimation of switch reads between 2 actual reads		
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact ICT team is in process of developing the solution for incorrect daily consumption for some CS files. Solution for incorrect last read date have been already implemented resolving this non-compliance.	Ongoing	

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

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

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

The event detail report for 27/12/18 to 17/04/19 was analysed to identify all read change requests and acknowledgements during the audit period. Ten RR files issued by Contact, and ten AC files issued by Contact were checked (including all acceptances and five rejections).

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

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

Audit commentary

Timeliness of RR and AC files

If a discrepancy is detected with the switch in reads, two reads are attempted to be gained as soon as possible and these are then sent through to the losing trader.

The switch breach report recorded 46 late RRs for transfer switches, 45 of those were genuine. The ten latest files were checked and found in all instances these were delayed due to not being able to gain to actual reads or there was negotiation required with the losing trader before the read request was accepted causing this to be outside the four-month window. Whilst these are technically late Contact are compliant with the requirement to provide complete and accurate information.

The switch breach report did not record any late AC files.

Content and handling of RR and AC files

In cases where Contact is the gaining trader and they dispute the switch meter reading because the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more, they attempt to provide to the losing trader a changed switch meter reading supported by two validated meter readings within four calendar months of the actual event date as required by this clause.

Contact issued 73 RR files for transfer switches. 54 were accepted and 19 were rejected. For the sample of five acceptances and five rejections checked there was a genuine reason for Contact's RRs, they were supported by at least two validated readings, and the reads recorded in Contact's system reflected the outcome of the RR process.

Contact issued 152 AC files for transfer switches. 54 were accepted and 98 were rejected. A sample of five AC rejections and five acceptances were checked. All were rejected for valid reasons and SAP reflected the correct outcome of the RR process.

Review of five transfer CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Contact's systems.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 6(1) and 6A Schedule 11. From: 01-May-18 To: 17-Apr-19	45 late RR files. 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	The controls are rated as strong with good visibility of ICPs requiring RRs. The impact on settlement is minor because the number of ICPs is low; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact is looking at some system enhancements/process to reduce the amount of late RR files sent. Once new process is in place, it should reduce the number of late RR files.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report for the period from 27/12/18 to 17/04/19 was reviewed to identify all read change requests and acknowledgements where clause 6(2) and (3) of schedule 11.3 applied.

Audit commentary

These RR requests are processed in the same way as those received for greater than 200 kWh. Each request is evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

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

I identified 39 RR files issued to Contact within five business days of CS completion where the NT specified an HHR profile. For five of these, the CS files contained estimated readings and the read changes were accepted as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.3

Code related audit information

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

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

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

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

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

Audit observation

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

Audit commentary

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

Switch move is applied where a new customer is moving into an address. This information is collected as part of the customer application process.

The five NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected for three ICPs of the five ICPs checked. Two ICPs were transfer switches for the New Plymouth DC DUML ICPs. Retailer's commonly use the move switch process to ensure that these ICPs can be gained for the correct date. This is recorded as non-compliance.

I checked the metering category for the 15,898 switch move ICPs where this information was available on the registry list, and found none had metering categories of three or above.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.7 With: Clause 9 of Schedule 11.3 From: 01-Feb-19 To: 01-Mar-19	Incorrect switch type used for 2 DUML ICPs switching in. Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as the controls to determine the correct switch type are robust. The MI switch type is used so that Contact gains the customer for the correct contract start date. The audit risk rating is low as this has no impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact has investigated the 2 ICP examples identified by the auditor and our finding are provided below: 0008807417WMB53: Upon further investigation, GENE advised they closed the account on 31.01.2019 and requested us to send NTMI for 01.02.2019. 0001570020PC006: This ICP was for the same customer as above and was requested as TR switch with a backdated proposed switch date. Contact had to resubmit the switch as MI to get the site for the correct contract start date in order to submit this DUML load as HHR. Contact uses exemption 177 to be able to submit DUML load as HHR. We believe the switching process for Metering Installation Categories 1, 2 and 9 allows for the use of MI switch type where to settlement type will be HHR from the proposed switch date.	Ongoing	Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

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

Audit observation

An event detail report for 01/04/18 to 31/01/19 was reviewed to identify AN files issued by Contact during the audit period, and:

- a sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied; and
- assess compliance with the requirement to meet the setting of event dates requirement.

The switch breach report was examined for the audit period.

Audit commentary

AN timeliness

SAP determines the AN code based on a hierarchy.

The switch breach report did not record any late AN files.

AN content

The switching process was examined in relation to Contact as the "losing trader" for a sample of NHH ICPs, and in all cases, the correct codes were used.

The event detail report was reviewed for all 15,140 switch move ANs to assess compliance with the setting of event dates requirements.

- 15,138 (99.99%) had proposed event dates within ten business days of the NT receipt date. Two ICPs had event dates more than ten business days after the NT receipt date, which matched the gaining trader's requested transfer date.
- No ANs has a proposed event date before the gaining trader's requested date.

Audit outcome

Compliant

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

Code reference

Clause 10(2) Schedule 11.3

Code related audit information

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

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

Audit observation

An event detail report for 01/04/18 to 31/01/19 was reviewed to identify AN files issued by Contact during the audit period, and assess compliance with the requirement to meet the setting of event dates requirement.

Audit commentary

Analysis found all switch move ANs had a valid switch response code, and event dates were compliant. Switches were completed as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

An event detail report for 27/12/18 to 17/04/19 was reviewed to identify CS files issued by Contact during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of ten files. The content checked included:

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

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

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

Audit commentary

CS timeliness

Contact has reporting in place that is run twice daily and this is monitored closely to ensure CS files are sent on time.

The switch breach history report contained 2,561 breaches for late switch move CS files. Three were CS breaches and 2,558 were E2 breaches. I recalculated the days overdue for the 416 breaches which had NT files on the event detail report and/or were more than 45 days late. I found one breach was genuine. The CS file was sent late for ICP 1001265221LC8B3 because Contact had a customer sign up prior to the CS file being sent and Contact had to confirm with their customer before the CS file could be sent.

CS content

The registry functional specification requires estimated daily kWh to be based on the average daily consumption for the last read to read period. Contact calculates the average daily consumption from the customer's most recent invoice. This is not based on the average daily consumption from the two most recent reads. Contact's current process is likely to produce a more accurate indication of the average daily consumption especially where the read to read period may be for a day, but as it does not meet the codes requirements the current methodology is recorded as non-compliant.

Analysis of the estimated daily kWh on the event detail report identified:

Count of transfer CS files	Estimated daily kWh
Negative	-
Zero	1208
More than 200 kWh	88

A sample of ten of these ICPs were checked (five with zero and the five highest with more than 200 kWh):

- The 2018 audit found that when an ICP switches in and out in a short period the daily consumption figure in SAP has not always refreshed and therefore zero consumption is recorded when there is actually consumption. The five examples checked confirmed that zero is still incorrectly being sent in this scenario. Contact are still working to put a fix in place for this.
- The ICPs sent with more than 200kWh as an average daily consumption found ICP 0000378150MP44D was sent correctly as it had a multiplier. The four sent incorrectly were caused when negative consumption was present causing the SAP calculation to incorrectly calculate a high average daily consumption value.

The accuracy of the content of CS files was checked.

- The average daily consumption was calculated incorrectly for seven of the ten ICPs samples. This is due to the way Contact calculates the average daily consumption from the customer's most recent invoice.
- ICP 0000031246DE548 was sent with an incorrect last read date. This was populated when the same meter was removed and reinstalled. In this instance the last read date is the date of the meter removal.
- Two instances where the incorrect last read date was recorded not caused by a meter change.
- Two instances of an AMI read site where the actual read for midnight of day before the read e.g. 26/12/2018 should have been sent as an actual read but the midnight read on 27/12/18 was sent as an actual read.
- SAP sent the incorrect estimated read and read date for ICPs 0000500471DE423 and 0005482240RN9D7 e.g. The switch event date was 1/3/19. The site is an AMI site and the read for midnight of 28/2/19 should have been sent as an actual but the midnight read on 1/3/19 was sent as an estimated read.

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 4.10
With: Clause 11 Schedule 11.3

From: 01-May-18
To: 17-Apr-19</td><td colspan="3">One late CS file.
The daily consumption calculation is not calculated from the read to read period.
Incorrect daily consumption of zero when ICPs switch in and out in a short period.
Incorrect last read dates for seven of ten examples checked.
Two instances of the incorrect switch event meter read sent as an estimate for an AMI site.
Potential impact: Medium
Actual impact: Low
Audit history: None
Controls: Moderate
Breach risk rating: 2</td></tr>
<tr><th>Audit risk rating</th><th colspan="3">Rationale for audit risk rating</th></tr>
<tr><td>Low</td><td colspan="3">The controls are recorded as moderate as this audit found issues with the information SAP is populating into the CS file, indicating controls need review but will mitigate risk most of the time.
The impact on settlement and participants is minor; therefore, the audit risk rating is low.</td></tr>
<tr><th colspan="2">Actions taken to resolve the issue</th><th>Completion date</th><th>Remedial action status</th></tr>
</table>

1 late CS file. We were awaiting customer confirmation for that 1 X ICP. There has been process changes made in April 2019 to improve this process further. However, some of the scenarios may be unavoidable (i.e. metering issues, reading issues, data issues). **The daily consumption calculation is not calculated from the read to read period.** Contact can confirm that a fix is in progress to recalculate the average daily consumption for the CS file. The delivery of this system fix is scheduled for approximately the end of this year. The authority has been consulted to validate our understanding of the requirements. Once the fix has been deployed in production, this issue will be resolved **Incorrect daily consumption of zero when ICPs switch in and out in a short period.** Contact can confirm that a fix is in progress to recalculate the average daily consumption for the CS file. The delivery of this system fix is scheduled for approximately the end of this year. The authority has been consulted to validate our understanding of the requirements. Once the fix has been deployed in production, this issue will be resolved. **Incorrect last read dates for seven of ten examples checked.** Resolved, system fix was deployed on 24.07.2019. **Two instances of the incorrect switch event meter read sent as an estimate for an AMI site.** Contact received intermittent AMI reads for these vacant ICPs so no readings were available for the switch event date. However we did receive an AMI reads for the day after. Our SAP system then interpolated estimated switch reads from the actual reads either side of the switch date. As the ICP's were vacant, SAP assumed no / low consumption to occur resulting, in these cases, in the switch reads essentially being the same as the actual AMI reads the day after the switch event date but flagged as estimated. A defect notice has been raised to our ICT team to investigate and improve our estimation of switch reads between 2 actual reads	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact ICT team is in process of developing the solution for incorrect daily consumption for some CS files. Solution for incorrect last read date has been already implemented resolving this non-compliance.	Ongoing	

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

Code reference

Clause 12 Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

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

The event detail report for 27/12/18 to 17/04/19 was analysed to identify all read change requests and acknowledgements during the audit period. Ten RR files issued by Contact, and ten AC files issued by Contact were checked (including five acceptances and five rejections).

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

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

Audit commentary

Timeliness of RR and AC files

If a discrepancy is detected with the switch in reads, two reads are attempted to be gained as soon as possible and these are then sent through to the losing trader.

The switch breach report recorded 125 late RRs for switch moves, 104 of those were genuine. The ten latest files were checked, including all over 130 days late and found in all instances these were delayed due to not being able to gain to actual reads or there was negotiation required with the losing trader before the read request was accepted causing this to be outside the four month window. Whilst these are technically late Contact are compliant with the requirement to provide complete and accurate information.

The switch breach report did not record any late AC files.

Content and handling of RR and AC files

Contact issued 400 RR files for switch moves. 306 were accepted and 94 were rejected. For the sample of five acceptances and five rejections checked there was a genuine reason for Contact's RRs, they were supported by at least two validated readings, and the reads recorded in Contact's system reflected the outcome of the RR process.

Contact issued 741 AC files for switch moves. 365 were accepted and 376 were rejected. A sample of five AC rejections and five acceptances were checked. All were rejected for valid reasons SAP reflected the correct outcome of the RR process.

Review of five transfer CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Contact's systems.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 12 of Schedule 11.3 From: 01-May-18 To: 17-Apr-19	104 late RR files. 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	The controls are rated as strong with good visibility of ICPs requiring RRs. The impact on settlement is minor because the number of ICPs is low; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact is looking at some system enhancements/process to reduce the amount of late RR files sent. Once new process is in place, it should reduce the number of late RR files.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

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

Code reference

Clause 14 Schedule 11.3

Code related audit information

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

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

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

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

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

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

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

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

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

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

Audit observation

The HH switch gain process was examined. A typical sample of ten ICPs were checked to confirm that these were notified to the registry within three business days, and that the correct switch type was selected.

Audit commentary

The NT files for HH switches contained the information required by this clause.

I checked the metering category for all 55 HH NTs and found all the ICPs had meter category 3 or 4. All were sent within three days of pre-conditions being met.

Audit outcome

Compliant

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

Code reference

Clause 15 Schedule 11.3

Code related audit information

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

> *15(a) - provide to the registry manager a valid switch response code as approved by the Authority; or*
>
> *15(b) - provide a request for withdrawal of the switch in accordance with clause 17.*

Audit observation

The event detail report for 27/12/18 to 17/04/19 was analysed to identify all HH switches during the audit period. A sample of three 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 to identify late AN files.

Audit commentary

AN timeliness

SAP determines the AN code based on a hierarchy.

The switch breach report did not record any late AN files.

AN content

151 HH AN files were issued during the period reviewed.

The switching process was examined in relation to Contact as the "losing trader" for a sample of HHR ICPs. Three ICPs were sent with the "CO" contracted customer code. In all cases the customer was not in contract but the account in SAP had not been closed, so SAP determined the ICP to be in contract. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.13 With: Clause 15 of Schedule 11.3 From: 11-Feb-19 To: 09-Apr-19	"CO" AN code sent incorrectly. Potential impact: None Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as SAP assigns the AN code based on a hierarchy. The audit risk rating is low as this has no direct impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Processing error resulted in a contract still being open in our SRM system when the AN was sent to registry. We are reviewing this process to ensure these scenarios are managed on time and accurately in the future.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

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

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

> *16(a)- give the losing trader or MEP for the ICP an opportunity to interrogate the metering installation immediately before the ICP is electrically disconnected or the metering equipment is removed; or*
>
> *16(b)- carry out an interrogation and, no later than five business days after the metering installation is electrically disconnected or removed, advise the losing trader of the results and metering component numbers for each data channel in the metering installation.*

Audit observation

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

Audit commentary

CS timeliness

The CS file is released by SAP as soon as the AN file is received.

The switch breach history report contained 14 breaches for late HH CS files. Four were T2 breaches and ten were E2 breaches. None were genuine breaches.

CS content

CS content was as expected for all HH CS files.

Audit outcome

Compliant

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

Code reference

Clauses 17 and 18 Schedule 11.3

Code related audit information

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

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

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

Audit observation

An event detail report for 27/12/18 to 17/04/19 was reviewed to:

- identify all switch withdrawal requests issued by Contact, the content of a sample of at least two (or all) ICPs from the event detail report for each withdrawal code, including 15 withdrawal requests rejected by other traders;
- identify all switch withdrawal acknowledgements issued by Contact, a sample of ten rejections were checked; and
- confirm timeliness of switch withdrawal requests, as this is not currently being identified in the switch breach report.

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

Audit commentary

NW timeliness

The switch breach report did not record any late NW files.

Analysis of the event detail report found 124 of the 4,110 NWs were issued more than two calendar months after the switch date. 69 of these late withdrawals used the code for wrong premises, and I note that this issue often does not become apparent for an extended period after a switch completes. 29 were due to customer cancelling and not advising the trader for some time. 14 of these were due to a date failure. A sample of the ten latest files were reviewed and, in most cases, there was a complex set of circumstances leading to the delayed withdrawals.

The switch breach report recorded nine breaches for not completing the withdrawal cycle within ten business days, eight were genuine. All related to issues confirming whether the switch was to be withdrawn and negotiations with the other retailer.

AW timeliness

The switch breach report did not record any late AW files.

Content and handling of NW and AW

The content of 16 NW files was compared to details in SAP, and in all cases, the withdrawal reasons provided by Contact were accurate.

261 (5.4%) of the 4,303 AWs issued by Contact were rejections. I reviewed a sample of ten rejections by Contact, and confirmed they were rejected based the information available at the time the response was issued. One NW was rejected twice in error before being accepted.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clauses 17 and 18 Schedule 11.3 From: 27-Dec-18 To: 17-Apr-19	124 late NW files. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are strong for the management of withdrawals. These are worked on a case by case basis. There was a minor impact on settlement due to the correction of consumption information. There was also a minor impact on the customer; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
As auditor has noted, most of these withdrawals were due to wrong premises which normally comes to light after billing has occurred, some may also involves lengthy complex investigations. We believe we have robust processes in place for withdrawals and some of these late withdrawals are unavoidable.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	Ongoing	

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

> *21(a)- the trader who carries out the interrogation, switch event meter reading must ensure that the interrogation is as accurate as possible, or that the switch event meter reading is fair and reasonable.*
>
> *21(b) and (c) - the cost of every interrogation or switch event meter reading carried out in accordance with clauses 5(b) or 11(b) or (c) must be met by the losing trader. The costs in every other case must be met by the gaining trader.*

Audit observation

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

Audit commentary

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

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

Audit outcome

Compliant

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

Code reference

Clause 11.15AA to 11.15AB

Code related audit information

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

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

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

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

Audit observation

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

Win-back processes were examined to determine whether they are compliant.

I checked the event detail report for 27/12/18 to 17/04/19 to identify all withdrawn with a CX code applied prior to the switch completion date in relation to any switch save protected retailers.

Audit commentary

Contact excludes all switch save protected traders from any save activity until after the switch is completed.

Review of the event detail report identified no NWs issued with a CX withdrawal reason code prior to completion of the switch.

Audit outcome

Compliant

5. MAINTENANCE OF UNMETERED LOAD

5.1. Maintaining shared unmetered load (Clause 11.14)

Code reference

Clause 11.14

Code related audit information

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

> *11.14(2) - The distributor must give written notice to the traders responsible for the ICPs across which the unmetered load is shared, of the ICP identifiers of the ICPs.*
>
> *11.14(3) - A trader who receives such a notification from a distributor must give written notice to the distributor if it wishes to add or omit any ICP from the ICPs across which unmetered load is to be shared.*
>
> *11.14(4) - A distributor who receives such a notification of changes from the trader under (3) must give written notice to the registry manager and each trader responsible for any of the ICPs across which the unmetered load is shared.*
>
> *11.14(5) - If a distributor becomes aware of any change to the capacity of a shared unmetered load ICP or if a shared unmetered load ICP is decommissioned, it must give written notice to all traders affected by that change as soon as practicable after that change or decommissioning.*
>
> *11.14(6) - Each trader who receives such a notification must, as soon as practicable after receiving the notification, adjust the unmetered load information for each ICP in the list for which it is responsible to ensure that the entire shared unmetered load is shared equally across each ICP.*
>
> *11.14(7) - A trader must take responsibility for shared unmetered load assigned to an ICP for which the trader becomes responsible as a result of a switch in accordance with Part 11.*
>
> *11.14(8) - A trader must not relinquish responsibility for shared unmetered load assigned to an ICP if there would then be no ICPs left across which that load could be shared.*
>
> *11.14(9) - A trader can change the status of an ICP across which the unmetered load is shared to inactive status, as referred to in clause 19 of Schedule 11.1. In that case, the trader is not required to give written notice to the distributor of the change. The amount of electricity attributable to that ICP becomes UFE.*

Audit observation

The process to identify and monitor unmetered load was discussed. The registry list for 17/04/19 was reviewed to identify all shared unmetered load. I checked the accuracy of the unmetered daily kWh.

Audit commentary

This is monitored as part of the BAU discrepancy process in place. 239 ICPs had shared unmetered load indicated by the distributor.

For ICP 0000036648CP82E, no unmetered load details were populated by Contact. The previous trader had removed the shared unmetered load details. This was identified by Contact when it switched in but the update to the registry failed. This was corrected on 28/05/2019 and backdated to the correct date.

For the other 238 ICPs I conducted a manual calculation from the distributors' information and the result was within ± 1 kWh of the trader unmetered daily kWh.

The retailer daily unmetered kWh errors identified in the 2018 audit were re-checked and found to be corrected to be consistent with the distributor's unmetered load details.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: Clause 11.14 From: 01-Jul-18 To: 17-Apr-19	One ICP with missing shared unmetered load due to a registry update failing. 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	The controls are rated as strong because they mitigate risk to an acceptable level. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
ICP 0000036648CP82E has now been correctly updated in the registry. Contact applies the same process for both standard and shared unmetered load where we undertake monthly validations of distributor details with our unmetered load values used for submission. Additionally our SAP system generations an exception (BPEM) whenever a new ICP switches to Contact with the distributors UNM details field populated or where an existing ICP detects a change in the distributors UNM details We have made steady progress reducing the volumes of exceptions however our systems failure to correctly reflect these changes on the registry does not accurately show these improvements. There were only 2 requiring correction and 2 ICPs where Contact needs to complete further investigation to the accuracy of our details. Additionally Contact has resolved its system limitation where corrections to unmetered load daily kWh values could only occur from the last billed read. Correction can now align with the date of the actual change in information.	22 May 2019	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We have now implemented an additional registry validation to identify any registry notification failures for unmetered load	1 June 2019	

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

The registry list for 17/04/19 was reviewed to identify all unmetered load over 3,000 kWh per annum.

Audit commentary

19 ICPs had a load between 3,000 and 6,000 kWh and all were of an approved load type.

One ICP had a load greater than 6,000 kWh, but Contact are investigating this site to confirm if a DUML load exists or not:

ICP	Daily kWh	Annual kWh	Retailer Field	Comments
0015736828EL6C4	35.73	13,041.45	3000;11.6; 10 x SLIGHTS.	The ICP belongs to a retirement village in Paraparaumu. Contact added the unmetered load details in June 2018.

The exceptions from the 2018 audit not listed above were re-checked:

ICP	Daily kWh	Annual kWh	Retailer Field	2019 Comments
0080354599WE303	74.75	27,283.75	6.5kw:11.5 Park Row Lights Memorial Drive	Decommissioned
0005872540AL7D8	36	13,140	36kw;24;TDC Chlorinator	Adjusted to 10.55 kWh per day
0000025161EA29D	16.55	6,040.75	1400w;11.8: 2x125w MV; 3x250w sb-MV; 1x400wsb-MV	Switched out

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.2 With: Clause 10.14 (2)(b) From: 02-Apr-18 To: 17-Apr-19	One standard unmetered ICP has an estimated annual consumption over 6,000 kWh per annum. 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	The controls are strong with regard to identifying and attempting to resolve the any ICPs with loads that exceed the allowable threshold. There is no suggestion that settlement is inaccurate, therefore the impact is considered minor and the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Our customer has scheduled to amalgamate their UML streetlight load with their main metered switchboard so that all of their load is fully metered. Contact is awaiting final confirmation that this has been completed and the date this occurred.	July 2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
N/A	N/A	

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

Code reference

Clause 10.14 (5)

Code related audit information

If the unmetered load limit is exceeded the retailer must:

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

Audit observation

The registry list for 17/04/19 was reviewed to identify all unmetered load over 6,000 kWh per annum. These were all examined.

Audit commentary

Contact added the unmetered load to ICP 0015736828EL6C4 in June 2018. Corrective measures commenced within 20 business days, but the corrective measures have not been completed within a subsequent 20 business days. No other participants are affected so no notification is required.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.3 With: Clause 10.14 (5) From: 14-Jun-18 To: 17-Apr-19	One standard unmetered ICP has estimated annual consumption over 6,000 kWh per annum and has not been resolved within 20 business days. 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	The controls are strong with regard to identifying and attempting to resolve the issues associated any ICPs with unmetered loads are strong. In this instance they have not been able to be completed within 20 business days. There is no suggestion that settlement is inaccurate, therefore the impact is considered minor and the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Our customer has scheduled to amalgamate their UML streetlight load with their main metered switchboard so that all of their load is fully metered. Contact is awaiting final confirmation that this has been completed and the date this occurred.	July 2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
N/A	N/A	

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

Code reference

Clause 11 Schedule 15.3, Clause 15.37B

Code related audit information

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

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

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

Audit observation

Contact has responsibility for a large number of distributed unmetered load databases. The audit findings are detailed in the table at the end of this section.

Audit commentary

The following exemptions are in place for DUML:

Exemption No. 177: Exemption to clause 8(g) of schedule 15.3 of the Electricity Industry Participation Code 2010 in respect of providing half-hour ("HHR") submission information instead of non half-hour ("NHH") submission information for distributed unmetered load ("DUML"). This exemption expires at the close of 31 October 2023.

Exemption No. 185: Exemption to clause 11 of schedule 15.3 of the Electricity Industry Participation Code 2010 in respect of creating DUML databases for the following ICPs. This exemption expires on the date on which Contact no longer has responsibility as the trader for these ICPs on the registry. One of the affected ICPs is still supplied by Contact, therefore the exemption is still valid.

ICP identifier	Comments
0001183605HB0B0	Contact still has responsibility for this ICP; under veranda lights with load of 3.7 kWh per day are connected.

DUML audits for databases were conducted by Veritek.

The 2018 audit review noted ICP 0000910450TE75D was being investigated. This has been confirmed to be part of the Far North Holdings DUML database and this ICP will be included as part of next audit due to be completed by 15/12/2019.

As detailed in **section 3.7**, ICP 0000006552TECE0 is potentially part of the NZTA Northland DUML load. This is being investigated by Contact to confirm. The load associated with this ICP is below the 3,000 kWh limit and therefore this is not detailed in **sections 5.2** and **5.3**.

The Electricity Authority issued a memo on 18 June, 2019 confirming that the code requirement to calculate the correct monthly load must:

- Take into account when each item of load was physically installed or removed.
- Wash up volumes must take into account where historical corrections have been made to the DUML load and volumes.

Currently Contact use a snapshot of a DUML database taken at the end of each month to derive submission. They are working with their DUML customers to get a database report that will meet the codes requirement as detailed above. The use of a database snapshot to derive submission is recorded as non-compliance below.

Under the new audit DUML audit regime it is no longer possible to calculate an overall submission impact for the database inaccuracies found as the factors are not cumulative. Therefore, I have included in the table below the main submission related issues applicable for the DUML databases that Contact is recorded as the trader for:

Database	Main issues	Potential kWh impact (per annum)
Auckland Transport	Over submission because dimming is not accounted for	Unknown
	Adjustment of data outside of RAMM	Under submission of 847,622 kWh
	Missing lamp wattages	Under submission of 66,132 kWh
Tararua DC	Inaccurate and out of date database	Over submission of 58,100 kWh
Christchurch City Council	Inaccurate database largely due to late LED updates	Over submission of 2,617,500 kWh
Waitaki DC	Data used for submission not from RAMM database	Net over submission of 65,566 kWh
	Incorrect lamp and wattage values	
	Database inaccuracy compared to the field	
Queenstown Lakes Council	Inaccurate database largely due to late LED updates	Over submission of 86,400 kWh
	Missing lamp descriptions and wattages	Under submission of 53,528 kWh

The table below shows the additional items from the current DUML audit reports, which affect submission information:

Database	DUML Audit completed or to be completed by 16A.26 and 17.295F	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)&(d) of schedule 15.3	All load recorded in database 11(2A) of schedule 15.3	Tracking of load changes 11(3) of schedule 15.3	Audit trail 11(4) of schedule 15.3	Database accuracy 15.2 and 15.37B(b)	Volume information accuracy 15.2 and 15.37B(c)
Timaru DC	28/05/18	No	No	Yes	No	No	Yes	Yes	No	No
Mackenzie DC	27/05/18	No	Yes	Yes	No	No	No	Yes	No	No
Kapiti Coast DC	26/03/18	No	No	Yes	No	No	Yes	Yes	No	No
Queenstown Lakes DC	10/05/19	No	Yes	No	No	No	Yes	Yes	No	No
Tasman DC & NZTA	30/04/18	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Mainpower NZTA	28/06/19	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Tararua DC	20/12/18	No	Yes	Yes	No	No	Yes	Yes	No	No
Waitaki DC	26/05/18	No	No	Yes	No	Yes	Yes	Yes	No	No
Dunedin CC	9/05/19	No	Yes	Yes	Yes	No	Yes	Yes	No	No
Masterton DC	25/09/17	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes
South Wairarapa DC	25/09/17	No	No	Yes	No	No	Yes	Yes	No	Yes
Carterton DC	25/09/17	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Waimea Village 0000036536NT7F0	23/11/18	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Database	DUML Audit completed or to be completed by 16A.26 and 17.295F	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)&(d) of schedule 15.3	All load recorded in database 11(2A) of schedule 15.3	Tracking of load changes 11(3) of schedule 15.3	Audit trail 11(4) of schedule 15.3	Database accuracy 15.2 and 15.37B(b)	Volume information accuracy 15.2 and 15.37B(c)
Far North Holdings	1/6/18	No	Yes	Yes	Yes	No	Yes	Yes	No	No
Kapiti Retirement Trust	29/03/18	No	Yes	Yes	No	Yes	Yes	No	No	No
Auckland Transport	15/11/18	No	Yes	Ye	No	No	Yes	Yes	No	No
Burnham Military Camp 0006432514RNA15	25/05/18	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
NZDF Woodbourne 0004450017ML9D6	09/03/18	No	No	No	Yes	Yes	Yes	Yes	No	No
Manawatu DC	10/05/19	No	Yes	Yes	No	Yes	Yes	Yes	No	No
Hutt CC	30/04/18	No	Yes	Yes	No	Yes	Yes	Yes	No	No
Christchurch CC	17/05/19	No	Yes	Yes	No	No	Yes	Yes	No	No
Auckland Airport	29/5/19	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Metlifecare Greenwood Village	18/2/19	No	Yes	Yes	Yes	No	Yes	Yes	No	No

The information in the database must be maintained in a manner that the resulting submission information meets the accuracy requirements of clause 15.2. Contact are proactive in their management of customers with distributed unmetered load but, as detailed in the table above, not all databases are managed by the customer to the standard required by the code. This is recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.4 With: Clause 11 of schedule 15.3 From: 01-Jun-18 To: 17-Apr-19	The monthly database extracts used to derive submission from are provided as a snapshot and do not track changes at a daily basis as required by the code. Inaccurate submission information for several databases. Potential impact: High Actual impact: High Audit history: Multiple times Controls: Moderate Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
High	The controls in place mitigate risk most of the time, therefore the control rating is moderate. There is a major impact on settlement outcomes because there are examples of over submission and under submission; therefore, the audit risk rating is high.

Actions taken to resolve the issue	Completion date	Remedial action status

Contact believes the difference between daily updated streetlight counts compared to a monthly snapshot is within a similar accuracy tolerance a physical metering installation of equivalent size has under the code however unmetered installations are not provided any accuracy tolerance in the calculation of consumption information. The additional effort and cost to comply with these clarified code requirements will ultimately result in increased costs and administration for the end consumer with minimal if any submission accuracy benefit. Contact Energy are investigating how we can be compliant with the new clarification of this rule – received on 28 June 2019. And we will update our DUML customers of this additional database accuracy requirement. We are looking at how we can ensure our customers have accurate databases that can provide report of this data complete with a daily breakdown and if the database providers have any existing reports that will help with this. We also need to look at how this can be done on a daily basis in our system. This will not be a quick change. We continue to work with our customers on their databases to ensure they are the most accurate and compliant that they can be.	TBA	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are working on a process, system enhancements and customer understanding Quarterly database checks are being conducted on each of our customers databases, We work closely with the customers to ensure they are as compliant as they can be.	TBA	

6. GATHERING RAW METER DATA

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

Code reference

Clause 10.13, Clause 10.24 and Clause 15.13

Code related audit information

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

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

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

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

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

Audit observation

Processes to ensure metering is installed and unmetered load is quantified were examined.

The process to manage distributed generation was examined. The registry list as at 17/04/19 was analysed to identify all ICPs where the Distributor had indicated distributed generation. This was further broken down to identify any ICPs with a non distributed generation profile. The metering configuration for these ICPs was analysed to confirm if an injection channel was present.

Contact's records showed 48 remotely disconnected ICPs where meters had been bridged as a means of reconnecting since 1 April 2018.

Audit commentary

Metering installations installed

Contact's new connection process includes a check that metering is installed before energisation occurs, or that any unmetered load is quantified.

Subtraction has been used to determine submission information for three ICPs during the audit period, in accordance with the following exemptions:

- **Exemption No. 223:** Exemption to clause 10.24(c) of the Electricity Industry Participation Code 2010 to allow subtraction to determine submission information for ICP 0000840407WE388. Exemption No. 223 expired on 01/01/2019 when the ICP switched to Meridian.
- **Exemption No. 203:** Exemption to clause 10.24(c) of the Electricity Industry Participation Code 2010 to allow subtraction to determine submission information for ICP 0000880392WEA92.
- **Exemption No. 191:** Exemption to clause 10.24(c) of the Electricity Industry Participation Code 2010 to allow subtraction to determine submission information for ICP 0000032431HR99C.

Distributed Generation

Contact has a process in place to identify ICPs where distributed generation possibly exists. They monitor changes to the registry by distributors and then conduct outbound communication inviting the customer to apply to Contact for approval to supply their generated quantities. The operations team manages profiles on the registry, and periodically updates the registry profiles.

I confirmed that Contact's NHH reconciliation process automatically changes the profile for injection registers to PV1 for submission if there is an open trading notification for PV1 profile at the GXP and the registry shows RPS. Because the registry management and reconciliation processes for generation profiles are not synchronised, the profiles recorded on the registry for generating ICPs may differ from the profiles used for submission. This is recorded as non-compliance in **section 2.1**.

4,867 active ICPs with generation listed by the distributor were identified on the registry list. 132 of those did not have a generation profile recorded on the registry at the time of the initial analysis, raising a question about whether the generation volume is being recorded; 90 had import/export metering installed, and 42 did not. A sample of 30 ICPs were checked, including:

- **Ten ICPs with import/export metering.** I confirmed that generation was present and the generation consumption was included in reconciliation submissions with the PV1 profile. The registry profile differed because the operations team manage the profiles on the registry, and automated processes ensure that correct profiles are applied for generation data in reconciliation submissions. As at 02/07/19, four of the ICPs had PV1 profiles recorded on the registry and the other six did not. This is recorded as non-compliance below.
- **20 ICPs without import/export metering.** Eight ICPs have subsequently had meter changes to import/export meters and their profiles have been appropriately updated on the registry, and generation consumption was included in reconciliation submissions with the PV1 profile. The other 12 ICPs have either been confirmed not to have generation installed, or are in the process of having generation installed and the network has updated the generation details on the registry early.

The registry list recorded 262 ICPs with no distributor generation details and installation type L, but Contact has recorded a profile indicating generation and the ICPs have import/export metering installed. A sample of 24 ICPs were checked and I confirmed that generation was present, the PV1 profile was recorded on the registry, and reconciliation consumption is submitted against the PV1 profile. ICPs 0001186517MLCC3, 0002333286ALA6A, and 0004001818ALD5D only have PV1 profile recorded on the registry, but also have X flow registers. Consumption for the X flow registers is expected to be recorded with another profile on the registry.

I did not identify any ICPs with solar generation and an EG1 profile, but 29 ICPs with generation fuel types other than solar and PV1 profile were identified. All were checked, and I found 28 ICPs were either confirmed to have solar generation or appeared likely to have solar generation. ICP 0011006802PCDFA was confirmed to have wind generation and the PV1 profile was recorded in error. The generation profile has been corrected to EG1 on the registry and for submission prior to the on site audit.

The missing and incorrect profiles are recorded as non-compliance in **section 2.1**.

The 2018 audit found 12 active ICPs have wind or fresh water generation fuel type, but a profile code of PV1. These were re-checked and found to be corrected to profile EG1.

Bridged meters

Meters are only bridged where an urgent reconnection is required, and a soft reconnection cannot be arranged. Contact has been working with MEPs to extend the hours that soft reconnections can be completed within, which will help to reduce the volume of bridged meters.

Contact confirmed 48 ICPs were bridged to reconnect during the audit period and were later unbridged. The existence of bridged meters is recorded as non-compliance below. Capture of the bridged consumption is discussed further in **section 8.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13 From: 09-Apr-18 To: 12-Oct-18	While meters were bridged, energy was not metered and quantified according to the code for 48 ICPs. ICPs 0000008616TE48C, 0000011195HREA1, 0000012341NT62C, 0000025072UN5D3, 0000036741HB1E7, and 0000038430HB33C have generation consumption submitted under the PV1 profile but only have RPS profile recorded on the registry. ICPs 0001186517MLCC3, 0002333286ALA6A, and 0004001818ALD5D only have PV1 profile recorded on the registry, but also have X flow registers. 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	Controls are rated as moderate as they are sufficient to reduce the risk most of the time. The audit risk rating is 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. Corrections are usually processed as discussed in **section 8.1**. • Correct profiles are applied for reconciliation submissions in most cases.

Actions taken to resolve the issue	Completion date	Remedial action status
Bridged meters Contact has been working with our MEPs to reduce the incidence of bridging as can be seen by the reduction in the number of corrections undertaken over the last 12 months **Various updates of registry data around profile codes** These ICPs have now been corrected on the registry.	Ongoing	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Contact is looking to add additional reporting around incorrect population of registry profile codes to ensure these are updated in a timely fashion	Ongoing	

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

Code reference

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

Code related audit information

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

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

The participant responsible for the metering installation must:

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

Audit observation

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

Changes to the NSP table were reviewed to determine whether they had been processed accurately.

Audit commentary

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

Responsible party	Description	NSP	MEP	Certification expiry date (NSP table)
CTCT	CLYDE	CYD2201CTCTG	ACCM	1/03/2020
CTCT	OHAAKI	OKI2201CTCTG	ACCM	13/03/2020
CTCT	POIHIPI	PPI2201CTCTG	ACCM	23/11/2019
CTCT	ROXBURGH	ROX1101CTCTG	ACCM	22/05/2022
CTCT	ROXBURGH	ROX2201CTCTG	ACCM	5/07/2021
CTCT	STRATFORD	SFD2201CTCTG	ACCM	21/01/2020
CTCT	TE MIHI	THI2201CTCTG	ACCM	25/09/2021
CTCT	WHIRINAKI	WHI2201CTCTG	ACCM	19/10/2019
CTCT	WAIRAKEI	WRK2201CTCTG	ACCM	23/02/2020

Contact has not made any new connections to the grid during the audit period. All grid connection points Contact is responsible for have current certification recorded on the network supply point (NSP) table.

Certification dates for CYD2201CTCTG, OKI2201CTCTG, ROX1101CTCTG, ROX2201CTCTG and THI2201CTCTG were updated during the audit period. Accucal updates meter certification changes directly, and Electrix provides certification information to Contact so that they can update the NSP table. Four of the changes were made within 20 business days of the certification date, and one update was late:

NSP	Certification date	Certification expiry	Update in RM system	Business days between certification date and update date
CYD2201CTCTG	19/04/2018	1/03/2020	1/06/2018 7:37	30

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.2 With: Clause 10.26 (6), (7) and (8) From: 01-Jun-18 To: 01-Jun-18	Updated meter certification details were provided ten business days late for CYD2201CTCTG. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong because they are sufficient to ensure that most updates are made on time. The impact is low, because the late update was made within 30 business days and the meter was certified at all times.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact has followed this issue up with our MEP for CYD2201CTCTG. The issue was a one off event where the MEP's system to flag upcoming certification expiries requiring updates failed to alert the MEP of this pending expiry. This process has worked successfully since CYD2201CTCTG certification update was completed.	Resolved	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact does not expect a reoccurrence of this issue.	Resolved	

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

Code reference

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

Code related audit information

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

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

Audit observation

A registry list as at 17/04/19 was reviewed to confirm the profiles used by Contact.

The registry list was matched with the meter installation details report, to confirm whether AMI or HHR metering was present or control devices (if present) were certified if required by the profile.

Audit commentary

The registry list showed 39,461 ICPs with NHH submission type on profiles which require AMI or HHR metering, or a certified control device. I found:

Metering status	Count	Met profile requirements
AMI or HHR meter	26,852	Yes
No AMI or HHR meter, but has a certified control device and current full certification	10,691	Yes
No AMI or HHR and no certified control device	1,918	No

Contact's reconciliation process applies RPS if the ICP metering does not meet the requirements of the profile. The 1,918 ICPs which have a controlled profile recorded on the registry, but do not have AMI metering, HHR metering, or a certified control device, and are submitted as RPS.

Compliance is recorded in this section, because where the controlled profiles are used for submission, the ICPs met the requirements of the profiles. Non-compliance is recorded in **section 2.1** for the 1,918 ICPs submitted as RPS which have controlled profiles recorded on the registry.

There has been a dramatic improvement from 16,816 ICPs with a controlled profile recorded on the registry but submitted as RPS during the 2018 audit to 1,918 ICPs this audit. The improvement has been achieved by working with the MEPs to update their certification details on the registry, including correction of control device certification flags.

Audit outcome

Compliant

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

Processes relating to defective metering were examined.

A sample 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 reader, agent, the MEP, or the customer. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect and a consumption correction is processed if necessary.

I reviewed 58 examples of potential defective meters, including 48 bridged meters and ten stopped meters. In all cases a field services job was raised, and the MEP was advised.

Corrections are discussed in **sections 8.1** and **8.2**.

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

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

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

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

2(6) – The interrogation systems must record:

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

Audit observation

Contact's agents and MEPs are responsible for the collection of HHR and AMI data. Collection of data and clock synchronisation were reviewed as part of their agent and MEP audits.

Contact's own data collection processes for generation data were reviewed.

Audit commentary

All information used to determine volume is collected by Contact, one of their agents, or the MEP.

HHR

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

Clock synchronisation events are provided to Contact by AMS and EDMI. The reports are reviewed, and corrective action is taken as required by the MEP. I reviewed a sample of clock synchronisation events and correspondence and confirmed that the MEP would adjust the time upon the next scheduled reading.

The 2018 audit found that ICP 0000555694NR13E had a Northpower HHR meter with data provided by AMS. The meter showed a 25,538 second (approximately 7 hour) clock synchronisation error on the 28 May 2018 time synchronisation report. Contact followed up with the MEP, the clock was resynchronised, and data was spread between the affected trading periods according to Contact's correction processes described in **section 8.2**. The meter continued to experience some further time drifts and synchronisations but has now switched out.

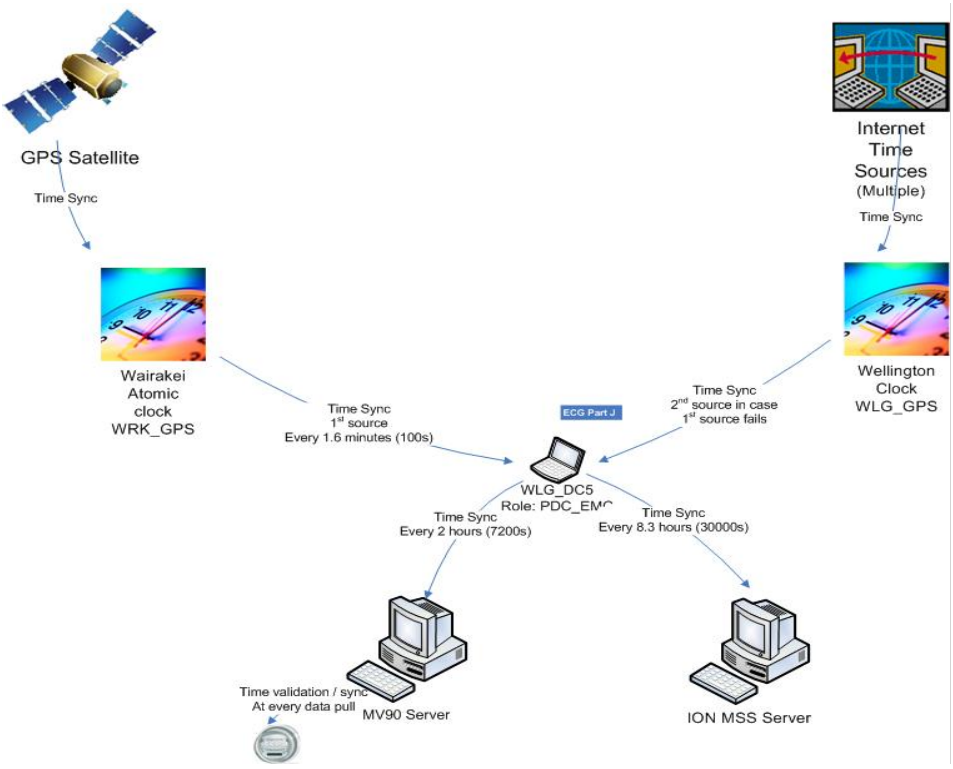
AMI

MEPs monitor clock synchronisation, and this is covered as part of their audits.

MEPs email information on clock synchronisation to the field services team for review. Data is received from AMS and Smartco at least weekly, and by other MEPs on an ad hoc basis when issues occur.

Generation

The generation clock synchronisation process has not changed during the audit period. The diagram below shows Contact's timekeeping process for generation metering.



As shown above the MV90 server is synchronised every two hours and prior to the commencement of any interrogation. WLG-DC5 time is manually checked on a periodic basis and this event is recorded.

During interrogation, a comparison occurs between data logger and MV90 clocks. MV90 is set to automatically synchronise all data logger clocks where time errors are less than or equal to five seconds. Where time errors exist, which are greater than five seconds, but less than or equal to 60 seconds, the error is recorded in the events log and this event is noted as a failed task. A time synchronisation is still performed automatically, and the data is accepted as it is considered by Contact that the data has not been affected by the time error. If the time error is greater than 60 seconds, then the data is downloaded; however, the time is not synchronised, and the data is deemed invalid. An investigation then occurs which may result in data correction. No clock errors outside the threshold occurred during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.5 With: Clause 2 Schedule 15.2 From: 01-Jun-18 To: 29-May-19	FCLM does not usually provide a screen shot confirming time differences for meters which are manually read using MV90. If this information is not provided, EDMI is unable compare the system time to the meter time. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong and the impact as low, because the issue only affects manual downloads for FCLM meters

Actions taken to resolve the issue	Completion date	Remedial action status
Contact is in the process of establishing a monthly operational meeting between EDMI Data Administrator and Contact's HDM team to discuss all business as usual operational issues. The first meeting will be held in September 2019. All relevant Electricity Authority RPS audit non compliances have been listed as separate agenda items to ensure corrective actions identified and implemented, whether systems, people or process related. This includes the exploration of all available avenues available to Contact to ensure these issues are resolved. Meeting minutes will be documented and published and all outstanding actions be followed up and resolved.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Ensure EDMI and FCLM have implemented a preventative process going forward to avoid this issue re-occurring.	31/12/2019	

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined.

Processes to provide meter condition information were reviewed as part of the Wells, Datacol, and MRS agent audits. Contact's processes to manage meter condition information were reviewed, including viewing a sample of meter condition events.

Processes for customer and photo reads were reviewed.

Audit commentary

Wells, Datacol, and MRS readings

Wells, Datacol, and MRS data collection processes were reviewed as part of their agent audits and found to be compliant. Wells and MRS have had agent audits completed in 2019. Datacol's last agent audit was completed in May 2018, and the ICPs read by Datacol are expected to move to MRS' system over the next few months. I confirmed that there have been no changes to Datacol's processes since their 2018 agent audit, apart from the addition of checks for phase failure. I reviewed training documentation as evidence that processes identify and report phase failure have been communicated to staff.

I checked a sample of readings for 14 ICPs provided by Wells, Datacol, and MRS, and confirmed that they are loaded into SAP as actual readings and are validated.

All the agents send meter condition information with their read files. Wells also sends a monthly file of missing or broken seals and email Contact with information about any suspected theft soon after it is found.

The meter condition information is recorded in SAP and used to create BPEM (Billing Process Exception Management) events, which are directed to work queues in SAP for investigation and action.

During the audit I saw examples of:

- meter register mismatch, which typically occurs where a read has been taken soon after a meter change and Contact has not received and processed the meter change paperwork;
- missing or broken seals;
- signs of tampering or damage, including suspected theft; and
- electrically unsafe installations.

No examples of phase failure for Contact ICPs were identified during Contact's audit, or the agent audits. The agents have processes in place to identify and report phase failure, and Contact have processes to action any events provided.

Customer reads

Customer reads are provided in the meter reader notes fields by Wells and treated as a "no read". An estimate read is entered by Contact.

MRS and Datacol do not record customer readings; customers are advised to provide any customer readings directly to Contact.

As discussed in **section 12.11**, customer reads are not treated as validated readings unless they have been validated by two actual readings from another source.

Audit outcome

Compliant

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

Code reference

Clause 6 Schedule 15.2

Code related audit information

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

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

Audit observation

The process of the application of meter readings was examined.

Audit commentary

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

All AMI systems have a clock synchronisation function, which ensures correct time stamping. Manual readings taken by Wells are applied correctly.

Application of reads was reviewed as part of the historic estimate checks in **section 12.11** and found to be compliant.

The content of CS and RR files was examined in **sections 4.3**, **4.4**, **4.10** and **4.11**. This found examples of SAP sending an AMI midnight read for the event date rather than of the midnight read at the start of the day e.g. the switch event date was 27/12/19. The site is an AMI site and the read for midnight of 26/12/19 should have been sent as an actual but the midnight read on 27/12/19 was sent. In some instances, the read was sent as an estimated read and others it was sent as an actual.

I checked the process for NHH to HHR meter changes in relation to this clause. Contact's process is to "remove" the NHH meter from the registry and from relevant databases on the day before the meter change, and then the ICP becomes HHR all day on the day of the meter change, with the trading periods up until the meter change being populated with zeros. Whilst this process achieves accuracy, non-compliance exists because the NHH meter reading is not applied at 2400 on the day of the reading.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.7 With: Clause 6 Schedule 15.2 From: 01-Jul-18 To: 27-Jun-19	Incorrect switch event meter reads sent. NHH meter readings not applied at 2400 on the day of the meter reading for NHH to HHR upgrades. Potential impact: None Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate as this audit found issues with the information SAP is populating into the CS file, indicating controls need review but will mitigate risk most of the time. There is a minimal impact on other participants receiving a days consumption that is Contact's responsibility.

Actions taken to resolve the issue	Completion date	Remedial action status
Incorrect switch event meter reads sent. A defect notice has been raised ICT team to investigate/resolve this system issue. **NHH meter readings not applied at 2400 on the day of the meter reading for NHH to HHR upgrades.** Contact energy's systems like other retailers and also the Registry apply meter installations and removals as at the beginning and end of a day – while this view may be appropriate for NHH settled ICPs it does not accurately reflect HH metering and interval data encompassing the true meter change dates and times. Contact approach to managing meter changes around NHH to HHR, while not fully compliant with the rules is what we believe is the most accurate way to ensure all consumption volumes are included in the settlement process. This non-compliance has no impact to other participants. Contact is willing to work with the authority and other participants to find a robust solution to meter changes that also result in settlement methodology changes that is compliant with the code.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	On going	

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

Code reference

Clause 7(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

The process to manage missed reads was examined, including review of reports used in the process and individual unread ICPs.

Contact provided a list of ICPs not read during the period of supply, where the period of supply had ended during the audit period. The extreme case sampling method was used to select the ten ICPs unread for the longest period.

Audit commentary

The process to manage missed reads was examined.

AMI reads are managed in the SmartReads Management Console. The SmartReads Management Console records the percentage of reads attained in each file. If the percentage is less than 100%, the file is held for three days prior to being imported, in case further reads are recovered on subsequent interrogations. After three days or when 100% of reads are obtained, whichever is sooner, the file is imported into SAP and any missing reads are estimated. If a whole file is missing, the field services team receives an email notification so that it can be followed up.

For all NHH non-AMI reads, the Automated Meter Reading Compliance (MRC) Process applies. I confirmed that there have been no changes to the process timeframes during the audit period. The process begins 130 days after an estimated read is entered, so ICPs supplied for shorter periods do not usually have any action taken, and the best endeavours requirement is unlikely to be achieved. Contact has recently begun trying to contact affected customers by text message which has improved compliance with the best endeavours requirement.

The process is:

- process initiation occurs on the day an estimated reading is entered;
- letter 1 is sent if the process is still active after 130 days;
- letter 2 is sent if the process is still active 70 days after letter 1 was issued;
- letter 3 is sent to advise that there are charges if a high priority read is requested;
- request a high priority (out of cycle) meter reading if the process is still active 70 days after letter 2 is issued; and
- a Business Progress Exception Management event (BPEM) is raised if the process is still active 60 days after the high priority read is requested, manual intervention is required to attempt to gain a read and enter a permanent estimate if an actual reading cannot be obtained. This manual intervention may include attempting to contact the customer by phone or text.

The MRC process is terminated when the customer switches out, is disconnected, an actual reading is received, or they are added to a meter reader exclusion list (due to a health and safety issue or not being allocated to an active meter reading route). The MRC process continues after customer reads are received.

Contact provided a list of ICPs not read during the period of supply, and I found 27 ICPs where the period of supply had ended in March or April 2019. I reviewed the ten ICPs with the longest period of supply (45-172 days) and found that the best endeavours requirement was not met because the MRC process was not able to be completed during the period of supply. This is recorded as non-compliance below.

As recorded in the 2018 audit, the report of ICPs unread during the period of supply includes ICPs which are still within the period of supply. It can be sorted or filtered by end date to exclude the ICPs still supplied by Contact.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 21-Sep-18 To: 15-Apr-19	For at least ten ICPs unread during the period of supply, exceptional circumstances did not exist, and the best endeavours requirement was not met. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as weak as they are not sufficient to ensure the best endeavours requirement is met where the period of supply is less than nine months. The audit risk rating is low, as most of the ICPs without a read during the period of supply appear to have been supplied for a short period.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact is reviewing the current process to ensure we are working towards the definition of best endeavours. We acknowledge that we need to work on the consistency of our processes	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact Energy will ensure that this process is run in the required time	Ongoing	

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

Code reference

Clause 8(1) and (2) Schedule 15.2

Code related audit information

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

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

Audit observation

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

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
Oct 2018	303	33	1,376	99.5%
Nov 2018	305	35	1,335	99.4%
Dec 2018	303	39	1,359	99.4%
Jan 2019	302	40	1,364	99.4%
Feb 2019	302	46	1,412	99.3%

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 Contact had used their best endeavours to obtain readings:

- for eight ICPs, the best endeavours requirements were met; and
- for two ICPs, the best endeavours requirements were not met which is recorded as non-compliance below.

The 2017 and 2018 audits identified some accuracy issues within the ICP level and aggregated read attainment reporting. Contact confirmed that a new report is under development, which is expected to resolve these issues:

Report	Issue
ICP level report	1. The read compliance reports appear to be based on the actual reads received, rather than the actual reads loaded in SAP. Each read must be entered against a valid read request. Where an estimated read is entered against the request prior to the actual being received, the actual read is not entered unless it is sufficiently different to require the invoice to be reversed and rebilled. 2. Where an ICP switches out and back in, the report is including the switched out period in the period of supply. 3. Prepay meters are not included in the report. Contact is intending to replace all legacy prepay meters with AMI meters by the end of 2019.
Aggregated report	1. The read rate percentage appears to be consistently rounded up. 2. The count of reads required to reach target appears to be calculated based on the percentage and consistently rounded down.

Copies of the meter reading frequency reports to the Electricity Authority for October 2018 to February 2019 were provided. I viewed emails to confirm that the reports were sent earlier than 20 business days after the end of the month.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: Clause 8(1) and (2) Schedule 15.2 From: 06-Jan-17 To: 31-Mar-19	For two ICPs supplied for over 12 months, exceptional circumstances did not exist, and the best endeavours requirements were not met. Some report accuracy issues were identified, and Contact is developing a replacement report to resolve this. 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	Controls are rated as strong because the MRC process is usually sufficient to ensure that the best endeavours requirement is met within 12 months. Replacement meter read frequency reports are under development. The audit risk rating is low, a second communication method was not used to attempt to contact the customer because a telephone number was not recorded in SAP at the time they were scheduled to be contacted. The report accuracy issues do not have a direct impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact is reviewing the current process to ensure we are working towards the definition of best endeavours. We acknowledge that we need to work on the consistency of our processes	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact Energy will ensure that this process is run in the required time	Ongoing	

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

Code reference

Clause 9(1) and (2) Schedule 15.2

Code related audit information

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

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

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

Audit observation

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

A sample of ten ICPs not read in the previous four months at NSPs where less than 90% of ICPs were read were reviewed to determine whether exceptional circumstances existed and if Contact had used their best endeavours to obtain readings.

Audit commentary

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	ICPs unread for 4 months	Overall percentage read
Oct 2018	311	8	4,899	98.4%
Nov 2018	310	10	4,681	98.3%
Dec 2018	310	14	4,583	98.3%
Jan 2019	311	15	4,695	98.1%
Feb 2019	312	20	4,782	98.0%

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 four months at NSPs where less than 90% of ICPs were read to determine whether exceptional circumstances exist, and if Contact had used their best endeavours to obtain readings.

- For eight ICPs the MRC process was followed, but the best endeavours requirement was not met because there was insufficient time to complete the process. This is recorded as non-compliance below.
- One ICP was inactive and vacant, and therefore not been continuously supplied for the previous four months.
- For one ICP exceptional circumstances existed, and the best endeavours requirement had been met.

Audit outcome

Compliant

Non-compliance	Description
Audit Ref: 6.10 With: Clause 8(1) and (2) Schedule 15.2 From: 01-Dec-18 To: 31-Mar-19	For at least eight ICPs supplied for over four months, exceptional circumstances did not exist, and the best endeavours requirements were not met. 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	Controls are rated as moderate because the MRC process will not always ensure that 90% of ICPs are read within four months. The audit risk rating is low, because the 90% threshold was met for a high proportion of NSPs. Overall read attainment is over 98% at four months for all five months reviewed.

Actions taken to resolve the issue	Completion date	Remedial action status
The ICPs relate to 3 embedded networks (2 commercial buildings) with 9, 9 and 19 ICPs respectively – the low number of ICPs relating to the GXPs has resulted in low attainment levels. Contact is actively working with the embedded network owners to upgrade the metering to AMI to improve reading performance in the commercial embedded networks.	TBA	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact is reviewing their processes and making improvements where necessary. We will also ensure our processes are completed in a timely manner as required.	TBA	

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

Code reference

Clause 10 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

NHH data is collected by MEPs, and Datacol and Wells as agents. The data interrogation log requirements were reviewed as part of their agent and MEP audits.

Audit commentary

Compliance with this clause has been demonstrated by Contact's agents and MEPs as part of their own audits. I confirmed that there have been no changes to Datacol's processes since their 2018 agent audit.

Audit outcome

Compliant

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

Code reference

Clause 11(1) Schedule 15.2

Code related audit information

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

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

Audit observation

HHR data is collected by EDMI and AMS. HHR data collection was reviewed as part of their agent audits.

Generation data is collected by Contact. Processes to provide HHR generation information were reviewed. I traced volumes through Oracle, MV90 and SAP for one meter. This process is automated, so a small sample is considered appropriate.

Audit commentary

HHR data

Compliance with this clause has been demonstrated by AMS and EDMI as part of their agent audits.

Generation data

Contact collects generation data via the services access interface. Back-up meters are installed at every generation installation, which eliminates the requirement for manual data interrogation, and processes have therefore not been established for this activity. The backup meters are off the same measuring transformers. There are also backup Scada installations with separate CTs, VTs and meters.

Audit outcome

Compliant

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

Code reference

Clause 11(2) Schedule 15.2

Code related audit information

The following information is collected during each interrogation:

> *11(2)(a) - the unique identifier of the data storage device*
>
> *11(2)(b) - the time from the data storage device at the commencement of the download unless the time is within specification and the interrogation log automatically records the time of interrogation*
>
> *11(2)(c) - the metering information, which represents the quantity of electricity conveyed at the point of connection, including the date and time stamp or index marker for each half hour period. This may be limited to the metering information accumulated since the last interrogation*
>
> *11(2)(d) - the event log, which may be limited to the events information accumulated since the last interrogation*
>
> *11(2)(e) - an interrogation log generated by the interrogation software to record details of all interrogations.*

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

Audit observation

HHR data is collected by EDMI and AMS. HHR interrogation data requirements were reviewed as part of their agent audits.

Generation data is collected by Contact. Interrogation logs for generation station metering were viewed.

Audit commentary

HHR data

Compliance with this clause has been demonstrated by AMS and EDMI as part of their agent audits.

Generation data

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

- the unique identifier (Serial no) of the meter or data logger;
- the connection time, disconnection time and recorder time;
- the half-hour metering information for each trading period; and
- the events log.

The list of events is recorded in the revenue and power management system and includes the following:

- hardware errors;
- firmware errors;
- ROM and RAM memory errors;
- power supply events;
- programming events;
- programming errors;
- EEPROM and cartridge messages;
- status input monitoring;
- control relay states;
- time and clock messages; and
- interval value monitoring.

Event log information is provided to the appropriate generation station for review. If any actions are required, the instruction will be provided by generation engineers as required.

Audit outcome

Compliant

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

Code reference

Clause 11(3) Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

HHR data is collected by EDMI and AMS. HHR interrogation log requirements were reviewed as part of their agent audits.

Generation data is collected by Contact. Interrogation logs for generation station metering were reviewed.

Audit commentary

HHR data

Compliance with this clause has been demonstrated by AMS and EDMI as part of their agent audits.

Generation Data

For generation metering an interrogation log is generated to record details of all interrogations and the audit confirmed that appropriate action is taken where problems are apparent.

The interrogation log contains the following information:

- the date of interrogation;
- the time of commencement of interrogation;
- the operator identification (for non-scheduled data collection);
- the unique identifier of the meter or data logger;
- the clock errors outside the range specified in clause 12; and
- the method of interrogation.

Audit outcome

Compliant

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

Code reference

Clause 11(3) Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

HHR data is collected by EDMI and AMS. HHR interrogation log requirements were reviewed as part of their agent audits.

Generation data is collected by Contact. Interrogation logs for generation station metering were reviewed.

Audit commentary

HHR data

Compliance with this clause has been demonstrated by AMS and EDMI as part of their agent audits.

Generation Data

For generation metering an interrogation log is generated to record details of all interrogations and the audit confirmed that appropriate action is taken where problems are apparent.

The interrogation log contains the following information:

- the date of interrogation;
- the time of commencement of interrogation;
- the operator identification (for non-scheduled data collection);
- the unique identifier of the meter or data logger;
- the clock errors outside the range specified in clause 12; and
- the method of interrogation.

Audit outcome

Compliant

7. STORING RAW METER DATA

7.1. Trading period duration (Clause 13 Schedule 15.2)

Code reference

Clause 13 Schedule 15.2

Code related audit information

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

Audit observation

Trading period duration was reviewed as part of the MEP audits, and AMS and EDMI's agent audits.

Contact's clock synchronisation process ensures that trading period duration for generation meters is normally 30 minutes within ± 2 seconds. A sample of clock synchronisation events were reviewed.

Audit commentary

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

Contact's clock synchronisation process for generation meters is discussed in **section 6.5**.

Audit outcome

Compliant

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

Code reference

Clause 18 Schedule 15.2

Code related audit information

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

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

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

Audit observation

Processes to archive and store raw meter data were reviewed.

Audit commentary

Compliance with this clause has been demonstrated by the MEPs and agents.

HHR data

HHR data received from Contact's agents is imported into HDM. Access to HDM is restricted using a login and password.

HHR information is retained for more than 48 months in HDM, and I viewed data from 2015 during the audit. I viewed audit trails and confirmed that data cannot be modified without an audit trail being created.

Generation data

Generation data is retained for more than 48 months, and I viewed archived MV90 metering data from 2015. I confirmed that data cannot be modified without an audit trail being created. Access is restricted using logins and passwords.

AMI and meter reader data

A sample of readings received from Contact's agents and MEPs for 24 ICPs were compared to information contained in SAP, and the readings were the same, confirming the security of this process.

Contact's IT team confirmed that raw meter read data is retained for more than 48 months and I viewed data from 2014. Data prior to May 2015 is archived.

I viewed audit trails and confirmed that data cannot be modified without an audit trail being created.

Audit outcome

Compliant

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

Code reference

Clause 21(5) Schedule 15.2

Code related audit information

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

Audit observation

Processes to archive and store non-metering data were reviewed.

Audit commentary

The main non-metering information is on/off time logs for distributed unmetered load and SCADA records supporting on/off times for NHH profiles. This data is received in a password protected email and loaded into SAP to create interval profiles.

The data is stored securely and retained indefinitely, I viewed data from January 2015 during the audit.

Audit outcome

Compliant

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

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

Code reference

Clause 19(1) Schedule 15.2

Code related audit information

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

> *19(1)(a) - confirm the original meter reading by carrying out another meter reading*
>
> *19(1)(b) - replace the original meter reading the second meter reading (even if the second meter reading is at a different date)*
>
> *19(1A) if a reconciliation participant detects errors while validating non half hour meter readings, but the reconciliation participant cannot confirm the original meter reading or replace it with a meter reading from another interrogation, the reconciliation participant must:*

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

Audit observation

Processes for correction of NHH meter readings were reviewed, including examining a sample of corrections. This included checking that updated consumption data flowed through to revision reconciliation submissions.

Audit commentary

Where errors are detected during validation of non-half hour meter readings, a check reading is performed, or AMI data is checked. If an original meter reading cannot be confirmed, then an estimated reading is used and is labelled as an estimate in SAP.

A spreadsheet template is used to estimate consumption in situations where meters are determined to be recording incorrectly or are stopped. The template uses historic consumption from periods prior to the fault, or consumption recorded by a replacement meter after the fault. Correction activity is conducted by a limited number of experienced staff in the revenue assurance and reconciliation teams to ensure accuracy and consistency.

The correction is then processed in SAP by either:

1. reversing the bill, correcting the readings, and rebilling;
2. adding consumption to an existing reconciliation period record, this allows the change to be independent of billing to the customer if necessary; or
3. where a meter is stopped, faulty, or bridged, Contact can close the meter on an estimated closing read which includes the unrecorded consumption and restart the meter on the correct read.

For each of the correction methods the consumption will flow through to reconciliation submissions.

Correction occurs within the 14-month period if the period affected is longer than 14 months. This ensures all consumption is accounted for.

Defective meters

I checked ten examples of suspected stopped or faulty meters. In all cases corrections had been appropriately processed, and the full correction was within the 14-month period.

During Smartco's audit, a failed CT was identified for ICP 0003860754TP8CD and its certification was cancelled. The meter is remotely located and rural, and field services jobs were raised to check and recertify the meter in March 2019 and May 2019. Contact is still waiting for the job to be completed so that a correction can be processed.

Incorrect multipliers

Two examples of incorrect multipliers were identified during the audit period. Both were appropriately corrected.

Bridged meters

Bridged meters requiring correction are identified by searching for field services jobs with the word or part word "bridge" in the description. Consumption during the bridged period is estimated based on the daily average consumption while unbridged. For new switch ins this is calculated based on the daily average consumption in the CS file, and for existing customers it is based on the actual daily average consumption before or after the bridged period occurred.

Up until March 2019, Contact monitored ICPs believed to be bridged fortnightly, and processed corrections. Following an ORB system upgrade, it is no longer possible to efficiently obtain information on ICPs which have been bridged, and each field services job type must be searched through individually. This issue is expected to be resolved within the next month, and any corrections needed will be identified and processed for the next revision.

I reviewed ten examples of bridged meters and found:

- nine corrections were processed as expected; and
- ICP 0002361613TPE7A was bridged from 31/08/18 to 10/09/18, and a correction has not been processed yet, Contact intends to correct this ICP before revision 14.

The 2018 audit found some corrections for bridged meters had not been processed, and these were re-checked during the audit.

- For ICP 0000442007UN246, no correction was processed due to a misunderstanding; because the gain read was low, the consumption between the gain read and next actual read was much larger than expected and was thought to be sufficient to cover the bridged consumption. A correction has still not been processed for this ICP.
- Three ICPs had meters unbridged in March 2018, but corrections had not been processed. Corrections have been processed for two of the ICPs, and Contact is waiting for a new read period to be added so that bridged consumption can be added for ICP 1001150655CK434 for March 2018.
- A further three ICPs which were indicated to have bridged meters since 2017 were identified, one was later confirmed not to have been bridged. Corrections have now been processed for the other two ICPs. The correction for ICP 1001144506UN9E3 was based on a previous CS file and was estimated at 8 kWh per day, but should have been estimated at 14 kWh per day. The correction was reprocessed using the correct value during the audit. I viewed the correction and confirmed it will flow through to revision submissions.

Addition of missing registers

The 2018 audit found a correction for ICP 0000041148NT3EE had been overwritten. I confirmed that the correction has been reinstated and is expected to be processed in the final wash up for May 2018.

Consumption while inactive

Contact maintains a report of inactive sites with consumption, which is refreshed every month. Contact's reconciliation team uses this report to monitor ICPs with consumption during periods with inactive status. Corrections to SAP for inactive ICPs with consumption are processed by the reconciliation team, and corrections to the registry are processed by the operations team. Where required changes are not communicated, the registry status and SAP status may not be aligned.

New additions to the report are focussed on first, and Contact is continuing to work through historic ICPs. The process to investigate and correct each ICP is time consuming and manual, and the reconciliation team still intends to work with ICT to develop a more automated solution.

Depending on the volume of consumption, a correction is processed by either:

1. correcting the status of the ICP to active for all days where consumption occurred; or
2. adding additional consumption to an existing reconciliation period record which allows the change to be independent of billing to the customer.

I reviewed an extreme case sample of the ten ICPs with the highest consumption while disconnected. Corrections had been processed to include the inactive consumption in reconciliation submissions in all cases. For ICP 0000246174TP7F1 the inactive consumption had been added to an inactive period which is excluded from the reconciliation submission. Contact intends to move this consumption to an active period so that it will be reported.

For five ICPs, a correction had been processed in SAP, but the status had not been corrected on the registry. This is recorded as non-compliance in **section 2.1** and **3.9**.

Transposed meters

When a meter reading is found to be transposed, Contact corrects the data by moving the readings to be recorded against the correct registers.

Standard unmetered load corrections

Corrections occur as required for unmetered load data. If unmetered wattage for a time slice or on hours are updated in SAP, and the invoice or invoices for the affected period are reversed and rebilled, the revised data will flow through to revision submissions.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.1 With: Clause 19(1) Schedule 15.2 From: 01-Jan-18 To: 27-Jun-19	A correction for inactive consumption for ICP 0000246174TP7F1 was not processed correctly resulting in 3775 kWh of inactive consumption being excluded from submissions. The correction will be updated. ICP 0002361613TPE7A was bridged from 31/08/18 to 10/09/18, and a correction has not been processed yet, Contact intends to correct this ICP before revision 14. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are assessed to be strong, as most corrections are processed as required. The impact is assessed to be low based on the description above.

Actions taken to resolve the issue	Completion date	Remedial action status
ICP 0000246174TP7F1 – Correction has been correctly applied to an active period. ICP 0002361613TPE7A - Correction has been correctly applied to an active period	Resolved	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact has been steadily reducing its backlog of exceptions relating to inactive consumption. We expect to eliminate this backlog this year. Contact is continuing to monitor and manually correct consumption volumes for the affected period as these occur. Contact has been working with our MEPs to reduce the incidence of bridging as can be seen by the reduction in the number of corrections undertaken over the last 12 months Additionally Contact has an enhancement awaiting scheduling to apply a permanent estimate read where an actual read is not provided as part of a disconnection or reconnection service order. This enhancement is expected to significantly reduce the incidence of inactive consumption from occurring.	Ongoing	

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

Processes for correction of HHR meter readings were reviewed. Three HHR corrections were reviewed, including a check that updated consumption data flowed through to revision reconciliation submissions.

Processes for the correction of generation data were reviewed, including walking through a correction.

Audit commentary

<u>HHR Data</u>

EDMI does not provide any data estimates or corrections. In some circumstances AMS may provide information used to prepare estimates and corrections.

I reviewed three examples of corrections:

- two corrections were for phase failures, the data was refactored to include the missing phase by AMS and validated and made a permanent estimate by Contact; and
- one correction was to split consumption between two trading periods, where the meter recorded a double time interval, AMS provided the estimated data for the two trading periods, which was validated and made a permanent estimate by Contact.

All corrections checked were processed accurately, and the estimates applied were reasonable. In all cases an appropriate audit trail was created which included:

- date;
- time;
- operator ID;
- data corrected;
- technique used; and
- reason for alteration.

Following correction, the original data was still available.

Contact's validation processes identified an issue with Smartco's HHR AMI data following the end of daylight savings in April 2019. The first trading period was replaced with zero values. Contact has obtained corrected data from AMS (who provides information for Smartco's meters) and is in the process of applying a correction which is expected to be ready for inclusion in the seven-month revision for April 2019.

HHR DUML data

Corrections occur as required for HHR DUML data. If unmetered wattage or on hours are updated in SAP, and the invoice or invoices for the affected period are reversed and rebilled, the revised data will flow through to revision submissions.

Generation data

Where errors are detected during validation of half-hour generation metering information the first course of action is to use data from back-up metering that is installed at all metering installations. In the unlikely event that back-up data is not available, estimation is performed using SCADA data. Corrections are made based on instructions from generation engineers.

In all cases a "Revenue metering error correction journal" is created which notes the following:

- date;
- time;
- operator ID;
- data corrected;
- technique used; and
- reason for alteration.

I checked one generation data correction example, and found the corrections was accurate and compliant journals were created. The correction related to a temporary communication issue, and the actual data was added once it became available.

Audit outcome

Compliant

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

Code reference

Clause 19(3) Schedule 15.2

Code related audit information

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

Audit observation

Error and loss compensation was discussed, and the processes in place reviewed.

Audit commentary

Contact 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.

Audit outcome

Compliant

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

Code reference

Clause 19(4) and (5) Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

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

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

Audit commentary

Compliance with this clause has been demonstrated by Contact's MEPs and agents.

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

Audit outcome

Compliant

9. ESTIMATING AND VALIDATING VOLUME INFORMATION

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

Code reference

Clause 3(3) Schedule 15.2

Code related audit information

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

Audit observation

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

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

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

Audit commentary

Readings are clearly identified as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 3(4) Schedule 15.2

Code related audit information

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

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

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

Audit observation

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

NHH and HHR data is collected by MEPs and agents. Compliance was assessed as part of their MEP and agent audits.

Generation data is collected by Contact.

Audit commentary

NHH and HHR data

The MEPs retain the raw, unrounded data. Compliance with this clause has been demonstrated by Contact's agents and MEPs as part of their own audits. I confirmed that there have been no changes to Datacol's processes since their 2018 agent audit.

Manual meter readings do not record decimal places and are not rounded or truncated on import into SAP. The AMI data checked matched the source data provided. Data is unrounded on import into the Smart Meter Console and is truncated to two decimal places on import into SAP.

HHR data is not rounded or truncated on import.

Generation data

For generation data I traced a sample of reads from MV90 to SAP for one day and confirmed that reading data is recorded with eight decimal places in both systems. Generation meter data is not rounded or truncated.

Audit outcome

Compliant

9.4. Half hour estimates (Clause 15 Schedule 15.2)

Code reference

Clause 15 Schedule 15.2

Code related audit information

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

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

Audit observation

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

Estimates for generation stations are rare due to the high degree of metering accuracy and use of check metering as described in **section 9.6**. No examples of generation data estimates were identified during the audit period.

Audit commentary

HHR data

Contact's HDM system will automatically create an estimate in situations where data is not available, and Contact's HDM team can also manually create and enter estimates. Estimates are based on historic data and this process is considered compliant with the requirement to use reasonable endeavours to ensure the estimated data is accurate to within 10%. There is a peer review of all estimates over 1,000 kWh.

I viewed 12 examples where HHR data was estimated:

- for nine estimates missing data was estimated based on a similar period;
- for two estimates consumption for the affected period was confirmed to be zero and estimated as zero; and
- for one estimate data was provided via manual download by EDMI, and it was treated as an estimate because full data validation checks could not be completed.

Generation data

Estimates are fairly rare for generation metering. The generation engineers provide compensated data from the secondary metering at the station when estimates are required.

No estimates occurred during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 15.2

Code related audit information

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

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

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

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

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

Audit observation

I reviewed and observed the NHH data validation process, including checking a sample of data validations. I reviewed system and process documentation, to confirm validation settings and procedures for readings which have failed validation.

Audit commentary

Data validation for NHH metering information occurs at multiple levels.

Meter reader validation

For meters manually interrogated by Wells, Datacol, or MRS, a validation within their hand-held device identifies readings outside specified high/low parameters and prompts the reader to check the reading. This process is discussed further in the agent audit reports.

Wells, Datacol, and MRS also check the condition of the meters, to identify issues that could affect meter accuracy or safety. If an issue is identified, the appropriate condition code is entered into the hand-held device and provided to Contact. This process is discussed further in **section 6.6**.

AMI validation

For AMI meters, the MEPs have access to meter event and clock synchronisation information that may identify issues with meter accuracy. The process to receive and review this information is discussed in **section 9.6**.

Read import and billing validation

Contact's file import process identifies any file errors or corruption and creates an exception.

Once successfully imported, the billing validations identify any consumption outside prescribed limits and creates an exception. There are different limits for AMI and standard meters. A summary of the validations are set out below:

Validation type	Description
Implausible reads	High consumption Extra high consumption Low consumption
Negative consumption	Negative consumption
Zero consumption	Zero consumption for the previous month
Vacant and disconnected consumption	Vacant consumption >0 units Disconnected consumption >2 units
Billing period	Short or long bill period
Bill value	Billed dollar value outside of tolerance

When exceptions are created, they are assigned to users through BPEMs. BPEMs are initially signed to each user's work queue by the workforce team. The Operations Team Leader (Billing) closely monitors the billing BPEMs and reassigns or escalates them as necessary.

Each type of exception is assigned to one or two primary users, and in their absence, they are assigned to another user. This ensures that the user normally dealing with the exception type is very familiar with it, and the team are cross trained to deal with other types of exceptions. Control readings are requested as needed, and service requests are raised for the switching team if it appears a read change is required.

Users investigate each exception, starting with the oldest and highest priority ones and work through them until they are cleared. If an exception is not resolved on the first day because it requires further investigation, the BPEM will remain until it is resolved. If a BPEM will require later follow up (such as when a control read is requested), the user can set the BPEM status to pending and specify a number of days, after which time the BPEM will reappear in the user's main queue. This process helps to prevent double handling.

Since mid-June 2019, Bots have been used to process some implausible read and bill value exceptions. The validations completed by the Bots are closely monitored to ensure that the exceptions are processed as expected, and some further refinements will be made based on this monitoring.

Consumption on disconnected ICPs is monitored by the reconciliation and revenue assurance teams. The reconciliation team processes corrections to ensure that any disconnected consumption is included in reconciliation submissions. This process is discussed in **section 8.1**.

Long term zero consumption is monitored by the revenue assurance team. Contact has a weekly report containing ICPs with zero consumption. This is filtered to exclude ICPs where zero is expected (season tariffs or holiday homes etc.), then investigations occur for the remainder. Corrections to consumption are conducted in accordance with the process described in **section 8.1**.

Contact intends to replace all its legacy pre-pay meters with AMI meters by the end of 2019. A pre-pay no vend report shows ICPs with legacy pre-pay meters where no vend has occurred in the last three months. The report was last reviewed in September 2018 and is scheduled to be run annually.

Audit outcome

Compliant

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

Code reference

Clause 17 Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

I reviewed and observed the HHR, generation, and AMI data validation processes, including checking a sample of data validations and validation setting documentation.

Audit commentary

Electronic data used to determine volume information is provided by MEPs, AMS and EDMI as agents, and by Contact for generation information.

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

HHR data

A HHR load check occurs on switch in. This is discussed further in **section 8.3**.

On business day one of each month, data is received via the portal or TIBCO, and imported into HDM. Validation occurs when data is uploaded into the HDM system, and exception reports (dataset warnings) are generated. These exceptions are shared between the HDM team, who review and either approve the exception or estimate replacement data if necessary. In some cases, resolution involves contacting the customer or escalating issues to the sales team. The NEO graphing tool is used to chart HDM information to assist with analysis.

I walked through the validation process, including reviewing a sample of exceptions of each type for data provided by AMS and EDMI.

I walked through the process and confirmed that the following checks are performed:

- **File format and file content errors**. This includes instances where data is provided for unexpected channels or meters for the ICP, or the ICP has not been set up because Contact is awaiting paperwork.
- **Consumption averages are inconsistent with the previous three months**. These exceptions are investigated by reviewing historic consumption patterns using the NEO graphing tool and confirming the consumption with the customer. If there is a suspected meter accuracy issue, a field services job will be raised with the MEP.
- **Consecutive zeros**. If the consecutive zeros are consistent with the customer's previous consumption, they will pass validation. If consecutive zeros are unexpected, they will fail validation, and be checked with the customer to confirm whether they are valid.
- **Data spikes in KVARH or kWh inconsistent with the previous month**, including either two instances where variance is more than 50%; four instances where variance is more than 30%; or seven instances where variance is more than 20%. Spikes are graphed and reviewed against surrounding data and each other to determine whether they are reasonable or further investigation is required.
- **Insufficient data for validation**. This check identifies sites with less than three months of consumption history available for checking. These ICPs are reviewed manually to determine whether consumption appears reasonable.
- **All new connections, switch ins, upgrades, downgrades, meter reprograms, and meter changes** processed are independently checked by the HDM Team Leader or HDM Team Analyst. Sharepoint is used to track this approval and management process, and I saw evidence of the review process.

Overall, the level of validity checking is viewed as being of a high industry standard.

I viewed meter event information provided by AMS and EDMI, which is provided at the end of each month. AMS also separately email any events which they believe require action. Time synchronisation and meter events are scanned through and any items of concern are escalated to HDM team management. The 2018 audit found max kVA events were not reviewed, and I confirmed that a process is now in place to investigate any ICPs over 120% to confirm that Contact's HDM team and AMS are working to resolve the issue.

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."*

MEPs provide information on time synchronisation, faults and possible tampering events as described below:

- AMS email lists of AMS and Smartco ICPs where events have occurred that require action;
- Arc provides a daily no read report which includes events which could affect meter accuracy such as faults;
- Metrix provides emails as events occur, and a monthly summary report; and
- FCLM email events as they occur.

Contact checks the ICPs and raises field services jobs where necessary.

I checked a sample of these notifications for AMS, Arc and Metrix, and found that they had been reviewed and appropriate action had been taken. I did not see any examples of meter events received from FCLM during the audit period.

Contact has developed a process to review the full meter and meter event information they receive from MEPs using their COLA database. Arc, AMS, and Smartco information is currently reviewed using this process. Queries have been developed to identify issues for investigation including max kVa, sum-check and phase failure errors. Eventually Contact hopes to automate these processes and combine them with the existing HHR validation processes.

Contact intends to add the Metrix monthly report to the COLA database for analysis and is working with Metrix to arrange for this data to be received via SFTP.

AMI data is validated using the NHH validation process described in **section 9.5**.

Generation data

For generation station metering, interrogation occurs every hour so there is little risk that data will be overwritten. The installed data loggers have a data storage capacity of at least 30 days, which provides an additional level of security in relation to this clause. Data is received hourly by the Oracle database and updated in SAP four times daily. I saw evidence of these updates during the audit.

Contact's validation process is unique in that each metering installation contains primary metering and back-up metering, plus SCADA data. The SCADA system generally uses a separate set of CTs and its own VT.

This arrangement reduces the need for an analysis-based data validation process; at the end of each month, Contact conducts a comparison between the primary data in MV90 and the SCADA data in Oracle. I observed this process. If there are any exceptions in data from the primary meter, the check meter and SCADA are compared to identify where the issue lies. This level of validation, in conjunction with a review of the event list, achieves compliance with the intent of this clause.

MV90 stores all meter event log information, and these logs are checked daily using a report which summarises the information from the event logs to allow more efficient review. I sighted event logs during the audit, and observed the process to review them, and action taken as a result of this review.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.6 With: Clause 17 Schedule 15.2 From: 01-Jun-18 To: 29-May-19	For EDMI's manual downloads, the meter event information is not imported into IE2 and is not reviewed and sent to the 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	The controls are rated as moderate, because in most cases meter event data is reviewed and provided to the participant if any events occur. The impact is assessed to be low, because event information is obtained and reviewed for most downloads.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact is in the process of establishing a monthly operational meeting between EDMI Data Administrator and Contact's HDM team to discuss all business as usual operational issues. The first meeting will be held in September 2019. All relevant Electricity Authority RPS audit non compliances have been listed as separate agenda items to ensure corrective actions identified and implemented, whether systems, people or process related. This includes the exploration of all available avenues available to Contact to ensure these issues are resolved. Meeting minutes will be documented and published and all outstanding actions be followed up and resolved.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Ensure EDMI and FCLM have implemented a preventative process going forward to avoid this issue re-occurring. Establish process with FCML to identify root cause of why manual download is required. If a re-occurring issue ensure FCLM initiate a meter replacement or other action to permanently resolve issue.	31/03/2020	

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

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

Code reference

Clause 13.136

Code related audit information

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

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

Audit observation

Provision of HHR metering information is provided by EMS. EMS' audit report was reviewed, and the process was discussed with Contact.

Audit commentary

Generation data is sent to EMS directly from SAP, according to a system schedule. EMS monitors to ensure that the data is received on time, and Contact staff also complete monitoring to ensure that all data is released prior to leaving for the day.

Review of the EMS audit report confirmed that this process is managed in a compliant manner.

Audit outcome

Compliant

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

Code reference

Clause 13.137

Code related audit information

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

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

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

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

Audit observation

This process is managed by EMS on behalf of Contact. EMS' audit report was reviewed, and the process was discussed with Contact.

Audit commentary

This process is managed by EMS on behalf of Contact. Review of the EMS audit report confirmed that this process is managed in a compliant manner.

Audit outcome

Compliant

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

Code reference

Clause 13.138

Code related audit information

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

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

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

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

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

Audit observation

This process is managed by EMS on behalf of Contact. EMS' audit report was reviewed, and the process was discussed with Contact.

Audit commentary

This process is managed by EMS on behalf of Contact. Review of the EMS audit report confirmed that this process is managed in a compliant manner.

In most instances, EMS collects the data as an agent for generators. Interrogation begins at midnight and is complete before 0500 on each day. Some data is provided by the Contact to EMS and this data was provided by 0430 for a selection of days checked. If actual data is not available, an estimate is automatically generated and sent to EMS, and the users will check for actual data and send an update later that morning.

Any loss adjustment relative to the grid injection point is normally made within the metering installation at the time of installation and commissioning.

Audit outcome

Compliant

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

Code reference

Clause 13.140

Code related audit information

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

Audit observation

This process is managed by EMS on behalf of Contact. EMS' audit report was reviewed, and the process was discussed with Contact.

Audit commentary

This process is managed by EMS on behalf of Contact. Review of the EMS audit report confirmed that this process is managed in a compliant manner.

EMS is the agent to the grid owner and they have the data by 0500, therefore notification is not required.

Contact receives an email when data sent to EMS has failed or needs to be estimated, and these are acted upon by Contact.

Audit outcome

Compliant

11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

11.1. Buying and selling notifications (Clause 15.3)

Code reference

Clause 15.3

Code related audit information

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

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

Audit observation

Processes to create buying and selling notifications were reviewed, and trading notifications for new profiles applied during the audit period were reviewed.

The registry list as at 17/04/19 and AV080 reports for July to November 2018 were reviewed to identify instances where Contact had started or stopped using profiles other than HHR, RPS, UML, EG1, or PV1 at an NSP.

Audit commentary

If a new combination of network and NSP requires set up in SAP, the reconciliation team is notified by the network, Contact's switching team, or Contact's new connections team, and a trading notification is created as part of the set-up process where it is known that Contact will immediately trade on this new NSP.

Checks that valid trading notifications are in place are part of the reconciliation report validation checks, discussed in **section 12.3**. I observed this process and noted that it matched the submission data with open trading notifications. All mismatches are reviewed by the reconciliation team, and notifications are provided via the reconciliation portal as needed. In addition, the reconciliation portal will not accept any submission where a valid trader notification is not in place.

These checks are first conducted on business day one of each month so will not always ensure that trading notifications are provided at least five business days prior to beginning or ceasing trading. In addition, trading notifications are provided through the reconciliation manager portal and there is no facility for the trader to provide the profile. This means that notifications are not provided where Contact begins or ceases trading at an NSP using a profile other than HHR, RPS, UML, EG1, or PV1.

Analysis of Contact's registry list as at 17/04/19 showed that Contact had begun using profiles other than HHR, RPS, UML, EG1, or PV1 for 134 combinations of profile and NSP. As discussed in **section 2.1**, the profile which Contact records on the registry does not always reflect the profile recorded for submission, making it difficult to confirm whether the profiles were actually applied for reconciliation submissions. Instead I reviewed the AV080 reports for July to November 2018 and identified the following profiles which had begun or ceased to be used at NSPs which require trading notifications:

Network	NSP	Profile	Comment
EAST	TUI1101	T07	Start Sep 18
EAST	TUI1101	T23	Start Sep 18
HAWK	ROT0331	E24	Cease Sep 18
HEDL	EDG0331	T07	Start Oct 18
HEDL	EDG0331	T23	Start Oct 18
HEDL	KAW0111	E24	Start Oct 18
HEDL	TKH0111	E24	Cease Jul 18
HEDL	WAI0501	E24	Start Sep 18
MOPO	MMT0111	E08	Cease Oct 18
NPOW	BRB0331	T07	Cease Aug 18
NPOW	BRB0331	T23	Cease Aug 18
NPOW	MTO0331	E11	Cease Aug 18
ORON	HOR0661	E11	Start and cease Aug 18
ORON	HOR0661	E24	Start and cease Aug 18
ORON	ISL0661	T24	Cease Oct 18
POCO	HUI0331	E24	Start Sep 18
POCO	MTM0331	T07	Start Aug 18
POCO	MTM0331	T23	Start Aug 18
PSPI	PPT0011	DFP	Cease Jul 18
UNET	WEL0331	E11	Cease Jul 18
VECT	PEN0221	T07	Start Nov 18
VECT	PEN0221	T23	Start Nov 18
VECT	PEN0331	T07	Start Aug 18
VECT	PEN0331	T23	Start Aug 18
VECT	TAK0331	T07	Cease Oct 18
VECT	TAK0331	T23	Cease Oct 18
WAIK	HAM0331	E08	Cease Aug 18

Network	NSP	Profile	Comment
WPOW	ATU1101	E08	Cease Jul 18
WPOW	ATU1101	T07	Cease Jul 18
WPOW	ATU1101	T23	Cease Jul 18

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 11.1 With: Clause 15.3 From: 01-Jul-18 To: 30-Nov-18	Notifications are not provided where Contact began or ceased trading at an NSP using a profile other than HHR, RPS, UML, EG1, or PV1 for 30 combinations of NSP and profile. There is no facility to provide the profile when entering a trading notification on the reconciliation manager portal. Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	**Rationale for audit risk rating**		
Low	It was not possible for Contact to create the required trading notifications using the reconciliation manager portal. There is no impact, the reconciliation manager's system recorded the profiles correctly.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**

The ability to provide trader specific profile codes when submitting an updated trading notification to the RM was removed from the Trading Notification template (v1.7) in 2008 by the RM service provider at the time. As a consequence Contact ceased performing this check in our validation suite for submissions The format of this revised template was then adopted by the current RM service provider and this format is also incorporated into the RM portal. Contact is able to advise the RM in relation to the our use of Contact owned Profiles (such as E08) via our AV100 Profile shape submission file which lists there profile codes against specific NSPs where they are able to be traded. However Contact has granted other traders the ability to also use these profile codes. If Contact were to cease trading on a NSP for a Contact owned profile code but other traders are still trading on this profile code then if we notify the RM of our intention to cease trading, the RM will expect Contact to also amend its AV100 Profile shape file therefore impacting the other traders approved to use this profile code. We will work with the RM to find a suitable solution to achieve compliance with this code requirement.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact has begun engaging with the RM to find a solution that will allow traders such as Contact to include trader specific profiles codes in our Trading Notification updates as there is no current mechanism either manual or automated to provide this information.	Ongoing	

11.2. Calculation of ICP days (Clause 15.6)

Code reference

Clause 15.6

Code related audit information

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

> *15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

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

Audit observation

The process for the calculation of ICP days was examined by checking NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct. I reviewed variances for 14 months of GR100 reports.

Audit commentary

The process for the calculation of ICP days was examined by checking ten NSPs with a small number of HHR ICPs, and ten NSPs with a small number of NHH ICPs. The ICP days calculation was confirmed to be correct, including for ICPs which had been downgraded from HHR to NHH.

The following table shows the ICP days difference between Contact files and the RM return file (GR100) for all available revisions for 17 months. Negative percentage figures indicate that the Contact ICP days figures are higher than those contained on the registry. The discrepancies are small but have increased for later revisions.

Month	Initial	1-Mth	3-Mth	7-Mth	14-Mth
Oct 2017	0.00%	-0.01%	-0.04%	-0.04%	-0.04%
Nov 2017	-0.03%	-0.03%	-0.06%	-0.05%	-0.04%
Jan 2018	0.01%	-0.07%	-0.07%	-0.03%	0.00%
Feb 2018	0.05%	-0.10%	-0.04%	-0.05%	-
Mar 2018	-0.17%	-0.06%	-0.16%	-0.15%	-
Apr 2018	-0.21%	-0.19%	-0.22%	-0.18%	-
May 2018	-0.24%	-0.29%	-0.29%	-0.26%	-
Jun 2018	-0.35%	-0.32%	-0.32%	-0.28%	-
Jul 2018	-0.40%	-0.41%	-0.39%	-0.31%	-
Aug 2018	-0.43%	-0.46%	-0.38%	-0.36%	-
Sep 2018	-0.49%	-0.49%	-0.38%	-	-
Oct 2018	-0.43%	-0.42%	-0.42%	-	-
Nov 2018	-0.46%	-0.46%	-0.45%	-	-
Dec 2018	-0.46%	-0.47%	-0.47%	-	-

I checked a sample of ten differences remaining at revision seven or later, for periods after May 2018. I found that the differences remained for three key reasons:

1. **Incorrect submission type**

   AMI meters settled as NHH may have additional registers not used for settlement which contain HHR data. In some cases, SAP identifies these HHR registers, and sends the registry an update to HHR submission type in error.

   Registry trader updates occur for a range of reasons, and include ANZSIC codes, unmetered load information, and submission information. In some cases, manually processed updates may be processed with the current values for fields that are not changing, with a different event date. This can cause errors in the submission type for revision submissions.

   Contact compares a date ranged registry list report to their ICP level detail submissions to identify and correct these incorrect submission types.

2. **Incorrect settlement units**

   SAP contains settlement units, which specify the submission parameters (e.g. active HHR, inactive NHH) for each time slice. These settlement units determine which reports the ICP appears on, and whether they are included or excluded.

   Contact has found some intermittent issues with the creation of settlement units. It appears that under certain circumstances creation of settlement units is not triggered as expected. For instance, updating an ICP from active vacant to inactive vacant should result in an inactive settlement unit being created. For some ICPs the registry is updated to inactive, but the inactive settlement unit is not created in SAP. The ICP remains active in SAP and continues to have ICP days reported, resulting in a discrepancy. Similarly, updating an ICP from inactive to active, or changing the submission type should also result in creation of new settlement units, but Contact have found that this is not occurring consistently.

   A system enhancement has been logged to resolve this issue, and Contact confirmed that a system fix was implemented in July. Prior to the fix, Contact compared a date ranged registry list report to their ICP level detail submissions to identify and correct missing or incorrect settlement units. Submission is correct once the settlement units have been updated.

   ICP days are also technically overstated for disconnected ICPs. ICPs are typically disconnected part way through a day, with some consumption occurring up to the time of disconnection. The code requires status changes to be processed as at the beginning of the day, but to ensure that all consumption is reported Contact treats the disconnection date as active. The impact is minimal and the process ensures that all consumption is captured.

3. **No zeroing process for AV110 submissions**

   The reconciliation manager's database replaces records when revision information is received. Where no revision information is provided for month, network, and NSP combination the previous submission data is retained. To remove submission information a zero line is required to be submitted.

   Contact Energy has a zeroing process in place for AV110 submissions, but zeroing was temporarily not completed due to a training issue after responsibility for the process changed. The issue has now been resolved and zeroing is occurring for revision submissions for affected periods.

Contact is working towards resolving the issues with ICP days and has cleared previous issues relating to one day being missed when meters are replaced.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.2 With: Clause 15.6 From: 01-Jun-18 To: 27-Jun-19	AV110 data was temporarily not zeroed where Contact has previously submitted ICP days, but there are no ICP days reported in the current revision. ICP days were over reported at CAM0011 (June 2018), CGE0011 (July 2018), TKM0011 (August 2018), TPS0011 (July & August 2018), TWG0011 (June & July 2018) due to inactive settlement units not being created for some ICPs. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate because: • A zeroing process is in place for the AV110, and is now consistently being completed. • Workarounds are in place to identify and correct ICPs with missing or incorrect settlement units, but I found some of these issues had not been resolved by revision 7. Contact confirmed that a system fix was implemented in July. The impact is assessed to be low because: • A total of 92 days were over reported at KCA0011 (June-August 2018) and 60 days were over reported at WTS0011 (June 2018) because submissions were not zeroed. If other ICPs are still supplied at an NSP, ICP days will be reported for subsequent revisions correctly. • Workarounds are in place to identify and correct ICPs with missing or incorrect settlement units. A relatively small proportion of ICPs are affected, estimated to be approximately 1:1000.

Actions taken to resolve the issue	Completion date	Remedial action status
The non zeroing of some initial ICP days records was due to human error relating to training a new user in the process and only occurred for a few months. This process has been reinitiated and has been performed where necessary for a number of months now. The issues around missing or incorrect settlement units were largely due to a defect that recalculated all settlement periods on receipt of a new event such as a replacement registry metering event. This meant that some mismatches appeared to not be resolved at 7 month wash up where in fact these were new exceptions. Workarounds were implemented while a system fix was developed and implemented which occurred in late July.	23 July 2019	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Contact continues to monitor its ICP day's accuracy to ensure its submission data is as accurate as possible.	Ongoing	

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

Code reference

Clause 15.7

Code related audit information

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

> *15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

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

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

Audit commentary

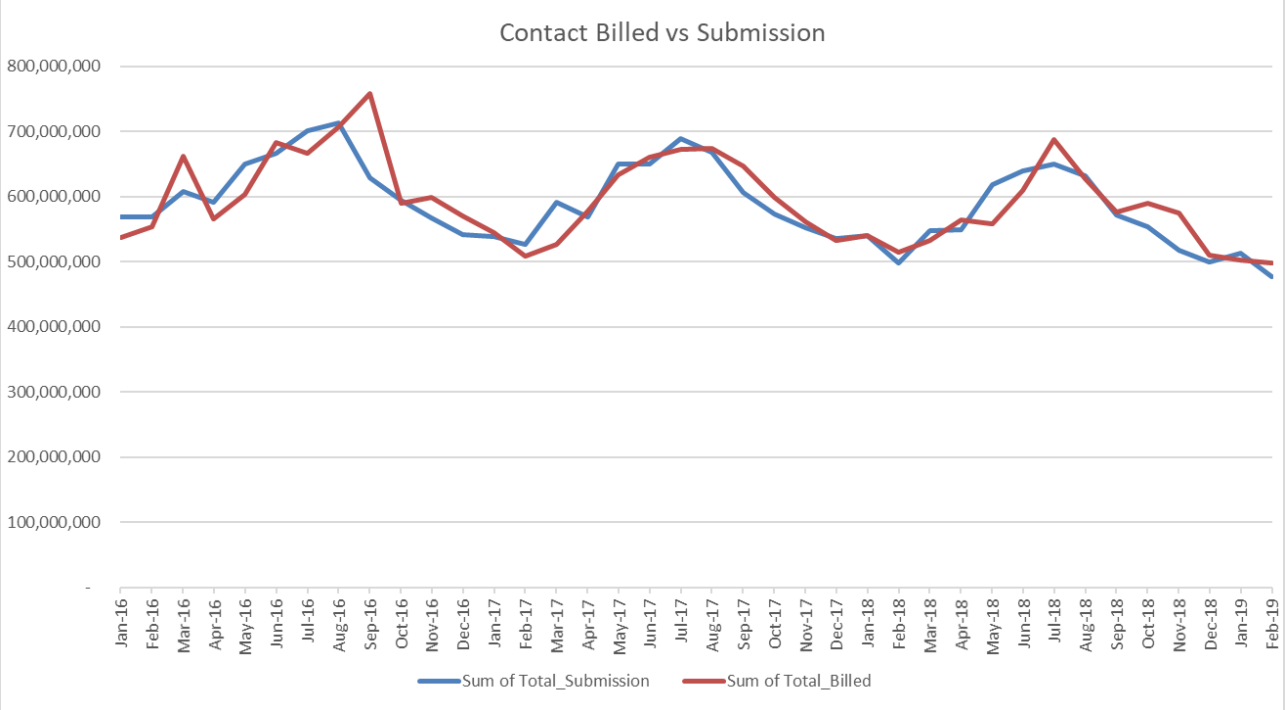
The accuracy of the NHH and HHR electricity supplied information was checked by examining five NSPs with a small volume and against the invoices in SAP. Compliance is confirmed.

The chart below shows a comparison between submissions and electricity supplied information. At an aggregate level, submitted data is 0.5% lower than billed data for the two years ended February 2019 and 0.9% lower than billed data for the year ended February 2019.

Contact monitors the GR130 on a rolling 12-month basis. A one-month offset is applied so that the billing and reconciliation periods are aligned. I reviewed the largest differences for the latest comparison and found most differences related groups of ICPs switching in on embedded networks, forward estimates, seasonal consumption patterns, and corrections.

AV120 data is also compared to previous AV120 submissions when the reports are created.

Comparison between submitted and billed kWh



Audit outcome

Compliant

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

Code reference

Clause 15.8

Code related audit information

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

> *15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data for ten submissions and tracing a sample of data for four ICPs from the source files to the aggregate submissions.

GR090 ICP Missing files were examined for all revisions for April 2018 to March 2019. An extreme case sample of the 12 ICPs missing for the most months were reviewed.

Audit commentary

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

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 ten submissions. There were only small rounding differences between the volumes and aggregates, with differences less than 147 kWh across each submission. I checked the differences at NSP level for one submission and confirmed that they related to rounding; the aggregates file is rounded to zero decimal places at ICP level and the volumes are rounded to two decimal places at trading period level. There was no evidence of the larger differences between the aggregates and volumes files identified during the 2018 audit.

I traced a sample of data from the source files to the HHR aggregates submissions for four ICPs. ICP 0278411762LC033 was missing from the HHR aggregates submission in April and May 2019 due to a data set up error. It appears that the update from a default settlement unit to a valid settlement unit was not triggered, resulting in the ICP being excluded from HHR submissions. This is recorded as non-compliance in **section 12.7**. HHR aggregates submissions were consistent with the raw data for the other three ICPs.

As AMI ICPs move from NHH to HHR settlement, there is an increased volume of ICP missing differences due to timing, which makes it impractical to monitor the ICP missing report. Instead Contact reviews the ICP days report and compares it to a date ranged registry list to confirm that all ICPs are reported, and the ICP days reflect the submission type applied for each ICP. Due to workloads, there are sometimes delays in processing corrections required to resolve ICP missing issues. Contact is awaiting system enhancements to prevent recurrence of these issues.

GR090 ICP Missing files were examined for all revisions for April 2018 to March 2019. An extreme case sample of the 12 ICPs missing for the most months were reviewed. I found:

- eleven differences were caused by delays in processing corrections to ensure that ICPs were correctly included in, or excluded from HHR submissions; and
- one difference relates ICP 0004054995HB857 which was settled as NHH, changed to HHR and then returned to NHH and in parallel a switch withdrawal occurred, the ICP is now correctly being submitted as NHH and all periods will be washed up correctly.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.4 With: Clause 15.8 From: Apr-18 To: Mar-19	HHR aggregates file does not contain electricity supplied information. Data for ten ICPs was incorrectly included in some wash up files, and data for three ICPs was incorrectly excluded from some wash up files. Corrections have now been processed or are due to be processed for the affected ICPs. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The issue relating to content of the aggregates file is an error in the code, Contact is providing submission information as expected. ICPs may be incorrectly included in, or excluded from HHR submissions for several reasons: • submission flags and/or profiles are not correctly set; and • statuses are not correctly recorded in SAP or the registry. The impact of the missing volumes is low, they are largely timing differences as Contact is working through processing corrections for the affected ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status
The issues around missing or incorrect settlement units impacting AV140 data were largely due to a defect that recalculated all settlement periods on receipt of a new event such as a replacement registry metering event. This meant that some mismatches appeared to not be resolved at 7 month wash up where in fact these were new exceptions. Workaround were implemented while a system fix was developed and implemented which occurred in late July. ICP 0278411762LC033 was a backdated switch gain to Contact completed 7 June 2019. Additionally an error in meter set up information from our HHR data collector further delayed the settlement set up for this ICP.	July 2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Contact continues to monitor its HHR Aggregates accuracy to ensure its submission data is as accurate as possible. Additionally Contact will implement specific exception reporting around default settlement set ups applied due to errors in ICP / meter set ups so that these can be resolved in a timely manner prior to submission.	Ongoing	

12. SUBMISSION COMPUTATION

12.1. Daylight saving adjustment (Clause 15.36)

Code reference

Clause 15.36

Code related audit information

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

Audit observation

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

Daylight savings processes for generation occur automatically. The Windows Server or Domain Controller Upgrade & Replacement Time Synchronisation and time source testing document was reviewed.

A diverse characteristics sample of adjustments to and from daylight savings were reviewed.

Audit commentary

HHR

Compliance with this clause has been demonstrated by Contact's agents and MEPs as part of their audits.

All HHR data provided to Contact is daylight savings adjusted using the "trading period run on" technique. This was confirmed by checking the files for the start and end of daylight saving. The correct number of trading periods were recorded in all cases.

Generation

Contact Energy's processes for generation data are compliant. I confirmed that daylight savings adjustments were processed correctly for a sample of data for September 2018 and April 2019.

Audit outcome

Compliant

12.2. Creation of submission information (Clause 15.4)

Code reference

Clause 15.4

Code related audit information

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

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

Audit observation

The process to create submissions was reviewed.

A sample of submission data was checked, and correction processes were checked in **sections 8.1** and **8.2**.

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

Audit commentary

No breaches had been recorded for late provision of submission information. Data is reviewed prior to submission as discussed in **section 12.3**.

NHH

Contact prepares reconciliation submissions using reconciliation consumption generated by SAP. A sample of NHH ICPs were checked to make sure they are handled correctly.

- An extreme case sample of the ten ICPs with the most vacant consumption during the audit period were checked. Nine were correctly recorded, but ICP 0000470070HB2B2 was inactive between 14/11/18 and 25/12/18 and the vacant consumption that fell within this inactive period was omitted from reconciliation submissions. The submission creation process was functioning as expected and compliance is recorded in this section, but non-compliance is recorded in **section 12.7** in relation to the under reporting of consumption.
- I reviewed an extreme case sample of the ten ICPs with the highest consumption while disconnected. Corrections had been processed to include the inactive consumption in reconciliation submissions in all cases. For ICP 0000246174TP7F1 the inactive consumption had been added to an inactive period which is excluded from the reconciliation submission. The submission creation process was functioning as expected and compliance is recorded in this section, but non-compliance is recorded in **sections 8.1** and **12.7** in relation to the under reporting of consumption.
- A typical sample of 38 ICPs with distributed generation were checked and found to be correctly reported.
- A sample of 10 ICPs with unmetered volumes were checked, including standard unmetered and shared unmetered. For ICP 0000008718TEE13 daily unmetered kWh was incorrectly entered as 2.35 instead of 2.31 which is recorded as non-compliance in **section 12.7**. The value was corrected during the audit and is expected to flow through to revision submissions.

Further information on calculation of historic estimate is recorded in **section 12.11**. The correction process is documented in **section 8.1**, and aggregation of the AV080 report was found to be compliant in **section 12.3**.

HHR

The AV090 and AV140 (half hour volumes and aggregates) submissions are discussed in **section 11.4** and **8.2**.

Generation

Generation submissions are completed by EMS, and compliance was confirmed during their agent audit.

Audit outcome

Compliant

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

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

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

Audit observation

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

The processes to ensure that submissions are accurate were discussed and observed, including review of reports used in the process.

The process for aggregating the AV080 was examined by checking seven NSPs with a small number of ICPs. The GR170 to AV080 files for seven revisions were compared, to confirm zeroing occurs.

Audit commentary

NHH submissions

Contact runs the submission through an Access database for review prior to submission. In some cases issues are found with consumption that cannot be corrected in time for submission. In these cases, Contact manually estimates the consumption to ensure the issue does not affect submission accuracy thresholds. The submission file is generated from the reviewed Access database information.

I walked through these pre-submission checks for May 2019 and confirmed that they included:

- ICPs using over 10,000 kWh per month are checked against a list of known high consuming ICPs, any high consuming ICPs not found to be on the list are investigated;
- identifying distributed generation issues, including invalid flow direction, inconsistency between profile and direction, no contract set up, or contract set up and no data in the report;
- identifying invalid profiles, such as HHR;
- identifying invalid loss codes, which are either missing or inconsistent with the network;
- identifying NSPs with no contract set up which typically occurs when new embedded networks are created and can be a timing issue between SAP and the registry, Contact will issue a trading notification prior to submission, and amend data as necessary;
- identifying instances of historic estimate > total estimate which occurs very rarely, typically only if a correction has not been processed accurately, the data is checked and corrected;
- identifying missing profiles, to ensure data is reported for each of Contact's expected profiles, this includes processing of the forced profile changes for distributed generation ICPs and ICPs where the metering does not meet the conditions of their profile and consumption is submitted under RPS (the differences between the profiles used for submission and recorded on the registry are discussed further in **section 2.1)**.

- identifying ICPs with potential consumption data defects, transposed reads, meter reader errors and AMI reads where unexpected errors are provided, these ICPs are investigated and their consumption is manually estimated to ensure the issues do not affect submission accuracy thresholds (phantom meters as discussed further in **section 12.8** are identified using a query, and removed during this step); and
- confirming that profile shape files are available for the NSP.

Once reviewed and any data issues have been resolved, a revised AV080 is produced from the database. This is entered into an Excel based AV080 check worksheet for further review. This NSP level check includes:

- initial submission – comparison to the previous month, which flags any variances greater than ±500,000 kWh and ±5%; or
- revision submissions – comparison to the previous submissions for the month, which flags any variances ±50,000 kWh and ±5%.

Anomalies are investigated at a more detailed level to confirm whether there is an issue that requires further investigation or correction. Once all checks are complete, the file is saved as csv, run through the file checker and submitted.

The process for aggregating the AV080 was examined by checking seven NSPs with a small number of ICPs. Compliance is confirmed.

GR170 and AV080 files for seven revisions were compared, and found to contain the same NSPs, confirming that zeroing is occurring as required for AV080 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 six downgrades and six upgrades to confirm the process.

- 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.

<u>HHR Submissions</u>

HHR submissions are generated using SAP data. HHR submission is accurate and contains a number of validation steps to ensure accuracy.

- Database checks are run prior to submission to identify, NSPs where a contract is in place, but no volumes are submitted and NSPs where no contract is in place, but volumes are present on the AV090. Corrections are processed as necessary.
- SAP and HDM HHR aggregate data is compared prior to submission and anomalies are investigated. Differences typically relate to DUML streetlight information, switch and switch withdrawal timing, and a generation site which is not billed in SAP.
- For initial AV090 submissions, consumption is graphed at NSP level and checked for reasonableness against the previous month's submission. Consumption per NSP and loss factor is checked to identify changes of more than 10% from the previous month, which is then examined, and comments are added to the file. Once this review is complete it is independently checked by the HDM Team Leader.
- For revision AV090 submissions, data is reviewed against the previous submission for the month. Any differences over approximately 15% are reviewed, and an informal materiality limit is applied to approve small kWh differences. Once this review is complete it is independently checked by the HDM Team Leader.

Generation

Generation submissions are completed by EMS, and compliance was confirmed during their agent audit.

Audit outcome

Compliant

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

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

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

Audit observation

The registry list and NSP table were reviewed.

Audit commentary

Contact is not a grid owner; compliance was not assessed.

Audit outcome

Not applicable

12.5. Provision of NSP submission information (Clause 15.10)

Code reference

Clause 15.10

Code related audit information

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

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

Audit observation

The registry list and NSP table were reviewed.

Processes to provide NSP volumes submissions as an agent were reviewed.

Audit commentary

Contact is not a local or embedded network owner. Contact Energy acts as an agent for several embedded networks and provides NSP volume submissions on their behalf. NSP volume information is imported into HDM and validated according to the HHR processes described in **section 9.6** and is then imported into SAP. NSP volume submissions are generated from SAP and validated against HDM and the residual load.

No late submissions were identified. From 01/05/18 Contact has required provision of the NSP information as priority A (on business day one each month) and the NSP volume submissions are made as soon as the data is received and validated.

Audit outcome

Compliant

12.6. Grid connected generation (Clause 15.11)

Code reference

Clause 15.11

Code related audit information

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

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

Audit observation

This process is managed by EMS as an agent. Data is no longer required to be sent to the Pricing Manager, only the Grid Owner.

Audit commentary

Generation submissions are completed by EMS, and compliance was confirmed during their agent audit.

Audit outcome

Compliant

12.7. Accuracy of submission information (Clause 15.12)

Code reference

Clause 15.12

Code related audit information

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

Audit observation

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **section 8.1** and **8.2**.

Audit commentary

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

Corrections

Corrections are discussed in **section 8.1** and **8.2**.

A correction for inactive consumption for ICP 0000246174TP7F1 was not processed correctly resulting in 3,775 kWh of inactive consumption being excluded from submissions. The correction will be updated.

Two corrections identified as being required in the 2018 audit have not yet been processed:

- For ICP 0000442007UN246, no correction was processed due to a misunderstanding; because the gain read was low, the consumption between the gain read and next actual read was much larger than expected and was thought to be sufficient to cover the bridged consumption.
- Contact is waiting for a new read period to be added so that bridged consumption can be added for ICP 1001150655CK434 for March 2018.

Consumption on disconnected ICPs

As recorded in **section 3.9**, there are some historic examples of consumption on disconnected ICPs where submission did not occur.

As discussed in **section 12.2**, ICP 0000470070HB2B2 was inactive between 14/11/18 and 25/12/18 and the inactive vacant consumption that fell within this inactive period was omitted from reconciliation submissions. The inactive consumption occurred because estimated reads were entered rather than permanent estimate reads on disconnection and reconnection. The NHH under submission was 7 kWh.

Profiles

For some ICPs, the profile recorded on the registry differs to the profile applied for reconciliation submissions. The incorrect registry profile codes are recorded as non-compliance in **section 2.1**.

HHR clock synchronisation issue

The 2018 audit found that ICP 0000555694NR13E had a significant time difference. As discussed in **section 6.5**, the clock was synchronised several times following the last audit, and the ICP has now switched out.

HHR volumes and aggregates

ICP 0278411762LC033 was missing from the HHR aggregates submission in April and May 2019 due to a data set up error. It appears that the update from a default settlement unit to a valid settlement unit was not triggered, resulting in the ICP being excluded from HHR submissions. The expected submission for April 2019 was 22,263.96 kWh.

Unmetered

Daily unmetered kWh values are correct in SAP, but the registry has not been updated for 184 ICPs therefore submission will be occurring correctly. This is discussed further in **section 3.7**.

For ICP 0000008718TEE13 daily unmetered kWh was incorrectly entered into SAP as 2.35 instead of 2.31. The value was corrected during the audit and is expected to flow through to revision submissions.

The 2018 audit found ICP 0000009096CP8BD had daily unmetered kWh of 0.26 applied instead of 0.27 for May 2018. I confirmed that a correction has now been applied.

ICP days

As described in **section 11.2**, some incorrect ICP days have been submitted due to incorrect settlement units, incorrect submission types, and not zeroing the AV110 submissions where an NSP and submission type combination is no longer supplied.

NHH volumes

As described in **section 12.8**, some ICPs invalidly had forward estimate created.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 01-Jul-18 To: 27-Jun-19	Some submission data was inaccurate and was not corrected at the next available opportunity for submission for ICPs 0000442007UN246, 1001150655CK434, 0000470070HB2B2 and 0278411762LC033. Some ICP days submissions contained some inaccurate information. Some NHH volumes submissions contained some invalid forward estimates. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate, as they are sufficient to ensure that most submission information is accurate. The impact on settlement is rated as low because corrections were made or are in progress to be made during the revision process, and system errors are in the process of being resolved.

Actions taken to resolve the issue	Completion date	Remedial action status

ICP 0000246174TP7F1 – correction has now been made	Resolved	Identified
ICP 0000442007UN246 - volumes corrected - has been resolved	Resolved	
ICP 001150655CK434 was bridged as at switch gain and remains disconnected – Contact has applied consumption volumes based on the daily average from the gaining CS file to ensure the market is not impacted.	Resolved	
ICP 0000470070HB2B2 – volumes corrected - has been resolved	Resolved	
ICP 0278411762LC033 issue has been resolved and will correct our submission volumes once the next scheduled wash up is undertaken	Resolved	
Unmetered load – corrections have now been made.	Resolved	
ICP 0000008718TEE13 – Daily kWh value updated and will correct our submission volumes once the next scheduled wash up is undertaken	Resolved	
ICP days – the defect causing the majority of issues was resolved in late July and the data corrections have also been completed.	Resolved	
NHH volumes - Contact has reduced its FE volumes at revision 14 by 90% over the last 2 years by targeting and resolving a number of system and process related issues as described in the auditor's summary. Good progress has been made to date.	Ongoing	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are continuing to resolve these system and process issues with a dedicated team involving developers, system testers and users. Additionally Contact is reviewing when during a month it reads / bills business customers that have smart meters with a view to moving the target read date as close to month end as possible. Business load is quite sensitive to holiday seasons and in terms of irrigation – seasonal conditions, and our estimation routines struggle to recognise these periods. We expect this change will result in an improvement in our submission accuracy of between 0.5 and 1%	Ongoing	

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

Code reference

Clause 4 Schedule 15.2

Code related audit information

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

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

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

Audit observation

Three AV080 14-month revisions were reviewed to identify any forward estimate still existing. Ten NSPs with forward estimate remaining were checked to determine the reasons for the forward estimate.

Audit commentary

Review of three AV080 14-month revisions showed that some forward estimate remained.

Month	Forward estimate in Revision 14 (kWh)
Nov 2017	118,807.70
Dec 2017	144,778.71
Jan 2018	122,460.59
Total	386,047.00

The meter read compliance process described in **section 6.8** is followed to attempt to obtain an actual read within 12 months. Where an actual read is not obtained, an automated process changes an existing estimate read to become a permanent estimate. These estimates are validated against previous actual readings where available.

Ten NSPs where forward estimate remained at revision 14 were reviewed to determine the reasons for the forward estimate. I found that forward estimate remained because of:

1. **Permanent estimate creation defect – *resolution in progress***

   Permanent estimates are scheduled to be created when an actual read is not received within 12 months, but in some cases permanent estimates are created late, or not created at all. Contact is investigating the reasons for this so that the issue can be resolved.

2. **Forward estimate created after meter removal – *resolution in progress***

   Removal of a meter and import of a closing reading should prevent forward estimate being generated, but if this process is not completed correctly, forward estimate continues to be created. Contact has developed a process since the site audit to allow affected meters to be identified and corrected.

3. **Disconnections on estimated reads – *resolution in progress***

   Only actual validated readings and permanent estimate readings are used to calculate historic estimate. Where an ICP is disconnected an estimated reading, forward estimate will be created between the last validated reading and the disconnection date until another validated actual reading is received. Contact has an enhancement, logged and awaiting prioritisation, to use permanent estimate reads, where actual reads were unable to be obtained, for disconnections and reconnections to resolve this issue.

4. **Incorrect settlement units – *resolution in progress***

   As discussed in **section 11.2**, SAP contains settlement units, which specify the submission parameters (e.g. active HHR, inactive NHH) for each time slice. These settlement units determine which reports the ICP appears on, and whether the ICP is included or excluded for the submission period.

   Contact has found some intermittent issues with the creation of settlement units. It appears that under certain circumstances creation of settlement units is not triggered when events occur. For instance, updating an ICP from active vacant to inactive vacant should result in an inactive settlement unit being created. In some cases the registry is updated, but the settlement unit is not created in SAP. This can result in forward estimate being created where an ICP should not be reported.

   An enhancement has been logged to resolve this issue. In the meantime, Contact compares a date ranged registry list report to their ICP level detail submissions to identify and correct missing or incorrect settlement units. Submission is correct once the settlement units have been updated.

5. **Phantom meters defect – *resolved, and historic data is being cleansed***

   The "NR" settlement unit covers future periods where there are no readings or other information available to estimate consumption, and a default forward estimate of 25 kWh per day is applied. Contact found that some ICPs had "NR" settlement units as well as valid settlement units, because the "NR" settlement unit was not made obsolete when it was replaced. This had the effect of a phantom meter generating 25 kWh of forward estimate for the ICP. A permanent fix to resolve this issue was implemented in March 2019. Prior to each submission the reconciliation team identifies and corrects any historic (pre March 2019) phantom meters included in the submission period.

6. **Consumption record defect - *resolved***

   For some ICPs, Contact received validated readings, but consumption records were not created, and the default "NR" settlement unit was applied. This typically occurred where registers were set up in error and not closed or removed completely. Affected ICPs have been identified and corrected.

The existence of forward estimate at revision 14 is recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 Schedule 15.2 From: 01-Nov-17 To: 01-Jan-18	Some estimates were not replaced by revision 14. Potential impact: Medium Actual impact: Unknown 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, because there are processes in place to attain readings by revision 14 and enter permanent estimate readings. Contact has made good progress on resolving the issues relating to phantom meters and consumption record defects and is working on the other issues which are causing permanent estimates. The potential impact is rated as low. There was 386,047 kWh of forward estimate over three months and the impact is dependent on the accuracy of these estimates. There are sound estimation processes, therefore I have recorded the audit risk rating as low.

Actions taken to resolve the issue	Completion date	Remedial action status
Contact has reduced its FE volumes at revision 14 by 90% over the last 2 years by targeting and resolving a number of system and process related issues as described in the auditor's summary. Good progress has been made to date. We are continuing to resolve these system and process issues with a dedicated team involving developers, system testers and users.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are continuing to resolve these system and process issues with a dedicated team involving developers, system testers and users. Contact has recently transitioned to a new meter reader provider who operates their own long term no access / high priority read process in parallel to retailer's efforts. Once this change in provider has been completed we will start to utilise this additional provider process to increase our attainment levels.	Ongoing	

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

Code reference

Clause 2 Schedule 15.3

Code related audit information

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

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

Audit observation

Aggregation and content of reconciliation submissions was reviewed, and the registry list as at 17/04/19 was reviewed.

Audit commentary

Compliance with this clause was assessed:

- all active ICPs with meter category 3 or higher have submission type HHR;
- unmetered load submissions were checked in **section 12.2**;
- some profiles requiring a certified control device are used but Contact is aware of the metering requirements of the profiles, and compliance was recorded in **section 6.3**, where the metering is not compliant with the requirements of the profile, Contact applies RPS for submission;
- no loss or compensation arrangements are required; and
- aggregation of the AV080, AV110, AV090 and AV140 submissions are covered in **sections 13.2, 11.2,** and **11.4** respectively.

Audit outcome

Compliant

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

Code reference

Clause 3 Schedule 15.3

Code related audit information

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

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

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

Audit observation

Nine AV080 submissions for revisions 3 to 14 were reviewed, to confirm that historic estimates are included and identified.

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

Audit commentary

I reviewed nine AV080 submissions for a diverse sample of months and revisions and confirm that forward and historic estimates are included and identified as such.

Audit outcome

Compliant

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

Code reference

Clause 4 and 5 Schedule 15.3

Code related audit information

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

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

Audit observation

Contact 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 table below shows that all scenarios tested are compliant.

Audit commentary

The table below shows that all scenarios are compliant. The check of calculations included confirming that readings and shape files 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. The new files overwrite the old files, and if a new file is not available, the most recent file remains. Manual intervention is only required where a file has failed to upload, and a BPEM is created to alert the user to the failure. Typically failures occur only if a data value in one of the fields is not set up in SAP. The user will enter the data value in SAP's maintenance tables, and then move the file back to the source folder, so that it will be picked up for import.

Test	Scenario	Test expectation	Result
a	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
c	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant
d	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Compliant
e	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Compliant
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Compliant
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant
j	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant
k	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant
l	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
m	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate, unless they have been	Compliant

Test	Scenario	Test expectation	Result
		validated against actual readings from another source.	
n	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate, unless they have been validated against actual readings from another source.	Compliant
o	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Compliant

Audit outcome

Compliant

12.12. Forward estimate process (Clause 6 Schedule 15.3)

Code reference

Clause 6 Schedule 15.3

Code related audit information

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

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

Audit observation

The process to create forward estimates was reviewed.

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

Audit commentary

Contact's forward estimates are based on either:

- daily average consumption with temperature adjustment from an average at the same time the previous year, or if this isn't available then;
- daily average consumption from the previous read to read period with temperature adjustment, or if this isn't available then;
- the average daily consumption for the particular billing class.

If an ICP is vacant, daily average consumption of zero is applied for forward estimate.

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 number of balancing areas where this target was not met.

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

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total
Oct 2017	0	3	4	4	235
Nov 2017	0	1	1	1	237
Dec 2017	0	3	3	5	238
Jan 2018	1	1	2	2	238
Feb 2018	1	0	0	-	239
Mar 2018	1	2	2	-	239
Apr 2018	0	0	0	-	242
May 2018	1	1	-	-	242
Jun 2018	0	0	0	-	242
Jul 2018	0	0	-	-	242
Aug 2018	0	0	-	-	246
Sep 2018	0	0	-	-	247
Oct 2018	0	0	-	-	248
Nov 2018	3	3	-	-	250
Dec 2018	2	5	-	-	251

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Oct 2017	1.67%	4.49%	4.93%	4.99%
Nov 2017	3.38%	2.71%	2.45%	2.49%
Dec 2017	0.28%	-1.70%	-1.93%	-2.19%
Jan 2018	0.78%	-3.77%	-3.96%	-3.84%
Feb 2018	3.62%	2.25%	2.06%	-
Mar 2018	1.88%	1.16%	1.01%	-
Apr 2018	-1.39%	-2.90%	-2.69%	-
May 2018	-1.17%	-2.86%	-	-
Jun 2018	-4.55%	-7.03%	-7.31%	-
Jul 2018	4.63%	4.50%	-	-
Aug 2018	1.14%	0.22%	-	-
Sep 2018	0.86%	0.07%	-	-
Oct 2018	2.90%	2.79%	-	-
Nov 2018	4.48%	3.93%	-	-
Dec 2018	3.69%	5.58%	-	-

I checked all differences over the threshold for months not reviewed in the previous audit, and found:

- forward estimate had been too high or low, because insufficient read history was available for estimation;
- forward estimate had been too high or low for irrigation sites which started or stopped consuming earlier or later than expected; and
- profile shapes provided by the NZRM were different to the profiles used to calculate forward estimate for the initial allocation.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.12 With: Clause 6 Schedule 15.3 From: Oct 17-Jan 18, Mar 18, May 18, Nov-Dec 18	The accuracy threshold was not met for all months and revisions. 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	Controls are rated as strong, as they are sufficient to ensure compliance to an acceptable level. Initial data is replaced with revised data and washed up.

Actions taken to resolve the issue	Completion date	Remedial action status
Contacts overall submission accuracy is very good and where we have not been able to meet the accuracy thresholds the market impact is very low base on the consumption volumes involved NHH volumes - Contact has reduced its FE volumes at revision 14 by 90% over the last 2 years by targeting and resolving a number of system and process related issues as described in the auditor's summary. Good progress has been made to date and we are continuing to target long term no access properties via our high priority read process to further reduce / eliminate our FE volumes across the wash ups.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Additionally Contact is reviewing when during a month it reads / bills business customers that have smart meters with a view to moving the target read date as close to month end as possible. Business load is quite sensitive to public holidays and in terms of irrigation – seasonal conditions, and our estimation routines struggle to recognise these periods. We expect this change will result in an improvement in our submission accuracy of between 0.5 and 1%	Awaiting prioritisation	

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

Code reference

Clause 7 Schedule 15.3

Code related audit information

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

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

Audit observation

The event detail report for 27/12/18 to 17/04/19 was reviewed and identified 1,045 ICPs which had a change of profile, including reversal and replacement of previous profiles.

A diverse sample of 15 ICPs with profile changes, including five upgrades to HHR, five downgrades to NHH and five other 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 an actual meter reading on the day of and/or the day before the profile change.

Audit outcome

Compliant

13. SUBMISSION FORMAT AND TIMING

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

Code reference

Clause 8 Schedule 15.3

Code related audit information

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

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

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

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

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

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

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

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

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

Audit observation

The process to ensure that AV080 submissions are accurate was discussed in **section 12.2**.

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

Zeroing in the AV080 submission is discussed in **section 12.3** and was found to be compliant.

Audit commentary

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

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

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

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

Audit observation

I reviewed the rounding of data on the AV080, AV090 and AV140 and reports as part of the aggregation checks.

Audit commentary

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

Review of ten AV090 and AV140 reports confirmed that submission data is rounded to two decimal places.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 15.3

Code related audit information

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

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

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

Audit observation

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

I reviewed nine 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. The proportion of historic estimate in the revision files was checked for nine reports, and the table below shows that compliance has not been achieved in all instances.

The overall percentages of historic estimate are high.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Nov-17			244	326
Dec-17			241	327
Jan-18			240	327
Jun-18		328		332
Jul-18		329		333
Aug-18		332		336
Sep-18	327			337
Oct-18	327			338
Nov-18	320			339

The table below shows that the percentage HE at a summary level for all NSPs is well above the required targets for 3 and 7-month revisions, but below the required target for the 14-month revision.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Nov-17	-	-	99.94%
Dec-17	-	-	99.92%
Jan-18	-	-	99.94%
Jun-18	-	99.53%	-
Jul-18	-	99.59%	-
Aug-18	-	99.56%	-
Sep-18	97.89%	-	-
Oct-18	97.54%	-	-
Nov-18	97.16%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: Nov 17-Jan 18 (r14), Jun-Aug 18 (r7) and Sep-Nov 18 (r3)	Historic estimate thresholds were not met for some revisions. 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 rated as moderate because in most cases the thresholds were met, and processes are in place to make estimated readings permanent. The audit risk rating is low, because Contact were reasonably close to the target in all cases.

Actions taken to resolve the issue	Completion date	Remedial action status
Contacts overall submission accuracy is very good and where we have not been able to meet the accuracy thresholds the market impact is very low base on the consumption volumes involved NHH volumes - Contact has reduced its FE volumes at revision 14 by 90% over the last 2 years by targeting and resolving a number of system and process related issues as described in the auditor's summary. Good progress has been made to date and we are continuing to target long term no access properties via our high priority read process to further reduce / eliminate our FE volumes across the wash ups.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Additionally Contact is reviewing when during a month it reads / bills business customers that have smart meters with a view to moving the target read date as close to month end as possible. Business load is quite sensitive to public holidays and in terms of irrigation – seasonal conditions, and our estimation routines struggle to recognise these periods. We expect this change will result in an improvement in our submission accuracy of between 0.5 and 1%	Awaiting prioritisation	

CONCLUSION

The audit found 37 non-compliance issues and three recommendations are made.

Improvements have been made in the following areas since the last audit:

1. **Meter event management**
   Contact's issues relating to meter event management have been cleared, and further work is underway to improve these processes. Non-compliance is recorded in relation to meter event reporting for EDMI's manual downloads.

2. **Registry – SAP discrepancies**
   Significant progress has been on reducing the number of reconciliation profile discrepancies between SAP and the registry from 17,257 during the 2018 audit to 3,301 during this audit.

3. **Status changes to registry for reconnection and disconnection (excluding making ready for decommissioning)**
   The automated process has improved the timeliness of updates to the registry of these updates

The audit found improvement has been made in some areas of non-compliance identified in the previous audit. Further improvement is required for the following areas:

1. **Registry – SAP discrepancies**
   Significant progress has been on reducing the number of reconciliation profile discrepancies between SAP and the registry from 17,257 during the 2018 audit to 3,301 during this audit.
   The audit also identified a small number of instances where SAP and registry data was not aligned for submission types and statuses. The mismatch was caused by process issues (such as where registry and SAP data is maintained by different teams and changes were not communicated, or registry updates had been rejected and not reprocessed) or system issues (where a system update had not triggered an automatic registry update). Contact's technical team are investigating the reasons for these discrepancies, and any corrective actions required.

2. **Read attainment**
   Some improvements have been made, including attempting to contact the customer by phone and text message which has increased compliance with the best endeavours requirements. The read attainment process still begins after 130 days, making it unlikely that the best endeavours requirements for read attainment will be met where the period of supply is less than 11 months.

3. **Reconciliation**
   Contact has made significant progress in resolving system defects that were affecting the completeness and accuracy of reconciliation submissions for some ICPs and meters. These defects resulted in some ICPs and consumption being incorrectly included in or excluded from certain reconciliation submissions.
   As known defects have been resolved, some further issues have been identified. Contact is working to investigate and resolve these issues. Monitoring controls are in place, to find and correct issues in the meantime.
   Permanent estimate processes also require some improvement.

4. **Corrections**
   Contact is still working through historic corrections for inactive consumption. I found a small number of corrections had not been processed, or had not been processed accurately.

5. **Distributed unmetered load**
   Some distributed unmetered load issues are still existing, leading to incorrect submission information. Contact are working with their customers regarding these issues.

6. **NHH New Connections**
   This is the second year where timeliness of updates to the registry has declined from 84% to 77% completed within seven days and the average time to update has declined from six to eight days. The process has been brought in house and is still being bedded in. Not all expected validations and checks are in place. Examples checked indicate some late paperwork and some internal delays.

7. **Switching**
   The CS file content for NHH switches indicates some data issues with the application of switch event meter reads and incorrect last read dates being applied.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The audit frequency matrix provides some guidance on this matter and contains a future risk rating score of 69, which results in an indicative audit frequency of three months. I have considered this result in conjunction with Contact's responses and my recommendation for next audit date is 12 months.

PARTICIPANT RESPONSE

Contact is disappointed that our efforts to improve our levels of compliance has not been reflected in our risk rating score in this audit.

After our last RPS Audit in June 2018 we implemented a number of programmes of work (programmes) to improve Contact's compliance with the Code, customer service and revenue assurance activities. We believe that while we have faced a number of challenges this past year, these programmes will ultimately provide an improved level of compliance and customer satisfaction overall.

Below are the programmes we've embarked on over the last 12 months and those programmes we're currently investigating:

- **System Defects**: Over the last 9 months, we have resolved 60 system defects that have reduced our reliance on individual personnel's skill level and experience to perform manual workarounds. We have 20+ identified defects still to be resolved and expect this programme of work to be completed by 31 October 2019.

- **New connections process**: We've brought the entire end to end new connection process in house in order to deliver an improved level of service for customers. On boarding of what was the new connection help desk for our customers and their electrical contractors to initiate a new connection has been unexpectedly challenging, however we still expect this will deliver an improved level of compliance.

- **Continuous Improvement**: We have a formal continuous improvement programme that provides a platform for the business to continuously improve the way we do business including our regulatory functions. Currently this programme includes process automation to improve registry population timeframes and also minor enhancements to processes such as accurate population of ANZSIC codes. We will continue to use this programme to develop enhancements and automate other processes to support our RPS functions.

- **Improved interactions with MEPs**: Since the last RPS Audit we have worked hard to improve our interactions with MEPs on LCD flag population and AMI data delivery and quality and timeliness of resolution of identified issues. We have had some success and will continue with our efforts to improve the general interactions with our AMI MEPs.

Contact has concerns that the increasing level of cost and effort to comply with the DUML compliance obligations will result in reduced competition for this load among traders and also its current DUML customer base for their contracted terms. However we are reviewing our ongoing attempts to sign or resign this load in the future.

Contact continues to look forward to the implementation of the recommendations from the Switching Technical Group relating to improvements to the switching processes as we believe this will assist all traders in achieving compliance with the code.