ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

GENESIS ENERGY LIMITED

Prepared by Steve Woods and Rebecca Elliot

Date audit commenced: 6 April 2021

Date audit report completed: 5 July 2021

Audit report due date: 13 July 2021

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EXECUTIVE SUMMARY

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

Genesis uses three codes: GENE, GENH and GEOL. GEOL's ICPs were migrated from Orion to Gentrack during the previous audit period. Unless otherwise specified, the processes and non-compliances described in the report relate to all codes.

Registry and Switching:

Registry timeliness and accuracy has a similar level of compliance to the previous audit. Almost all the validation occurs within the reconciliation team and not within the teams where the functions are managed. This was reported as being due to a lack of resources, which is also the cause of many of the late updates for new connections. The validation conducted within the reconciliation team is not "real time" which means very few of the corrections are conducted within five business days. Several recommendations have been made regarding validation improvements, some of which were also made in previous audits. There were a large number of ANZSIC code errors, and it appears additional controls are required in this area.

Switching compliance is expected to improve since system changes were made in early 2021. It is expected that the number of late files will improve and that the labelling of readings will become more accurate. There are still inaccurate switch event meter readings being sent because they are based on the last billed read, not the last read available. Compliance has been achieved for the audit period in relation to the switch save protection clauses.

There are eight distributed unmetered load databases still to be audited and six of the databases have errors greater than 50,000 kWh per annum.

Reading and Reconciliation:

The timeliness and accuracy of registry and switching processes directly affects reconciliation. I found that there are backlogs of bridged meters, and management of zero validation has been paused due to lack of resources. These backlogs are preventing Genesis from improving compliance.

Genesis have restructured the business and the new structure is expected to improve the compliance focus in the wider business. The internal audit role has been disestablished and replaced with subject matter expert roles within the business units. Their role will be to refine and improve processes at the front end and reduce the volume of exceptions managed at present by the reconciliation team. This is still to be bedded into the business, so the benefits of these changes are expected to be seen in the next audit.

All matters raised are shown in the tables below.

The audit raises 44 non-compliances and makes 13 recommendations. 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 recommends an audit frequency of three months. I have considered this in conjunction with Genesis' comments and recommend that the next audit be completed in nine months' time.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Relevant information	2.1	15.2	Some inaccurate data is recorded and was not updated as soon as practicable.	Moderate	Medium	4	Identified
Electrical Connection of Point of Connection	2.11	10.33A	**GENE** Four new connections were not certified within five business days. 232 reconnections were not certified within five business days. ICP 1000023102BP693 has not been recertified when it was unbridged. **GEOL** 50 reconnections were not certified within five business days. **GENH** Three new connections were not certified within five business days.	Moderate	Low	2	Investigating
Meter Bridging	2.17	10.33C and 2A of Schedule 15.2	**GENE** MEPs not notified within one business day of bridging occurring in all instances. 30 meters have yet to be unbridged. Consumption for the bridged period has not been submitted for 19 of the 31 unbridged ICPs.	Weak	Low	3	Investigating
Changes to registry information	3.3	10 Schedule 11.1	Some status and trader updates were not processed within five business days of the event on the Registry.	Weak	Low	3	Investigating
Trader responsibility for an ICP	3.4	11.18	**GENE** Two incorrect MEP nominations. **GEOL** One incorrect MEP nomination.	Moderate	Low	2	Identified
Provision of information to the registry manager	3.5	9 Schedule 11.1	Some late and incorrect status updates.	Weak	Low	3	Investigating
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	A moderate number of incorrect ANZSIC codes.	Moderate	Low	2	Investigating
Changes to unmetered load	3.7	9(1)(f) of	**GENE** One ICP had missing daily unmetered kWh.	Strong	Low	1	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
		Schedule 11.1	Three ICPs had incorrect daily unmetered kWh. Five ICPs incorrectly have BTS unmetered recorded. **GENH** Missing unmetered details for one ICP.				
Management of "active" status	3.8	17 Schedule 11.1	**GENE** 11 incorrect first active dates of those ICPs sampled. **GEOL** Six incorrect first active dates. **GENH** Two incorrect first active dates.	Weak	Low	3	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	**GENE and GEOL** Some incorrect inactive statuses.	Moderate	Medium	4	Identified
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**GENE** Three incorrect AN codes sent of the sample checked. **GEOL** Two incorrect AN codes sent of the sample checked. **GENH** One late AN file.	Strong	Low	1	Identified
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	The average daily consumption calculation is not calculated from the last read period. **GENE** Five of 15 ICPs checked with last reads incorrectly labelled as actual but should have been sent as estimates. Five of 15 ICPs (different to the five above) checked where the last read date was the last billed date and the last read date was earlier. **GEOL** Two ICPs with a negative average daily consumption is incorrect as it is not consumption. One ICP with incorrect average daily consumption due to using the final billed average instead of read-to-read consumption.	Weak	Low	3	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Five of 15 ICPs checked with last reads incorrectly labelled as actual but should have been sent as estimates. Five of 15 ICPs (different to the five above) checked where the last read date was the last billed date and the last read date was earlier.				
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	**GENE** Seven late RR files. **GEOL** Five RRs not supported by two actual reads.	Strong	Low	1	Identified
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	Two late NT files.	Strong	Low	1	Identified
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**GENE** One incorrect AN response code sent. Two incorrect event dates. 1,527 late CS files. 6 E2 breaches. 1 ET breach. **GEOL** 259 late CS files. **GENH** One late AN file sent. Four late CS files sent. One E2 breach.	Moderate	Low	2	Identified
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	The average daily consumption calculation is not calculated from the read-to-read period. **GENE** 34 ICPs sent with a negative average daily consumption are incorrect as it is not consumption and of the five sampled all were sent with an incorrect final read. Two of the five ICPs sampled with a high average daily consumption figure were found to be incorrect and were sent with an incorrect final read. Five of 15 ICPs checked with incorrect last read labelled as actual but should have been sent as estimates.	Weak	Low	3	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Five of 15 ICPs checked where the last read date was the last billed date and the last read date was earlier. Six of the 15 ICPs where the incorrect final read was in the CS file. Six ICPs not read during the period of supply were sent with the disconnection reads as actuals for the event date. **GEOL** All 17 ICPs with a negative average daily consumption are incorrect as it is not consumption, and all were sent with an incorrect final read. One of the four ICPs with a high average daily consumption figure was found to be incorrect. Four of 15 ICPs checked with incorrect last read labelled as actual but should have been sent as estimates. Five of 15 ICPs checked where the last actual read date is recorded incorrectly. Four of 15 ICPs checked with incorrect switch event meter readings. Two ICPs where the CS file was sent with estimated last billed reads rather than the last actual read gained.				
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	**GENE** 23 late RR files. RR incorrectly rejected for ICP 0000214277UNACF. **GEOL** Five late RR files. RR files incorrectly rejected for ICPs 0006995667RN4A1, 0007122856RNEB6 and 0000918556TUA73.	Moderate	Low	2	Identified
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	HH switch NT files sent for ineligible ICPs. One late NT file. One PT breach indicating a backdated switch.	Moderate	Low	2	Investigating
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	**GENH** Five AN breaches. One incorrect response code.	Strong	Low	1	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Gaining trader to advise the registry manager - gaining trader switch	4.14	16 Schedule 11.3	**GENH** Two CS breaches.	Strong	Low	1	Investigating
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**GENE** Two incorrect NW codes. 11 SR breaches. 100 NA breaches. **GEOL** One incorrect NW code. Seven SR breaches. 33 NA breaches. **GENH** One incorrect NW code. One SR breach. One NW breach. Two NA breaches. One late AW	Strong	Low	1	Investigating
Metering information	4.16	16 Schedule 11.3	**GENE** 17 incorrect last reads sent of those sampled. **GEOL** 11 incorrect last reads sent of those sampled.	Moderate	Low	2	Investigating
Unmetered threshold	5.2	10.14 (2)(b)	**GENE** 10 ICPs with unmetered load over 6,000 kWh per annum.	Moderate	Low	2	Investigating
Unmetered threshold exceeded	5.3	10.14 (5)	**GENE** Unmetered load over 6,000 kWh per annum and not resolved within the allowable timeframes.	Moderate	Low	2	Investigating
Distributed unmetered load	5.4	11 Schedule 15.3, Clause 15.37B	**GENE** Inaccurate submission information for several databases. Eight database audits not completed.	Moderate	High	6	Investigating
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**GENE** Two ICPs of the sample checked that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided.	Weak	Low	3	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Five of the ICPs reported in the 2020 audit that were generating have either not been corrected prior to switching away from Genesis (3 ICPs) or are still to be corrected (2 ICPs). 61 meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code. **GEOL** Four meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code.				
Responsibility for metering at GIP	6.2	10.26(7)	Four late certification updates made to the RM.	Moderate	Low	2	Identified
Reporting of defective meters	6.4	10.43(2) and (3)	**GENE** The MEP was not advised of one meter bridged on 19/10/20 of the sample provided as the service request was not issued to them to unbridge.	Weak	Low	3	Investigating
Derivation of meter readings	6.6	3(1), 3(2) and 5 Schedule 15.2	**GENE** No action taken to address the ICP with signs of tampering or damage, and the ICP with missing or broken seals identified in the 2020 audit. Customer reads still not being validated against a set of readings from another source. Evident in the 2020 example that has not been corrected as this is a system issue. **GEOL** No action taken to address the ICP with signs of tampering or damage, and the ICP with missing or broken seals identified in the 2020 audit. Further evidence of meter events not being actioned with one example of seals not present and intact, and one example of phase failure not being actioned. Customer reads still not being validated against a set of readings from another source. Evident in the 2020 example that has not been corrected as this is a system issue.	Weak	Low	3	Investigating
NHH meter reading application	6.7	6 Schedule 15.2	**GENE** 11 incorrect switch reads.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			GEOL Nine incorrect switch reads. **GENE and GENH** NHH meter readings not applied at 2400 on the day of the meter reading for NHH to HHR upgrades and downgrades where the meter is replaced.				
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**GENE** Four of the samples of ten ICPs unread during the period of supply did not have exceptional circumstances and, the best endeavours requirement was not met. **GEOL** Six of the sample of ten ICPs unread during the period of supply did not have exceptional circumstances and, the best endeavours requirement was not met.	Weak	Low	3	Investigating
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**GENE** 18 of the sample of 26 ICPs unread in the 12 months ended March 2021 did not have exceptional circumstances and the best endeavours requirement was not met. **GEOL** 12 of the sample of 15 ICPs unread in the 12 months ended March 2021 did not have exceptional circumstances and the best endeavours requirement was not met.	Weak	Low	3	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	**GENE** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the 15 ICPs sampled. **GEOL** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the ten ICPs sampled.	Weak	Low	3	Identified
HHR interrogation data requirement	6.13	11(2) Schedule 15.2	Event logs were not received and reviewed for one manual download.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Identification of readings	9.1	3(3) Schedule 15.2	**GENE and GEOL** Because all meter removal reads are recorded as actual, estimated meter removal readings which capture consumption during stopped, faulty or bridged periods are incorrectly classified as actual readings. Some CS files had estimated readings classified as actual readings.	Moderate	Low	2	Investigating
Meter data used to derive volume information	9.3	3(5) of schedule 15.2	AMS' EIEP3 and GENDF file formats round trading period data to 2 decimal places. AMI meter reading data is truncated for import into Gentrack and Derive.	Moderate	Low	2	Investigating
Half hour estimates	9.4	15 Schedule 15.2	**GENH** No estimated data was provided for ICP 1000588995PC498 for Oct 2020 r0 and r1, Nov 2020 r0 and r1, and Dec 2020 r0 and r1 as insufficient information was available to create the estimate.	Strong	Low	1	Investigating
NHH metering information data validation	9.5	16 Schedule 15.2	**GENE and GEOL** Zero consumption validation not being carried out.	Weak	Medium	6	Identified
HHR aggregates information provision to the reconciliation manager	11.4	15.8	**GENE, GEOL and GENH** HHR aggregates files do not contain electricity supplied information.	Strong	Low	1	Cleared
Creation of submission information	12.2	15.4	**GENE** Two ICPs with distributed generation where no generation volumes were submitted for ICPs 0000011546HR322 and 0000029648HRF96 whilst GENE was the trader. 12 GENE ICPs identified in the 2020 which are believed to be generating which still do not have compliant metering installed or notification of gifting provided. Some inactive consumption was missing from submissions because corrections had not been processed as soon as practicable. Consumption during bridged periods was missing from submissions	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			because corrections were not processed as soon as practicable. **GEOL** Some inactive consumption was missing from submissions because corrections had not been processed as soon as practicable.				
Accuracy of submission information	12.7	15.12	**GENE and GEOL** Some submission data was inaccurate and was not corrected at the next available opportunity.	Moderate	Medium	4	Investigating
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	**GENE and GEOL** Some estimates were not replaced with permanent estimates by revision 14.	Moderate	Medium	4	Investigating
Reconciliation participants to prepare information	12.9	2 of schedule 15.3	**GENH** Unmetered load volumes submitted incorrectly under the GENE participant code.	Strong	Low	1	Identified
Forward estimate process	12.12	6 Schedule 15.3	**GENE and GEOL** The accuracy threshold was not met for some months and revisions, because forward estimate was too high or too low.	Moderate	Low	2	Investigating
Historical estimate reporting to RM	13.3	10 Schedule 15.3	**GENE and GEOL** Historic estimate thresholds were not met for some revisions.	Moderate	Low	2	Investigating
Future Risk Rating						107	

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
Validations	2.1	Use the audit compliance report for: • validation of distributor's unmetered load details against GENE/GEOL unmetered load details, and • validation of initial electrical connection date, first meter certification date and first active date. Compare the profile against the Distributors' installation type and check the reverse power event to ensure DG is set up correctly.

Subject	Section	Recommendation
Bridged meter process	2.17	Investigate reporting/ monitoring of bridged meters to ensure that an unbridge service request is generated.
Provision of information to the registry	3.5	Consider making status changes to active based on load test dates from data collectors.
Monitoring of new and ready ICPs	3.10	Run a monthly list from the registry of all ICPs where GENE or GEOL are the proposed trader to ensure Gentrack records align.
Installation of compliant metering for generating ICPs	6.1	For any ICP where generation is present, either: 1. ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or 2. advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be provided to the reconciliation manager.
Monitoring of ICPs with potential distributed generation and Genesis has none.	6.1	Monitor ICPs where the distributor has distributed generation indicated and Genesis have none.
Distributed generation profile	6.1	Check with Vector for confirmation of fuel type "other" to confirm if the sites have batteries that will inject to the network. If present the profile type should be changed to "EG".
Confirm whether GENH ICPs are generating	6.1	Confirm whether the following ICPs are generating: • 0000039832WE85B (previously had category 1 meter with an I channel and upgraded to category 2 meter but no I channel is present), • 0000130740WEA40 (generation added by the Distributor 2016 but injection metering has never been present), • 0006679030RNFE2 (switched in with B installation type 01/01/20), and • 0303925043LC693 (switched in with B installation type 01/02/20). If they are generating arrange for compliant metering to be installed or notification of gifting to be provided to the reconciliation manager.
Review of Wells meter condition information	6.6	Ensure that memos are created for all meter condition issues provided by Wells. Develop processes to review and take action on these meter condition issues, which could affect meter accuracy.
Validation of customer, web and photo readings	6.6	Update processes to ensure that customer, web, and photo readings must be validated against at least two actual validated readings from another source.
Account managed ICP read attainment	6.8	Develop clear processes for read attainment for account managed customers to ensure that the read attainment requirements are met.
Identification of generating ICPs	9.5	Ensure that the Billing team is aware that sudden low or negative consumption could be caused by home generation without an EG register installed. These exceptions could be checked against the high-risk database, customer account notes, or google satellite information to determine whether it is likely that solar is installed. Any ICPs which appear likely to have home generation should be passed to the home generation team, so that compliant metering can be installed where necessary.
Zero consumption validation	9.5	Recommence the zero-consumption process to identify stopped, faulty, and bridged meters.

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

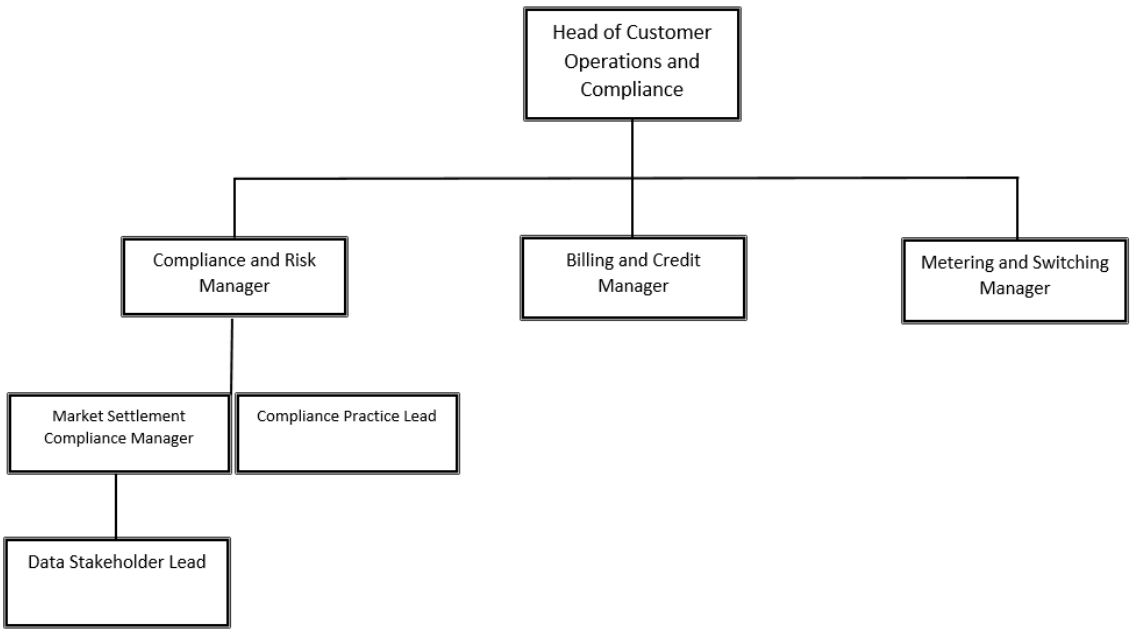
I checked the Authority's website to identify any relevant exemptions.

Audit commentary

There are no current exemptions relevant to the scope of this audit.

1.2. Structure of Organisation

Genesis provided a copy of their organisational structure:



1.3. Persons involved in this audit

Auditors:

Name	Company	Role
Steve Woods	Veritek Limited	Lead Auditor
Rebecca Elliot	Veritek Limited	Supporting Auditor

Personnel assisting in this audit were:

Name	Title
Alysha Majury	Team Leader
Anna Fraser-Jones	Customer Service Representative
Craig Young	Settlements and Compliance Manager
Hope Allum	Head of Customer Operations and Compliance
Julia Jones	Technical Specialist – Reconciliations Compliance
Laura Barnett	Customer Service Representative – Back Office
Mamai Cooper	TOU Technical Facilitator
Sacha Wood	Team Leader Back Office
Shweta Arora	Reconciliation Systems Analyst
Stacey Gleeson	Metering Team Leader
Wenli Zhu	Accounting Technician, Finance Operations
Zeb Hartley	Customer Service Representative – Back Office

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 Genesis.

Audit commentary

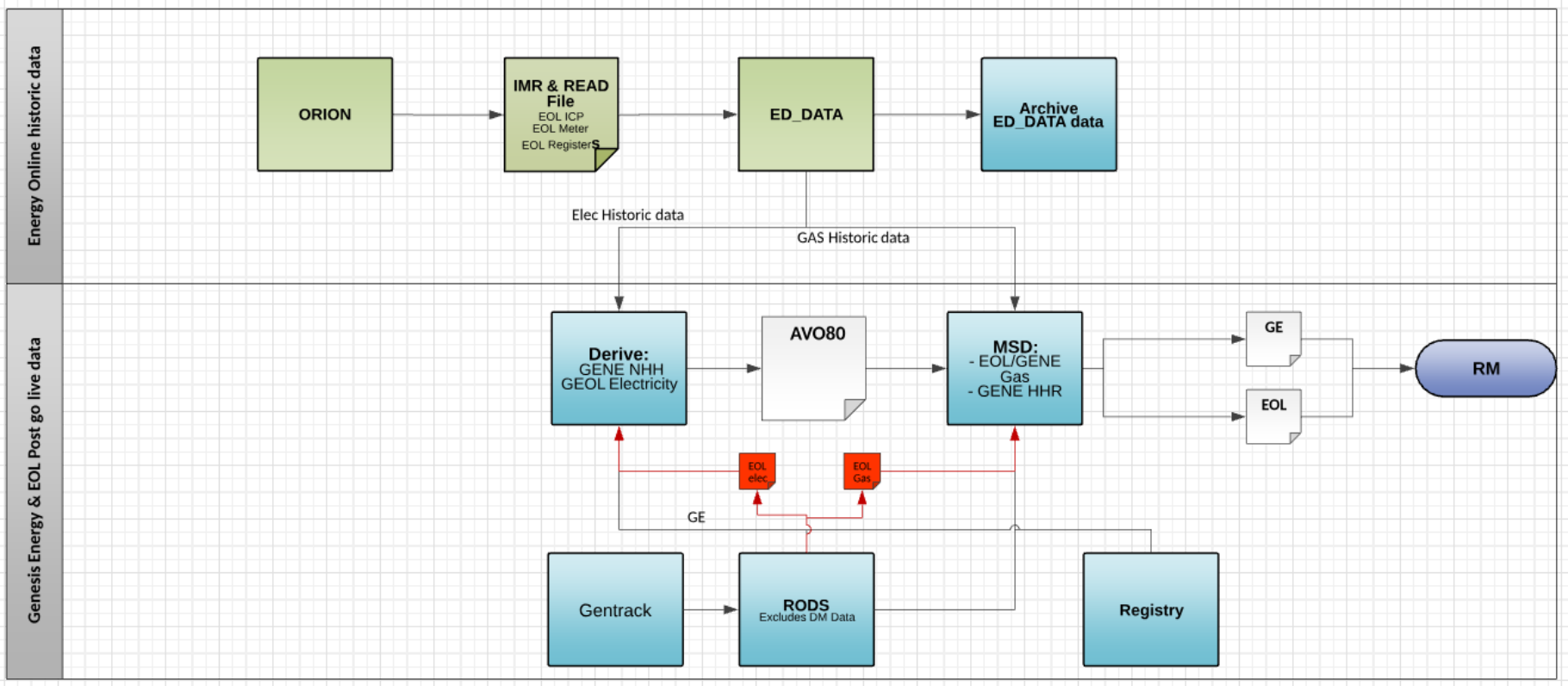
Genesis engages the following service providers:

Provider	Services
AMS	Gathering and storing of HHR data for GENH HHR and GENE AMI ICPs. Creation and management of volume information for GENH HHR ICPs. Calculation of ICP days for GENH HHR ICPs. Provision of submission information for GENH HHR.
EMS	Gathering and storing of raw meter data for unmetered streetlights. Estimation of volumes for unmetered streetlights.
Wells	Gathering and storing of raw meter data for NHH ICPs.

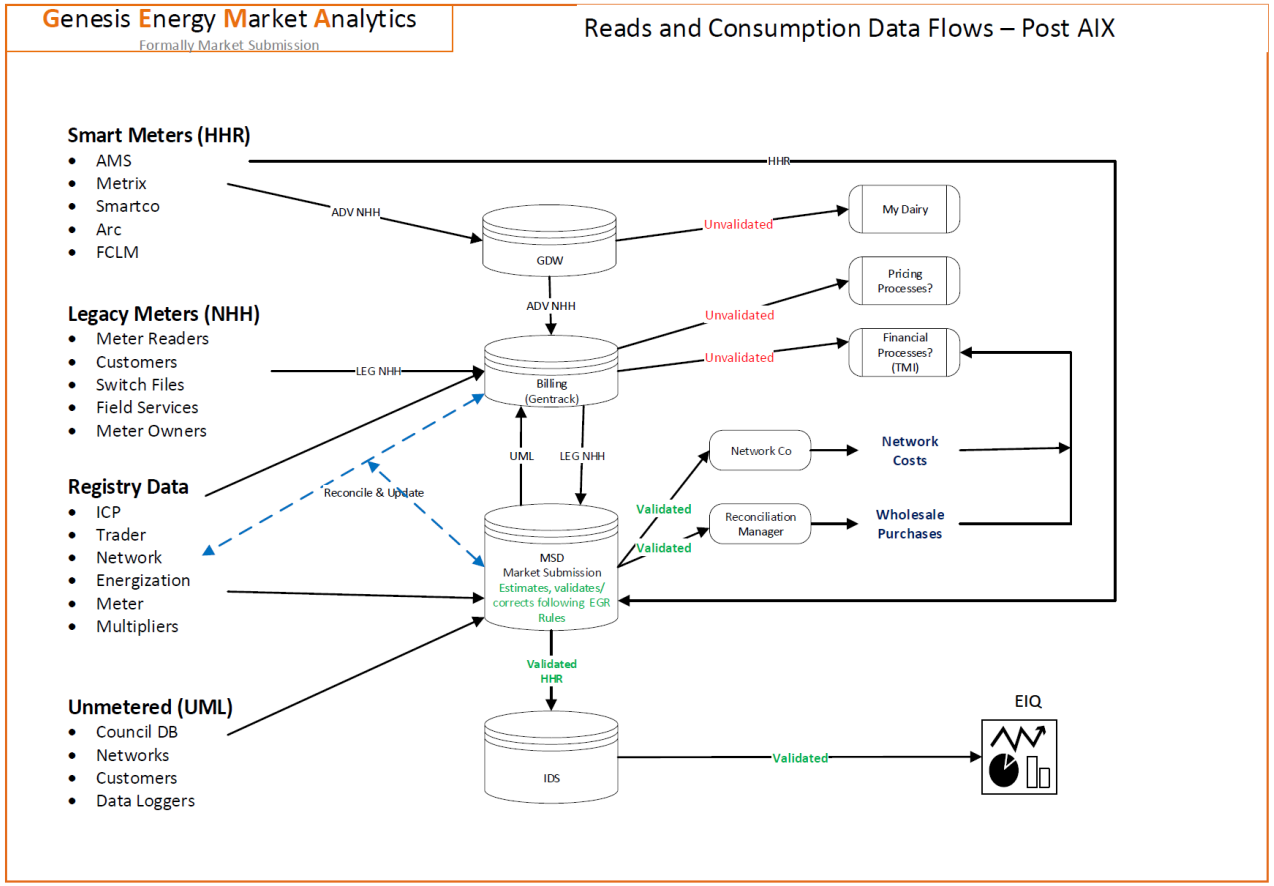
In addition, MEPs provide AMI data in their capacity as MEPs and are subject to a separate audit regime.

1.5. Hardware and Software

A diagram of the systems is shown below. All ICPs are managed in Gentrack. The areas shaded green are now discontinued. The Orion system is no longer used and all GEOL ICPs are managed in Gentrack.



A diagram of the AMI HHR application architecture is shown below. All HHR data is now received directly into MSD and GDW. The IDDB platform has been decommissioned. This is not deemed to be a material change as the IDDB platform held data only.



Stark RT version 6 is used for interrogation of generation metering, and all users have an individual login and password for Stark.

Back-ups are in accordance with standard industry protocols. The systems are backed up every 15 minutes in production and there is a further off site back up of RODS daily.

1.6. Breaches or Breach Allegations

Genesis has had two breach allegations relevant to the scope of this audit recorded by the Electricity Authority during the audit period:

Ref	Breach Description	Clause	Outcome
2103GENE2	GENE failed to submit complete profile shape information to the reconciliation manager in January 2021.	Part 15 clause 15.2 (1) (a)	No result yet
2104GENE1	GENE failed to submit complete profile shape information to the Reconciliation manager. GENE submitted under the CST special profile shape in January R1 at FHL0331-HAWK and WTU0331-HAWK in the AV-080 submission but did not submit at these NSPs in the AV-100 submission. GENE then failed to correct this information again, in the initial submissions on BD4 in March 2021.	Part 15 clause 15.2 (1) (a)	No result yet

This is discussed in **section 12.7**.

1.7. ICP Data

GENE

All active ICPs are summarised by metering category in the table below. 3,006 of the 3,154 active ICPs with a metering category of 9 or blank have trader unmetered load details recorded. The remaining 148 ICPs are active but have no metering details entered on the registry. In **section 2.9** I have reviewed ICPs which appeared on the AC020 report with a metering category of 9 or blank and no trader unmetered load details recorded.

Metering Category	2021	2020	2019	2018	2017	2016
1	394,959	402,274	405,579	409,403	418,547	442,114
2	2,801	2,928	3027	2,918	2,703	2,865
3	1	1	1	1	1	0
4		0	0	0	0	0
5	2	2	2	2	2	2
9	819	719	822	927	1,172	1,132
Blank	2,335	2,238	2,178	2,318	2,387	1,161

Status	Number of ICPs (2021)	Number of ICPs (2020)	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	400,917	408,162	411,609	415,569	424,722	447,274
Inactive - new connection in progress (1,12)	1,992	1,836	1,515	1,212	966	806
Inactive – vacant (1,4)	9,950	9,926	10,172	10,646	10,966	13,099
Inactive – AMI remote disconnection (1,7)	2,234	1,800	1,919	2,199	1,831	44
Inactive – de-energised due to meter disconnected (1,9)	31	24	26	36	33	0
Inactive – at pole fuse (1,8)	39	30	37	53	46	0
Inactive – de-energised at meter box fuse (1,10)	10	6	7	20	10	0
Inactive – at meter box switch (1,11)	11	7	6	10	8	0
Inactive – ready for decommissioning (1,6)	2,001	1,969	1,988	2,270	2,957	4,441
Inactive – reconciled elsewhere (1,5)	2	4	2	0	4	2
Decommissioned (3)	45,249	43,756	42,090	40,249	37,654	33,876

GEOL

All active ICPs are summarised by metering category in the table below. Five of the 21 active ICPs with a metering category of 9 or blank have trader unmetered load details recorded. The remaining 16 ICPs are active but have no metering details entered on the registry. In **section 2.9** I have reviewed ICPs which appeared on the AC020 report with a metering category of 9 or blank and no trader unmetered load details recorded.

Metering Category	2021	2020	2019	2018	2017	2016
1	85,808	88,632	89,865	90,011	86,110	82,861
2	150	146	154	170	191	237
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
9	15	5	7	11	12	9
Blank	6	4	3	2	7	7

Status	Number of ICPs (2021)	Number of ICPs (2020)	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	85,979	88,787	90,029	90,194	86,230	83,114
Inactive - new connection in progress (1,12)	108	91	80	69	88	48
Inactive – vacant (1,4)	774	816	964	850	834	737
Inactive – AMI remote disconnection (1,7)	275	268	411	61	64	34
Inactive – de-energised due to meter disconnected (1,9)	14	9	3	2	0	0
Inactive – at pole fuse (1,8)	24	14	7	3	3	1
Inactive – de-energised at meter box fuse (1,10)	7	8	1	0	1	0
Inactive – at meter box switch (1,11)	11	4	0	1	0	0
Inactive – ready for decommissioning (1,6)	93	89	180	189	206	218
Inactive – reconciled elsewhere (1,5)	0	0	0	0	0	0
Decommissioned (3)	2,861	2,650	2,340	2,115	1,868	1,605

GENH

All active ICPs are summarised by metering category in the table below. The six active ICPs with a metering category of 9 or blank do not have trader unmetered load details recorded. In **section 2.9** I have reviewed ICPs which appeared on the AC020 report with a metering category of 9 or blank and no trader unmetered load details recorded.

Metering Category	2021	2020	2019	2018	2017	2016
1	105	123	99	100	82	77
2	1050	1165	908	922	753	635
3	615	710	649	632	452	347
4	211	234	218	192	150	91
5	29	28	24	22	11	15
9	2	4	4	1	1	0
Blank	4	4	0	2	1	0

Status	Number of ICPs (2021)	Number of ICPs (2020)	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	2,016	2,268	1,902	1,841	1,450	1,165
Inactive - new connection in progress (1,12)	9	11	8	11	13	11
Inactive – vacant (1,4)	0	0	0	0	2	3
Inactive – AMI remote disconnection (1,7)	0	0	0	0	0	0
Inactive – de-energised due to meter disconnected (1,9)	0	0	0	0	1	0
Inactive – at pole fuse (1,8)	0	0	0	0	1	0
Inactive – de-energised at meter box fuse (1,10)	0	0	0	0	0	0
Inactive – at meter box switch (1,11)	0	0	0	0	0	0
Inactive – ready for decommissioning (1,6)	1	1	1	0	1	1
Inactive – reconciled elsewhere (1,5)	2	2	2	2	2	0
Decommissioned (3)	444	433	419	406	0	365

1.8. Authorisation Received

A letter of authorisation was received.

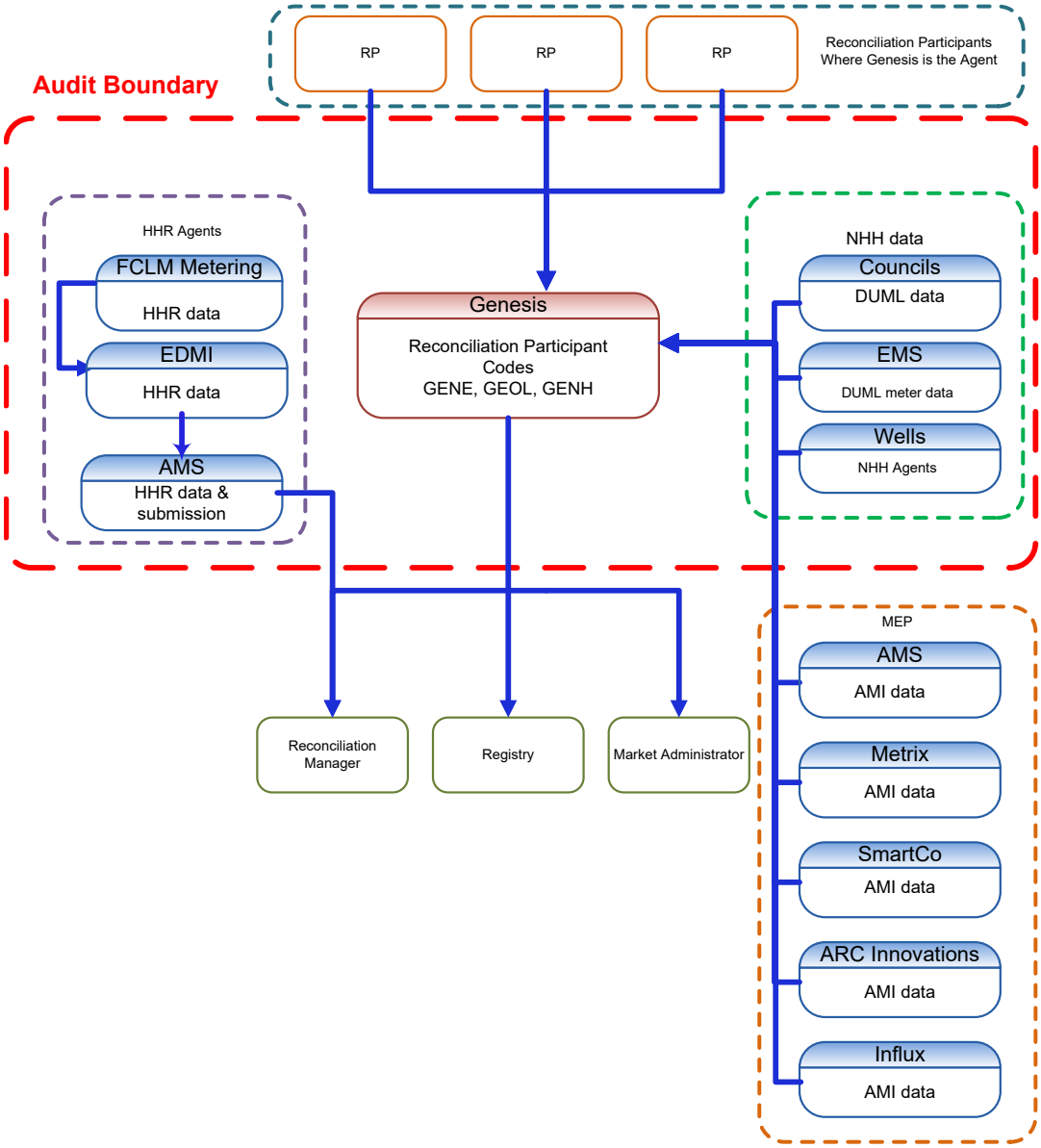
1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Genesis 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.

This audit includes the GENE, GENH and GEOL participant codes. Any reference to Genesis in the report includes all participant codes, unless the specific code is mentioned.

The audit was carried out 23 to 26 June 2021 at the Genesis offices in Hamilton.

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



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

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks	MEPs Providing Data
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data	AMS – HHR Wells – NHH	AMS Metrix Smartco ARC Innovations Influx
(c)(iii) - Creation and management of volume information	AMS – HHR Councils – DUML databases EMS - DUML data	
(d) (i)– Calculation of ICP days	AMS – HHR for GENH	
(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	AMS - HHR for GENH	
(f) - Provision of metering information to the Grid Owner	AMS - HHR for GENH	

Genesis receives DUML data from several Councils. These parties are considered agents under clause 15.34.

The remaining agents listed above have been audited in accordance with the Guidelines for Reconciliation Participant Audits relevant at the time of the audit.

1.10. Summary of previous audit

The previous audit was conducted in September 2020 by Rebecca Elliot (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.

Table of Non-compliances

Subject	Section	Clause	Non-compliance	Status
Material change audits	1.11	16A.11	Material change audit not conducted for automation new connection process.	Cleared
Relevant information	2.1	15.2	Some inaccurate data is recorded and was not updated as soon as practicable	Still existing
Electrical Connection of Point of Connection	2.11	10.33A	**GENE** ICP 1002070461UNAD6 not certified within five business days of electrical connection. 232 reconnections were not certified within five business days. **GEOL** 31 reconnections were not certified within five business days.	Still existing
Changes to registry information	3.3	10 Schedule 11.1	Some status and trader updates were not processed within five business days of the event on the Registry.	Still existing
Trader responsibility for an ICP	3.4	11.18	**GENE** Six incorrect MEP nominations. **GEOL** Two incorrect MEP nominations.	Still existing
Provision of information to the registry manager	3.5	9 Schedule 11.1	Some late and incorrect status updates.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	A small number of incorrect ANZSIC codes.	Still existing
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	**GENE** Three ICPs had incorrect daily unmetered kWh. **GENH** Missing unmetered details for one ICP.	Still existing
Management of "active" status	3.8	17 Schedule 11.1	**GENE** 54 (7+4+5+20+15+3) incorrect first active dates of those ICPs sampled.	Still existing

Subject	Section	Clause	Non-compliance	Status
			GEOL Six (2+1+3) incorrect first active dates.	
Management of "inactive" status	3.9	19 Schedule 11.1	**GENE and GEOL** Some incorrect inactive statuses.	Still existing
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**GENE** One incorrect AN code sent of the sample checked.	Still existing
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	The average daily consumption calculation is not calculated from the last read period. **GENE** Four of five ICPs checked with an incorrect average daily consumption read of zero sent were found to be incorrect. Four of ten ICPs checked with incorrect last read labelled as actual but should have been sent as estimates. One of ten ICPs checked where the last read date was the last billed date and the last read date was earlier. **GEOL** The one ICP with a negative average daily consumption is incorrect as it is not consumption. All five ICPs checked with an incorrect average daily consumption read of zero sent were found to be incorrect. One of ten ICPs checked where the last read date was the last billed date and the last read date was earlier.	Still existing
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	**GENE** 19 late RR files. **GEOL** Two RRs not supported by two actual reads. Two late RR files.	Still existing
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**GENE** Three incorrect AN response codes sent. 907 late CS files. **GEOL**	Still existing

Subject	Section	Clause	Non-compliance	Status
			Event date for one ICP set earlier than the gaining trader's requested date. 216 late CS files. **GENH** One late AN file sent. Seven late CS files sent.	
Losing trader must provide final information - switch move	4.10	11 Schedule 11.3	The average daily consumption calculation is not calculated from the read-to-read period. **GENE** 14 ICPs sent with a negative average daily consumption are incorrect as it is not consumption and of the five sampled all were sent with an incorrect final read. Three of the six ICPs sampled with an incorrect average daily consumption read of zero sent. Two of the five ICPs sampled with a high average daily consumption figure were found to be incorrect and were sent with an incorrect final read. Two of ten ICPs checked with incorrect last read labelled as actual but should have been sent as estimates. One of ten ICPs checked where the last read date was the last billed date and the last read date was earlier. One of ten ICPs checked where an estimate was sent but the last read date is incorrectly recorded as the switch event date One of the ten ICPs where the incorrect final read was entered by a CSR. **GEOL** All three ICPs with a negative average daily consumption are incorrect as it is not consumption, and all were sent with an incorrect final read. One of the five ICPs sampled with an incorrect average daily consumption read of zero sent. One of the five ICPs with a high average daily consumption figure was found to be incorrect. Six of ten ICPs checked with incorrect last read labelled as actual but should have been sent as estimates. Two of ten ICPs checked where the last actual read date is recorded incorrectly. One of ten ICPs checked where the average daily consumption is incorrect.	Still existing

Subject	Section	Clause	Non-compliance	Status
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	**GENE** 48 late RR files The agreed switch reading was not applied for settlement for ICP 0000491003WE1BC (04/03/20), because the switch reading included 5 kWh of consumption during an inactive period which was excluded from the historic estimate calculations. **GEOL** One RR requested as an estimated read when the actual read for the correct event date was ignored. 26 late RR files.	Still existing
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	**GENH** 11 late AN files.	Still existing
Gaining trader to advise the registry manager - gaining trader switch	4.14	16 Schedule 11.3	**GENH** 21 late CS files.	Still existing
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**GENE** 141 late NW requests. **GEOL** One incorrectly rejected NW request 74 late NW requests. **GENH** 29 late NW request. Eight late AW response.	Still existing
Metering information	4.16	16 Schedule 11.3	**GENE** Seven incorrect last reads sent of those sampled. **GENE** Two incorrect last reads sent of those sampled.	Still existing
Switch saving protection	4.17	11.15AA to 11.15AC	**GENE** Two customers won back post the switch save protection code change	Cleared
Maintaining shared unmetered load	5.1	11.14	**GENE** Two ICPs with the incorrect shared daily unmetered kWh. Missing shared unmetered load for four ICPs.	Cleared

Subject	Section	Clause	Non-compliance	Status
			GEOL One ICPs with the incorrect shared daily unmetered kWh.	
Unmetered threshold	5.2	10.14 (2)(b)	**GENE** 11 ICPs with unmetered load over 6,000 kWh per annum.	Still existing
Unmetered threshold exceeded	5.3	10.14 (5)	**GENE** Unmetered load over 6,000 kWh per annum and not resolved within the allowable timeframes.	Still existing
Distributed unmetered load	5.4	11 Schedule 15.3, Clause 15.37B	**GENE** 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. Six database audits not completed.	Still existing
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**GENE** 23 ICPs were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. ICP 0000100101TR513 had wind generation with PV1 profile and was updated to EG1 for submission and on the registry during the audit. 41 meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code. **GEOL** ICP 1001152044CK79A had wind generation with PV1 profile and was updated to EG1 profile during the audit.	Still existing
Reporting of defective meters	6.4	10.43(2) and (3)	**GENE** The MEP was not advised of three bridged meters, and five of the 15 bridged meters checked were not unbridged.	Still existing
Derivation of meter readings	6.6	3(1), 3(2) and 5 Schedule 15.2	**GENE** At least one ICP with signs of tampering or damage, and one ICP with missing or broken seals, and two-meter digit discrepancies identified by Wells were not investigated.	Still existing

Subject	Section	Clause	Non-compliance	Status
			Customer readings provided by Wells during COVID-19 lockdown were recorded as actual readings. 1000517104PC993 had customer readings on 31/07/19 and 18/09/19 which were not validated against a set of readings from another source. **GEOL** At least one ICP with signs of tampering or damage, and one ICP with missing or broken seals, and one meter digit discrepancy identified by Wells were not investigated. Customer readings provided by Wells during COVID-19 lockdown were recorded as actual readings. 0000289010TE558 had a customer reading on 30/08/20 which was not validated against a set of readings from another source.	
NHH meter reading application	6.7	6 Schedule 15.2	**GENE and GENH** NHH meter readings not applied at 2400 on the day of the meter reading for NHH to HHR upgrades and downgrades where the meter is replaced.	Still existing
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**GENE** For at least ten ICPs unread during the period of supply, exceptional circumstances did not apply, and the best endeavours requirement was not met. **GEOL** For at least nine ICPs unread during the period of supply, exceptional circumstances did not apply, and the best endeavours requirement was not met.	Still existing
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**GENE** For at least 11 ICPs unread in the 12 months ended March 2020, exceptional circumstances did not apply, and the best endeavours requirement was not met. **GEOL** For at least four ICPs unread in the 12 months ended March 2020, exceptional circumstances did not apply, and the best endeavours requirement was not met.	Still existing
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	**GENE** For at least ten ICPs unread in the four months ended April 2019, exceptional circumstances did	Still existing

Subject	Section	Clause	Non-compliance	Status
			not apply, and the best endeavours requirement was not met. **GEOL** For at least five ICPs unread in the four months ended March 2020, exceptional circumstances did not apply, and the best endeavours requirement was not met.	
Identification of readings	9.1	3(3) Schedule 15.2	**GENE and GEOL** Because all meter removal reads are recorded as actual, estimated meter removal readings which capture consumption during stopped, faulty or bridged periods are incorrectly classified as actual readings. Some CS files had estimated readings classified as actual readings. Customer readings provided by Wells during COVID-19 lockdown were recorded as actual readings. 10,500 GENE and 1,800 GEOL readings were affected. **GENE** • 0000160951CK1EB had a manually entered actual AMI reading misclassified as a web reading. Both read types are treated as actual validated readings. • 1000517104PC993 had customer readings on 31/07/19 and 18/09/19 which were treated as actual validated readings but were not validated against a set of readings from another source. **GEOL** 0000289010TE558 had a customer reading on 30/08/20 which was not validated against a set of readings from another source.	Still existing
Meter data used to derive volume information	9.3	3(5) of schedule 15.2	AMI meter reading data is truncated for import into Gentrack and Derive.	Still existing
Calculation of ICP days	11.2	15.6	**GENE and GEOL** For instances where an ICP is supplied for one day with no consumption, Derive reports zero ICP days.	Cleared
Electricity supplied information provision to the reconciliation manager	11.3	15.7	**GENE** GENE submitted as billed consumption late due to a correction. Alleged breach 2004GENE2 was raised by the reconciliation manager.	Cleared
HHR aggregates information provision to the reconciliation manager	11.4	15.8	**GENE, GEOL** and **GENHG** HHR aggregates files do not contain electricity supplied information.	Cleared

Subject	Section	Clause	Non-compliance	Status
Creation of submission information	12.2	15.4	**GENE** There were delays in providing distributed generation submissions for ICPs 0000039785CP0FE, 1000585864PCBEE and 1000587982PCA9F. 23 GENE ICPs which are believed to be generating did not have compliant metering installed or notification of gifting provided. GENE ICP 0000100101TR513 had wind generation and was updated from PV1 to EG1 profile for submission during the audit. Some inactive consumption was missing from submissions because corrections had not been processed as soon as practicable. Some consumption during bridged periods was missing from submissions because corrections were not processed as soon as practicable. ICP 0000167710UN91D's meter change was processed effective from 10/06/20 instead of 16/06/20. GENE submitted NSP volumes 43 minutes late for April 2020, due to a data processing error. Alleged breach 2005GENE2 was raised by the reconciliation manager. GENE submitted as billed consumption late due to a correction. Alleged breach 2004GENE2 was raised by the reconciliation manager. **GEOL** ICP 1001152044CK79A had wind generation and was updated to EG1 profile during the audit. Some inactive consumption was missing from submissions because corrections had not been processed as soon as practicable. **GENH** ICPs 0000000516NTE49, 0000000544NT6C4 and 0000370001TU645 did not have unmetered load reported.	Still existing
Accuracy of submission information	12.7	15.12	**GENE, GEOL** and **GENH** Some submission data was inaccurate and was not corrected at the next available opportunity.	Still existing
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	**GENE** and **GEOL** Some estimates were not replaced with permanent estimates by revision 14.	Still existing
Reconciliation participants to prepare information	12.9	2 Schedule 15.3	**GENE** ICP 0001130018PSF65 has meter category 3 and a NHH submission type and profile.	Cleared

Subject	Section	Clause	Non-compliance	Status
			GENH ICPs 0000000516NTE49, 0000000544NT6C4, and 0000370001TU645 were not included in submission information because no instruction had been received from the commercial team, resulting in under submission of 1,547 kWh up to 31/07/20. ICP 0000275289HB0B4 (1.5 kWh per day UML) was included in GENE's NHH submissions instead of being submitted with the GENH participant code.	
Forward estimate process	12.12	6 Schedule 15.3	**GENE** and **GEOL** The accuracy threshold was not met for some months and revisions, because forward estimate was too high or too low.	Still existing
Reporting resolution	13.2	9 schedule 15.3	**GENE** and **GEOL** HHR aggregates submissions are produced with three decimal places.	Cleared
Historical estimate reporting to RM	13.3	10 Schedule 15.3	**GENE** and **GEOL** Historic estimate thresholds were not met for some revisions.	Identified

Table of Recommendations

Subject	Section	Clause	Recommendations	Status
Relevant Information	2.1	Use the audit compliance report for: • validation of distributor's unmetered load details against GENE/GEOL unmetered load details, • validation of initial electrical connection date, first meter certification date and first active date.	Relevant Information	Repeated

Subject	Section	Clause	Recommendations	Status
Certification of metering upon reconnection	2.11	Review the reconnection process to ensure that uncertified meters are certified or replaced when reconnected.	Certification of metering upon reconnection	Not adopted
Monitoring of new and ready ICPs	3.10	Run a monthly list from the registry of all ICPs where GENE or GEOL are the proposed trader to ensure Gentrack records align.	Monitoring of new and ready ICPs	Repeated
Installation of compliant metering for generating ICPs	6.1	For any ICP where generation is present, either: 1. ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or 2. advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be provided to the reconciliation manager.	Installation of compliant metering for generating ICPs	Repeated

Subject	Section	Clause	Recommendations	Status
Confirm whether GENH ICPs are generating	6.1	Confirm whether the following ICPs are generating: • 1002046050UN986 (B installation type since 02/11/18) • 0000103361TR204 (switched in with B installation type 01/10/19) • 0006679030RNFE2 (switched in with B installation type 01/01/20), and • 0303925043LC693 (switched in with B installation type 01/02/20). If they are generating arrange for compliant metering to be installed or notification of gifting to be provided to the reconciliation manager.	Confirm whether GENH ICPs are generating	Repeated
Review of Wells meter condition information	6.6	Ensure that memos are created for all meter condition issues provided by Wells. Develop processes to review and take action on these meter condition issues, which could affect meter accuracy.	Review of Wells meter condition information	Repeated
Validation of customer, web and photo readings	6.6	Update processes to ensure that customer, web, and photo readings must be validated against at least two actual validated readings from another source.	Validation of customer, web and photo readings	Repeated

Subject	Section	Clause	Recommendations	Status
AMI read attainment	6.8	Investigate how the efficiency of the AMS job approval process can be improved. Regularly work through the unread AMI meters on the query, raise fault jobs as required and move the ICPs to manually read sequences until the issues are confirmed to be resolved. Investigate whether addition of extra report fields could make this process more efficient. Identify WASN AMI meters which have incorrectly been assigned to AMI sequences, and move them to manual reading routes.	AMI read attainment	In progress
Account managed ICP read attainment	6.8	Develop clear processes for read attainment for account managed customers to ensure that the read attainment requirements are met.	Account managed ICP read attainment	Repeated

Subject	Section	Clause	Recommendations	Status
Identification of generating ICPs	9.5	Ensure that the Billing team is aware that sudden low or negative consumption could be caused by home generation without an EG register installed. These exceptions could be checked against the high-risk database, customer account notes, or google satellite information to determine whether it is likely that solar is installed. Any ICPs which appear likely to have home generation should be passed to the home generation team, so that compliant metering can be installed where necessary.	Identification of generating ICPs	Repeated
Zero consumption validation	9.5	Review the zero-consumption validation process to help to identify stopped, faulty, and bridged meters more promptly, so that corrective action can be taken.	Zero consumption validation	Repeated
Inactive ICPs with consumption	9.5	Review the inactive consumption validation process to help to inactive consumption more promptly, so that corrective action can be taken.	Inactive ICPs with consumption	Not adopted

Subject	Section	Clause	Recommendations	Status
Unmetered load process for GENH	12.2	**GENH** Strengthen the process to ensure that GENH ICPs with unmetered load are identified on switch in and/or connection, so that unmetered load is captured and submitted.	Unmetered load process for GENH	Cleared
Reconciled elsewhere ICPs for GENH	12.2	**GENH** Check ICPs 1001158205LC354 and 1001158207LC3D1 to confirm where the load is reconciled and that they are treated correctly.	Reconciled elsewhere ICPs for GENH	Cleared

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 processes to find and correct incorrect information was examined. The registry validation processes were examined in detail in relation to the achievement of this requirement.

The registry list and AC020 reports were examined to identify any registry discrepancies, and to confirm that all information was correct and not misleading.

Audit commentary

Registry and static data accuracy

Gentrack updates to the registry on a daily basis. There is a dedicated team to manage registry discrepancies. Registry rejection notifications are managed on a daily basis. Some of these are managed by the registry discrepancy team and some are issued to the work area for action. Registry discrepancy reports are run on a weekly basis to check for any discrepancies that are not captured through the registry notification process for all three codes (GENE and GEOL are run as one report and GENH is run separately).

The analysis of the list file and AC020 report returned the following findings for each code:

GENE

Issue	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
ICPs at status (1,11) "De-energised at meter box" in the registry	11	7	6	10	8	0	See **section 3.9**.
Status of (1,12) "New connection in progress" with an initial electrical connection date populated	310	1,836	138	44	44	62	See **sections 3.5** and **3.8**.
Active with Blank ANZSIC codes	-	-	1	-	-	-	None found in this audit.

Issue	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Active with ANZSIC T994/994000 "Don't know"	1	-	1	4	3	768	See **section 3.6**.
Active with ANZSIC "T999" not stated	-	-	-	-	-	-	None found in this audit.
Meter category 9 or blank and active with MEP and UML "N"	91	42	67	15	23	22	See **section 3.4**.
Active ICP with no MEP		-	49	-	32	1	None found in this audit.
ICPs with Distributor unmetered load populated but retail unmetered load is blank	3	12	13	2	17	14	See **section 3.7**.
Standard unmetered load different to distributor field	157	76	42	10	10	27	See **section 3.7**.
ICPs with unmetered load flag Y but load is recorded as zero	39	43	-	-	-	67	38 were confirmed to be DUML ICPs. See **section 3.7**.
Shared unmetered load ICPs with no UML	-	4	4	-	-	1	See **section 5.1**.
Shared unmetered load ICPs with incorrect load	-	4	-	-	5	5	See **section 5.1**.
Unmetered load differences between the registry and Derive	-	-	-	-	-	1,226	None found in this audit.
Incorrect EG1 profiles	0	0	2	2,882	-	-	None found in this audit.

Issue	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Incorrect RPS profiles	14	97	372	-	-	-	14 ICPs had RPS profile recorded on the registry, when RPS PV1 was applied for submission. The profiles were corrected though the profile validation process as part of the BAU processes. See **section 6.1**.
Incorrect PV1 profiles	0	1	10	-	-	-	None found in this audit.

GEOL

Issue	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Status of (1,12) "New connection in progress" with an initial electrical connection date populated	-	91	16	5	8	2	None found in this audit.
ICPs at status (1,11) "De-energised at meter box" in the Registry	11	4	-	1	-	0	See **section 3.9**.
Blank ANZSIC codes	-	-	-	-	-	30	None found in this audit.
ANZSIC T994/994000 "Don't know"	-	-	1	10	16	49	None found in this audit.
Active with ANZSIC "T999" not stated	-	-	-	-	-	-	None found in this audit.
Meter category 9 or blank and active with MEP and UML "N"	7	3	4	-	-	-	See **section 3.4**.
Active ICP with no MEP	-	-	1	-	-	-	None found in this audit.
Standard unmetered load different to distributor field	1	-	6	-	-	-	See **section 3.7**.
ICPs with incorrect unmetered load	-	-	-	-	-	3	None found in this audit.

Issue	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
ICPs with Distributor unmetered load populated but retail unmetered load is blank and unmetered flag = N	1	-	1	9	-	6	See **section 3.7**.
ICPs with incorrect shared unmetered load	-	1	-	4	-	1	None found in this audit.
Incorrect EG1 profiles	0	0	50	69	-	-	None found in this audit.
Incorrect RPS profiles	1	9	-	-	-	-	One ICP had the RPS profile recorded on the registry, when RPS PV1 was applied for submission. The profiles were corrected though the profile validation process as part of the BAU processes. See **section 6.1**.
Incorrect PV1 profiles	0	1	-	-	-	-	None found in this audit.

GENH

Issue	2021 Qty	2020 Qty	2019 Qty	2018 Qty	Comments
ICPs at status (1,11) "De-energised at meter box" in the registry	-	-	-	-	None found this audit.
Status of (1,12) "New connection in progress" with an initial electrical connection date populated	10	11	1	-	See **sections 3.5** and **3.8**.
Active with Blank ANZSIC codes	-	-	-	-	None found this audit.
Active with ANZSIC T994/994000 "Don't know"	20	1	4	-	See **section 3.6**.
Active with ANZSIC "T999" not stated	3	-	-	-	See **section 3.6**.

Issue	2021 Qty	2020 Qty	2019 Qty	2018 Qty	Comments
Meter category 9 or blank and active with MEP and UML "N"	7	8	4	-	See **section 3.4**.
Active ICP with no MEP	-	-	-	-	None found in this audit.
ICPs with Distributor unmetered load populated but retail unmetered load is blank	1	1	1	-	See **section 3.7**.
Standard unmetered load different to distributor field	-	-	-	-	None found in this audit.
ICPs with unmetered load flag Y but load is recorded as zero	-	-	-	-	None found in this audit.
Shared unmetered load ICPs with no UML		-	-	-	No shared unmetered load is supplied.
Shared unmetered load ICPs with an unmetered load = zero		-	-	-	No shared unmetered load is supplied.
Shared unmetered load ICPs with incorrect load	-	-	-	-	No shared unmetered load is supplied.
Generating ICPs without import/export metering or arrangements for gifting in place	TBC	-	2	2	See **section 6.1**. No ICPs were confirmed to be generating without import/export metering or arrangements for gifting in place.

The validation processes managed by the reconciliation team are driven around the submission time frames so this will result in late updates as these are worked prior to day 4 and day 13 submissions. It also appears that whilst discrepancies are identified, these are sometimes slow to be corrected due to resourcing issues in the different areas. The last audit identified two additional validations be added.

- the validation query for variations between the Distributor and trader unmetered load fields is still being developed; this has resulted in some incorrect standard unmetered loads and some ICPs with missing or incorrectly populated shared unmetered load, and
- there is no validation in place to compare the initial electrical connection date and first meter certification date; this will improve the accuracy of the first active date.

The audit compliance reports contain reporting for both of these validations. I recommend that this is used.

Validation of distributed generation discrepancies checks the profile against the metering configuration but does not check the Distributors' installation type. I commend validation against the distributor's installation type and the "reverse power" event from MEPs to assist with getting distributed generation set up in an accurate and timely manner.

Description	Recommendation	Audited party comment	Remedial action
Regarding Clause 15.2 Validations	Use the audit compliance report for: • validation of distributor's unmetered load details against GENE/GEOL unmetered load details, and • validation of initial electrical connection date, first meter certification date and first active date. Compare the profile against the Distributors' installation type and check the reverse power event to ensure DG is set up correctly.	Genesis will investigate the processes around distributed generation and consider the recommendations to negate the compliance risk	Investigating

Other issues recorded are as follows:

- some incorrect statuses recorded,
- some incorrect ANZSIC codes, and
- some late status updates and trader updates.

Read and volume data accuracy

Read and volume accuracy issues are identified in the validation processes described in detail in **sections 9.5** and **9.6**. I checked a sample of NHH corrections as described in the table below:

Defective meters	Defective meters are typically identified from information provided by the meter reader, agent, the MEP, or the customer. The zero consumption is not being reviewed at the present time due to resource issues. This will result in stopped or faulty meters not being identified. 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 eight examples of stopped or faulty meters for GENE and ten for GEOL and found corrections had been processed by recording an estimated closing read on the replaced meter, which was calculated using the daily average consumption for the new meter or the replaced meter prior to the fault for 17 ICPs. These corrections were traced through to Derive and were correctly recorded in the submission information. ICP 0000015153HB6E4 was gained from GEOL to GENE. It had a blank screen so was estimated from 8 June 2020 to 1 December 2020. The gain read was higher than the removal read but rather than issue an RR to correct this the volume was estimated to the removal date resulting in over submission of 22,434 kWh. This is recorded as non-compliance. Because all meter removal reads are recorded as actual, these estimated removal reads were incorrectly classified. This is recorded as non-compliance in **section 9.1**.

Incorrect multipliers	If an ICP with an incorrect multiplier is unbilled the multiplier will be replaced. If the ICP has one or two invoices, the invoice(s) will be reversed, the multiplier will be corrected, and then the ICP will be reinvoiced. The corrected data will flow from Gentrack to Derive overnight. If the ICP has more than two invoices, it is corrected by reloading the metering with the correct multiplier and transferring the reads to the reloaded meter. The corrected details flow from Gentrack to Derive overnight. I reviewed seven multiplier corrections for GENE and confirmed that the corrected data flowed through to revision submissions. None were identified for GEOL.
Bridged meters	Bridged meters are typically identified through the validation process, reconnection paperwork returned from the contractor, or stopped meter cases. Zero consumption is not being reviewed at the present time due to resource issues. This will result in bridged meters not being identified. The last audit discussed the internal audit of the bridged meter processes. This identified that process improvements were required to prevent bridging, promptly unbridge where bridging has occurred, and ensure that bridged consumption is consistently identified and corrected where it does occur. As only some of that audit's recommendations have been implemented there are still bridged meters that are not being unbridged, so a correction is not processed in all instances, or in a timely manner. **GENE** GENE provided a list of 61 bridged meters. 30 are still to be unbridged. 16 of those have been bridged since before December 2020. 31 have been unbridged. Corrections were accurately processed for 12 of these. No correction was processed for 19 of these. This was due to staff not calculating the consumption for the bridged period. This is a manual process and is reliant on staff to calculate for each instance. Genesis is aware of this, and further training is being provided to staff. This is recorded as non-compliance below and in **sections 2.17** and **6.4**. I rechecked the corrections for ICPs 0000124164UN239 and 0000167710UN91D which were outstanding following the 2020 audit and found they have not been processed. I rechecked the five bridged meters reported in the 2020 audit and found: • two ICPs (0005765757RNE1C and 0131447424LC9D2) switched away before the meters could be unbridged so no correction has been processed, • field jobs have been raised for two ICPs (0000119904UN6C8 and 0000540643WEC82), and • no progress has been made for ICP 0049202053PCA93. **GEOL** I reviewed a sample of four bridged meters, which were all later unbridged. Corrections were accurately processed for all of these.

Consumption while inactive	**ICPs with inactive consumption** Review of historic estimate examples found that where part of a read-to-read period was inactive, the SASV inactive days were excluded from both the numerator and denominator when calculating the historic estimate, forcing all consumption to be reported within the active portion of the read-to-read period. Where an entire read-to-read period has inactive status, the numerator and denominator will be zero and no historic estimate will be reported. The status must be returned to active to allow consumption during inactive periods to be correctly reported. **GENE** GENE provided a report with 290 ICPs with inactive consumption, totalling 280,453 kWh. I reviewed the 20 ICPs with the most disconnected consumption, and found: • ten where corrections have not been processed resulting in 109,604 kWh of inactive consumption that has not been submitted. ICP 0000036153UN7C6 switched away using the disconnection reads rather than the final read resulting in 4,819 kWh being pushed to the gaining trader and submitted for the wrong period. The remaining nine ICPs have had their status corrected as a result of the audit so submission is expected to be corrected through the revision process, • eight were confirmed not to be consuming as the reads were either from the wrong meter or were misreads, and • two had corrections processed. I rechecked the 2020 audit findings which reported 19 ICPs with a total inactive consumption of 163,319 kWh that had not been corrected and found all but three (ICPs 0000126138WE62E, 0000037854WEEE4 and 0000147481TRAA9) of these have been corrected. The 3,780 kWh associated with ICP 0000126138WE62E is now outside of the revision period. ICPs 0000037854WEEE4 and 0000147481TRAA9 switched out on the disconnection reads rather than the final reads. This has resulted in 4,757 kWh being pushed to the gaining trader and subsequently submitted for the incorrect period. A correction was processed for ICP 0000491003WE1BC. **GEOL** GEOL provided a report with 35 ICPs with inactive consumption, totalling 32,609 kWh. I reviewed the ten ICPs with the most disconnected consumption and found six had corrections processed. The other four ICPs had total inactive consumption of 19,938 kWh. The status has been corrected as a result of this audit and will be corrected via the revision process. I rechecked the 2020 audit findings which reported that the eight ICPs that had a total inactive consumption of 32,476 kWh that had not been corrected and found that seven have since been corrected as a result of the audit. Some of the volume for two ICPs is outside of the 14-month revision cycle so won't be submitted. ICP 0000918556TUA73 switched out on the disconnected read. An RR was sent to Genesis to correct this but was incorrectly rejected by Genesis. This resulted in 20,820 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader. This is recorded as non-compliance in **section 4.11**.
Unmetered load corrections	Gentrack records the unmetered load as a fixture, and dummy meter readings are created and loaded into Derive for submission. I reviewed two unmetered load corrections for GENE and two for GEOL and found they had been processed correctly in Derive.

The following read and volume issues were identified during the audit for GENE which were not resolved as soon as practicable:

Issue	Description	Section
NHH bridged meter corrections	No corrections processed for 19 of the 31 unbridged meter ICPs. 30 known bridged meters are still to be unbridged. 16 of these have been bridged since before December 2020. The corrections below identified in the 2020 audit were rechecked and found: • no bridged meter correction has been processed for ICP 0000124164UN239 which was bridged from January to June 2020; consumption on the new meter is approximately 0.5 kWh per day, • ICP 0000167710UN91D's meter change was processed effective from 10 June 2020 instead of 16 June 2020 and has not been corrected, and • of the five bridged meters reported: o two ICPs (0005765757RNE1C and 0131447424LC9D2) switched away before the meters could be unbridged so no correction has been processed, and o field jobs have been raised for two ICPs (0000119904UN6C8 and 0000540643WEC82). No progress has been made for ICP 0049202053PCA93.	2.1
NHH inactive consumption corrections	Ten of the 20 ICPs checked with a total inactive consumption of 109,604 kWh had not had status corrections processed until the audit samples were provided, at which time they were corrected. Of the 19 ICPs with inactive consumption recorded in the 2020 audit, three ICPs (0000126138WE62E, 0000037854WEEE4 and 0000147481TRAA9) have not had corrections processed resulting in 8,537 kWh (3,780 + 2,932+1,825) not being submitted by Genesis.	2.1
Reporting of distributed generation volumes	Two ICPs with distributed generation did not have compliant metering installed whilst with Genesis. They have since switched away and the new trader has installed an import export meter. The Distributor indicated distributed generation was installed in mid-April 2021. These switched to other traders in mid to late May 2021. Of the 23 ICPs identified in the 2020 audit as potentially generating this audit found five ICPs (0007101788RN44D, 0000158386UN338, 0000321872WE3A, 0005617142WE037 and 0000047031TR076) still do not have compliant metering installed or notification of gifting provided.	6.1, 12.2, 12.7
Validation of customer readings	As reported in the 2020 audit, ICP 1000517104PC993 had customer readings on 31 July 2019 and 18 September 2019 which were treated as actual validated readings but were not validated against a set of readings from another source. This has not been corrected and is now outside the revision period.	6.6

The following read and volume issues were identified during the audit for GEOL which were not resolved as soon as practicable:

Issue	Description	Section
NHH inactive consumption corrections	Four of the ten ICPs checked with a total inactive consumption of 19,938 kWh had not had status corrections processed until the audit samples were provided, at which time they were corrected. Of the nine ICPs with inactive consumption recorded in the 2020 audit, corrections have been processed for eight of them, but I noted that some of the volume is outside of the 14-month revisions cycle so won't be submitted. ICP 0000918556TUA73 switched out on the disconnected read. An RR was sent to Genesis to correct this but was incorrectly rejected by Genesis. This resulted in 20,820 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader.	2.1
Validation of customer readings	As reported in the 2020 audit, ICP 0000289010TE558 had a customer reading on 30 August 2020 which was treated as an actual validated reading but was not validated against a set of readings from another source.	6.6

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 15.2 From: 01-Jul-20 To: 30-Jun-21	Some inaccurate data is recorded and was not updated as soon as practicable. Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as moderate overall but there is room for improvement identified. Some of these issues have been present for at least the last two audits and these need to be addressed before the controls could be rated as strong overall. The audit risk rating is medium due to the incorrect data being submitted to the market and sent to other traders as part of the switching process.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have processes in place around vacant consumption but due to resource issues this has not been actively worked. Genesis will also review the current bridged meter process and look for way to improve the current controls. Genesis have recently been through a structural change to support the Genesis strategic ways of working and have recently recruited 4 new Subject Matter Experts roles and 6 additional CSR's to support the current controls that are in place	1/10/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Additional resource will be utilised to support the current control reports to assist with the mitigation of Genesis' exposure to compliance risk	1/10/2021	

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

I checked the process and audit trail of NHH and HHR meter reading data, AMI data, and generation data.

- AMS provides NHH AMI data and HHR data as an agent through the data store (DRDS) and directly into the Market Submission Database (MSD),
- Wells provides NHH data as an agent via SFTP, and
- generation data is collected using Stark.

Theta monitors HHR data and readings entered into GDW, daily reads at register level are entered into DRDS and makes sure that files are loaded and pass validation. Any issues are referred to AMS and the Genesis reconciliation team.

AMS acts as an agent for data transmission for GENH, and compliance was assessed as part of their agent audit.

Audit commentary

GENE and GEOL

AMI and HHR data is loaded into GDW and MSD by AMS, which stores daily readings and interval data. Gentrack receives data from GDW according to an automated schedule. Readings are transferred from Gentrack to Derive for NHH settled ICPs overnight. To confirm the process:

- I traced volumes for two HHR settled ICPs from AMS to MSD and the HHR aggregates submissions, and
- I traced readings for two NHH settled ICPs to Gentrack and Derive.

Wells readings are loaded directly into Gentrack, and then transferred from Gentrack to Derive overnight. To confirm the process, I traced readings for 16 manually read ICPs from the read files provided by Wells to Gentrack and Derive. This included three special reads each for GENE and GEOL. All readings matched.

GENE ICPs 0696299004PC30D and 0696299005PCF48 relate to the Haunui wind farm. The Genesis generation team read the meter and provide the data in a spreadsheet which is formatted into a HHR volumes submission using SQL scripts. I walked through the process and traced a sample of data from the source files to submission.

GENH

The AMS report confirms compliance.

Generation

Data is securely collected by Stark at midnight each day. A check of raw data for two stations against submission information confirmed accuracy.

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

GENE and GEOL

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

GENH

The AMS report confirms compliance.

Generation

Stark contains a compliant audit trail, and all users have individual logins. Email trails are also retained for any estimates or corrections.

Audit outcome

Compliant

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 the current terms and conditions.

Audit commentary

GENE and GEOL's terms and conditions include consent to access for authorised parties for the duration of the contract.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

The trader must use its best endeavours to provide access:

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

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

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

Audit observation

I reviewed the current terms and conditions and discussed compliance with these clauses.

Audit commentary

GENE and GEOL's terms and conditions include consent to access for authorised parties for the duration of the contract. Genesis confirmed that they have been able to arrange access for other parties when requested.

Audit outcome

Compliant

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

Code reference

Clause 10.35(1)&(2)

Code related audit information

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

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

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

Audit observation

A discussion was held regarding knowledge of any ICPs with loss compensation present. The presence of loss compensation factors was checked.

Audit commentary

Genesis 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 the current terms and conditions.

Audit commentary

GENE and GEOL'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 processes were examined in detail to evaluate the strength of controls, and the registry list and audit compliance reports were examined to confirm process compliance. Late updates to active for new connections are discussed in **section 3.5**.

Audit commentary

GENE and GEOL have blanket acceptance agreements in place with some networks. For those that require an acceptance of trader nomination, Genesis sends an acceptance. All ICPs at "ready" in the registry where GENE or GEOL are the nominated trader are automatically claimed using an interface tool (MULE). This raises a case for a new connection process in Salesforce, and the customer is contacted to confirm the new connection.

GENE

The process in Salesforce is automated so once the customer is confirmed and all the required details have been completed, Salesforce issues a service request. At the same time as the ICP claim and the MEP nomination are expected to be sent to the registry. This is not happening in all instances and there is no reporting in place to identify when this fails. In those cases, this can cause delays in updating the registry to push through the MEP nomination and complete the new connection. Once the service request is returned and providing all the details are complete, Salesforce automatically closes the service request and this updates to Gentrack which then writes to the registry. If the service order is unable to be autocompleted an exception is sent to a work queue. These are then reviewed and actioned by the new connection team through to completion.

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report as of 10 May 2021 identified 91 ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- 31 had MEP nominations accepted and were awaiting population of metering data,
- 49 had MEP nominations issued and were awaiting an MEP response,
- seven had meter details updated after the report was run,
- one had an MEP nomination rejected, which was accepted when it was re-sent, and
- three are decommissioned or in the process of being decommissioned.

The 2020 audit found that ICP 0005914019AL770, had an Alpine meter installed in Gentrack, but Alpine had rejected the MEP nomination. SMCO accepted an MEP nomination on 1 December 2020 and the registry is now updated correctly.

GEOL

There has been no change to the new connection process during the audit period. GEOL do not use Salesforce. New connections are managed via email inboxes. Some reporting has been put in place to assist with management of this workflow.

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report identified seven ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- three had MEP nominations accepted and were awaiting population of metering data,
- three had MEP nominations issued and were awaiting an MEP response, and
- one had its status updated to decommissioned after the report was run.

GENH

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report identified seven ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- three had MEP nominations accepted and were awaiting population of metering data,
- one had MEP nominations issued and were awaiting an MEP response,
- one is under investigation and may be decommissioned, and
- two now have metering in the registry.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

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

- *for a point of connection to the grid – the grid owner has approved the connection*
- *for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection.*
- *for a point of connection that is an ICP, but is not as NSP:*
- *the reconciliation participant is recorded in the registry as the trader responsible for the ICP*
- *if the ICP has metered load, 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 process was examined in detail.

Audit commentary

GENE

GENE usually claims ICPs at 1,12 ("inactive new connection in progress") status which helps to ensure that the trader is recorded on the registry if an ICP is temporarily electrically connected.

Temporary electrical connections occur rarely. No examples were identified.

GEOL

GEOL usually claims ICPs at 1,12 ("inactive new connection in progress") status which helps to ensure that the trader is recorded on the registry if an ICP is temporarily electrically connected.

Temporary electrical connections occur rarely. No examples were identified.

GENH

GENH usually claims ICPs at 1,12 ("inactive new connection in progress") status which helps to ensure that the trader is recorded on the registry if an ICP is temporarily electrically connected.

Temporary electrical connections occur rarely. No examples were identified.

Audit outcome

Compliant

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

Code reference

Clause 10.33A(1)

Code related audit information

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

- *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 trader is recorded in the registry as the trader responsible for the ICP or has an arrangement with the customer and initiates a switch within 2 business days of electrical connection*
    - *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 electrical connection.*

Audit observation

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

The AC020 reports were examined to confirm process compliance and that controls are functioning as expected.

Audit commentary

Active ICPs without metering

The registry list was reviewed to identify all active ICPs with a metering category of 9 or blank for each code. Each ICP was checked.

GENE

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report as of 10 May 2021 identified 91 ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- 31 had MEP nominations accepted and were awaiting population of metering data,
- 49 had MEP nominations issued and were awaiting an MEP response,
- seven had meter details updated after the report was run,
- one had an MEP nomination rejected, which was accepted when it was re-sent, and
- three are decommissioned or in the process of being decommissioned.

The 2020 audit found that ICP 0005914019AL770, had an Alpine meter installed in Gentrack, but Alpine had rejected the MEP nomination. SMCO accepted an MEP nomination on 1 December 2020 and the registry is now updated correctly.

GEOL

There has been no change to the new connection process during the audit period. GEOL do not use Salesforce. New connections are managed via email inboxes. Some reporting has been put in place to assist with management of this workflow.

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report identified seven ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- three had MEP nominations accepted and were awaiting population of metering data,
- three had MEP nominations issued and were awaiting an MEP response, and
- one had its status updated to decommissioned after the report was run.

GENH

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report identified seven ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- three had MEP nominations accepted and were awaiting population of metering data,
- one had MEP nominations issued and were awaiting an MEP response,
- one is under investigation and may be decommissioned, and
- two now have metering in the registry.

New Connections

The new connection process is detailed in **section 2.9**.

GENE

The AC020 report recorded 405 metered ICPs which did not have full certification within five business days of initial electrical connection. All were examined and found:

- 375 ICPs were unmetered including unmetered builder's temporary supplies so are compliant,
- 25 ICPs have not had metering details recorded on the registry, and
- four had late certification recorded on the registry; the ICPs are 1002093167LCBD5, 1002095273LC6B1, 1002093466UN881 and 0000164552CK7A7.

I checked a sample of 10 ICPs without metering details loaded and found that seven of the 10 ICPs without metering in the registry have now been updated and were certified on time.

GEOL

The AC020 report recorded four metered ICPs which did not have full certification within five business days of initial electrical connection. They were examined and found that certified metering is recorded in Gentrack, but the MEP has yet to load the metering to the registry.

GENH

The AC020 report recorded seven metered ICPs which did not have full certification within five business days of initial electrical connection. All were examined and found that ICPs 0000048764HB384, 1000588995PC498, 0000015515TC9B2 were certified late.

Reconnections

GENE

The AC020 report recorded 243 ICPs did not have full certification within five business days of reconnection. Seven of the ICPs were unmetered including unmetered builder's temporary supplies so are compliant.

Genesis have put reporting in place to identify ICPs that are reconnected with expired metering and there is now a process in place to get these recertified.

The 232 ICPs reconnected with no certified metering are recorded as non-compliance.

GEOL

The AC020 report recorded 50 metered ICPs did not have full certification within five business days of reconnection.

The 50 ICPs reconnected with no certified metering are recorded as non-compliance.

GENH

The AC020 report did not record any metered ICPs which did not have full certification within five business days of reconnection.

Bridged meters

GENE

GENE provided a list of 61 bridged meters; 31 were later unbridged. I checked a sample of 21 bridged meters and found 19 had been unbridged and 18 were appropriately certified on unbridging. ICP 1000023102BP693 has been unbridged but not recertified. This is recorded as non-compliance below.

GEOL

GENE provided a list of four bridged meters which were later unbridged. All meters were appropriately certified on unbridging.

GENH

No bridged meters were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: Clause 10.32 From: 01-Sep-20 To: 05-May-21	**GENE** Four new connections were not certified within five business days. 232 reconnections were not certified within five business days. ICP 1000023102BP693 has not been recertified when it was unbridged. **GEOL** 50 reconnections were not certified within five business days. **GENH** Three new connections were not certified within five business days. Potential impact: Medium Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as they will ensure compliance most of the time but the process to ensure certified metering is in place at the point of reconnection needs some improvement. Uncertified metering installations may be less accurate than certified metering installations, so there could be a minor impact on settlement. The audit risk rating is recorded as low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have established a report that is provided to MEP's of any meters that were uncertified at the point of reconnection. Genesis would expect the MEPs to maintain their controls around the meter recertification. We will investigate further improvements to this process to negate the risk of new ICPs gained that are not certified being reported to the MEP	01/03/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will increase visibility and look to introduce reporting 3 months in advance to notify the MEP of any meter equipment nearing certification expiry.	01/03/2022	

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 Gentrack were checked.

Audit commentary

Before Genesis begins trading on a new network, the commercial team enters into a UoSA and then advises the reconciliation team to create the new network in Gentrack. The schema of valid networks in Gentrack is used to check that a valid trading notification is in place.

GENE, GEOL, and GENH did not begin using 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 examined and controls within Gentrack were checked.

Audit commentary

MEPs must be recorded in Gentrack before ICPs can be assigned to them.

Genesis has an arrangement in place with all MEPs that manage metering in relation to their customer base. The new connection process also contains a step that requires nomination of an MEP. MEP nomination rejections are monitored to ensure correction occurs if the incorrect MEP is nominated.

GENE, GEOL, and GENH did not begin using any MEPs during the audit period.

Audit outcome

Compliant

2.14. Connecting ICPs then withdrawing switch (Clause 10.33A(5))

Code reference

Clause 10.33B

Code related audit information

If a trader connects an ICP it is in the process of switching and the switch does not proceed or is withdrawn the trader must:

- *restore the disconnection, including removing any bypass and disconnecting using the same method the losing trader used*
- *reimburse the losing trader for any direct costs incurred*

Audit observation

The process for reconnecting ICPs in the process of switching in was examined.

I matched reconnections to withdrawal acknowledgements, to identify ICPs which had been reconnected and undergone a withdrawal. A sample were checked to determine compliance.

Audit commentary

If an ICP was reconnected as part of the switching process and the switch was later withdrawn, Genesis would restore the disconnection and reimburse the losing trader for any direct costs incurred if requested.

GENE

I checked 99 reconnections which occurred on or after the withdrawal event date and found that in all cases the status was not updated until after the switch and withdrawal process was complete, and GENE was the trader for the reconnection date.

GEOL

I checked 39 reconnections which occurred on or after the withdrawal event date and found that in all cases the status was not updated until after the switch and withdrawal process was complete, and GENE was the trader for the reconnection date.

GENH

No reconnections were completed by GENH.

Audit outcome

Compliant

2.15. Electrical disconnection of ICPs (Clause 10.33B)

Code reference

Clause 10.33B

Code related audit information

Unless the trader is recorded in the registry or is meeting its obligation under 10.33A(5) it must not disconnect or electrically disconnect the ICP or authorise the metering equipment provider to disconnect or electrically disconnect the ICP.

Audit observation

The disconnection process was examined.

Traders are only able to update ICP status for event dates where they are responsible for the ICP on the registry. The event detail reports were reviewed to identify all ICPs which were disconnected during the audit period where an NT was received from another trader during the audit period. I checked a sample of these ICPs where the disconnection event date was after the NT receipt date and/or NT event date to determine compliance.

Audit commentary

Genesis can only issue a disconnection service order if the ICP is recorded in Gentrack.

GENE

I checked 153 disconnections where an NT was received from another trader. For 150 the disconnection event date was prior to the NT being received from the other trader, and for the other three the disconnection occurred after switch completion. In all cases GENE was the trader on the disconnection date.

GEOL

I checked 28 disconnections where an NT was received from another trader. For 26 the disconnection event date was prior to the NT being received from the other trader, and for the other two the disconnection occurred after switch completion. In all cases GEOL was the trader on the disconnection date.

GENH

I checked all seven disconnections where an NT was received from another trader and found the disconnection event date was prior to the NT being received from the other trader. GENH was the trader on the disconnection date.

Audit outcome

Compliant

2.16. Removal or breakage of seals (Clause 48(1C), 48 (1D), 48 (1E), 48 (1F) of Schedule 10.7)

Code reference

Clause 48(1C), 48 (1D), 48 (1E), 48 (1F) of Schedule 10.7

Code related audit information

A trader can remove or break a seal without authorisation from the MEP to:

- *reset a load control switch, bridge or unbridge a load control switch – if the load control switch does not control a tome block meter channel*
- *electrically connect load or generation, of the load or generation has been disconnected at the meter*
- *electrically disconnect load or generation, if the trader has exhausted all other appropriate methods of electrical disconnection*
- *bridge the meter*

A trader that removes or breaks a seal in this way must:

- *ensure personal are qualified to remove the seal and perform the permitted work and they replace the seal in accordance with the Code*
- *replace the seal with its own seal*
- *have a process for tracing the new seal to the personnel,*
- *update the registry (if the profile code has changed)*
- *notify the metering equipment provider*

Audit observation

Policies and processes for removal and breakage of seals were reviewed.

A sample of disconnections, reconnections, additions of export metering, and bridged meters were checked for compliance.

Audit commentary

Genesis has not changed their processes or practices. They have not started doing any of the work described above and they still rely on the MEPs and ATHs to conduct these activities.

Audit outcome

Compliant

2.17. Meter bridging (Clause 10.33C and 2A of Schedule 15.2

Code reference

Clause 10.33C and 2A of Schedule 15.2

Code related audit information

A trader, or a distributor or MEP which has been authorised by the trader, may only electrically connect an ICP in a way that bypasses a meter that is in place ("bridging") if, despite best endeavours:

- *the MEP is unable to remotely electrically connect the ICP,*
- *the MEP cannot repair a fault with the meter due to safety concerns*
- *the consumer will likely be without electricity for a period which would cause significant disadvantage to the consumer*

If the trader bridges a meter, the trader must:

- *determine the quantity of electricity conveyed through the ICP for the period of time the meter was bridged,*
- *submit that estimated quantity of electricity to the reconciliation manager*
- *within one business day of being advised that the meter is bridged, notify the MEP that they are required to reinstate the meter so that all electricity flows through a certified metering installation.*

The trader must determine meter readings as follows:

- *by substituting data from an installed check meter or data storage device*
- *if a check meter or data storage device is not installed, by using half hour data from another period where the trader considers the pattern of consumption is materially similar to the period during which the meter was bridged,*
- *if half hour data is not available, a non-half hour estimated reading that the trader considers is the best estimate during the bridging period must be used.*

Audit observation

The process for bridging meters was discussed and a sample of bridged meters were reviewed.

Audit commentary

Bridged meters are typically identified through the reconnection paperwork returned from the contractor or stopped meter cases. The monitoring of zero consumption has been paused due to resourcing issues. This will result in bridged or stopped meters not being identified.

The last audit discussed the internal audit of the bridged meter processes. This identified that process improvements were required to prevent bridging, promptly unbridge where bridging has occurred, and ensure that bridged consumption is consistently identified and corrected where it does occur. As only some of that audit's recommendations have been implemented there are still bridged meters that are not being unbridged, so a correction is not processed in all instances, or in a timely manner. This is discussed in **section 2.1**.

GENE

GENE provided a list of 61 bridged meters. Reporting is in place to identify instances where bridging has occurred, and these are cross checked to ensure that an unbridging job is booked. There are still instances where these are missed, and some are subsequently identified by the reconciliation team who then notify the business unit to get these actioned. There are 30 ICPs with bridged meters that have yet to be unbridged. 16 of these have been bridged since between October to December 2020. The MEP is not being notified within one day of the meter being bridged for many of these instances. This is recorded as non-compliance below.

The 31 that have since been unbridged were examined. Corrections were processed for the bridged period for 12 of these. The remaining 19 had no correction processed. This was due to staff not calculating the consumption for the bridged period. This is a manual process and is reliant on staff to calculate for each instance. Genesis is aware of this, and further training is being provided to staff. This is recorded as non-compliance below and in **sections 2.1** and **6.4**.

GEOL

The GEOL process for bridging and unbridging meters is manual. Workflows are managed via email inboxes and there is no reporting available to identify sites that have been bridged. It is reliant on the person remembering to book an unbridge job in these instances. I recommend that this process is reviewed to investigate how to improve visibility of these. I found no examples where a service request to unbridge a meter was missed, hence compliance is recorded.

Description	Recommendation	Audited party comment	Remedial action
Bridged meter process	Investigate reporting/ monitoring of bridged meters to ensure that an unbridge service request is generated.	Genesis will work with their contractors explore the possibility of improving reporting of meters that have been bridged along with reviewing internal reporting to negate the risk of them not being unbridged. Genesis will also review the need for meters to be bridged going forward and look at potential control reporting improvements	Investigating

GEOL provided a list of four bridged meters which were later unbridged. Consumption was calculated for the bridged period in all instances.

GENH

No bridged meters were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.17 With: Clause 10.33C and 2A of Schedule 15.2 From: Feb 21 To: April 21	**GENE** MEPs not notified within one business day of bridging occurring in all instances. 30 meters have yet to be unbridged. Consumption for the bridged period has not been submitted for 19 of the 31 unbridged ICPs Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as weak for bridging as the reporting in place will not adequately identify all bridged sites and the correction process has no visibility to confirm if these are actioned. The number of ICPs affected is small and therefore the impact on settlement is minor therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have a process in place to pick up meters that have been bridged however this is a manual process. Genesis has recently recruited 4 new Subject Matter Experts roles to support controls and process improvements initiatives whilst maintaining staff training for new/existing employees.	01/12/2021	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Currently investigating potential improvements in related processes	01/12/2021	

2.18. Use of ICP identifiers on invoices (Clause 11.30)

Code reference

Clause 11.30

Code related audit information

Each trader must ensure the relevant ICP identifier is printed on every invoice or document relating to the sale of electricity.

Audit observation

The process to ensure that the ICP identifier is printed on every invoice or document relating to the sale of electricity was discussed, and an invoice was reviewed.

Audit commentary

ICP identifiers are included on invoices and in all relevant correspondence.

Audit outcome

Compliant

2.19. Provision of information on dispute resolution scheme (Clause 11.30A)

Code reference

Clause 11.30A

Code related audit information

A retailer must provide clear and prominent information about Utilities Disputes:

- *on their website*
- *when responding to queries from consumers*
- *in directed outbound communications to consumers about electricity services and bills.*

If there are a series of related communications between the retailer and consumer, the retailer needs to provide this information in at least one communication in that series.

Audit observation

The process to ensure that information on Utilities Disputes is provided to customers was discussed. GENE and GEOL's websites and a sample of customer communications were reviewed.

Audit commentary

The relevant information is included on the websites, on invoices, in the terms and conditions and I checked the inbound and outbound scripting, which also includes the required information. I also listened to the IVR to confirm compliance.

Audit outcome

Compliant

2.20. Provision of information on electricity plan comparison site (Clause 11.30B)

Code reference

Clause 11.30B

Code related audit information

A retailer that trades at an ICP recorded on the registry must provide clear and prominent information about Powerswitch:

- *on their website*
- *in outbound communications to residential consumers about price and service changes*
- *to residential consumers on an annual basis*
- *in directed outbound communications about the consumer's bill.*

If there are a series of related communications between the retailer and consumer, the retailer needs to provide this information in at least one communication in that series.

Audit observation

The process to ensure that information on Consumer Powerswitch is provided to customers was discussed. GENE and GEOL's websites and a sample of customer communications were reviewed.

Audit commentary

The relevant information is included on the website, in outbound communications, on invoices, which also achieves compliance with the annual notification to residential consumers on an annual basis.

Audit outcome

Compliant

3. MAINTAINING REGISTRY INFORMATION

3.1. Obtaining ICP identifiers (Clause 11.3)

Code reference

Clause 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

This requirement is well understood and managed by Genesis. There were no examples identified where points of connection did not have 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 processes were examined in detail to evaluate the strength of controls, and the registry list and audit compliance reports were examined to confirm process compliance. Late updates to active for new connections are discussed in **section 3.5**.

Audit commentary

The new connection processes are detailed in **section 2.9** above.

The process in place ensures that the trader required information is populated as required by this clause.

I walked through the registry update process for a sample of 56 new connections including HHR and NHH. The accuracy and timeliness of registry updates is discussed in **section 3.5**.

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.

The AC020 reports for each code were reviewed. A sample of late status updates, trader updates and MEP nominations were checked as described in the audit commentary.

Audit commentary

Updates to active status

The timeliness of status updates to active (for reconnections) is set out on the tables below.

GENE

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	2016	1,155	11.2	66%
GENE	2017	1,443	10.7	61%
GENE	2018	696	9.4	79%
GENE	2019	1,106	8	69%
GENE	2020	2,148	11.6	76.14%

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	**2**021	**2**,629	**7.78**	**73.01%**

The reconnection process is described in **section 3.8**.

GENE had 389 reconnections updated more than 30 business days after the event, 53 updated more than 100 business days after the event, and four updated more than 1,000 business days after the event. The latest update was 1856 business days after the event date.

The 15 latest updates, and the ten late updates between 30 and 300 business days late were checked. The following issues were identified:

- one backdated switch in,
- two reconnection work orders were processed late,
- one meter capacity upgrade occurred but the status was not changed,
- 18 examples had consumption on vacant ICPs,
- two meters were bypassed, and the status was changed to active from the date of the bypass, and
- status validation reporting identified one correction.

GENH

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2016	-	-	-
GENH	2017	-	-	-
GENH	2018	-	-	-
GENH	2019	-	-	-
GENH	2020	1	9	0.00%
GENH	**2021**	**-**	**-**	**0.00%**

The AC020 report did not record any reconnections.

GEOL

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2016	290	11.8	47%
GEOL	2017	475	21	29%
GEOL	2018	648	13.2	52%
GEOL	2019	752	11	38%
GEOL	2020	1,870	13.11	43.98%
GEOL	**2021**	**1,125**	**8.84**	**72.39%**

The reconnection process is described in **section 3.8**.

GEOL had 247 reconnections updated more than 30 business days after the event, 22 updated more than 100 business days after the event. The latest update was 588 business days after the event date. The ten latest updates, and ten late updates between 30 and 200 business days late were checked. The following issues were identified:

- reconnection work orders were processed late for seven ICPs,
- registry validation reporting identified four incorrect statuses, and
- nine ICPs were vacant with consumption, resulting in backdated status changes.

Updates to inactive status

The timeliness of status updates to inactive is set out on the tables below.

GENE

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	2016	849	6.30	85.42%
GENE	2017	493	5.85	87.58%
GENE	2018	373	5.40	87.98%
GENE	2019	696	2.60	91.56%
GENE	2020	959	9.77	95.08%
GENE	**2021**	**793**	**2.94**	**97.02%**

I checked all 393 late updates to inactive - new connection in progress identified on the AC020 report. These updates are only considered late if the update occurs after the initial electrical connection date, and I confirmed that all the updates were made prior to the initial electrical connection date.

The other 400 late updates recorded on the AC020 report were reviewed. GENE had 157 disconnections updated more than 30 business days after the event, 44 updated more than 100 business days after the event, and one updated more than 1,000 business days after the event. The latest update was 1,380 business days after the event.

I checked the ten latest (or all late) status updates to each disconnection status reason code and found the following issues:

- the distributor advised of six decommissioned installations from 2021 and 2019,
- the distributor advised of fire damage for two ICPs,
- 33 updates were corrections identified by validation processes; these 33 had average business days of 219,
- 16 were late due to processing issues, and
- meter readers reported two installations were disconnected.

The normal processing of disconnections operates as expected, but the validation processes can take some time to identify and resolve issues.

GENH

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2016	0	0	100.00%
GENH	2017	4	18.83	33.33%
GENH	2018	2	19.50	0.00%
GENH	2019	4	4.53	76.74%
GENH	2020	6	7.36	84.85%
GENH	**2021**	30	21.06	51.61%

I checked all 24 late updates to inactive - new connection in progress identified on the AC020 report. These updates are only considered late if the update occurs after the initial electrical connection date, and I confirmed that all the updates were made prior to the initial electrical connection date.

The other six late status updates for disconnections were advised late by either the customer or the MEP. The updates were 50-282 business days late.

GEOL

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2016	47	9.45	84.33%
GEOL	2017	282	25.54	21.01%
GEOL	2018	148	65.73	37.29%
GEOL	2019	494	2.13	73.08%

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2020	354	7.92	84.45%
GEOL	**2021**	**166**	**9.10**	**91.03%**

I checked all 50 late updates to inactive - new connection in progress identified on the AC020 report. These updates are only considered late if the update occurs after the initial electrical connection date, and I confirmed that all the updates were made prior to the initial electrical connection date.

The other 116 late updates recorded on the AC020 report were reviewed. GEOL had 51 disconnections updated more than 30 business days after the event, 28 updated more than 100 business days after the event, and three updated more than 1,000 business days after the event. The latest update was 1,707 business days after the event.

I checked the ten latest (or all late) status updates to each disconnection status reason code and found they were mainly due to status corrections.

Trader updates

The timeliness of trader updates is set out on the tables below.

<u>GENE</u>

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	2019	22,017	20.5	17.3%
GENE	2020	55,838	18.01	8.14%
GENE	**2021**	**28,648**	**14.56**	**44.53%**

23,333 (81.4%) of the late updates indicated a profile and/or submission type change, and 3,076 (10.7%) of the late updates indicated an MEP change.

2,252 trader updates were made more than 30 business days after the event, 746 were updated more than 100 business days after the event, and 13 were updated more than 1,000 business days after the event. The latest update was made 1,881 business days after the event date.

I checked a sample of late updates recorded on the AC020 report for GENE as described in the table below:

ANZSIC updates - changes	Five late ANZSIC code updates made over 300 business days after the event date were checked and found to be corrections. The updates were processed after receiving confirmation of the correct ANZSIC code.
ANZSIC updates – new connections and switch ins	There were 325 late ANZSIC code updates for new connections and switch ins. 190 of those were more than 30 business days after the event date. I checked the ten latest updates and found they were caused by: • backdated switches in, and • backdated new connections.
Unmetered daily kWh and/or trader unmetered load details changes	A sample of ten updates which were over 60 business days after the event date were checked and found to be corrections identified by validation. The updates were processed after receiving confirmation of the correct unmetered load details.
Profile updates	A sample of ten updates which were over 100 business days after the event date were checked and found eight were ICPs with distributed generation, identified through validation. Some of these were backdated more than 14 months. The other two updates were from UNM to NST for distributed unmetered load ICPs.
Submission type updates	A sample of ten updates which were over 100 business days after the event date were checked, and found they were all due to a correction to the submission type due to changes from NHH to HHR or vice versa, based on meters communicating or not.
MEP nominations	I checked the ten latest MEP nominations and five late MEP nominations between 30 and 100 business days late. These were due to either an MEP requesting nomination for a backdated meter install or correction of the MEP on the WEL network where there is often confusion over who the MEP is because both NGCM and WASN have meters installed.

GENH

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2019	32	2	**47.5%**
GENH	2020	8	14.5	60.0%
GENH	**2021**	**8**	**16.96**	**68.0%**

All of the late updates indicated an MEP change, and two also had an ANZSIC code change.

Four trader updates were made more than 30 business days after the event, and two were updated more than 100 business days after the event. The latest update was 112 business days after the event.

I checked all late updates recorded on the AC020 report for GENH as described in the table below:

ANZSIC updates - changes	Two late updates were processed after receiving confirmation of the correct ANZSIC code.
ANZSIC updates – new connections and switch ins	There were 27 late ANZSIC code updates for new connections and switch ins. 17 of those were more than 30 business days after the event date. I checked the ten latest updates and found they were caused by: • backdated switches in, and • backdated new connections.
MEP nominations	I checked all eight late updates, which were caused by user error or late MEP notification.

GEOL

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2019	37	3	85.8%
GEOL	**2020**	**78,004**	**16.76**	**1.03%**
GEOL	**2021**	**6,687**	**16.70**	**39.69%**

6,175 (92.3%) of the late updates indicated a profile and/or submission type change, and 428 (6.4%) of the late updates indicated an MEP change.

GEOL had 322 trader updates made more than 30 business days after the event, 123 updated more than 100 business days after the event, and 16 updated more than 1,000 business days after the event. The latest update was 1,914 business days after the event date. The late updates over 1,000 business days related to ANZSIC code corrections or unmetered load changes.

I checked a sample of late updates recorded on the AC020 report for GEOL as described in the table below:

ANZSIC updates - changes	Five late ANZSIC code updates made over 100 business days after the event date were checked. All of the updates were corrections. The updates were processed after receiving confirmation of the correct ANZSIC code.
ANZSIC updates – new connections and switch ins	I checked the ten latest updates over 30 days and found they were caused by: • backdated switches in, and • backdated new connection.
Unmetered daily kWh and/or trader unmetered load details changes	The five latest changes to unmetered load were checked and found to be corrections. The updates were processed after receiving confirmation of the correct unmetered load details.
Profile updates	A sample of the five latest profile updates were checked and found two were changes from RPS, to RPS PV1 and three were changes from RPS to UNM.

Submission type updates	A sample of five submission type updates made more than 100 business days after the event date were checked and they were all changes to RPS due to insufficient HHR data.
MEP nominations	I checked the ten latest MEP nominations and five late MEP nominations between 30 and 50 business days late and found all were due to corrections to the incorrect MEP being nominated in the first instance, or nomination of a new MEP following notification from the MEP as part of AMI rollout.

As recorded in **section 2.1**, controls exist within the reconciliation team, where the registry is compared to Gentrack and other reports are run to identify discrepancies, but these processes are not "real time" and most of the issues identified are outside five business days. There are very few controls in the areas responsible for each function.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 of schedule 11.1 From: 01-Sep-20 To: 27-Apr-21	Some status and trader updates were not processed within five business days of the event on the Registry. Potential impact: Medium 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, because although there is comprehensive reporting in place in the reconciliation team, the processes to correct the registry are not "real time" and the controls in the business areas are none, to weak. The audit risk rating is assessed to be low as whilst the events are backdated this is done to ensure submission occurs correctly.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis accepts that the level of accuracy is still below the required level Genesis have recently been through a structural change to support the Genesis strategic ways of working, this has included recruiting 4 new Subject Matter Experts roles to support controls and process improvements initiatives whilst maintaining staff training for new/existing employees.	Continuous improvements	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Additional resource will be utilised to strengthen the current controls	Continuous improvements	

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

The new connection, MEP nomination and decommissioning processes were reviewed, and the registry list and audit compliance reports were examined to confirm process compliance.

A sample of MEP nomination rejections and decommissioned ICPs were examined.

Audit commentary

Retailers Responsibility to Nominate and Record MEP in the Registry

There is a weekly list sent from AMS where they have installed metering, but the nomination has not been received. Validation is in place to check for metering records returned which are different to the proposed MEP.

GENE

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report as of 10 May 2021 identified 91 ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- 31 had MEP nominations accepted and were awaiting population of metering data,
- 49 had MEP nominations issued and were awaiting an MEP response,
- seven had meter details updated after the report was run,
- one had an MEP nomination rejected, which was accepted when it was re-sent, and
- three are decommissioned or in the process of being decommissioned.

The 2020 audit found that ICP 0005914019AL770, had an Alpine meter installed in Gentrack, but Alpine had rejected the MEP nomination. SMCO accepted an MEP nomination on 1 December 2020 and the registry is now updated correctly.

The AC020 report recorded three MEP nominations which were not accepted within 14 business days. These were reviewed and found that one was a nomination of MNON, where a response is not required, and two were incorrect nominations, now corrected.

Four of the 15,848 MEP nominations made were rejected. These were examined and found they were all due to incorrect nominations, which are now corrected.

GEOL

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report identified seven ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- three had MEP nominations accepted and were awaiting population of metering data,
- three had MEP nominations issued and were awaiting an MEP response, and
- one had its status updated to decommissioned after the report was run.

The AC020 report recorded one MEP nomination which was not accepted within 14 business days. This was an incorrect nomination, which is now corrected.

One of the 863 MEP nominations recorded on the event detail report was rejected. This was examined and found this was due to the incorrect MEP being nominated in the first instance.

GENH

Review of the AC020 report confirmed that all active metered ICPs had an MEP recorded.

Review of the AC020 report identified seven ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- three had MEP nominations accepted and were awaiting population of metering data,
- one had MEP nominations issued and were awaiting an MEP response,
- one is under investigation and may be decommissioned, and
- two now have metering in the registry.

The AC020 report recorded two MEP nominations which were not accepted within 14 business days. This was due to late processing by AMCI and is now resolved.

All 52 MEP nominations made during the period reviewed were accepted.

ICP Decommissioning

ICPs that are vacant and active, or inactive, are still maintained in Gentrack.

When an ICP is to be decommissioned, 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 disconnection. Genesis also advises the MEP responsible that a site is to be decommissioned.

GENE

A sample of ten ICPs was examined, which confirmed an attempt to read the meter was made at the time of removal, and the MEP was notified.

GEOL

A sample of ten ICPs was examined, which confirmed an attempt to read the meter was made at the time of removal, and the MEP was notified.

GENH

All seven ICPs which were decommissioned and dismantled were examined, which confirmed an attempt to read the meter was made at the time of removal, and the MEP was notified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.4 With: Clause 11.18 From: 01-Sep-20 To: 27-Apr-21	**GENE** Two incorrect MEP nominations. **GEOL** One incorrect MEP nomination. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as the controls will mitigate risk most of the time. The audit risk rating is low as settlement and billing are still occurring because Genesis has the metering details recorded.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis has automated the nomination process, however where manual intervention is required then there is always potential risk, with controls in place to help minimise or remove any potential impact. Genesis is also in the process of creating a compliance dashboard that will provide increased visibility of these issue.	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continuation of process improvement / staff training	Continuous Improvement	

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

Code reference

Clause 9 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The new connection processes were examined in detail to evaluate the strength of controls, and the registry list and audit compliance reports were examined to confirm process compliance.

Audit commentary

New connection information timeliness

The new connection process is described in detail in **section 2.9**. The MEP nomination is expected to be issued at the same time as the ICP is claimed at the "inactive new connection in progress" status. No genuinely late updates to "inactive new connection in progress" status were identified in **section 3.3**.

As discussed in **section 3.4**, the AC020 report showed five MEP nominations which were not accepted within 14 business days of being issued - one for GEOL, two for GENH, and two for GENE.

The timeliness of status updates to active (for new connections) is set out on the tables below.

GENE

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	2016	685	6.2	54%
GENE	2017	911	8.04	51%
GENE	2018	824	7.8	57%
GENE	2019	597	4	84%
GENE	2020	4,032	6.99	65.09%
GENE	**2021**	**4,897**	**6.53**	**70.2%**

Genesis use Salesforce to manage the new connection process. Once the customer is confirmed and all the required details have been completed, Salesforce issues a service request. At the same time the ICP claim and the MEP nomination are expected to be sent to the registry. This is not happening in all instances and there is no reporting in place to identify when this fails. In those cases, this can cause delays in updating the registry to push through the MEP nomination and complete the new connection. Once the service request is returned and providing all the details are complete, Salesforce automatically closes the service request and this updates to Gentrack which then writes to the registry. If the service order is unable to be autocompleted an exception is sent to a work queue. These are then reviewed and actioned by the new connection team through to completion.

347 updates were made more than 30 business days after the event date, and 33 updates were made more than 100 business days after the event date. The latest update was 567 business days after the event date. I reviewed the ten latest updates, and ten late updates over 30 business days. Ten ICPs with NHH submission type and ten ICPs with HHR submission type were checked in total.

NHH

- Five were processing errors.
- One was not a new connection.
- Four were late information from the field.

HHR

- Five were processing errors.
- Four were late information from the field.
- The "auto loader" did not populate the registry for one ICP. These errors appear on a report and each record is loaded manually.

GENH

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2016	0	3	100%
GENH	2017	1	1.9	92%
GENH	2018	4	6	43%
GENH	2019	3	9	77%
GENH	2020	21	18.43	40.00%
GENH	**2021**	**41**	**13.63**	**35.94%**

Nine updates were made more than 30 business days after the event date, and the latest update was 74 business days after the event date. I reviewed all 20 late updates over ten business days:

- five were due to investigations into information accuracy,
- nine were due to the CSR missing the step to update the status on the registry, and
- six were due to late notification from the field.

Status updates are manual and are not made until the metering records are received from the MEP. In most cases, the data collector notifies that installations are electrically connected because a load test is conducted. The registry can be updated based on this information without waiting for metering records.

Recommendation	Description	Audited party comment	Remedial action
Provision of information to the registry	Consider making status changes to active based on load test dates from data collectors.	Genesis will review the current vacant consuming / new connection processes and system functionality to determine possible improvements to the process and controls	Investigating

GEOL

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2016	29	6.8	53%
GEOL	2017	16	7.4	76%
GEOL	2018	16	5.7	82%
GEOL	2019	37	8	59%
GEOL	2020	163	11.56	48.09%
GEOL	**2021**	**410**	**17.48**	**5.75%**

38 updates were made more than 30 business days after the event date, and four updates were made more than 100 business days after the event date. The latest update was 161 business days after the event date. I reviewed the ten latest updates, and ten late updates over 20 business days. Ten ICPs with NHH submission type and ten ICPs with HHR submission type were checked in total and found two causes:

- processing issues, and
- late paperwork from the field.

At the time of the audit, there was a 13-day processing backlog for new connections due to resourcing constraints, which has caused the low level of compliance of 5.75%.

New connection information accuracy

The last two audits recommended that validation be put in place to compare the initial electrical connection date and first meter certification date with the first active date. This has not been adopted yet and there are still resourcing constraints to review and action such a report. I recommend in **section 2.1** that the audit compliance reporting available on the registry be used. This will improve the accuracy and timeliness of the first active date.

GENE

The AC020 report recorded 310 ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress" or "ready" status. 223 were timing differences and the status was updated to "active" through GENE's normal processes prior to the audit. The 20 ICPs with the oldest initial electrical connection date which had not been updated to active status were checked:

- eight are at the "ready" status and Genesis has no customer or applications for these sites, all of these are on the Electricity Ashburton network, and it appears they are ICP splits where there is an additional ICP being created at a large number of rural properties, and GENE has not agreed to be the trader,
- four are not electrically connected and it appears the distributor's IECD is incorrect,
- one is now "active", and
- seven had the electrical connection jobs turned down and are being investigated.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 2,215 ICPs with date discrepancies. For 222 ICPs the active date and initial electrical connection date was consistent and the ICP was unmetered. The other 1993 exceptions were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	5	All were checked. One was incorrect.
IECD ≠ active date and MCD = active date	61	A sample of five were checked.
IECD ≠ active date and MCD ≠ active date	13	A sample of five were checked. Two were incorrect.
IECD = active date and no MCD	109	A sample of five were checked.
IECD ≠ active date and no MCD	3	All were checked.
IECD ≠ active date and unmetered	5	All were checked. Four were incorrect.
No IECD and MCD = active date	1711	A sample of five were checked. One was incorrect.
No IECD and MCD ≠ active date	5	All were checked. Three were incorrect.
No IECD and no MCD	40	A sample of five were checked
No IECD and unmetered	41	A sample of five were checked
Total	1993	

GENH

The AC020 report did not record any ICPs which had an initial electrical connection date populated which remained at "inactive - new connection in progress" or "ready" status.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 35 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	4	All were checked. One was incorrect.
IECD = active date and no MCD	4	All were checked.
No IECD and MCD = active date	23	A sample of five were checked.
No IECD and MCD ≠ active date	3	All were checked. One was incorrect.
No IECD and no MCD	1	All were checked.
Total	35	

GEOL

The AC020 report recorded ten ICPs which had an initial electrical connection date populated which remained at "inactive - new connection in progress" or "ready" status. These were checked and it was found they were all still required. Six are part of the Counties Network deconsolidation project and require further investigation.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 150 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD ≠ active date and MCD = active date	1	This was checked and was incorrect.
IECD = active date and MCD ≠ active date	2	All were checked.
IECD ≠ active date and MCD ≠ active date	4	All were checked. Three were incorrect.
IECD = active date and no MCD	3	All were checked.
No IECD and MCD = active date	138	A sample of five were checked.
No IECD and MCD ≠ active date	2	All were checked and both were incorrect.
Total	150	

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 of schedule 11.1 From: 01-Sep-20 To: 27-Apr-21	Some late and incorrect status updates. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls in rated as weak, because although there is comprehensive reporting in place in the reconciliation team, the processes to correct the registry are not "real time" and the controls in the business areas are none, to weak. The audit risk rating is low as the number of errors found were small and will be corrected through the revision cycle.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will review the current vacant consuming / new connection / reconnection processes to determine possible improvements to the process / controls.	01/03/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Review of the automation of new connection process was completed as exceptions were being managed weekly, this was changed to daily at the start of July 2021.	01/03/2022	

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 and AC020 reports were reviewed and ANZSIC codes were checked for a sample of ICPs to determine compliance.

Audit commentary

GENE

GENE supplies no active ICPs with blank ANZSIC codes, and one ICP with a T994 ANZSIC code. ICP 0000103528TR8F6 is vacant and therefore the ANZSIC code is genuinely unknown.

The AC020 report found no GENE ICPs with metering categories of three or above had residential ANZSIC codes. 176 ICPs with metering category 2 had residential ANZSIC codes, a sample of ten were checked and one ICP (0000029960UND72) appears to be a motor camp shop, not residential.

A diverse sample of 100 active ICPs were checked to confirm the validity of ANZSIC codes, including ICPs assigned to each of the 25 most frequently used codes. This identified 11 incorrect ANZSIC codes representing an 11% error rate, and the exceptions have been provided to GENE.

GEOL

GEOL does not supply any active ICPs with blank or unknown ANZSIC codes.

GEOL does not supply any ICPs with metering category three or above. The AC020 report found 83 ICPs with metering category 2 had residential ANZSIC codes, a sample of ten were checked and eight were found to be incorrect.

A diverse sample of 80 active ICPs were checked to confirm the validity of ANZSIC codes, including ICPs assigned to each of the 20 most frequently used codes. This found all but three ICPs had the correct ANZSIC code applied representing a 3.75% error rate, and the exceptions have been provided to GEOL.

GENH

GENH supplies no active ICPs with blank ANZSIC codes, and three ICPs with T99 ANZSIC codes and 20 ICPs with T994 ANZSIC codes. All of these were incorrect and have not yet been updated in the registry.

No ICPs with metering category two or higher were found to have domestic ANZSIC codes.

A diverse sample of 50 active ICPs were checked to confirm the validity of ANZSIC codes, including ICPs assigned each of the 20 most frequently used codes and found all but eight ICPs had the correct ANZSIC code applied representing a 16% error rate, and the exceptions have been provided to GENH.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: Clause 9(1)(k) of schedule 11.1 From: 01-Sep-20 To: 27-Apr-21	A moderate number of 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 because although the T99 codes are checked by the reconciliation team, the accuracy of ANZSIC codes on sign up needs improvement. There is no impact on settlement outcomes from incorrect ANZSIC codes but there is a low impact on the Electricity Authority's reporting accuracy, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have controls in place to mitigate risk and update registry information as soon as practicable once corrective information has been obtained.	01/02/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis are currently reviewing the onboarding processes for both residential and SME customer to determine options for obtaining the correct ANZIC code at the time of onboarding	01/02/2022	

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 registry list and AC020 reports were examined to identify ICPs where:

- unmetered load is identified by the distributor, and none is recorded by Genesis,
- unmetered load is identified by Genesis, and none is recorded by the distributor,
- unmetered load is indicated but the unmetered daily kWh is zero or blank, and
- Genesis' unmetered load figure does not match with the distributor's figure (where it is possible to calculate this if the distributor is using the recommended format) and the variance is greater than 0.1 kWh per day (0.1 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 0.1 kWh per day).

Audit commentary

All ICPs with unmetered load recorded in the trader details on the registry are recorded in Gentrack with the unmetered load. The unmetered load values are recorded in Derive via a dummy meter process. As detailed in **section 2.1**, there is no validation between the Distributors unmetered load field and the load recorded by Genesis.

GENE

Active ICPs with no metering or unmetered load recorded by GENE

Review of the AC020 report as of 10 May 2021 identified 91 ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- 31 had MEP nominations accepted and were awaiting population of metering data,
- 49 had MEP nominations issued and were awaiting an MEP response,
- seven had meter details updated after the report was run,
- one had an MEP nomination rejected, which was accepted when it was re-sent, and
- three are decommissioned or in the process of being decommissioned.

The 2020 audit found that ICP 0005914019AL770, had an Alpine meter installed in Gentrack, but Alpine had rejected the MEP nomination. SMCO accepted an MEP nomination on 1 December 2020 and the registry is now updated correctly.

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

Three ICPs have distributor unmetered load details and no unmetered load populated by GENE. These were checked and I found that two were incorrectly recorded by the Distributor and ICP 0007200599RN5B6 had incorrect details recorded by GENE but is now correct.

ICPs with unmetered load recorded by GENE but not the distributor

219 ICPs have unmetered load details recorded by GENE, but not the distributor. 117 were confirmed to have unmetered load connected in previous audits or were DUML ICPs. I checked a sample of 15 of the remaining ICPs and found all are genuinely unmetered.

Accuracy of trader unmetered daily kWh

Review of the AC020 report found 39 ICPs had the unmetered flag set to Y with a zero or ENG. 38 were confirmed to be DUML ICPs. ICP 0000003759TEF13 is recorded as reconciled under ICP 0000003758TE356. GENE is checking to see if this can be decommissioned.

The AC020 report recorded 157 ICPs where the daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh.

- 77 were DUML ICPs.
- Eight were consistent with the distributor's unmetered kWh and appeared as exceptions in error because of report calculation errors for shared unmetered load and where the distributor's wattage was in kW.
- For five ICPs the retailer value was confirmed to be correct.
- 18 differences were less than 1 kWh.

I checked 49 differences over 1 kWh. Three were confirmed as incorrect. Two have been corrected and ICP 0007134437RNC2E is still to be corrected.

Unmetered builder's temporary supply (BTS) ICPs

222 unmetered BTS ICPs were recorded on the registry list. I checked all 22 ICPs created prior to 2018 and found eight definitely had a BTS connected. It wasn't possible to tell for nine, and five have completed buildings at the following ICPs:

ICP	Network	Comments
0007176540RN568	Orion	Completed building
0007179573RN730	Orion	Completed house
0007181080RN67E	Orion	Completed house
0007181155RNF77	Orion	Completed house
0007182525RN4CB	Orion	Completed house

GEOL

Active ICPs with no metering or unmetered load recorded by GEOL

Review of the AC020 report identified seven ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- three had MEP nominations accepted and were awaiting population of metering data,
- three had MEP nominations issued and were awaiting an MEP response, and
- one had its status updated to decommissioned after the report was run.

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

ICP 0015750472EL7C9 has x0 recorded in the distributor unmetered load field, and no unmetered load recorded by GEOL. It does not appear there is unmetered load at this ICP.

ICPs with unmetered load recorded by GEOL but not the distributor

Two ICPs have unmetered load details recorded by GEOL, but not the distributor. These were checked and found to have the unmetered load correctly recorded.

Accuracy of trader unmetered daily kWh

Review of the AC020 report found no ICPs had the unmetered flag set to Y with a zero or blank daily unmetered kWh value.

The AC020 report recorded one ICP where the daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh. ICP 0000780080TEBCC is confirmed as having correct unmetered load recorded.

Unmetered builder's temporary supply (BTS) ICPs

No unmetered BTS ICPs were recorded on the registry list.

GENH

Active ICPs with no metering or unmetered load recorded by GENH

Review of the AC020 report and registry list identified nine ICPs which had a metering category 9, null or zero and did not have unmetered load recorded. Of those:

- two had MEP nominations accepted and were awaiting population of metering data,
- one had a MEP nomination issued and was awaiting an MEP response,
- two had meter details updated after the report was run,
- ICP 0346139023LCF0D is in the process of being decommissioned, and
- ICP 0110006240ELB4F recently had metering populated by AMCI backdated to June 2020.

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

As reported in the last two audits, ICP 0019030025HB43B has distributor unmetered load details and no unmetered load populated by GENH. Unison added unmetered streetlight details to this ICP effective from 1 April 2019 to reflect lighting connected to NZTA circuits. Unmetered load was updated on 22 June 2021.

ICPs with unmetered load recorded by GENH but not the distributor

All ICPs with unmetered load recorded by GENH also have unmetered load recorded by the distributor.

Accuracy of trader unmetered daily kWh

Review of the AC020 report found no ICPs had the unmetered flag set to Y with a zero or blank daily unmetered kWh value.

GENH supplies four active ICPs with unmetered load recorded, and all had a value recorded in the daily unmetered kWh field. Analysis of the AC020 report did not identify any differences between the unmetered daily kWh recorded by GENH and the load calculated from the distributor information.

Unmetered builder's temporary supply (BTS) ICPs

No unmetered BTS ICPs were recorded on the registry list.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 01-Sep-20 To: 27-Apr-21	**GENE** One ICP had missing daily unmetered kWh. Three ICPs had incorrect daily unmetered kWh. Five ICPs incorrectly have BTS unmetered recorded. **GENH** Missing unmetered details for one ICP. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are generally strong in this area. The impact on settlement is minor, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis continues to monitor and where possible provide corrective information to the registry when information is obtained that highlights a corrective action.	Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continues to review UML details to ensure corrective actions are initiated upon the provision of corrective information.	Continuous Improvement	

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

Code reference

Clause 17 Schedule 11.1

Code related audit information

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

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

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

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

Audit observation

The new connection processes were examined in detail as discussed in **sections 2.9** and **3.5**.

The reconnection process was examined using the AC020 and event detail reports.

- 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.

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

GENE

<u>New connections</u>

The process in Salesforce is automated so once the customer is confirmed and all the required details have been completed, Salesforce issues a service request. At the same time the ICP claim, and the MEP nomination are expected to be sent to the registry. This is not happening in all instances and there is no reporting in place to identify when this fails. In those cases, this can cause delays in updating the registry to push through the MEP nomination and complete the new connection. Once the service request is returned and providing all the details are complete, Salesforce automatically closes the service request and this updates to Gentrack which then writes to the registry. If the service order is unable to be autocompleted an exception is sent to a work queue. These are then reviewed and actioned by the new connection team through to completion.

I recommend in **section 2.1** that the audit compliance reporting is used to check for alignment between the initial electrical connection date, first meter certification date and first active date. This will assist with identifying potential missed new connections or incorrect first active dates.

The previous audit found seven ICPs were made active for one day and then decommissioned, although they had never been active. I checked the registry list with history and did not identify ICPs which had a one-day status event where the status was inactive, and the current status was "decommissioned - set up in error".

The AC020 report recorded 310 ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress" or "ready" status. 223 were timing differences and the status was updated to "active" through GENE's normal processes prior to the audit. The 20 ICPs with the oldest initial electrical connection date which had not been updated to "active" status were checked:

- eight are at the "ready" status and Genesis has no customer or applications for these sites; all of these are on the Electricity Ashburton network, and it appears they are ICP splits where there is an additional ICP being created at a large number of rural properties, and GENE has not agreed to be the trader,
- four are not electrically connected and it appears the distributor's IECD is incorrect,
- one is now "active", and
- seven had the electrical connection jobs turned down and are being investigated.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 2,215 ICPs with date discrepancies. For 222 ICPs the active date and initial electrical connection date was consistent and the ICP was unmetered. The other 1993 exceptions were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	5	All were checked. One was incorrect.
IECD ≠ active date and MCD = active date	61	A sample of five were checked.
IECD ≠ active date and MCD ≠ active date	13	A sample of five were checked. Two were incorrect.
IECD = active date and no MCD	109	A sample of five were checked.
IECD ≠ active date and no MCD	3	All were checked.
IECD ≠ active date and unmetered	5	All were checked. Four were incorrect.
No IECD and MCD = active date	1711	A sample of five were checked. One was incorrect.
No IECD and MCD ≠ active date	5	All were checked. Three were incorrect.
No IECD and no MCD	40	A sample of five were checked.
No IECD and unmetered	41	A sample of five were checked.
Total	1993	

Reconnections

AMS carries out the reconnection work for Genesis. The close out process is automated providing all information expected is provided. Any that do not pass the validations are moved to a work queue and reviewed by an operator to determine what further action is required to complete these.

Disconnected vacant and active vacant consumption is expected to be monitored by the Billing team and any disconnected ICPs are expected to be returned to "active" to ensure the consumption is submitted. This is not always being completed by the Billing team. The reconciliation team also monitor a disconnected and consuming report as part of the reconciliation process and will correct the ICP status where required to ensure that volumes are reconciled. This is done as part of the reconciliation process prior to day 4 and 13 therefore these updates will be backdated. The timeliness of updates is discussed in **section 3.3**.

A sample of 25 reconnections were checked and found to be processed accurately.

GEOL

New connections

The AC020 report recorded ten ICPs which had an initial electrical connection date populated which remained at "inactive - new connection in progress" or "ready" status. These were checked and it was found they were all still required. Six are part of the Counties Network deconsolidation project and require further investigation.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 150 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD ≠ active date and MCD = active date	1	This was checked and was incorrect.
IECD = active date and MCD ≠ active date	2	All were checked.
IECD ≠ active date and MCD ≠ active date	4	All were checked. Three were incorrect
IECD = active date and no MCD	3	All were checked.
No IECD and MCD = active date	138	A sample of five were checked.
No IECD and MCD ≠ active date	2	All were checked and both were incorrect.
Total	150	

I recommend in **section 2.1** that the audit compliance reporting is used to check for alignment between the initial electrical connection date, first meter certification date and first active date. This will assist with identifying potential missed new connections or incorrect first active dates.

Reconnections

The process for GEOL is not automated. Field work is tracked through spreadsheets and returned through team inboxes that are worked through. As indicated in **section 3.3**, there have been resource constraints and a lack of reporting means the team does not have good visibility of performance. I recommend in **section 3.5** that reporting be put in place.

GEOL use the same process as GENE for disconnected vacant and active vacant with consumption. These are expected to be monitored by the Billing team and any disconnected ICPs are expected to be returned to "active" to ensure the consumption is submitted. This is not always being completed by the Billing team. The reconciliation team also monitor a disconnected and consuming report as part of the reconciliation process and will correct the ICP status where required to ensure that volumes are reconciled. This is done as part of the reconciliation process prior to day 4 and 13 therefore these updates will be backdated. The timeliness of updates is discussed in **section 3.3**.

A sample of 20 reconnections were checked and found to be processed accurately.

GENH

New connections

The AC020 report did not record any ICPs which had an initial electrical connection date populated which remained at "inactive - new connection in progress" or "ready" status.

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 35 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	4	All were checked. One was incorrect.
IECD = active date and no MCD	4	All were checked.
No IECD and MCD = active date	23	A sample of five were checked.
No IECD and MCD ≠ active date	3	All were checked. One was incorrect.
No IECD and no MCD	1	All were checked.
Total	35	

Reconnections

Reconnections are managed by the HHR team. These are updated directly onto the registry via the registry interface. None have occurred during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 of schedule 11.1 From: 01-Sep-20 To: 27-Apr-21	**GENE** 11 incorrect first active dates of those ICPs sampled. **GEOL** Six incorrect first active dates. **GENH** Two incorrect first active dates Potential impact: Medium 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 there is no validation between the first active date, the initial electrical connection and the meter certification dates to identify potential incorrect active dates. The audit risk rating is low as the volume of errors found for the sample checked is small in relation to the overall number of electrical connections completed. .

Actions taken to resolve the issue	Completion date	Remedial action status
Review AC-020 reporting frequently to identify variances as they occur. Genesis is also in the process of creating a compliance dashboard that will assist the provision of increased visibility relating to these issues and will liaise with the Distributor regarding any corrective actions.	01/02/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The review will provide a proactive measure to assist with further preventative actions	01/02/2022	

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 examined using the AC020 and event detail reports. The timeliness of data for disconnections is assessed in **section 3.3**, and a sample of updates were checked for accuracy.

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

Audit commentary

Management of inactive status

GENE

The process for disconnections is the same as for reconnections and is automated where possible.

59 status updates to inactive were checked and found all to be accurate.

The AC020 report recorded 329 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. A sample of 20 of these ICPs were checked and found all were correct and the ICP was subsequently updated to non-communicating after the disconnection.

GEOL

The process for disconnections is the same as for reconnections and is automated where possible.

54 status updates to inactive were checked and found to be accurate.

The two exceptions identified in the previous audit were rechecked:

- ICP 0001446722UND67 was corrected from disconnected at the meter box fuse to "ready to decommission", and
- ICP 0000052239UND7C was disconnected at the pole fuse and not the meter box switch, the status has now been corrected.

The AC020 report recorded 26 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. All were correct and the ICP was subsequently updated to non-communicating after the disconnection.

GENH

GENH will update the status to "inactive" once confirmation has been received from the field. They then update the registry via the registry interface.

All six status updates to inactive were checked and found to be accurate.

The AC020 report recorded no ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no.

Inactive new connections in progress

GENE

117 ICPs have been at "inactive - new connection in progress" status for more than 24 months.

The reconciliation team produce a report for all ICPs that have been at this status. This is reviewed and worked on by the new connection team as resource allows.

A sample of the ten oldest ICPs were checked and in all cases, the new connection is cancelled but the Distributor has not been advised.

GEOL

17 ICPs have been at "inactive - new connection in progress" status for more than 24 months. A sample of the ten oldest ICPs were checked and found they are all still required.

GENH

No ICPs have been at "inactive - new connection in progress" status for more than 24 months.

Monitoring of consumption on ICPs with inactive status

Review of historic estimate examples found that where part of a read-to-read period was inactive, the SASV inactive days were excluded from both the numerator and denominator when calculating the historic estimate, forcing all consumption to be reported within the active portion of the read-to-read period. Where an entire read-to-read period has inactive status, the numerator and denominator will be zero and no historic estimate will be reported. The status must be returned to "active" to allow consumption during inactive periods to be correctly reported.

This process has been reviewed and the reporting improved in May 2021 as the previous report being worked was found be reporting a lot of false positives. All disconnected ICPs with consumption are investigated. At the time of the audit there were 291 ICPs to be investigated. These are being worked through but due to resource constraints this is taking longer than desired.

The reconciliation team also identifies ICPs with inactive consumption by running queries to identify any inactive ICPs where the latest reading is more than 10 kWh higher than the last billed reading. The reconciliation team reviews the ICPs and processes corrections to ensure that the ICPs have the correct status and consumption is submitted. These checks are completed during periods with lower workloads when submissions are not due.

GENE

GENE provided a report with 290 ICPs with inactive consumption, totalling 280,453 kWh. I reviewed the 20 ICPs with the most disconnected consumption, and found:

- ten where corrections have not been processed resulting in 109,604 kWh of inactive consumption that has not been submitted (ICP 0000036153UN7C6 switched away using the disconnection reads rather than the final read resulting in 4,819 kWh being pushed to the gaining trader and submitted for the wrong period, and the remaining nine ICPs have had their status updated as a result of the audit so submission is expected to be corrected through the revision process),
- eight were confirmed not to be consuming as the reads were either from the wrong meter or were misreads, and
- two had corrections processed.

I rechecked the 2020 audit findings which reported 19 ICPs with a total inactive consumption of 163,319 kWh that had not been corrected and found all but three (ICPs 0000126138WE62E, 0000037854WEEE4 and 0000147481TRAA9) of these have been corrected. The 3,780 kWh associated with ICP 0000126138WE62E is now outside of the revision period. ICPs 0000037854WEEE4 and 0000147481TRAA9 switched out on the disconnection reads rather than the final reads. This has resulted in 4,757 kWh being pushed to the gaining trader and subsequently submitted for the incorrect period. A correction was processed for ICP 0000491003WE1BC.

GEOL

GEOL provided a report with 35 ICPs with inactive consumption, totalling 32,609 kWh. I reviewed the ten ICPs with the most disconnected consumption and found six had corrections processed. The other four ICPs had total inactive consumption of 19,938 kWh. The status has been corrected as a result of this audit and will be corrected via the revision process.

I rechecked the 2020 audit findings which reported that the eight ICPs that had a total inactive consumption of 32,476 kWh had not been corrected and found that seven have since been corrected as a result of the audit. Some of the volume for two ICPs is outside of the 14-month revision cycle so won't be submitted. ICP 0000918556TUA73 switched out on the disconnected read. An RR was sent to Genesis to correct this but was incorrectly rejected by Genesis. This resulted in 20,820 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader. This is recorded as non-compliance in **section 4.11**.

GENH

No ICPs with inactive consumption were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 of schedule 11.1 From: 01-Jul-20 To: 30-Apr-21	**GENE** and **GEOL** Some incorrect inactive statuses. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate because there is room for improvement with regard to the identification and correction of incorrect statuses. Settlement is not occurring in some cases until the status is corrected, therefore the audit risk rating is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
The communicating status is maintained by the MEP. Genesis have processes in place around vacant consumption but due to resource issues this has not been actively worked. Genesis have recently recruited 4 new Subject Matter Expert and are also recruiting for 6 additional CSR in the Customer Operations. This will provide the resource required to work the vacant consumption report.	01/12/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will be providing additional resource in the area to support the review of current processes and reporting to improve compliance.	01/12/2021	

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 registry lists of ICPs with "new" or "ready" status and Genesis as the proposed trader, and reviewed processes to monitor new connections.

Audit commentary

Genesis stated that they review lists from distributors when they are received. I repeat the last audit's recommendation that Genesis runs this list monthly and checks all records to identify ICPs created in error and genuine ICPs that they don't know about.

Recommendation	Description	Audited party comment	Remedial action
Monitoring of new and ready ICPs	Run a monthly list from the registry of all ICPs where GENE or GEOL are the proposed trader to ensure Gentrack records align.	Genesis are in the process of creating a compliance dashboard and will include the aging of New and ready statuses within this	Identified

GENE

Analysis of the registry list found 36 ICPs at "ready" status for two years or more, and 13 ICPs at "new" status for two years or more. A sample of 20 ICPs at "ready" and ten ICPs at "new" were checked and found that 12 are still required, applications cannot be found for ten, meaning the distributor should not have created them, and the distributor has been requested to cancel eight.

GEOL

Analysis of the registry list found 15 ICPs at "ready" status for two years or more, and no ICPs at "new" status for two years or more. Eight are part of the Counties deconsolidation project, one is decommissioned, one is unknown (and many attempts have been made to contact the customer), and five are not required.

GENH

Analysis of the registry list did not find any ICPs at "ready" or "new" status for more than 24 months.

Audit outcome

Compliant

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

Code reference

Clause 2 Schedule 11.3

Code related audit information

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

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

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

Audit observation

The switch gain process was examined to determine when Genesis deem all conditions to be met. A typical sample of 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

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

The 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.

GENE

Review of the event detail report found 12,895 transfer switch NTs for GENE. I matched the NTs to the meter category recorded on the registry list for 11,417 ICPs and found none had a metering category of three or above.

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

GEOL

Review of the event detail report found 1,829 transfer switch NTs for GEOL. I matched the NTs to the meter category recorded on the registry list for 1,368 ICPs and found none had a metering category of three or above.

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

GENH

Review of the event detail report found no transfer switch NTs for GENH.

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

The event detail reports were reviewed to:

- identify AN files issued by Genesis during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- a diverse sample ANs were checked for each trader code to determine whether the codes had been correctly applied.

The switch breach history report was examined for the audit period.

Audit commentary

The AN file is automatically generated for GENE and GEOL. The AN code is assigned determined by hierarchy. Switching is manually carried out directly in the registry for GENH.

GENE

The switching process was examined in relation to GENE as the "losing trader" for a sample of 10 NHH ICPs, and three ICPs had incorrect response codes. ICP 1001158604CKD79 had AA instead of AD, ICP 1002094653UNC51 had MU instead of AA and ICP 1001137359LCA7E had PD instead of AA.

The event detail report was reviewed for all 17,515 transfer ANs to assess compliance with the setting of event dates requirements.

- 17,514 (99.99%) 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.

The switch breach report did not record any AN or ET breaches.

GEOL

The switching process was examined in relation to GEOL as the "losing trader" for a sample of NHH ICPs. Two had incorrect response codes. ICPs 0000100004DE98F and 0084343601PCDBE both incorrectly had PD.

The event detail report was reviewed for all 4,626 transfer ANs to assess compliance with the setting of event dates requirements.

- 4,625 (99.98%) 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.

The switch breach report did not record any AN or ET breaches.

GENH

The switching process was examined in relation to GENE as the "losing trader" for all transfer switch AN files. The AA response code was correctly used in both cases.

The event detail report was reviewed for the two transfer ANs to assess compliance with the setting of event dates requirements. Both files had a proposed event date within five business days of the NT receipt date.

The switch breach report identified one AN breach.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: Clause 3 of schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	**GENE** Three incorrect AN codes sent of the sample checked. **GEOL** Two incorrect AN codes sent of the sample checked. **GENH** One late AN file. 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 process is driven off the ICP attributes based on a hierarchy. The audit risk rating is low as only a small number of incorrect codes were identified and only one late file was identified. This has no direct impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have strong controls in place and continue to monitor this and investigate potentially incorrect reads caused by CSR incorrectly processing files. To ensure accuracy the RR response can sometime take longer than the time required, this is often outside of Genesis' control	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continuous Improvement	Continuous Improvement	

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

The event detail report was reviewed to identify CS files issued by Genesis during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records per trader code. 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 identified. A sample 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 of the event date was examined, and the switch breach history report for the audit period was reviewed to identify late CS files.

Audit commentary

The registry functional specification requires estimated daily kWh to be based on the average daily consumption for the last read-to-read period. Genesis calculates the average daily consumption from the last billed actual to the switch read when switch read is an actual, and from the last billed actual to actual when the switch read is an estimate. This is not based on the average daily consumption from the two most recent reads. Genesis' 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 code's requirements the current methodology is recorded as non-compliant.

GENE

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

Count of transfer CS files	Estimated daily kWh	Findings
Negative	-	-
Zero	588	I sampled five ICPs and found that zero was correct in all five cases.
More than 200 kWh	211	I sampled the five ICPs with the largest average daily consumption and confirmed they were correct.

I checked for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions including:

- Five CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility. In all cases the last billed reading was in the CS file for the switch event date, even though the reading was taken prior to the switch date. All five should have been labelled as estimates not actuals.
- Five CS files with estimated switch event reads where the last actual read date was on the last day of responsibility. In all cases, the readings were correct and correctly labelled as estimates, but the date of the last reading field was populated with the day before the switch event date, not the date of the last read.

The accuracy of the content of CS files was confirmed by checking a further five transfer CS files. These files were all correct.

The switch breach history report did not contain any late files.

GEOL

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

Count of transfer CS files	Estimated daily kWh	Findings
Negative	2	ICP 0007600371WM8AE had a meter reading error causing negative consumption. ICP 0000542776NRE84 had one reading during the GEOL time slice and this read credited into the gain estimate.
Zero	141	I sampled five ICPs and found that all were calculated correctly due to the timing of the last actual billed and the switch process closing on the same day. This causes the consumption between the last billed read and the switch out read to be zero.
More than 200 kWh	7	I sampled the five ICPs with the largest average daily consumption and confirmed four were correct, but ICP 0000726581HB1E5 had an incorrect daily average because the system used the final billed average consumption not the read-to-read consumption.

I checked for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions including:

- Five CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility. In all cases the last billed reading was in the CS file for the switch event date, even though the reading was taken prior to the switch date. All five should have been labelled as estimates not actuals.
- Five CS files with estimated switch event reads where the last actual read date was on the last day of responsibility. In all cases, the readings were correct and correctly labelled as estimates, but the date of the last reading field was populated with the day before the switch event date, not the date of the last read.

The accuracy of the content of CS files was confirmed by checking a further five transfer CS files. This found one CS file content error. ICP 0000965548TEB79 where the last read date is incorrect and the read is recorded as an estimate when it is an actual. This CS was created manually.

The switch breach history report did not record any breaches for transfer switches.

GENH

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

Count of transfer CS files	Estimated daily kWh	Findings
Negative	-	
Zero	6	As these are reconciled half hourly, hence a zero is recorded.
More than 200 kWh	-	

I did not identify any inconsistencies between last actual read dates and switch event read types. The accuracy of the content of CS files was confirmed by a sample of five transfer CS files.

The switch breach history report did not record any breaches for transfer switches.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 of schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	The average daily consumption calculation is not calculated from the last read period. **GENE** Five of 15 ICPs checked with last reads incorrectly labelled as actual but should have been sent as estimates. Five of 15 ICPs (different to the five above) checked where the last read date was the last billed date and the last read date was earlier. **GEOL** Two ICPs with a negative average daily consumption is incorrect as it is not consumption. One ICP with incorrect average daily consumption due to using the final billed average instead of read-to-read consumption. Five of 15 ICPs checked with last reads incorrectly labelled as actual but should have been sent as estimates. Five of 15 ICPs (different to the five above) checked where the last read date was the last billed date and the last read date was earlier. Potential impact: Medium 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 recorded as weak as the volume of errors found in the ICPs sample was high indicating that the logic in Gentrack needs to be reviewed to improve accuracy. The audit risk rating is low as any variances between gain read and reads sent in the CS file are addressed via the RR process initiated by the gaining trader in most instances.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will be investigating potential process / systems improvements to be able to assess any corrective actions.	01/02/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
To be determined from above investigation	01/02/2022	

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

Code reference

Clause 6(1) and 6A Schedule 11.3

Code related audit information

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

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

If the gaining trader disputes a switch meter reading because the switch event meter reading provided by the losing trader differs by 200 kWh or more, the gaining trader must, within four calendar months of the 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 reports were analysed to identify all read change requests and acknowledgements during the audit period. A sample of RR and AC files issued for transfer switches were checked to confirm that the content was correct, and that Gentrack and Derive reflected the outcome of the RR process.

I also checked for CS files with estimated readings provided by other traders where no RR was issued, to determine whether the correct readings were recorded in Gentrack and Derive.

The switch breach history report for the audit period was reviewed.

Audit commentary

When a high or low read is identified through the read validation process for a new switch in, the ICP is investigated to determine whether a read change is required.

GENE

GENE issued 82 RR files for transfer switches. 56 were accepted and 26 were rejected. A sample of five accepted and five rejected RRs were checked. There was a genuine reason for GENE's RRs and they were supported by at least two validated readings, and the reads recorded in Gentrack reflected the outcome of the RR process.

GENE issued 355 AC files for transfer switches. 200 were accepted, and 155 were rejected. A sample of five AC rejections and five acceptances were checked. All were correct and the five rejected were accepted on a subsequent corrected RR file.

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

The switch breach report recorded seven late transfer RR files, and no late AC files. I reviewed all seven examples and found they were late due to the time required to get two actual reads.

GEOL

GEOL issued 20 RR files for transfer switches. 14 were accepted and six were rejected. A sample of 15 files including eight rejections were checked. There was a genuine reason for GEOL's RRs. Ten were based on two validated reads, but five were based on at least one customer read.

GEOL issued 164 AC files for transfer switches. 96 were accepted and 68 was rejected. A sample of ten files including five rejections were checked. A sample of five AC rejections and five acceptances were checked. All were rejected for valid reasons and Gentrack 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 Gentrack.

The switch breach report recorded no late transfer RR files, and no late AC files.

GENH

No RR or AC files were recorded on the event detail report for the period reviewed. The switch breach report did not record any late RR or AC files for transfer switches.

There were no transfer CS files with estimated reads where no RR was issued.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 6(1) and 6A Schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	**GENE** Seven late RR files. **GEOL** Five RRs not supported by two actual reads. 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 because the process is sound and potentially incorrect readings are investigated as soon as possible. There is a minor impact on other traders and customers because rebilling has to occur. The audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have strong controls in place. To ensure accuracy the RR response can sometime take longer than the time required, this is often outside of Genesis' control	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continuous Improvement	Continuous Improvement	

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 process for the management of read requests was examined. The event detail report was analysed to identify read change requests issued and received under Clause 6(2) and (3) Schedule 11.3 and determine compliance.

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.

GENE

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

I identified 1,411 RR files for transfer switches issued to GENE within five business days of CS completion where the NT specified a HHR profile. For 237 of the RR files, the CS event readings were not actual, and GENE had traded the ICP as NHH:

- 144 RRs were accepted, and
- 93 RRs were rejected, and 45 of those were accepted on reissue.

I checked the only TR RR which was invalidly rejected, and it was accepted on reissue.

GEOL

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

I identified 684 RR files for transfer switches issued to GENE within five business days of CS completion where the NT specified a HHR profile. For 71 of the RR files, the CS event readings were not actual and GEOL had traded the ICP as NHH:

- 41 RRs were accepted, and
- 30 RRs were rejected, and 12 of those were accepted on reissue.

None of these were TR switches.

GENH

No RR or AC files were recorded on the event detail report for the period reviewed.

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 asked Genesis whether any disputes have needed to be resolved in accordance with this clause.

Audit commentary

Genesis confirms that no disputes have needed to be resolved in accordance with this clause. Genesis understands the requirements of 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 Genesis deem all conditions to be met. A typical sample of 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

Genesis' 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.

GENE

Review of the event detail report found 26,900 switch move NTs for GENE. I matched the NTs to the meter category recorded on the registry list for 21,712 ICPs and found none had a metering category of three or above.

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

GEOL

Review of the event detail report found 14,240 switch move NTs for GEOL. I matched the NTs to the meter category recorded on the registry list for 10,870 ICPs and found none had a metering category of three or above.

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

GENH

Review of the event detail report found 89 switch move NTs for GENH. I matched the NTs to the meter category recorded on the registry list and found none had a metering category of three or above.

Three of the five NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected. ICPs 0194371700LCA7A and 0077261560WE7E3 were not sent within two business days due to processing issues.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.7 With: Clause 9 Schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	**GENH** Two late NT files. 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 recorded as strong because they mitigate risk to an acceptable level. 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
Reporting error due to switching code change. This has been corrected and Genesis are now compliant. Breach reports from Jan 21 processed correctly	Jan 21	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Reporting corrected in Jan 2021 to ensure compliance	Jan 21	

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

The event detail reports were reviewed to:

- identify AN files issued by Genesis during the audit period,
- assess compliance with the requirement to meet the setting of event dates requirement, and
- a diverse sample ANs were checked for each trader code to determine whether the codes had been correctly applied.

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

The switch breach history report was examined for the audit period.

Audit commentary

GENE

The switching process was examined in relation to GENE as the "losing trader" for a sample of NHH ICPs, and in all but one case, the correct codes were used. The meters were not loaded to the ICP at the time of switch as it was a new connection, and it was sent incorrectly as unmetered supply "MU". The ICP had the meters loaded prior to the switch completing. This is recorded as non-compliance below.

The event detail report was reviewed for all 38,913 switch move ANs to assess compliance with the setting of event dates requirements.

- 38,909 (99.99%) had proposed event dates within ten business days of the NT receipt date. Four ICPs had proposed event dates more than ten business days after the NT receipt date. Three matched the gaining trader's requested date. ICP 0000016046TCA9F had an incorrect date in a manually created file.
- One AN had a proposed event date before the gaining trader's requested date. ICP 0005020824RN130 had an incorrect date in a manually created file.

The switch breach history report recorded:

Breach type	Quantity reported	Finding
AN	-	-
E2	6	These were all due to processing errors.
ET	1	This was due to a processing error.
T2	1,527	47 of the breaches were over five business days late, and the latest was ten business days late. I checked 20 and found they were all due to using the incorrect "count" of 10 days rather than five days.

GEOL

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

The event detail report was reviewed for all 13,054 switch move ANs to assess compliance with the setting of event dates requirements.

- All ANs had proposed event dates within ten business days of the NT receipt date.
- No ANs had a proposed event date before the gaining trader's requested date.

The switch breach history report did not record any AN or ET breaches.

The switch breach history report recorded:

Breach type	Quantity reported	Finding
AN	-	
E2	-	
ET	-	
T2	259	Ten of the breaches were over five business days late, and the latest was nine business days late. I checked 20 and found they were all due to using the incorrect "count" of 10 days rather than five days.

GENH

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

The event detail report was reviewed for all 76 switch move ANs to assess compliance with the setting of event dates requirements.

- All had proposed event dates within ten business days of the NT receipt date.
- No ANs has a proposed event date before the gaining trader's requested date. The gaining trader's requested date was applied in all cases.

The switch breach history report recorded:

Breach type	Quantity reported	Finding
AN	1	ICP 0270414509LC9E6 had a late AN file due to internal processing.
E2	1	ICP 0110007311EL7A6 had an incorrect event date, which was corrected by the withdrawal process.
ET	-	
T2	4	These were all due to internal processing.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) of schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	**GENE** One incorrect AN response code sent. Two incorrect event dates. 1,527 late CS files. 6 E2 breaches. 1 ET breach. **GEOL** 259 late CS files. **GENH** One late AN file sent. Four late CS files sent. One E2 breach 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 changes were made in February 2021 to avoid the large number of late CS files. The audit risk rating is low as the late files are being sent within days of their due date.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have recently been through a structural change to support the Genesis strategic ways of working and have recruited 4 new Subject Matter Experts to support the current controls, process improvements and assist with staff training. Genesis are also recruiting for an additional 6 CSR's to relieve current resource constraints.	01/02/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Changes made in Feb 2021 to improve controls	01/02/2022	

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

Event detail reports were reviewed to identify AN files issued by Genesis during the audit period, and assess compliance with the requirement to meet the setting of event dates requirement.

Audit commentary

GENE

In the majority of cases (38,903/38,913), Genesis applied the gaining trader's requested date as the AN proposed event date. Analysis found all switch move ANs had a valid switch response code, and event dates were compliant apart from:

- one AN with a proposed event date before the gaining trader's requested date; ICP 005020824RN130 was processed manually with an error in the date, and
- one AN with a proposed event date more than ten business days after the NT receipt date; ICP 0000016046TCA9F was processed manually with an error in the date.

Switches were completed as required by this clause.

GEOL

In the majority of cases (13,502/13,054), Genesis applied the gaining trader's requested date as the AN proposed event date. 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.

GENH

All switch move ANs had a valid switch response code, and event dates were compliant. The gaining trader's requested date was applied in all cases.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report was reviewed to identify CS files issued by Genesis during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records per trader code. 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 identified. A sample of these CS files were checked to determine whether the average daily consumption was correct.

Audit commentary

The registry functional specification requires estimated daily kWh to be based on the average daily consumption for the last read-to-read period. Genesis calculates the average daily consumption from the last billed actual to the switch read when switch read is an actual, and from the last billed actual to actual when the switch read is an estimate. This is not based on the average daily consumption from the two most recent reads. Genesis' 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 code's requirements the current methodology is recorded as non-compliant.

GENE

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

Count of switch move CS files	Estimated daily kWh	Findings
Negative	34	I sampled the five ICPs with the largest negative average daily consumption and found all were incorrect. Four were due to incorrect disconnection reads and one was a system error.
Zero	5,409	I sampled five ICPs and found they were valid.
More than 200 kWh	71	I sampled the five ICPs with the largest average daily consumption and found three were correct. The remaining two were both incorrect due to incorrect reads. Both were reviewed by a CSR and should not have been released.

I checked for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions including:

- five CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility (in four cases the last billed reading was in the CS file for the switch event date, even though the reading was taken prior to the switch date; all four should have been labelled as estimates not actuals, and one ICP had an incorrect date of last reading), and
- five CS files with estimated switch event reads where the last actual read date was on the last day of responsibility (in one case, the reading was incorrect, in three cases, the date of the last reading was incorrect).

The accuracy of the content of CS files was confirmed by checking a further five switch move CS files. This found one file had an incorrect read, labelled as an actual instead of an estimate, and the last reading date was incorrect.

As discussed in **section 6.8**, the CS file for six ICPs not read during the period of supply were sent with the disconnection reads as actual reads for the event date when all had been disconnected since 2015 or earlier. This is recorded as non-compliance in **sections 4.16**, **6.7** and below.

GEOL

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

Count of switch move CS files	Estimated daily kWh	Findings
Negative	17	I sampled the five ICPs with the largest negative average daily consumption and all were found to be incorrect. Three examples were final reads crediting into gain estimates. One was a meter reader error, and one was a system issue.
Zero	1,333	I sampled five ICPs and found all were correct.
More than 200 kWh	4	All four ICPs with the largest average daily consumption were reviewed and confirmed three were correct. A system error caused one incorrect consumption figure for ICP 0005731050WM32F due to invoice reversals.

I checked for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions including:

- Five CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility. In four cases the last billed reading was in the CS file for the switch event date, even though the reading was taken prior to the switch date. All four should have been labelled as estimates not actuals.
- Five CS files with estimated switch event reads where the last actual read date was on the last day of responsibility. In all cases, the date of the last reading was incorrect.

The accuracy of the content of CS files was confirmed by checking a further five switch move CS files. This found no CS file content errors.

When checking the management of active vacant consumption, I identified ICPs 0009030135WMB02 and 0000028807WEBAD were switched out using the last billed read as an estimated read rather than the last gained read. This will have resulted in an over submission of 1,081 kWh for ICP 0009030135WMB02 as the actual reads gained were lower than the estimated reads and under submission of 85kWh for ICP 0000028807WEBAD.

GENH

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

Count of switch move CS files	Estimated daily kWh	Findings
Negative	-	
Zero	10	As these are reconciled half hourly, hence a zero is recorded.
More than 200 kWh	-	

All ten files with zero estimated daily kWh were checked and found that as these are Category 2 HHR ICPs that are read half hourly the average daily consumption was not required.

I checked for inconsistencies between last actual read dates and switch event read types and found one CS file with actual switch event reads where the last actual read date was prior to the last day of responsibility. The CS file content was correct.

The accuracy of the content of CS files was confirmed by checking a further five gaining trader CS files. All were correct.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 of schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	The average daily consumption calculation is not calculated from the read-to-read period. **GENE** 34 ICPs sent with a negative average daily consumption are incorrect as it is not consumption and of the five sampled all were sent with an incorrect final read. Two of the five ICPs sampled with a high average daily consumption figure were found to be incorrect and were sent with an incorrect final read. Five of 15 ICPs checked with incorrect last read labelled as actual but should have been sent as estimates. Five of 15 ICPs checked where the last read date was shown as the last billed date but the last read date was earlier. Six of the 15 ICPs where the incorrect final read was in the CS file. Six ICPs not read during the period of supply were sent with the disconnection reads as actuals for the event date. **GEOL** All 17 ICPs with a negative average daily consumption are incorrect as it is not consumption, and all were sent with an incorrect final read. One of the four ICPs with a high average daily consumption figure was found to be incorrect. Four of 15 ICPs checked with incorrect last read labelled as actual but should have been sent as estimates. Five of 15 ICPs checked where the last actual read date is recorded incorrectly. Four of 15 ICPs checked with incorrect switch event meter readings. Two ICPs where the CS file was sent with estimated last billed reads rather than the last actual read gained. 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 recorded as weak as the volume of errors found in the ICPs sample was high indicating that the logic in Gentrack needs to be reviewed to improve accuracy. The audit risk rating is low as any variances between gain read and reads sent in the CS file are addressed via the RR process initiated by the gaining trader in most instances.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will review the current controls that are in place and look to make improvements to these to negate the risk of non-compliance.	Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The review will provide preventative actions	Continuous Improvement	

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 reports were analysed to identify all read change requests and acknowledgements during the audit period. A sample of RR and AC files issued for transfer switches were checked to confirm that the content was correct, and that Gentrack and Derive reflected the outcome of the RR process.

I also checked for CS files with estimated readings provided by other traders where no RR was issued, to determine whether the correct readings were recorded in Gentrack and Derive.

The switch breach history report for the audit period was reviewed.

Audit commentary

GENE

GENE issued 372 RR files for switch moves. 308 were accepted and 64 were rejected. For the sample of five acceptances and five rejections checked there was a genuine reason for GENE's RRs, they were supported by at least two validated readings, and the reads recorded in Gentrack reflected the outcome of the RR process.

GENE issued 2,640 AC files for switch moves. 1,832 were accepted and 808 were rejected. A sample of five AC rejections and five acceptances were checked. All were correct.

Review of five switch move CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Gentrack.

The switch breach history report recorded 23 late switch move RR files, and no late AC files. I reviewed the ten latest RR files and found all were late due to the time required to get two actual reads.

I identified 1,411 RR files for transfer switches issued to GENE within five business days of CS completion where the NT specified a HHR profile. For 237 of the RR files, the CS event readings were not actual, and GENE had traded the ICP as NHH:

- 144 RRs were accepted, and
- 93 RRs were rejected, and 45 of those were accepted on reissue.

I checked a sample of 19 and found that for ICP 0000214277UNACF, the read in the Genesis CS file was 92822 as an estimate. The gaining trader sent 92872 as an actual, but Genesis incorrectly rejected.

Genesis' historic estimate calculation process excludes inactive periods. Where part of a read-to-read period was inactive, the SASV inactive days were excluded from both the numerator and denominator when calculating the historic estimate, forcing all consumption to be reported within the active portion of the read-to-read period. Where an entire read-to-read period has inactive status, the numerator and denominator will be zero and no historic estimate will be reported. The status must be returned to active to allow consumption during inactive periods to be correctly reported.

A correction has been processed for ICP 0000491003WE1B reported in the 2020 audit, so that the agreed read has been used.

GEOL

GEOL issued 177 RR files for switch moves. 154 were accepted and 23 were rejected. For the sample of five acceptances and five rejections checked there was a genuine reason for GEOL's RRs, they were supported by at least two validated readings.

GEOL issued 1,425 AC files for switch moves, 981 were accepted and 444 were rejected. A sample of five AC rejections and five acceptances were checked. All were rejected for valid reasons and Gentrack reflected the correct outcome of the RR process.

Review of five switch move CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Gentrack.

The switch breach history report recorded five late RR files. All were late due to the time required to get two actual reads.

I identified 684 RR files for transfer switches issued to GENE within five business days of CS completion where the NT specified a HHR profile. For 71 of the RR files, the CS event readings were not actual and GEOL had traded the ICP as NHH:

- 41 RRs were accepted, and
- 30 RRs were rejected, and 12 of those were accepted on reissue.

I checked all of these and found that for ICPs 0006995667RN4A1 and 0007122856RNEB6, the readings in the GEOL CS files were estimates and they incorrectly rejected the actual reads in the RR files from the gaining traders. As detailed in **section 2.1,** ICP 0000918556TUA73 switched out on the disconnected read. An RR was sent to Genesis to correct this but was incorrectly rejected by Genesis. This resulted in 20,820 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader.

GENH

No RR or AC files were recorded on the event detail report for the period reviewed. The switch breach report did not record any late RR or AC files for switch moves.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 12 of schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	**GENE** 23 late RR files. RR incorrectly rejected for ICP 0000214277UNACF. **GEOL** Five late RR files. RR files incorrectly rejected for ICPs 0006995667RN4A1, 0007122856RNEB6 and 0000918556TUA73. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are moderate as the controls will mitigate risk most of the time but there is still room for errors to occur. There is a minor impact on other traders and customers because rebilling has to occur. The audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
To improve accuracy and the correct outcome for the customer the RR response can sometime take longer than the time required, this is often outside of Genesis' control	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continuous Improvement	Continuous Improvement	

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 switch gain process was examined to determine when Genesis deem all conditions to be met. A typical sample of HH NTs were checked to confirm whether they were notified to the registry within three business days.

HH NTs on the event detail report were matched to the metering information on the meter event details report to confirm whether the correct switch type was selected.

Audit commentary

GENH

The switching process is manual. GENH manages all gaining trader HHR switches.

51 HH NTs were issued by GENH during the period reviewed. All had meter categories of three or above apart from:

- 0000365384HBA66 (event date 2 September 2020 category 1); this file was sent in error, and
- 0000044369WED10 (event date 3 February 2021 category 2) which was withdrawn for an incorrect switch type, this file was sent in error.

I checked five NT files and one of the five was sent late due to a user error.

One PT breach was recorded for 0007065116RNE83 because the NT proposed transfer date was before the arrival date of the NT, in a month earlier than the arrival date and was different to the AN event date. The switch was completed effective from 1 October 2020, the NT proposed event date.

Review of the event detail report found 89 switch move NTs for GENH. I matched the NTs to the meter category recorded on the registry list and found none had a metering category of three or above.

GENE

I checked the metering category for the 11,417 transfer switch ICPs and 21,712 switch move ICPs where this information was available on the registry list report and found none had metering categories of three or above.

GENE issued two HH NT files for category three meters; both were later withdrawn.

GEOL

I checked the metering category for the 1,368 transfer switch ICPs and 10,870 switch move ICPs where this information was available on the registry list report and found none had metering categories of three or above.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.12 With: Clause 14 Schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	HH switch NT files sent for ineligible ICPs. One late NT file. One PT breach indicating a backdated switch. 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 recorded as moderate because they mitigate risk most of the time but there is room for improvement. 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
Genesis will review the current processes and controls and make improvements to negate the compliance risk where possible	01/05/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The review will provide preventative actions	01/05/2022	

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

An event detail report was reviewed to identify AN files issued by Genesis during the audit period, and a sample of two (or all) ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach history report was examined for the audit period.

Audit commentary

GENH

212 HH ANs were issued by GENH. 211 correctly had the AA (acknowledge and accept) response code applied. ICP 0000171101ENC93 (event date 1 February 2021) had AMI metering and the AA (acknowledge and accept) response code was applied.

The switch breach report recorded five late HH AN files for GENH. Two were due to user error, two were waiting on account manager approval and one was in the process of having a meter change.

GENE

Four HH AN files were issued by GENE and the AA (acknowledge and accept) response code was correctly applied**.**

No HH AN breaches were recorded on the switch breach report.

GEOL

No HH AN files were issued, and no HH AN breaches were recorded on the switch breach report.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.13 With: Clause 15 of schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	**GENH** Five AN breaches. One incorrect response code. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as the team have good visibility of workflow but due to resource constraint these were late. The audit risk rating is low as these they were only a few days late and had no impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will continue to review the C&I end to end processes and implement controls and process to improve these where possible.	01/05/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The review will provide preventative actions	01/05/2022	

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 content was as expected for all HH CS files.

The switch breach history report recorded two CS breaches. These were checked and found this was due to user error.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.14 With: Clause 16 of schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	**GENH** Two CS breaches. 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 rated as strong as the team have good visibility of workflow but due to resource constraint these were late. The audit risk rating is low as these they were only a few days late and had no impact on settlement.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will continue to review the C&I end to end processes and implement controls and process to improve these where possible.	01/05/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Will be addressed fully as part of the billing platform change	01/05/2022	

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

Event detail reports were reviewed to:

- identify all switch withdrawal requests issued by Genesis and check the content of a sample of at least three (or all) ICPs from the event detail report for each withdrawal code,
- identify all switch withdrawal acknowledgements issued by Genesis, and check a sample, 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

GENE

The content of a sample of 20 NWs was checked including 13 rejections, and in two cases the withdrawal reasons provided by GENE were not correct.

546 (11.1%) of the 4,909 AWs issued by GENE were rejections. I reviewed a sample of ten rejections by GENE, and confirmed they were rejected based the information available at the time the response was issued.

The switch breach history report recorded:

- 11 SR breaches where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; in all cases there was a lot of investigation involved to identify the best course of action,
- 100 NA breaches where the NW was issued more than two calendar months after the switch completion date; I checked the latest 20 and found that in most cases, the customer contact was late or the incorrect property was identified late, and
- no late AW files.

GEOL

The content of a sample of 21 NWs was checked including 19 rejections, and in one case the withdrawal reason provided by GEOL was incorrect.

138 (11.0%) of the 1,523 AWs issued by GEOL were rejections. I reviewed a sample of ten rejections by GEOL, and confirmed they were correctly rejected based the information available at the time the response was issued

The switch breach history report recorded:

- seven SR breaches where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; in all cases there was a lot of investigation involved to identify the best course of action,
- 33 NA breaches where the NW was issued more than two calendar months after the switch completion date; I checked the latest 20 and found that in most cases, the customer contact was late or the incorrect property was identified late, and
- no late AW files.

GENH

The content of a sample of 14 NWs was checked including three rejections and in one case the withdrawal reason provided by GENH was incorrect.

One (0.3%) of the 31 AWs issued by GENH was a rejection. I reviewed the rejection, and confirmed it was rejected based the information available at the time the response was issued.

The switch breach history report recorded:

- one SR breach where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal due to user error,
- one NW breach where the NW was more than five business days after NT receipt,
- two NA breaches where the NW was issued more than two calendar months after the switch completion date, due to processing errors, and
- one AW breach where the AW arrival date was more than five business days after the receipt of the NW due to a processing error.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clause 17 & 18 of schedule 11.3 From: 25-Sep-20 To: 14-Apr-21	**GENE** Two incorrect NW codes. 11 SR breaches. 100 NA breaches. **GEOL** One incorrect NW code. Seven SR breaches. 33 NA breaches. **GENH** One incorrect NW code. One SR breach. One NW breach. Two NA breaches. One late AW Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating
Low	The controls are recorded as strong as these are managed on a case by case with good controls to ensure that content is accurate and timeliness reporting is in place. 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
Genesis have strong controls in place and the processes are in place to ensure that the customer impact is mitigated. This results in some exceptions that need to be worked, ensuring the accuracy of these can sometimes be to the detriment of timeliness	01/06/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will continue to look for efficiencies within this process	01/06/2022	

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 and were confirmed to be as accurate as possible with the exception of:

GENE

- 11 ICPs sent with the incorrect last read, and
- as discussed in **section 6.8**, the CS file for six ICPs not read during the period of supply were sent with the disconnection reads as actual reads for the event date when all had been disconnected since 2015 or earlier which is recorded as non-compliance in **sections 4.10**, **6.4** and below.

GEOL

- 11 ICPs (including the two found when checking the management of active vacant consumption) sent with the incorrect last read.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.16 With: Clause 216 of schedule 11.3 From: 01-Sep-20 To: 27-Apr-21	**GENE** 17 incorrect last reads sent. **GEOL** 11 incorrect last reads sent of those sampled. Potential impact: Low 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 the controls will mitigate risk most of the time but there is room for errors to occur. The audit risk rating is low as these are expected to be corrected through the RR process in most cases.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will review current processes and controls to identify possible improvement to mitigate the risk of non-compliance. Genesis have processes in place around vacant consumption but due to resource issues this has not been actively worked. Genesis have recently been through a structural change to support the Genesis strategic ways of working and have recruited 4 new Subject Matter Experts to support the current controls, process improvements and assist with staff training. Genesis are also recruiting for an additional 6 CSR's to relieve current resource constraints	01/05/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The above review will highlight potential preventative actions	01/05/2022	

4.17. Switch protection (Clause 11.15AA to 11.15AC)

Code reference

Clause 11.15AA to 11.15AC

Code related audit information

A losing retailer (including any party acting on behalf of the retailer) must not initiate contact to save or win back any customer who is switching away or has switched away for 180 days from the date of the switch.

The losing retailer may contact the customer for certain administrative reasons and may make a counteroffer only if the customer initiated contacted with the losing retailer and invited the losing retailer to make a counteroffer.

The losing retailer must not use the customer contact details to enable any other retailer (other than the gaining retailer) to contact the customer.

Audit observation

Win-back processes were discussed. The event detail reports were analysed to identify all withdrawn switches with a CX code applied 180 days of switch completion post 31 March 2020.

Audit commentary

Genesis confirmed that they contact customers who are switching out to confirm that the switch request is valid, but do not offer enticements for the customer to remain with Genesis.

GENE

203 withdrawals were issued with a CX reason code within 180 days of switch completion after 31 March 2020 where GENE was the losing trader. A sample of 15 ICPs using the typical case methodology were checked and found:

- 13 were withdrawn as the customer contacted Genesis and requested to stay,
- one customer was emailed regarding a contract cancellation fee and decided to stay,
- one customer was called about their gas account and requested to have their electricity account stay with Genesis.

I listened to five phone calls to support the findings above.

GEOL

42 withdrawals were issued with a CX reason code within 180 days of switch completion after 31 March 2020 where GEOL was the losing trader. A sample of ten ICPs using the typical case methodology were checked and found all to be compliant. They were all inbound calls requesting to stay. I listened to five calls to support this finding.

GENH

Three withdrawals were issued with a CX reason code within 180 days of switch completion after 31 March 2020 where GENH was the losing trader, and all were confirmed to be complaint.

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 processes to identify and monitor shared unmetered load were discussed. The registry lists and AC020 reports were reviewed to identify all ICPs with shared unmetered load and assess compliance.

Audit commentary

All ICPs with unmetered load recorded in the trader details on the registry are recorded in Gentrack with the unmetered load. The unmetered load values are recorded in Derive via a dummy meter process.

GENE

The AC020 report recorded four ICPs with shared unmetered load where the daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh. None were genuine because the distributor unmetered load details were not in the format expected by the report, which resulted in a calculation error.

Review of the AC020 report found no ICPs with shared unmetered load had the unmetered flag set to Y with a zero or blank daily unmetered kWh value.

GEOL

The AC020 report did not record any ICPs with shared unmetered load which had the unmetered flag set to Y with a zero or blank daily unmetered kWh value. There were no instances where the daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh for shared unmetered ICPs.

GENH

Review of the registry list and AC020 report confirmed that GENH does not supply any ICPs with shared unmetered load.

Audit outcome

Compliant

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

The AC020 reports were examined to identify all unmetered load over 3,000 kWh per annum. Any ICPs with unmetered load greater than 3,000 kWh per annum were examined.

Audit commentary

GENE

Review of the AC020 report found 163 ICPs had unmetered load of over 3000 kWh per annum recorded.

35 of the ICPs had loads between 3000 kWh and 6000 kWh per annum. Of those:

- 14 were DUML ICPs, and
- 21 had approved load types.

128 of the ICPs had loads over 6000 kWh per annum. Of those 118 were DUML ICPs. The other 10 ICPs were checked:

ICP	Annual kWh	Previous audit comment	2021 comment
0000081066CPA8F	9,745.5	GENE have been advised that the NZTA has employed a streetlighting contractor to assist in identifying all NZTA Manawatu lighting assets. Genesis has made direct contact with the head office of NZTA to speak with the persons who manage these streetlighting assets, but to no avail. Genesis continues to work on getting asset information pertain to the Rural State Highway's. The Urban State Highway lighting seems to be under CTCT ownership.	Genesis has been advised that they have now won back Manawatu NZTA assets for the region, Genesis note that this ICP has not been included in the data set provided and will be raising this with Kara Atkinson 30/07/2021. Genesis currently have no customer assigned to these ICP's and will be urgently seeking NZTA to accept responsibility in order for historical billing / settlements to occur.
0900088512PCB3A	13,369.95	GENE have been advised that the NZTA has employed a streetlighting contractor to assist in identifying all NZTA Manawatu lighting assets. Genesis has made direct contact with the head office of NZTA to speak with the persons who manage these streetlighting assets, but to no avail. Genesis continues to work on getting asset information pertain to the Rural State Highway's. The Urban State Highway lighting seems to be under CTCT ownership.	Genesis has been advised that they have now won back Manawatu NZTA assets for the region, Genesis note that this ICP has not been included in the data set provided and will be raising this with Kara Atkinson 30/07/2021. NZTA to add assets/ICP into their database in order for historical billing / settlements to occur.
0900088511PC7FA	115,405.7	GENE have been advised that the NZTA has employed a streetlighting contractor to assist in identifying all NZTA Manawatu lighting assets. Genesis has made direct contact with the head office of NZTA to speak with the persons who manage these streetlighting assets, but to no avail. Genesis continues to work on getting asset information pertain to the Rural State Highway's. The Urban State Highway lighting seems to be under CTCT ownership.	Genesis has been advised that they have now won back Manawatu NZTA assets for the region, Genesis note that this ICP has not been included in the data set provided and will be raising this with Kara Atkinson 30/07/2021. NZTA to add assets/ICP into their database in order for historical billing / settlements to occur.
0000562361UN29B	25,316.4	Genesis have requested the information from the distributor who has populated the distributor unmetered load field, to ascertain what the populated load is, to be able to establish its validity.	Genesis will be discussing this connection with POCO 3/08/2021- POCO initiated this discussion.

ICP	Annual kWh	Previous audit comment	2021 comment
1001101874UN586	30,660	ICP belongs to NZTA and will be audited as part of the NZTA - Ref 60035210 account assets	Genesis and NZTA have identified this as the traffic management for the roundabout to control peak traffic, they are temporary whilst transmission gully is developed. The lights will be removed once completed. The load is for a 600w battery charger which runs the light during the peak times and charges over night off the lighting circuit. Registry has been updated - 600;12; 600w battery charger
0088051701WM2E0	8,460.7	These lights relate to harbour lights. The site is vacant. GENE are investigating to determine whether a customer can be found for these lights or get them disconnected.	Genesis has not been able to be found, decommissioning may be the next steps once any safety concerns have been revised.
1001243372UN366	52,268	This is a bucket ICP for Nulite signs on the North Shore. The customer has not provided a database. GENE are working with Mercury who also has lights with this customer to resolve these.	Nulite have provided a database where Genesis has established that due to the lamp types it will potentially always be greater than threshold. The signs are maintenance free and unsure whether an LED lamp is available for replacement. Discussions will need to be had as to whether the cost to serve DUML is warranted and whether an exemption is required to remove these assets from the DUML requirements. Failing that it would be in the customers best interest to have one trader manage their energy usage for these signs
0000455891UN0A2	39,091.5	This is a bucket ICP for Nulite signs on West Auckland. The customer has not provided a database. GENE are working with Mercury who also has lights with this customer to resolve these.	As above

ICP	Annual kWh	Previous audit comment	2021 comment
0000179860TR9B6	16,545.45	Wellington International Airport Limited. Genesis account manager is currently in the process of enquiries. Genesis and the customer need to ascertain whether these lights still exist and or whether they have already been upgraded or not and recommend any potential solution.	Genesis has not been able to ascertain whether these assets are still current due to airport upgrades
0005000772HBA61	7,643.1	Big Save Furniture employed an electrician to reduce the number of lights and replace the remaining with LED's. The electrician has to date failed to reply to emails and phone calls to provide the appropriate information for the work carried out.	As per previous comments, Customer has had electrician do the work but the electrician has not provided the Customer or Genesis confirmation as to what was installed.

I rechecked ICP 1000587024PCA06 which appeared as an exception in the previous audit and found it is a 23 W electric sign, with 0.552 daily kWh recorded. The retailer and distributor unmetered load details are consistent.

GEOL

Review of the AC020 report found GEOL supplies three ICPs with unmetered load between 3,000 and 6,000 kWh per annum. All have a predicable load type.

No ICPs with unmetered load over 6,000 kWh per annum are supplied.

GENH

Review of the AC020 report confirmed that GENH does not supply any ICPs with unmetered load over 3,000 kWh per annum.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.2 With: Clause 10.14 (2)(b) From: 01-Aug-18 To: 27-Apr-21	**GENE** 10 ICPs with unmetered load over 6,000 kWh per annum. 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 recorded as moderate as Genesis are working with the customers concerned to resolve these, but this is taking longer than expected. The impact on settlement is unknown because the load has not been checked but submission is occurring. I have recorded the audit risk rating as low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis continue to review unmetered load greater than the threshold and will work with customers to mitigate the compliance risk. Genesis are currently recruiting for a Data Stakeholder Lead, this role will manage Distributed Unmetered Load customers databases.	Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis continues to investigate these as part of the UML reporting process.	Continuous Improvement	

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 process for the management of unmetered load thresholds is discussed in **section 5.2** above. The AC020 reports were examined to identify all unmetered load over 6,000 kWh per annum. Any ICPs with unmetered load greater than 6,000 kWh per annum were examined.

Audit commentary

GENE

10 ICPs with estimated unmetered consumption over 6,000 kWh per annum, which do not have a DUML database listed on the Authority's DUML audit register were identified. Remedial actions have not been completed for these ICPs within the required time frame.

GEOL

No ICPs with unmetered load over 6,000 kWh per annum are supplied.

GENH

No ICPs with unmetered load over 6,000 kWh per annum are supplied.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.3 With: Clause 10.14 (5) From: 01-Jul-19 To: 27-Apr-21	**GENE** Unmetered load over 6,000 kWh per annum and not resolved within the allowable timeframes. 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 recorded as moderate as Genesis are working with the customers concerned to resolve these, but this is taking longer than expected. The impact on settlement is unknown because the load has not been checked. I have recorded the audit risk rating as low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis continue to review unmetered load greater than the threshold and will work with customers to mitigate the compliance risk. Genesis is currently recruiting for a Data Stakeholder Lead, this role will manage Distributed Unmetered Load customers databases	Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis continues to investigate these as part of the UML reporting process.	Continuous Improvement	

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

Genesis is responsible for 39 DUML databases. Most of these were all audited by Veritek during the audit period.

All DUML is supplied using the GENE participant code.

Audit commentary

As reported in the last audit. 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, and
- wash up volumes must take into account where historical corrections have been made to the DUML load and volumes.

Currently Genesis use a snapshot of a DUML database taken at the end of each month to derive submission. 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. I have included the submission variance in the last column of the main DUML table on the next page. Additionally, I have included in the table below the submission related issues where the variance is greater than 50,000 kWh per annum:

Database	Main issues	Potential kWh impact (per annum)
NZTA Northland	Inaccurate and out of date Distributor database. Genesis is working with NZTA to use RAMM, but it presently has no ICPs against the items of load.	Under submission of 117,675 kWh
NZTA Waikato East	NZTA lights in Matamata Piako DC being submitted by both NZTA and Matamata Piako DC	Over submission of 286,620 kWh
BOP East NZTA- last audit in 2018	No database extract has been provided so Genesis is using historic registry figures that appeared to be out of alignment from the database extract provided at the time of the audit. There have been a number of staff changes at NZTA and Genesis have been unable to locate a database to get this audit completed.	Over submission of 157,655 kWh
Hastings DC	The database accuracy has improved since the last audit, but a variance was found between the light volumes provided in the monthly report to Genesis and that recorded in the database extract	Under submission of 99,527 kWh
Waimakariri DC	Mainpower were managing the database for this council but as they are no longer the field contractor Genesis have had to	Over submission of 63,400 kWh

Database	Main issues	Potential kWh impact (per annum)
	move to use the council RAMM database for reconciliation and the accuracy requires improvement.	
Whakatane DC	This variance was due to a difference in light volumes in the database extract and the wattage report provided to Genesis. Genesis intends to start using the data from the CMS system for submission and this is expected to improve data accuracy	Over submission of 58,765 kWh

The table below shows that 31 DUML databases have had their audits completed within the required timeframe. There are eight DUML audit's outstanding.

		Compliance Achieved (Yes/No)									Database indicative kWh +=over -=under Variance PA
Database	DUML Audit completed 16A.26 Last or next audit date recorded below	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)	
NZTA Wairarapa	01/06/21	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	minor
Stratford DC	01/10/21	No	Yes	Yes	No	No	Yes	Yes	No	No	+9,857
NZTA West Waikato	11/03/21 overdue	No	No	No	No	No	Yes	No	No	No	+20,499
NZTA East Waikato	11/03/21 overdue	No	No	No	No	No	Yes	No	No	No	+287,620
Waimate DC	03/03/23	No	Yes	Yes	No	Yes	Yes	Yes	No	No	Very minor
Whangarei DC	01/10/21	No	Yes	Yes	No	No	Yes	Yes	No	No	+47,200
NZTA Manawatu	29/03/17 overdue										Unknown
Central Hawkes Bay DC	27/05/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Hastings DC	01/09/21	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-99,527
NZTA Northland	15/06/21	No	Yes	Yes	No	No	Yes	Yes	No	No	-117,675

		Compliance Achieved (Yes/No)									Database indicative kWh +=over -=under Variance PA
Database	DUML Audit completed 16A.26 Last or next audit date recorded below	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)	
Wairoa DC	01/06/21	No	No	Yes	Yes	Yes	Yes	Yes	No	No	+25,200
Western BOP DC	15/12/21	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-1,695
Kaipara DC	01/04/22	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	+13,055
Sth Taranaki DC	01/12/20 overdue	No	No	Yes	No	No	Yes	Yes	Yes	No	-8,700
DOC Tekapo	15/12/21	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Mackenzie DC	01/06/21	No	No	Yes	Yes	No	Yes	Yes	No	No	-8,900
Waimakariri DC	01/06/21	No	No	No	No	No	Yes	Yes	No	No	+63,400
Kawerau DC	01/06/21	No	Yes	No	No	No	Yes	Yes	No	No	+6,400
Opotiki DC	17/02/22	No	Yes	Yes	No	No	Yes	Yes	No	No	+1,400
Whakatane DC	17/10/21	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	+58,765
BOP East NZTA	25/05/18 overdue	No	Yes	Yes	No	No	No	Yes	No	No	+157,655
Marlborough Lines	01/12/20 overdue	No	Yes	Yes	Yes	No	No	No	Yes	No	+1,104

		Compliance Achieved (Yes/No)									Database indicative kWh +=over -=under Variance PA
Database	DUML Audit completed 16A.26 Last or next audit date recorded below	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 DC	01/09/22	No	Yes	Yes	No	Yes	Yes	Yes	No	No	+4,651
Kaiangaroa Forest Village Lights	31/05/20 overdue	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	+11,475
Napier CC	01/06/21	No	No	Yes	Yes	No	Yes	Yes	No	No	+9,400
Otorohonga DC	01/06/22	No	Yes	No	Yes	No	Yes	Yes	No	No	minor
Alandale Retirement Village	28/07/21	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Te Kauwhata Retirement Trust Board	01/06/21	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	very minor
Wellington CC	01/09/21	No	No	Yes	No	No	Yes	Yes	No	No	-9,400
NZTA Scanpower	01/12/19 overdue	No	Yes	Yes	Yes	No	Yes	Yes	No	No	N/a not been audited since switching
Tararua DC	01/06/21	No	Yes	Yes	No	Yes	Yes	Yes	No	No	-39,100

		Compliance Achieved (Yes/No)									Database indicative kWh +=over -=under Variance PA
Database	DUML Audit completed 16A.26 Last or next audit date recorded below	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)	
Porirua NZTA	31/01/22	No	Yes	Yes	No	Yes	Yes	Yes	No	No	+23,900
Tasman DC	12/04/22	No	Yes	No	Yes	Yes	Yes	Yes	No	No	-1,215
Nelson CC	26/02/21	No	No	Yes	No	Yes	Yes	Yes	No	No	+26,700
Timaru DC	01/06/21	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Very minor
Waitaki DC	01/05/22	No	Yes	Yes	No	Yes	Yes	Yes	No	No	+4,903
Queenstown Lakes DC	01/03/22	No	Yes	Yes	No	No	Yes	Yes	No	No	+12,000
Southland DC	01/03/22	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Very minor
NZTA Hawkes Bay - Rural	1/03/22	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-1,646

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.4 With: Clause 11 Schedule 15.3 From: 01-Jul-19 To: 31-Jul-20	**GENE** Inaccurate submission information for several databases. Eight database audits not completed. 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 are rated as moderate as Genesis are working to resolve the databases not yet audited but as this is reliant on third parties co-operating this is proving challenging. For those databases audited corrections are being made where possible. 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
Genesis continues to work with their customers to improve or maintain accuracy level of asset database information pertaining to DUML. Genesis is currently recruiting for a Data Stakeholder Lead, this role has been established to manage Distributed Unmetered Load customers databases to enable better data reporting and compliance outcomes.	Continuous improvement	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continue to review and provide exception reporting to the customer to assist in maintaining database information.	Continuous improvement	

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 AC020 trader compliance reports, meter event details reports, and registry list files were reviewed to determine compliance.

Audit commentary

Metering installations installed

Genesis' new connection process includes a check that metering is installed before electrical connection occurs, or that any unmetered load is quantified. No submission information is determined using subtraction.

Distributed Generation

Registry metering information is loaded into Gentrack, and then transferred to Derive when an ICP switches in. Any meter with energy flow direction G will trigger a profile update in Derive. An exception will be generated if profiles are different in Derive and Gentrack, and profiles will be checked and corrected to be consistent in Derive, Gentrack, and the registry. On an ad hoc basis, the reconciliation team runs a query to identify any ICPs which have had EG registers removed, so that profiles can be corrected.

If a customer wishes to install generation and completes an application, the home generation team arranges for compliant metering to be installed, and the ICP profile is updated as part of the meter change process. As found in the last audit, the home generation team have not consistently followed up instances where the customer had declined or not approved a meter upgrade, or the first attempt to complete the meter replacement was turned down, therefore I have repeated the last audit's recommendation:

Description	Recommendation	Audited party comment	Remedial action
Installation of compliant metering for generating ICPs	For any ICP where generation is present, either: 1. ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or 2. advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be provided to the reconciliation manager.	Genesis will review the current processes and control for distributed generation	Investigating

A daily report is now run that checks for ICPs switching in with I flow where distributed generation is present and the profile is updated according to the fuel type recorded upon the switch completing.

Genesis has tried in the past to monitor ICPs where the installation type is B but has found that distributors sometimes update the installation type on receipt or approval of an application for generation instead of when generation has commenced. This practice has largely stopped, and distributor's generally only record distributed generation once installed. The audit compliance report identifies all ICPs where the distributor and the MEP indicate that distributed generation is present, but the trader has none. I recommend that Genesis recommence the monitoring of sites where distributed generation is present, and they have none.

Description	Recommendation	Audited party comment	Remedial action
Monitoring of ICPs with potential distributed generation and Genesis has none.	Monitor ICPs where the distributor has distributed generation indicated and Genesis have none.	Genesis will review the current processes and controls for distributed generation	Investigating

ICPs with generation volumes can also be detected through reverse rotation meter events, and they may fail billing validations if generation volumes offset load.

GENE

Review of the registry list identified 5,137 active ICPs with generation indicated by the distributor. The AC020, event detail, registry list and meter installation details reports were reviewed to determine compliance:

Generation recorded by the distributor and an I flow register with no generation compatible profile	Review of the AC020 report confirmed that there were 15 ICPs with generation recorded by the distributor and an I flow register where GENE did not record a generation compatible profile, a decrease from 97 in the previous audit. PV1 is automatically applied for any registers with a flow direction of G in Derive, and staff manually adjust profiles to EG1 where generation is not solar. I confirmed that 14 ICPs had the correct profile applied for submission, and the registry profile was corrected though the profile validation process prior to the audit. The remaining ICP has since been withdrawn. • The last audit identified three ICPs where there were delays in providing distributed generation submission information. These have been corrected through the revision process.
Generation recorded by the distributor with no I flow register or generation compatible profile	Review of the registry list and meter installation details report identified 114 ICPs where generation was recorded by the distributor, but there was no I flow register or profile compatible with distributed generation recorded. I checked a typical case sample of 16 ICPs and found: • 11 were timing differences and the metering and profile details were updated after the registry list was run, • two ICPs (0000011546HR322 and 0000029648HRF96) have since switched away and the new trader has installed an import export meter; the distributor indicated distributed generation was installed in mid-April 2021 and these switched to other traders in mid to late May 2021, and • one ICP has distributed generation indicated by the Distributor in 2015 but I found no evidence it was generating. The two ICPs of the sample checked would have been generating whilst with Genesis and did not have compliant metering installed or notification of gifting provided and are recorded as non-compliance below and in **section 2.1**. Of the 23 ICPs identified in the 2020 audit as potentially generating. Nine have since been resolved. The remaining 14 were rechecked and found: • four have had no further action taken to resolve these, • three ICPs have since switched out and the new trader has installed import export metering upon the ICPs switching into them; this confirms that distributed generation was present whilst with Genesis, • two were confirmed to either have no solar panels installed and the other is not connected to the network, • ICP 0006949541RNCA9 has seen no change in consumption noted so it is unlikely that distributed generation is connected but this should be confirmed with the customer, • ICP 0005617142WE037 is still being investigated; the last audit noted that consumption was dropping, consumption is no longer dropping but solar is likely to be present, • ICP 1001144500UN86C has solar installed but the customer is unwilling to have a new meter installed, • ICP 0000023753UNE01 is waiting for the customer's electrician to complete some work before an import export meter is installed but I note that the distributor has since removed the distributed generation details from the registry, and • ICP 0000047031TR076 has had the distributed generation details removed from the registry but solar panels are visible on Google earth; Genesis are checking with the distributor to confirm if this is correct. The five ICPs (0007101788RN44D, 0000158386UN338, 0000321872WE3A, 0005617142WE037 and 0000047031TR076) identified in the 2020 audit which were

	believed to be generating which did not have compliant metering installed or notification of gifting provided are recorded as non-compliance below.
Generation profile recorded but no generation details recorded by the distributor	213 ICPs had profiles indicating generation was present, but no generation was recorded by the distributor. 163 of those had non-zero volumes recorded on their I flow meters in April 2021 and were confirmed to be generating. The other 50 ICPs have I flow registers present, with zero consumption recorded.
Generation profiles inconsistent with the distributor fuel type	Where generation profiles were recorded, they were consistent with the generation fuel type apart from 77 ICPs where the distributor had recorded a generation fuel type of wind or other. All were checked and confirmed that 76 were likely to have solar based on the information available. ICP 0000162680UN8DE is on the Vector network. Vector has identified that many of the installations on their network have batteries installed that do inject into the network and they have since updated the fuel type to other to indicate this. I recommend that Genesis check this and any other installations gained on the Vector network to confirm the correct profile.

Description	Recommendation	Audited party comment	Remedial action
Distributed generation profile	Check with Vector for confirmation of fuel type "other" to confirm if the sites have batteries that will inject to the network. If present the profile type should be changed to "EG".	Genesis will review the current processes and controls for distributed generation	Investigating

GEOL

Review of the registry list identified 197 active ICPs with generation indicated by the distributor. The AC020, event detail, registry list and meter installation details reports were reviewed to determine compliance:

Generation recorded by the distributor and an I flow register with no generation compatible profile	Review of the AC020 report confirmed that there was one ICP with generation recorded by the distributor and an I flow register where GEOL did not record a generation compatible profile, a decrease from nine in the last audit. The ICP had the correct profile applied for submission, and the registry profile was corrected though the profile validation as part of the BAU processes in place.
Generation recorded by the distributor with no I flow register or generation compatible profile	Review of the registry list and meter installation details report identified 13 ICPs where generation was recorded by the distributor, but there was no I flow register or profile compatible with distributed generation recorded. • Nine have had no contact made with the customer to confirm if distributed generation is present or not. • Two were timing differences the metering and profile details were updated after the registry list was run. • ICP 0443650578LC51B is a battery only site on the Vector network. As recommended above, this ICP should be checked with Vector to confirm if it is one of the battery sites that can inject to the network.

	ICP 0000164522TP44E has no solar panels present. The MEP confirmed this to Genesis in 2019. The distributor added these details in 2017 and it appears that their record on the registry is incorrect.
Generation profile recorded but no generation details recorded by the distributor	15 ICPs had profiles indicating generation was present, but no generation was recorded by the distributor. All of the affected ICPs had generation registers installed. Five of those had non-zero volumes recorded on their I flow meters in April 2021 and were confirmed to be generating. The other ten ICPs have I flow registers present, with zero consumption recorded.
Generation profiles inconsistent with the distributor fuel type	I checked for consistency between the distributor generation details and the profiles applied and identified three ICPs with non-solar generation indicated and PV1 profiles applied. All were confirmed to have solar generation and profiles were correctly applied.

GENH

Review of the registry list identified 49 active ICPs with generation indicated by the distributor. All GENH ICPs have the HHR profile assigned, therefore no ICPs were identified with profiles inconsistent with the ICP's fuel type or distributor generation details. Review of the registry list and meter installation details report found that there were 21 ICPs with generation recorded by the distributor which did not have an I flow register.

- 13 have an N settlement flag recorded for the I register and are therefore not generating.
- Three (ICPs 0000039832WE85B3 and 0000130740WEA40) need to be checked to determine if generation is present. I have included these in the recommendation below.
- ICPs 0006679030RNFE2 and 0303925043LC693 were reported in the 2020 audit to be checked to determine whether generation is present. This has not been actioned and I have repeated the recommendation below to maintain visibility of this.
- Notification of gifting has been provided for ICPs 0007139792RN05D and 0427052565LCF1B.

Description	Recommendation	Audited party comment	Remedial action
Confirm whether GENH ICPs are generating	Confirm whether the following ICPs are generating: • 0000039832WE85B (previously had category 1 meter with an I channel and upgraded to category 2 meter but no I channel is present) • 0000130740WEA40 (generation added by the Distributor 2016 but injection metering has never been present) • 0006679030RNFE2 (switched in with B installation type 01/01/20), and • 0303925043LC693 (switched in with B installation type 01/02/20). If they are generating arrange for compliant metering to be installed or notification of gifting to be provided to the reconciliation manager.	Investigation has been initiated in relation to these ICPs to determine if generation is in place.	Investigating

I re-checked all other ICPs which were indicated to have generation without generation metering installed in the 2020 audit, and found that they had switched out, had generation metering installed, or the distributor had updated the installation type to L.

Bridged meters

The last audit discussed the internal audit of the bridged meter processes. This identified that process improvements were required to prevent bridging, promptly unbridge where bridging has occurred, and ensure that bridged consumption is consistently identified and corrected where it does occur. As only some of that audit's recommendations have been implemented there are still bridged meters that are not being unbridged, so a correction is not processed in all instances, or in a timely manner. This is discussed in **section 2.1**.

GENE

GENE provided a list of 61 bridged meters; 31 were later unbridged. Unbridging continues to have instances where it is not always being actioned and corrections are not being processed for these. This is recorded as non-compliance in **section 6.4**. Corrections for bridged meters are discussed in **section 2.1**.

GEOL

GENE provided a list of four bridged meters which were later unbridged.

GENH

No bridged meters were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13, Clause 10.24 and 15.13 From: Aug-20 To: April 21	**GENE** Two ICPs of the sample checked that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. Five of the ICPs reported in the 2020 audit that were generating have either not been corrected prior to switching away from Genesis (3 ICPs) or are still to be corrected (2 ICPs). 61 meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code. **GEOL** Four meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code. 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 moderate for distributed generation. Processes are in place but are not consistently followed through to ensure that compliant metering is installed, or notification of gifting is provided. Controls are rated as weak for bridging as the reporting in place will not adequately identify all bridged sites and the correction process has no visibility to confirm if these are actioned. The impact on settlement is minor therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will review the ICPs highlighted as having potential generation and will also review the controls / processes for identifying whether the metering is compliant for the site. Genesis will be also reviewing the current Bridged meter process as per 2.17	01/12/2021	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The above review will highlight the required preventative actions	01/12/2021	

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 Genesis is responsible for, and the certification expiry date for those GIPs.

Audit commentary

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

Responsible party	Description	NSP	MEP	Reconciliation Type	Certification expiry date (NSP table)
GENE	HUNTLY	HLY2201GENEGG	GENE	GG	11/07/2021
GENE	RANGIPO	RPO2201GENEGG	GENE	GG	11/11/2023
GENE	TEKAPO A	TKA0111GENEGG	GENE	GG	26/11/2023
GENE	TEKAPO B	TKB2201GENEGG	GENE	GG	23/01/2023
GENE	TOKAANU	TKU0331GENEGD	GENE	GD	15/04/2022
GENE	TOKAANU	TKU2201GENEGG	GENE	GG	1/09/2023
GENE	TUAI	TUI1101GENEGG	GENE	GG	9/02/2024

Genesis has not made any new connections to the grid during the audit period. All grid connection points Genesis responsible for have current certification recorded on the NSP table.

Certification expiry dates were updated for all seven NSPs during the audit period. When meters are recertified, Genesis' engineer provides the updated certification details to the reconciliation manager using the NSPMTRG file. There were nine updates made via the RM portal during the audit period. Four were made more than ten business after certification. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.2 With: Clause 10.26(7) From: Aug-20 To: April 21	Four late certification updates made to the RM. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate for the updating of GIPs meter recertifications. The audit risk rating is low as the meters were certified at all times and there was no impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
The Genesis team responsible for the certification of these meters are now fully aware of the compliance requirements in relation to certification update and will comply with these moving forward		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

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

Code related audit information

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

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

Audit observation

The registry list and AC020 trader compliance reports were reviewed to determine compliance.

Audit commentary

GENE

GENE uses the HHR, RPS, PV1, and EG1 profiles for metered ICPs. The CST, NST, RPS, SST, and UNM profiles are used for unmetered load. These profiles do not rely on the use of control devices for reconciliation purposes.

GEOL

GEOL only uses the RPS, HHR, UNM and PV1 profiles, which do not rely on the use of control devices for reconciliation purposes.

GENH

GENH only uses the HHR profile, which does not rely on the use of control devices for reconciliation purposes.

Audit outcome

Compliant

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

Processes relating to defective metering were examined. 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 expected to be processed if necessary.

Corrections for stopped and faulty meters are discussed in **sections 2.1, 8.1** and **8.2**.

GENE

I reviewed 70 examples of potential defective meters, including 61 bridged meters and four stopped meters.

- All the stopped meters were replaced, and the MEP was notified.
- For the bridged meters the MEPs were notified but not within one day as detailed in **section 2.17**. I found one example for ICP 1002091723LCD3C, bridged on 19 October 2020 meter has not been unbridged because the service request wasn't processed correctly so the job was never issued to the field.

The last audit discussed the internal audit of the bridged meter processes. This identified that process improvements were required to prevent bridging, promptly unbridge where bridging has occurred, and ensure that bridged consumption is consistently identified and corrected where it does occur. As only some of that audit's recommendations have been implemented there are still bridged meters that are not being unbridged, so a correction is not processed in all instances, or in a timely manner.

GEOL

I reviewed 14 examples of potential defective meters, including ten stopped meters and four bridged meters. All the stopped meters were replaced. The MEP was notified in all instances. I have recommended in **section 2.17**, the management of bridged meters for GEOL is reviewed as there is no reporting in place to monitor bridged sites to ensure that they get unbridged. These are eventually identified by the reconciliation team, but this can take some time to come through.

GENH

No meters with defects preventing consumption from being recorded accurately were identified during the period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.4 With: Clause 10.43(2) and (3) From: 19-Oct-20 To: 30-Jun-21	**GENE** The MEP was not advised of one meter bridged on 19/10/20 of the sample provided as the service request was not issued to them to unbridge. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak, as the controls do not sufficiently mitigate the risk of correcting bridged meters. The audit risk rating is low as only one ICP was identified from the samples provided that had not been notified to the MEP.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will be reviewing the current Bridged meter process as per 2.17. Genesis have recently been through a structural change to support the Genesis strategic ways of working and have recruited 4 new Subject Matter Experts to support the current controls, process improvements and assist with staff training. Genesis are also recruiting for an additional 6 CSR's to relieve current resource constraints	01/02/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The above review will highlight the required preventative actions	01/02/2022	

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

The data collection process was examined.

- AMS collects HHR data for GENE and GENH.
- AMS collects NHH AMI data for GENE and GEOL.
- Wells collects manual NHH data for GENE and GEOL.
- HHR generation data is collected by Genesis using their Stark data collection system.

Genesis'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.

Genesis's own data collection processes for generation data were reviewed. I walked through the clock synchronisations and viewed port settings to confirm how the clocks are synchronised.

Audit commentary

GENE and GEOL

All information used to determine volume is collected by agents or MEPs. Agents and MEPs monitor clock synchronisation, this is covered as part of their audits.

Clock synchronisation event information is emailed to GENE and GEOL's billing mailboxes. The notifications include details of the ICPs affected and the time difference. The emails usually state no action is required and will ask for a metering job to be raised if it is required.

GENH

AMS' agent audit report confirms compliance for clock synchronisation processes.

Generation

Genesis synchronises STARK time to the server time, and this is synchronised against an internet time source at 30-minute intervals. During interrogation, a comparison occurs between the data logger and STARK clocks. During the audit, the server time was compared to Stark time, and they were the same.

If the time differs by more than five seconds, the channels are "disabled". To correct the time, the parameters are "opened" manually to allow data to be collected, then Stark will automatically synchronise the clock. I checked recent reports and noted there were no time differences outside the threshold for meters used for submission.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

All validated meter readings must be derived from meter readings.

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

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

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

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

Audit observation

The data collection process was examined.

Processes to provide meter condition information were reviewed as part of the Wells agent audit. Genesis' processes to manage meter condition information were reviewed, including viewing a sample of meter condition events.

Processes for customer and photo reads were reviewed for GENE and GEOL. GENH does not deal with NHH readings.

Audit commentary

Wells readings

Wells' data collection processes were reviewed as part of their agent audit and found to be compliant. I checked a sample of readings for 16 ICPs (including three special reads each for GENE and GEOL) provided by Wells for GENE and GEOL and confirmed that they are loaded into Gentrack as actual readings and are validated.

Wells sends meter condition information with their read files, a monthly file of missing or broken seals, and also emails Genesis with information about suspect theft soon after it is found.

- Emailed meter condition information is received into the billing crew inbox is filtered into a work queue for resolution.
- Meter condition notes received within the read files usually generate a memo note against the ICP which can be viewed in Gentrack or reported on using queries. As reported in the last audit, no work queue items are generated from these notes. I found that meter condition notes are only reviewed and actioned where they are found as part of another process, such as investigating unread ICPs, because no read reason codes do generate a work queue item. I repeat the last audit's recommendation to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Review of Wells meter condition information	Ensure that memos are created for all meter condition issues provided by Wells. Develop processes to review and take action on these meter condition issues, which could affect meter accuracy.	Genesis will investigate and liaise with their contractors regarding potential process gaps and/or improvements	Investigating

Meter condition issues can also be identified through the meter read validation process, but without review of the meter condition information it is possible issues could be missed. CSRs can refer cases to revenue assurance for investigation.

I reviewed a sample of meter condition events provided during Wells' agent audit and those non-compliances recorded in the last audit to determine whether appropriate action had been taken where appropriate:

Meter condition issue	GENE	GEOL
Different meter register present	Two examples provided. Both were due to timing and a meter change was processed as part of BAU.	Two examples provided. Both were due to timing and a meter change was processed as part of BAU.
Seals are not present and intact	No examples available. **Non-compliant.** I rechecked ICP 0000015610HB783 (05/03/20) found in the last audit and no action has been taken.	**Non-compliant.** 0000038461NT3F6 no memo was created, and no action taken.
Signs of tampering or damage	ICP 0001393776UNA1F was reported in October 2020 as possible theft. The meter was replaced in January 2021 and the volume estimated for the intervening period. **Non-compliant.** I rechecked ICP 0000928331TUF63 (15/07/19) found in the last audit and no action has been taken.	No examples available. **Non-compliant.** I rechecked ICP 0000023787UN249 (13/02/20) a memo was created. The daily average usage was zero, and there appeared to be a potential meter fault. No action has been taken.
Meter digit discrepancy	No examples available.	No examples available.
Phase failure	No examples available.	**Non-compliant.** 004533633HB523 no memo was created, and no action taken.
Electrically unsafe	No examples available.	No examples available.

Customer and photo readings

Customer and photo readings are clearly identified in Gentrack. Customer readings provided through the website are recorded as "WR", photo readings as "PH", and customer readings provided by email or phone are recorded as "CR".

The readings are validated as part of the data entry process:

- if website readings do not fall within the expected range based on historic readings, they will be rejected and not recorded against the ICP, and
- other customer readings and photo readings are manually validated by the CSR prior to being entered into Gentrack, this process requires them to ensure that the reading is higher than the previous reading (unless the previous reading is estimated, and the reading looks reasonable compared to earlier actual readings) and appears reasonable based on the ICP history.

As reported in the last two audits, the "WR", "PH" and "CR" readings are treated as "non-actual" by the switching process but are always treated as validated readings by the reconciliation process. This could create non-compliance where customer or photo readings are not validated against a set of validated actual readings from another source as required by the code. "WR" readings may be automatically accepted without validation against a set of readings from another source, and CSRs have not been advised to ensure that reads are validated against at least two actual readings. I repeat the recommendation to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Validation of customer, web and photo readings	Update processes to ensure that customer, web, and photo readings must be validated against at least two actual validated readings from another source.	Genesis will review the current process / controls and if found will implement improvements to mitigate this risk. During April 2020 and COVID, Genesis' decision to assist the customer to avoid bill shock and enable customer billing to be maintained accepted this the best course of action during a trying period.	Investigating

The last audit recorded that during Covid-19 lockdown, Wells developed a process to conduct outbound calling to customers to obtain customer readings. 10,500 GENE customer reads and 1,800 GEOL customer reads were collected between 6 and 22 April 2020. They were entered into the handheld and validated in the same way as meter reader readings. They were provided to Genesis as actual readings, and these were subsequently recorded in Gentrack and Derive as actual readings. Genesis has corrected the read types for these in Derive.

GENE

I checked 14 examples of customer, photo and web readings (including two that were provided by Wells during COVID) and found 11 had been appropriately validated against a set of readings. Three were not used and volumes via the normal estimation process was used instead.

I rechecked ICP 1000517104PC993 identified in the 2020 audit. This had customer readings on 31 July 2019 and 18 September 2019 which were not validated against a set of readings from another source. These have not been corrected as Gentrack has not been changed as detailed above.

GEOL

I checked 11 examples of customer, photo and web readings (including three that were provided by Wells during COVID) and found seven had been appropriately validated against a set of readings. Four were not used and volumes via the normal estimation process was used instead.

I rechecked ICP 1000517104PC993 identified in the 2020 audit. ICP 0000289010TE558 which had a customer reading on 30 August 2020 was not validated against a set of readings from another source. These have not been corrected as Gentrack has not been changed as detailed above.

GENH

GENH does not deal with NHH readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.6 With: Clause 3(1), 3(2) and 5 Schedule 15.2 From: 01-Jul-20 To: 30-Jun-21	**GENE** No action taken to address the ICP with signs of tampering or damage, and the ICP with missing or broken seals identified in the 2020 audit. Customer reads still not being validated against a set of readings from another source. Evident in the 2020 example that has not been corrected as this is a system issue. **GEOL** No action taken to address the ICP with signs of tampering or damage, and the ICP with missing or broken seals identified in the 2020 audit. Further evidence of meter events not being actioned with one example of seals not present and intact, and one example of phase failure not being actioned. Customer reads still not being validated against a set of readings from another source. Evident in the 2020 example that has not been corrected as this is a system issue. 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 the management of meter events remains patchy resulting in potential defective metering not being corrected in a timely manner. The impact is assessed to be low, as the volume of events is small in relation to the number of ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis to review current processes below; Wells files: investigate potential process change to ensure relevant meter readers notes are investigated accordingly AMS files: Review meter event report to remove unrequired noise and enable us to focus on working on the required events.	01/12/2021	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The above review will highlight the required preventative actions	01/12/2021	

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

GENE

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.** There were 11 ICPs with incorrect switch event meter readings for GENE.

I checked the process for NHH to HHR meter changes in relation to this clause.

If an ICP is physically upgraded from category 1 or 2 NHH to category 3 or higher HHR the change is processed as a switch from GENE to GENH. GENE's last day of responsibility is the last full day with NHH metering, and the meter removal reading is provided as the switch event reading. GENH's first day of responsibility is 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.

Similarly, if an ICP is downgraded, it is treated as GENH HHR until the end of the day the HHR meter is removed with zeros populated for any trading periods after the meter removal. The GENE NHH period begins with the opening read on the NHH meter the following day.

If an upgrade or downgrade does not coincide with a meter change, the swap between NHH and HHR aligns with the actual volume data. Most of the upgrades and downgrades completed are for category 1 and 2 meters, which remain with GENE.

I checked a sample of five GENE upgrades to HHR and five GENE downgrades to NHH and found they did not coincide with a meter change and the readings were correctly applied.

GEOL

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.** There were nine ICPs with incorrect switch event meter readings for GEOL.

I checked the process for meter upgrades and downgrades. If an upgrade or downgrade does not coincide with a meter change, the swap between NHH and HHR aligns with the actual volume data. I checked a sample of five GEOL upgrades and found they did not coincide with a meter change and the readings were correctly applied. No downgrades were identified for GEOL.

GENH

GENH does not deal with NHH readings. ICPs which are downgraded are switched to GENE, as discussed in the GENE section above. Review of the event detail report confirmed that no upgrades or downgrades occurred while ICPs were supplied by the GENH participant code.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.7 With: Clause 6 Schedule 15.2 From: 30-Jul-20 To: 30-Jun-21	**GENE** 11 incorrect switch reads. **GEOL** Nine incorrect switch reads. **GENE** and **GENH** NHH meter readings not applied at 2400 on the day of the meter reading for NHH to HHR upgrades and downgrades where the meter is replaced. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as there is room for improvement with switch read accuracy. The audit risk rating is low as any variances between gain read and reads sent in the CS file are addressed via the RR process initiated by the gaining trader in most instances providing the RR is accepted.

Actions taken to resolve the issue	Completion date	Remedial action status
These were due to human errors and reads were available but not used. Genesis will review the current process and controls. The additional 4 SME's that Genesis have recruited will support with staff training and processing improvements.	01/02/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The above review will highlight the required preventative actions	01/02/2022	

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.

Genesis provided lists 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 20 unread ICPs where the period of supply was over 200 days for review.

Audit commentary

A validated meter reading must be obtained in respect of every meter register for every non-half hour metered ICP for which the participant is responsible, at least once during the period of supply to the ICP by the reconciliation participant, unless exceptional circumstances prevent this from occurring. This may be a validated meter reading at the time the ICP is switched to, or from, the reconciliation participant.

The NHH meter reading frequency guidelines published by the Electricity Authority define "exceptional circumstances" as meaning "circumstances in which access to the relevant meter is not achieved despite the reconciliation participant's best endeavours". "Best endeavours" is defined as:

"Where a reconciliation participant failed to interrogate an ICP as a result of access issues, the reconciliation participant had made a minimum of three attempts to contact the customer, by using at least two methods of communication".

GENE

General read attainment process

Gentrack automatically estimates ICPs which do not receive actual readings for billing. When two billing estimates in a row are applied, the no read process begins, unless the ICP is excluded from the process because it is on an AMI reading sequence, or the customer is account managed.

Under certain circumstances actual reads may not be attained, but the ICP may not have had two account estimates in a row and the read attainment process will not be triggered. This typically occurs were there are other readings between the estimated readings (such as customer readings, web readings, or photo readings), or the ICP is not in a valid meter reading route and no estimates are generated.

The no read process was amended during the COVID-19 pandemic and has not been returned to the previous process. The current process is triggered when the customer has been with Genesis for more than 60 days and has had two consecutive estimated reads. It is then sent to a work queue to be reviewed by the billing team. An outbound call is attempted to book a meter reader to visit. Beyond this follow up actions are determined by the billing team. This maybe a text or a letter. This is an ad-hoc process. If no read has been gained after 30 days, the ICP is reviewed by the billing for possible disconnection. Genesis are planning to reactivate the previous automated no read process by October 2022 which is detailed below for reference:

1. An automated call or text is made after the second account estimate.
2. A letter is issued seven days after the call or text.
3. An automated call or text is made 45 days after the letter.
4. A letter is issued 60 days after the second call or text.
5. The ICP is added to billing queue and reviewed by a CSR, 45 days after the second letter.
6. A letter is issued 14 days after the ICP was directed to the work queue.

When the automated process is followed, the read attainment process will ensure compliance with the best endeavours requirement if the period of supply is over 114 days.

AMI read attainment process

For AMS AMI meters, AMS identifies ICPs with communication faults and send a list of proposed fault jobs to Genesis for approval. Genesis have paused using this report as it was not identifying all unread AMI ICPs and covered only the AMS AMI meters. They are using internal reporting to identify potentially faulty AMI metered sites and have increased the number of people working these from one to a team of four people. The report is be filtered to identify unread AMI meters, so that fault jobs can be raised and ICPs moved to manual meter reading routes in the meantime.

A process has been put in place to identify WASN meters when these switch in. These are checked to see if an AMS meter is on site and if so, an MEP switch is processed and the AMS meter is read. If there is no AMS meter, then these are assigned to a manual read round. It was evident from the examination of the sample of the ICPs not read within 12 months that not all of these sites are being worked but Genesis is now working through the backlog.

Account managed customer read attainment process

As reported in the last audit, read attainment for account managed customers is managed by the business sales support team, who review unread account managed ICPs and liaise with the customer to resolve any issues preventing reads from being obtained. I found the same as the last auditor that Account Managed ICPs did not meet the best endeavours requirements as while the billing team let them know that of sites that are not being read, it appears no action is being taken to address this. I have repeated the last audit's recommendation to maintain visibility of this.

Description	Recommendation	Audited party comment	Remedial action
Account managed ICP read attainment	Develop clear processes for read attainment for account managed customers to ensure that the read attainment requirements are met.	Genesis to review the current process for Account Managed sites and look to implement improvements to increase visibility	Investigating

ICPs unread during the period of supply

A report of 1,549 ICPs not read during the period of supply was provided for ICPs with an end date between 1 July 2020 and 18 May 2021. Of these, 1,337 (86.3%) were supplied for 60 days or less. A sample of the ten ICPs with the longest periods of supply were reviewed and found:

- six ICPs were disconnected prior to 2015 or earlier and there have been no reads gained since disconnection; in all cases the disconnection reads were sent incorrectly as actual reads for the switch event date and this is recorded as non-compliance in **sections 4.10, 4.16, 6.6** and **9.1** (actual reads were gained at the time of disconnection, therefore these ICPs should not be on this report),
- three ICPs were not read during the period of supply and best endeavours was not proven; this is recorded as non-compliance, and
- one ICP was account managed and no action was taken to get these read; I have repeated the last audit's recommendation above to develop a process to get these worked.

GEOL

Read attainment process

The no read process for GEOL is manual. The billing manager creates work queues of unread ICPs as and when they can. These are then worked by the relevant team dependant on what action is required to resolve the no read reason. This process includes both AMI and manually read ICPs. Due to the volume involved these are not always being worked.

ICPs unread during the period of supply

A report of 1,196 ICPs not read during the period of supply was provided for ICPs with an end date between 1 July 2020 and 18 May 2021. Of these, 1,097 (91.7%) were supplied for 60 days or less. I checked an extreme case sample of the ten ICPs with the longest periods of supply:

- four ICPs had a read during the period of supply so should not have been on the list, and
- no action was taken to get six ICPs read during the period of supply (one of these was an AMI metered site which was supplied for 492 days), this is recorded as non-compliance.

GENH

GENH does not deal with NHH readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 01-Apr-20 To: 31-Mar-21	**GENE** Four of the samples of ten ICPs unread during the period of supply did not have exceptional circumstances and, the best endeavours requirement was not met. **GEOL** Six of the sample of ten ICPs unread during the period of supply did not have exceptional circumstances and, the best endeavours requirement was not met. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are weak as the management of unread ICPs has weakened during the audit period with not all ICPs being identified or actioned. The impact on billing and settlement is considered to be minor because a small number of ICPs are affected, and the period of supply is generally short.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have a project underway to replace existing legacy meters with smart meters, which will assist with this point. For legacy meters where the ICP is with us for less than 2 months we may not have attempted to gain an actual read, for ICPs with us for more than 2 months we would have attempted to read the meter. Genesis will review the current process and controls to see if process and system improvements can be made	01/02/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Review current process and controls and implement any possible changes	01/02/2022	

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 the months of September 2020 to March 2021 were provided. I reviewed the sample of reports to ensure they met the report requirements and were submitted on time.

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

Audit commentary

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

GENE provides the meter reading frequency reports to the Market Administrator for GENE and GEOL. Report submissions for August 2020 to March 2021 were reviewed for GENE and GEOL, which confirmed that the reports were submitted on time and contained the required information.

GENE

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
Sep 20	261	120	484	98.13%
Oct 20	257	110	471	98.13%
Nov 20	262	112	437	98.29%
Dec 20	261	111	485	98.12%
Jan 21	259	117	497	98.04%
Feb 21	260	119	587	97.69%
Mar 21	259	118	587	97.68%

The total percentages read are similar to the results found in the 2019 and 2020 audits.

I reviewed a diverse sample of 26 ICPs not read in the previous 12 months ending March 2020, including two (or all) ICPs which were unread for each of GENE's unread reason codes. The ICPs were checked to determine whether exceptional circumstances exist, and if GENE had used their best endeavours to obtain readings:

- for eight ICPs, the best endeavours requirement was met, or exceptional circumstances existed, and
- for 18 ICPs the best endeavours requirement was not met, and exceptional circumstances did not exist (11 of the ICPs were account managed, and two were new connections - electrically connected 8 January 2020 and 13 March 2020 - that had not been assigned to a meter readding round so had not been read).

GEOL

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
Sep 20	163	31	84	98.76%
Oct 20	154	36	99	98.64%
Nov 20	160	35	99	98.62%
Dec 20	159	36	114	98.41%
Jan 21	161	35	116	98.37%
Feb 21	162	36	116	98.37%
Mar 21	162	35	115	98.37%

The total percentages read are similar to the results found in the 2019 and 2020 audits.

I reviewed a diverse sample of 15 ICPs not read in the previous 12 months ending March 2021, including two (or all) ICPs which were unread for each of GEOL's unread reason codes. The ICPs were checked to determine whether exceptional circumstances exist, and if GEOL had used their best endeavours to obtain readings:

- for three ICPs, the best endeavours requirement was met, or exceptional circumstances existed, and
- for 12 ICPs the best endeavours requirement was not met, and exceptional circumstances did not exist.

GENH

GENH does not deal with NHH readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.9 With: Clause 8(1) and (2) Schedule 15.2 From: 01-Apr-20 To: 31-Mar-21	**GENE** 18 of the sample of 26 ICPs unread in the 12 months ended March 2021 did not have exceptional circumstances and the best endeavours requirement was not met. **GEOL** 12 of the sample of 15 ICPs unread in the 12 months ended March 2021, did not have exceptional circumstances 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 weak as the management of unread ICPs has weakened during the audit period with not all ICPs being identified or actioned. The impact is low, because overall read attainment rates are reasonably high.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis is assigning more resource to working the 'No Access' and 'Comms Fault' reports to negate the risk of non-compliance. Genesis have recently been through a structural change to support the Genesis strategic ways of working and have recruited 4 new Subject Matter Experts to support the current controls, process improvements and assist with staff training. Genesis are also recruiting for an additional 6 CSR's to relieve current resource constraints	01/12/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Introduction of further staffing resource to process the control reports.	01/12/2021	

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 the months of September 2020 to March 2021 were provided.

A sample of 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 Genesis had used their best endeavours to obtain readings.

Audit commentary

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

GENE

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	Total ICPs unread for 4 months	Overall percentage read
Sep 20	267	47	1,649	94.50%
Oct 20	265	40	1,567	94.62%
Nov 20	267	32	1,478	95.01%
Dec 20	266	31	1,608	94.60%
Jan 21	265	30	1,561	94.71%
Feb 21	266	44	1,618	94.54%
Mar 21	265	44	1,712	94.21%

The percentages read are similar to the results found in the 2020 audit.

I reviewed the process to determine whether exceptional circumstances exist, and if GENE had used their best endeavours to obtain readings for 15 ICPs connected to NSPs where compliance was not achieved in March 2021 and found that best endeavours requirement was not met, and exceptional circumstances did not exist. I note that all of the NSPs affected were on embedded networks where no more than four ICPs are held, therefore if one or two ICPs are not read this causes GENE to breach this clause.

GEOL

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	Total ICPs unread for 4 months	Overall percentage read
Sep 20	165	29	416	94.64%
Oct 20	157	33	466	94.35%
Nov 20	164	38	450	94.51%
Dec 20	163	38	455	94.40%
Jan 21	163	34	441	94.54%
Feb 21	163	33	434	94.58%
Mar 21	164	33	435	94.52%

The percentages read are slightly lower than the results found in the 2020 audit.

I reviewed the process to determine whether exceptional circumstances exist, and if GEOL had used their best endeavours to obtain readings for ten ICPs connected to NSPs where compliance was not achieved in March 2021. I found that best endeavours requirement was not met, and exceptional circumstances did not exist. I note that all of the NSPs affected were on embedded networks where no more than seven ICPs are held, therefore if one or two ICPs are not read this causes GEOL to breach this clause.

GENH

GENH does not deal with NHH readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.10 With: Clause 8(1) and (2) Schedule 15.2 From: 01-Dec-20 To: 31-Mar-21	**GENE** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the15 ICPs sampled. **GEOL** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the ten ICPs sampled. 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 the ICPs affected are largely Account managed and there is room for improvement in the management of these. The impact is low, because overall read attainment rates are reasonably high.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis is assigning more resource to working the 'No Access' and 'Comms Fault' reports to negate the risk of non-compliance. Genesis have recently been through a structural change to support the Genesis strategic ways of working and have recruited 4 new Subject Matter Experts to support the current controls, process improvements and assist with staff training. Genesis are also recruiting for an additional 6 CSR's to relieve current resource constraints	01/12/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Introduction of further staffing resource to process the control reports.	01/12/2021	

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 AMS and Wells. The data interrogation log requirements were reviewed as part of the agent and MEP audits.

Audit commentary

GENE and GEOL

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

GENH

GENH does not deal with NHH readings.

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 AMS. The data collection requirements were reviewed as part of their audit.

Generation data is sourced from the services access interface as required by the Code.

Audit commentary

GENE, GEOL and GENH

Compliance with this clause has been demonstrated by AMS as part of their agent audit.

Generation

Generation data is sourced from the services access interface as required by the Code.

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 AMS. The interrogation data requirements were reviewed as part of their audit.

Generation data is collected by Genesis using their Stark system and the requirements of this clause were checked.

Audit commentary

GENE, GEOL and GENH

Compliance with this clause has been demonstrated by AMS as part of their agent audit.

The EMS audit noted that one ICP did not have event logs provided for manual downloads:

Trader	ICP	Month	Events received	Events checked	Comment
GENE	0000545280NRE79	Jul 2020 (03/08/20) Aug 2020 (02/09/20)	N	N	BAU

EMS have since changed their management of manual downloads to include event logs post September 2020, so this is not expected to occur again.

Generation

Compliance with this clause has been demonstrated by Genesis for generation metering.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.13 With: Clause 11(2) Schedule 15.2 From: 03-Aug-20 To: 02-Sep-20	Event logs were not received and reviewed for one manual download. 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 a small number of manual downloads were affected. Event logs have been received and reviewed for all manual downloads received after 2 September 2020.

Actions taken to resolve the issue	Completion date	Remedial action status
Strong controls are already in place, however Genesis will continue to review processes / controls and make improvements were possible	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Continue to review / improve processes and controls	Continuous Improvement	

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 AMS. The data interrogation log requirements were reviewed as part of their audit.

Generation data is collected by Genesis using the Stark system. The interrogation log was checked as part of the audit.

Audit commentary

GENE, GEOL and GENH

Compliance with this clause has been demonstrated by AMS as part of their audit.

Generation

Compliance with this clause has been demonstrated by Genesis for the Stark system.

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' agent audit.

Genesis' clock synchronisation process for generation meters was reviewed.

Audit commentary

GENE, GEOL and GENH

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

Generation

The clock synchronisation process for generation meters is discussed in **section 6.5**.

Audit outcome

Compliant

7.2. 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 during the agent and MEP audits. I checked that meter readings cannot be modified without an audit trail and viewed archived meter reading data.

Audit commentary

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

GENE and GEOL

Review of audit trails in **section 2.4** confirmed that reads cannot be modified without an audit trail being created. Access to modify readings is restricted through log on privileges.

All meter reading data is archived and retained for over 48 months. GENE and GEOL meter read data from 2014 was sighted during the audit.

GENH

AMS demonstrated compliance with this clause as part of their agent audit.

Generation

Generation data is stored indefinitely and can only be accessed by a small number of approved people with access rights. I viewed data from 2017 to confirm it is retained.

Audit outcome

Compliant

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

Code reference

Clause 21(5) Schedule 15.2

Code related audit information

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

Audit observation

Processes to record non-metering information were discussed.

Audit commentary

GENE

EMS collects unmetered data in relation to streetlights as GENE's agent, and this information is appropriately archived. Compliance is confirmed in EMS' agent audit report.

I confirmed that GENE retains data logger and DUML database information indefinitely and viewed DUML database information from 2016.

GEOL, GENH, and Generation

No non-metering information is collected.

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 the correction of NHH meter readings were reviewed. Corrections to volumes where meter readings match the value recorded by the meter, such as where a multiplier is incorrect, a meter is defective or bridged, or inactive consumption is identified were reviewed in **section 2.1**.

Audit commentary

Where errors are detected during the validation process, Genesis may request a check meter reading for meters read by Wells, or review AMI readings for surrounding dates. If an original meter reading cannot be confirmed it is invalidated and ignored by the billing and reconciliation processes. A system estimate will be created for billing if necessary.

When back billing is completed by the billing team, they normally advise the reconciliation team. The reconciliation team checks the correction is appropriately spread by invalidating previous readings where necessary. In the event that the reconciliation team is not notified, the readings will still automatically flow from Gentrack to Derive each evening.

Transposed meters are corrected by removing and reinstalling the registers correctly in Gentrack or swapping the readings to the correct registers.

Audit outcome

Compliant

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

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

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

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

- *(i) The total of all substituted intervals matches the total consumption recorded on a meter, if available; and*
- *(ii) The reconciliation participant considers the pattern of consumption to be materially similar to the period in error.*

Audit observation

Processes for correction of HHR meter readings were reviewed.

- Genesis completes its own HHR corrections for GENE and GEOL using MSD.
- AMS completes HHR corrections on behalf of GENH as an agent. Compliance was assessed as part of their agent audit report.
- Genesis completes generation corrections based on information provided by its engineers.

Audit commentary

GENE and GEOL

If an error is detected during validation of HHR data, and check metering data is not available, then data from a period with a quantity and profile like that expected is to be used.

I checked three examples of corrections processed to record consumption during a period where a meter was replaced, faulty or bridged. I found that the meters were all category 1 or 2 and were changed to NHH submission type to process the correction.

There were no corrections for meters with category 3 or higher during the audit period.

GENH

Where errors are detected during validation of half-hour metering information, and check metering data is not available, then data from a period with a quantity and profile like that expected is to be used. This function is carried out by AMS on behalf of GENH, and compliance is confirmed in their audit report.

Generation

Estimates and corrections occur rarely for generation data. I checked one correction where power outages had occurred. The correction was provided by a Genesis engineer. An appropriate audit trail is kept, and the trading periods are recorded as estimates. Only the "copy" channel can be edited not the "main" channel.

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 arrangements were discussed.

Audit commentary

Genesis 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 2.1, 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 was reviewed as part of AMS and Wells' audits.

Audit commentary

NHH and HHR raw meter data is held by Wells and AMS, and their audits confirm that it cannot be edited.

GENE and GEOL

I reviewed audit trails and supporting calculations for HHR and NHH data corrections and noted that they were compliant with the requirements of this clause for the sample of corrections checked.

GENH

The AMS report confirms compliance.

Generation

Stark contains a compliant audit trail, and all users have individual logins. Generation raw meter data is not edited. Only the copy channel can be edited.

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 Genesis' 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, 8.2** and **9.4**.

Audit commentary

GENE

Readings are clearly identified as required by this clause. Some readings were incorrectly classified.

- Some CS files did not have the correct read type recorded for the switch event read. Ten of the 30 CS files checked had the last read labelled as actual but should have been sent as estimates as discussed in **sections 4.3** and **4.10**. I found an additional six ICPs when checking no read gained during the period of supply where the disconnected read from 2015 or earlier was sent as an actual on the event date. This is discussed in **section 6.8**.
- Because all meter removal reads are recorded as actual, estimated meter removal readings which capture consumption during stopped, faulty or bridged periods are incorrectly classified as actual readings. It is possible to determine whether a read has been estimated by reviewing the notes in Gentrack, and there is no impact on reconciliation because estimated removal readings should be treated as permanent estimates.

GEOL

Readings are clearly identified as required by this clause. Some readings were incorrectly classified.

- Some CS files did not have the correct read type recorded for the switch event read. Nine of the 30 CS files checked had the last read labelled as actual but should have been sent as estimates as discussed in **sections 4.3** and **4.10**.
- Because all meter removal reads are recorded as actual, estimated meter removal readings which capture consumption during stopped, faulty or bridged periods are incorrectly classified as actual readings. It is possible to determine whether a read has been estimated by reviewing the notes in Gentrack, and there is no impact on reconciliation because estimated removal readings should be treated as permanent estimates.

GENH

AMS' audit report confirms compliance with this clause.

Generation

In the rare event that generation data is estimated or corrected, there is an appropriate audit trail, and the data is correctly identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.1 With: Clause 3(3) Schedule 15.2 From: 01-Jul-20 To: 30-Jun-21	**GENE** and **GEOL** Because all meter removal reads are recorded as actual, estimated meter removal readings which capture consumption during stopped, faulty or bridged periods are incorrectly classified as actual readings. Some CS files had estimated readings classified as actual readings. 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 assessed to be moderate, and the impact is assessed to be low. Most readings were correctly classified. The audit risk rating is assessed to be low as the volume of errors was small overall.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will review the current process regarding removal reads and final reads to determine potential improvements and ascertain how this will impact the Genesis settlement process. Genesis have recently recruited 4 new Subject Matter Experts and are recruiting for 6 additional CSRs within the customer operations teame, a key focus will be placed on working the Bridge meter and Stopped meter controls and reviewing the processes / controls behind these	01/12/2021	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Additional staff / focus put on bridged meters, stopped meters and vacant consumption	01/12/2021	

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 data is collected by AMS and Wells, and HHR data is collected by AMS. Generation data was checked during the audit.

Audit commentary

The MEPs and agents retain the raw, unrounded data. Compliance with this clause has been demonstrated by Genesis' agents and the MEPs as part of their own audits.

GENE and GEOL

The AMS audit recorded that the EIEP3 file formats rounds trading period data to two decimal places and is truncated upon import into Gentrack and Derive.

Manual meter readings do not record decimal places and are not rounded or truncated on import into Gentrack or Derive.

GENH

AMS's audit report confirms compliance for GENH.

Generation data

A sample of generation data was checked during the audit and found not to be rounded until submission.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.3 With: Clause 3(5) of schedule 15.2 From: 01-Jul-20 To: 30-Jun-21	AMS' EIEP3 and GENDF file formats round trading period data to 2 decimal places. AMI meter reading data is truncated for import into Gentrack and Derive. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are moderate. Only AMI meters which are settled as NHH are affected by meter readings being truncated in Gentrack and Derive. The impact is assessed to be low. Only NHH settled AMI readings provided with decimal places are affected, and the overall kWh difference is expected to be small.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis accepts that the process is non-compliant and agrees with the potential and actual impact statements. As the rounding of the reads provided by AMI will have an impact on NHH settlements due to the potential of estimation in any period if a month end read was not provided. Genesis acknowledges that there maybe a >= 0.1 and <1.0-unit impact upon switching or decommissioning of site.	Under review	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis are currently reviewing potential replacements for their NHHMM reconciliation tool which currently has constraints with both seasonality and read decimals.	Under review	

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

GENE creates HHR estimates for GENE ICPs using MSD. The HHR estimation process was examined, including review of a sample of estimates and technical documentation on the HHR estimation process.

AMS completes HHR estimation on behalf of GENH, their estimation processes were reviewed as part of their agent audit.

The generation estimation process was reviewed.

Audit commentary

GENE and GEOL

AMS provides null values where actual HHR data is not available, and estimates are automatically created in MSD based on the available interval consumption and midnight read data. Estimates are replaced with actual data if it becomes available at a later date. Estimates are recalculated prior to each revision submission to ensure that they are calculated based on the best information available.

- Where midnight readings are available and some trading periods are missing, MSD calculates the total value of the missing trading periods, and profiles the consumption based the same interval, and day of the week for the previous four weeks (and next four weeks if this information is available).
- Where midnight readings are not available, MSD estimates based on the average consumption for the interval, day and week for the previous four weeks (and next four weeks if this information is available).
- Where midnight readings are not available and there is insufficient history to estimate average consumption, 0.5 kWh per trading period (24 kWh per day) is applied.

I reviewed a diverse sample of ten HHR estimates using a variety of estimation methods to and confirmed the requirement to use reasonable endeavours to ensure estimates were accurate were met.

GENH

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

Each ICP with missing data is reviewed individually to determine the consumption pattern and identify a period of similar consumption. If consumption during the same weekday and trading period is similar, the "autofill" function is used to create an estimate. Otherwise, estimated data is copied and pasted from a similar day and trading period, taking into account the season, day of week and any public holidays. Where there is less than two weeks of history available, AMS does not usually create an estimate and provides data in the first revision after it becomes available.

For GENH ICP 1000588995PC498, a new connection was completed on 15 October 2020. A registry update to active status from 15 October 2020 was processed on 9 December 2020. No actual volume data was received until 26 January 2021 and wash up data has been provided to the reconciliation manager as part of revision submissions.

Generation

Estimates are rarely required for generation metering data because check metering data can be used if required. I checked three estimations where power outages or shutdowns had occurred. The estimations were provided by a Genesis engineer. An appropriate audit trail is kept, and the trading periods are recorded as estimates. Only the "copy" channel can be edited not the "main" channel.

I checked two examples of generation estimates and found the reasonable endeavours requirements were met.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.4 With: Clause 15 Schedule 15.2 From: 15-Oct-20 To: 26-Jan-21	**GENH** No estimated data was provided for ICP 1000588995PC498 for Oct 2020 r0 and r1, Nov 2020 r0 and r1, and Dec 2020 r0 and r1 as insufficient information was available to create the estimate. 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 recorded as strong because in most cases estimates are created. The impact is low because revised submission data based on actual volumes has been or will be washed up.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis's current controls are strong, under the DA provision, however we will request NGC to review the process / controls relating to the provision of estimations and ensuring the revision information is provided as per code requirements.	Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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, including emails, work queues, and reports used in the validation process,
- viewing process guides for billing validations, and
- viewing vacant cycle flow charts.

Audit commentary

GENE and GEOL

NHH data is validated by several processes.

Meter reader checks

For non-AMI reads collected by Wells, the handheld data input devices perform a localised validation to ensure that the reading is within expected high-low parameters. Readings outside these parameters must be re-entered and acknowledged by the data collector. A meter cannot be skipped without reading unless a reason is entered.

Wells is required to identify issues which may affect metering information accuracy, such as stopped or damaged meters, and report this information to GENE. This is discussed further in **section 6.6**.

Read validation

Gentrack validates meter readings using a multiple step validation process.

1. If data becomes corrupt, including dates and times, Gentrack will not allow the file to be uploaded and an investigation will then occur.
2. MRI (import) validations are completed when the readings are uploaded, and check that the reads are provided for the correct registers and are consistent with the number of dials recorded. Any issues found through this process are investigated and corrected.
3. IBP (invoice request maintenance) validations occur once the readings have been uploaded and check the readings against set criteria. Any readings which fail validation generate exceptions, which are emailed to a shared mailbox and added as a queue item, which is investigated and either validated or not validated. Reads that are validated are available for billing and reconciliation, and reads that are not validated are not.

The validations are grouped into categories and prioritised as critical (e.g., import of read files, and mass production of invoices), same day, or 48-hour. Validations within the groups are classified into easy (e.g., short day invoice), moderate (e.g., credit consumption on a read-to-read period, out of cycle reads) or difficult (e.g., high first invoice, high invoice) based on the amount of time and effort expected to investigate and resolve the exception.

Each user's work queue is activated for all exception types they have been trained for. Exceptions are assigned one by one based on the priority order, as a user disconnects from a queue item, they will be assigned the next highest priority queue item that they are trained to complete. If a validation cannot be completed because further work is required, it can be requeued and will reappear after 48 hours.

As reported in the last audit, Team Leaders monitor workloads and can reprioritise the queues. Critical and 24-hour queue items are normally reviewed each day, but the team does not consistently have time to work through the 48-hour queue items.

The validations relevant to the scope of this audit include:

Code	Description	Action
GBR0002	Read lower than previous actual or estimate reading.	If the difference is less than 1 kWh the exception is approved, and other exceptions are reviewed and either validated or not validated. All reads which are 100 kWh lower than a final read, or 200 kWh lower than a gain read are required to be investigated and corrected. Switch gain read issues are referred to the switching team for resolution. Reads may fail billing validations if generation volumes offset load. I saw examples of ICPs with solar installed without EG metering which had low or negative consumption. In some cases, the Billing team had not investigated to determine that generation was installed and had requested check meter readings. I recommend reviewing the low and negative consumption validation processes, to help to promptly identify and resolve home generation issues.
GBR0014	Out of cycle reads	Out of cycle readings are reviewed.
GB0017	Transaction creation mismatch	This exception identifies ICPs where there is a discrepancy in ICP and customer information, indicating that the brand may not be recorded correctly. Discrepancies are reviewed and resolved.
GDR0052 GBR0053	High dollar bill High first bill	The high bill exceptions identify invoices over $900 for residential customers and $5000 for commercial customers, which are checked to confirm they are correct.
GBR0003	No read loaded	An exception is generated where a read is expected for billing and has not been loaded. This typically occurs where a dual fuel customer has only received a read for one fuel type, or AMI readings have not been provided for all of the ICP's meter registers. These exceptions are investigated, and action is taken as required, such as loading AMI readings where available for a nearby date or raising a field services job where a meter cannot be read due to a meter issue.
GBR0011	No meters on metered sequence	This exception identifies ICPs with no billable registers, which are typically withdrawn switches where metering has not been reopened. These exceptions are reviewed and referred to the switching team as needed.
GBR0023 GBR0096	Incorrect previous read date or read	This exception identifies ICPs where the previous read or read date in Gentrack does not match the last billed read. This can occur where invoices have been reversed and rebilled, or a customer has provided a customer reading since the last invoice. Exceptions are checked and resolved.
GBR0092	Not current retailer	This exception identifies ICPs where GENE or GEOL are not the current retailer, which are checked. Typically, this occurs where a customer has switched out, or a switch has been withdrawn.
GEN0017	Short day invoice	This exception identifies any invoice periods which are ten days or less. This is most commonly caused by an actual read being received after an invoice has been estimated, and any exceptions are checked.

Code	Description	Action
GBR0020	Disconnected register with consumption	This exception identifies any ICPs with disconnected consumption. It has been made a warning rather than a failure, and the system does not require the exception to be reviewed and actioned before the ICP can be billed. If an affected ICP is vacant, billing may assign the queue item to another team for further investigation.

A recommendation was made in the last audit to add a validation to check for sudden slow or negative consumption. This has not been adopted during the audit period. I have repeated this to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Identification of generating ICPs	Ensure that the Billing team is aware that sudden low or negative consumption could be caused by home generation without an EG register installed. These exceptions could be checked against the high-risk database, customer account notes, or google satellite information to determine whether it is likely that solar is installed. Any ICPs which appear likely to have home generation should be passed to the home generation team, so that compliant metering can be installed where necessary.	Genesis to review the current home generation process and controls and make any required changes	Investigating

Vacant consumption

A vacant disconnection process is followed for vacant ICPs, and I confirmed that consumption is submitted for vacant ICPs in **section 12.2**.

A letter is sent to the occupier on the day after the ICP becomes vacant. If there is no response a second letter is sent advising that the electricity supply will be disconnected within seven days if the customer does not sign up with Genesis or another retailer. A second letter is sent seven business days after the first for residential AMI meters, 14 days after the first for residential non-AMI meters and 20 business days after the first for business meters.

If a vacant disconnection fails or there is a high bill for a vacant ICP, investigation will occur to determine who is responsible for the charges. The vacant disconnection process for GEOL is manual and vacant disconnections had to be booked manually. This has been fixed in Gentrack in May 2021 and bulk jobs can be booked, but if the disconnection fails on the first attempt a further manual disconnection cannot be booked. These are passed to the one revenue assurance analyst to get the customer either to sign up, or the customer switches away.

An occupier query is run fortnightly which shows the account balance of each occupier account. The accounts with the highest balances are investigated, mainly to determine who is responsible for the charges and to arrange disconnection if necessary.

Zero consumption

The last audit recorded the process where a daily report was run in Gentrack to identify meters with zero consumption for more than six months. The report was filtered to remove ICPs where zero consumption was expected, and a work queue item was loaded into the interaction client for the remaining meters with task type "RA.Stopped.Meters". This process is not being worked on at the present time due to resource constraints. This will be resulting in consumption occurring which will not be submitted. This is an expected validation and non-compliance is recorded below.

As for the other billing validations, each user's work queue is activated for all exception types they have been trained for. Not all queue items are attended to each day.

The reconciliation team have continued to identify meters with zero consumption and flag these to the billing team to action but due to the resource constraints these are not always being actioned. These checks are completed during periods with lower workloads when submissions are not due.

Potential stopped and/or faulty meters may also be referred to revenue assurance for investigation and correction.

As detailed in **section 6.4**, bridged meters are not always consistently investigated and corrected in a timely manner. With no active management of ICPs with zero consumption these are less likely to be identified and corrected. I recommend that the zero-consumption process be restarted as soon as possible.

Recommendation	Description	Audited party comment	Remedial action
Zero consumption validation	Recommence the zero-consumption process to identify stopped, faulty, and bridged meters.	Genesis have recently recruited for 4 new SMEs and are recruiting for an additional 6 CSRs. This will relieve current resource constraints and support these controls being worked, processes reviewed for potential improvements implemented	Identified

Disconnected ICPs with consumption

This process has been reviewed and the reporting improved in May 2021 as the previous report being worked was found be reporting a lot of false positives. All disconnected ICPs with consumption are investigated. At the time of the audit there were 291 ICPs to be investigated. These are being worked through but due to resource constraints this is taking longer than desired.

The reconciliation team also identifies ICPs with inactive consumption by running queries to identify any inactive ICPs where the latest reading is more than 10 kWh higher than the last billed reading. The reconciliation team reviews the ICPs and processes corrections to ensure that the ICPs have the correct status and consumption is submitted. These checks are completed during periods with lower workloads when submissions are not due.

Inactive consumption may also be referred to revenue assurance for investigation and correction.

As found in the last audit, inactive ICPs with consumption are not consistently investigated and corrected in a timely manner. It is expected that the updated reporting will improve this but as this was only deployed in May 2021 the impact of this is not evident in this audit. Non-compliance is recorded in **sections 2.1** and **12.7** in relation to inactive consumption corrections which were not carried out.

Derive and MSD validations

Readings are checked on import into Derive. Any reads which are high, low, or have potential errors are put on hold and must be released by the reconciliation team. Further consumption validation occurs within MSD, as described in **section 12.3.**

GENH

GENH does not deal with NHH data.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.5 With: Clause 16 Schedule 15.2 From: 01-Jul-20 To: 30-Jun-21	**GENE** and **GEOL** Zero consumption validation not being carried out. Potential impact: Low Actual impact: Unknown Audit history: None Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as weak overall. Expected validations are being managed except for zero consumption. The impact is assessed to be medium but is unknown as to how much consumption is occurring due to zero consumption not being managed unknown.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have recently been through a structural change to support the Genesis strategic ways of working and have recruited 4 new Subject Matter Experts to support the current controls, process improvements and assist with staff training. Genesis are also recruiting for an additional 6 CSR's to relieve current resource constraints. A key focus will be ensuring that the Bridge meter, stopped meter controls are worked and that the processes / controls behind these are reviewed / Improved	01/12/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Additional resource to work control reports	01/12/2021	

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.

AMS' agent audit report was reviewed.

Audit commentary

GENE and GEOL

Electronic meter reading information is provided by AMS. For HHR AMI installations, interrogation occurs every night so there is little risk that data can be overwritten. Data is held for a longer period at the meter and can be re-interrogated later if required.

Validation of electronic data was examined as part of AMS' audit, and compliance with the requirements of clause 17 is confirmed. Meter events which could affect meter accuracy are emailed to GENE or GEOL's billing crew for action, which may include contacting the customer or raising a fault. I reviewed six examples of these emails received by GENE and GEOL, including tamper alarms, voltage spikes and reverse rotation and found that appropriate action had been taken in each case.

AMS provide meter event logs which are received by GENE and GEOL but are not routinely reviewed, because AMS has confirmed that they separately send any events requiring action.

GENE and GEOL conduct consumption validation for all AMI ICPs using the same processes as for NHH ICPs. This achieves compliance with the requirement to conduct the following validations:

- checks of unexpected zero values, and
- comparison with expected or previous flow patterns.

GENH

AMS's audit report confirms compliance with these clauses. In situations where data fails validation, and a logical reason cannot be found the issue is referred to the account manager for further investigation into possible site-specific reasons for the anomaly. A final option is for a site visit if the anomaly cannot be reasonably explained.

Generation

Interrogation occurs nightly for generation metering so there is little risk that data will be overwritten.

Each validity check for generation half-hour metering information includes the following:

- checks for missing data,
- checks for invalid dates and times (data will not be collected if dates or times are invalid),
- checks of unexpected zero values,
- comparison with expected or previous flow patterns (a comparison is made against the previous month),
- comparisons with the readings reported by meter and data logger registers where these are available, and
- a review of the Stark meter and data logger event list - any event that could have affected the integrity of metering is investigated by Genesis' engineers.

The GEMDP collection system is also used to collect data from all loggers and this data is compared to the "HHR vols" data each month. The two sets of data were compared during the audit and no issues were identified.

Audit outcome

Compliant

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

Genesis does not have responsibilities for the provision of information to the grid owner.

Audit commentary

Genesis does not have responsibilities for the provision of information to the grid owner.

Audit outcome

Not applicable

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

Code reference

Clause 13.137

Code related audit information

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

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

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

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

Audit observation

Genesis does not have responsibilities for the provision of information to the grid owner.

Audit commentary

Genesis does not have responsibilities for the provision of information to the grid owner.

Audit outcome

Not applicable

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

Code reference

Clause 13.138

Code related audit information

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

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

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

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

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

Audit observation

Genesis does not have responsibilities for the provision of information to the grid owner.

Audit commentary

Genesis does not have responsibilities for the provision of information to the grid owner.

Audit outcome

Not applicable

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

Code reference

Clause 13.140

Code related audit information

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

Audit observation

Genesis does not have responsibilities for the provision of information to the grid owner.

Audit commentary

Genesis does not have responsibilities for the provision of information to the grid owner.

Audit outcome

Not applicable

11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

11.1. Buying and selling notifications (Clause 15.3)

Code reference

Clause 15.3

Code related audit information

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

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

Audit observation

Processes to create buying and selling notifications were reviewed. I checked whether any breach allegations had been made.

Audit commentary

There have not been any breach allegations in relation to this clause during the audit period.

The GENE trading team are responsible for creating trading notifications for GENE, GEOL, and GENH on the reconciliation portal. The trading team becomes aware that trading notifications are needed by:

- the Reconciliation Manager providing notification of a change to an existing NSP,
- the GENE reconciliation team advising that they have set up a new NSP or added injection flow to an existing NSP, or
- checking a report from Gentrack against their open trading notifications, which are recorded in Market Submissions Database (MSD).

Notifications are only created where Genesis begins or ceases trading for all ICPs on an NSP, not where they begin or cease trading using a profile other than HHR, RPS, UML, EG1, or PV1 at an NSP. This is because there is no facility to enter a profile into a trading notification on the reconciliation manager portal.

Audit outcome

Compliant

11.2. Calculation of ICP days (Clause 15.6)

Code reference

Clause 15.6

Code related audit information

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

> *15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

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

Audit observation

GENE prepares AV110 ICP days submissions for GENE and GEOL, and AMS prepares the submissions for GENH.

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 15 months of GR100 reports.

Alleged breaches were reviewed.

Audit commentary

No alleged breaches were recorded for late provision of ICP days information.

GENE

HHR and NHH ICP days are provided on separate reports. The process for the calculation of ICP days was examined by checking 178 NSPs with a small number of HHR ICPs and 119 NSPs with a small number of NHH ICPs on the March 2021 submission. The ICP days calculation was confirmed to be correct.

ICP days submissions are validated against the expected number of active ICP days on the registry list prior to submission. ICPs with differences are checked to determine whether they are timing differences, or information needs to be corrected.

The following table shows the ICP days difference between GENE files and the RM return file (GR100) for all available revisions for 15 months, and small differences were found. Negative percentage figures indicate that the GENE ICP days figures are higher than those contained on the registry.

Month	Ri	R1	R3	R7	R14
Jan 2020	0.00%	0.00%	0.00%	0.05%	0.00%
Feb 2020	0.00%	0.00%	0.00%	0.04%	-
Mar 2020	0.01%	0.00%	0.02%	0.04%	-
Apr 2020	0.00%	0.00%	0.00%	0.04%	-
May 2020	0.01%	0.00%	0.00%	0.04%	-
Jun 2020	-0.05%	0.06%	0.04%	0.04%	-
Jul 2020	-0.03%	0.00%	0.04%	0.00%	-
Sep 2020	0.14%	0.04%	0.08%	0.03%	-
Oct 2020	0.11%	0.15%	0.07%	-	-
Nov 2020	0.11%	0.13%	0.07%	-	-

Month	Ri	R1	R3	R7	R14
Dec 2020	-	0.12%	-0.04%	-	-
Jan 2021	0.27%	0.00%	0.09%	-	-
Feb 2021	-0.19%	-0.02%	-	-	-
Mar 2021	0.24%	0.14%	-	-	-
May 2020	0.06%	-	-	-	-

I reviewed a sample of five NSP level ICP days differences remaining at revision 7, and found they related to backdated registry events and backdated switches. The issue of Derive reporting zero ICP days where an ICP is supplied for only one day has been resolved. Late status and trader updates are discussed in **sections 3.3** and **3.5**, and backdated switches are discussed in **section 4.**

GENE's processes for upgrades and downgrades achieve accuracy for consumption information. The ICP days calculations are correct for upgrades and downgrades because they align with the consumption information.

GEOL

The process for the calculation of ICP days was examined by checking 50 NSPs with a small number of NHH ICPs and 113 NSPs with a small number of HHR ICPs on the March 2021 submission. The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between GEOL files and the RM return file (GR100) for all available revisions for 15 months, and small differences were found. Negative percentage figures indicate that the GEOL ICP days figures are higher than those contained on the registry.

Month	Ri	R1	R3	R7	R14
Jan 2020	0.02%	0.01%	0.00%	0.00%	0.00%
Feb 2020	0.03%	0.01%	0.00%	0.00%	-
Mar 2020	0.01%	0.01%	0.00%	0.00%	-
Apr 2020	0.00%	0.00%	0.00%	0.00%	-
May 2020	0.01%	0.00%	0.00%	0.00%	-
Jun 2020	0.02%	0.01%	0.00%	0.00%	-
Jul 2020	0.00%	0.00%	0.00%	0.00%	-
Aug 2020	0.02%	0.02%	0.00%	0.00%	-

Month	Ri	R1	R3	R7	R14
Sep 2020	0.01%	0.01%	0.01%	-	-
Oct 2020	0.03%	0.00%	0.00%	-	-
Nov 2020	-	0.02%	0.00%	-	-
Dec 2020	0.02%	0.00%	0.01%	-	-
Jan 2021	0.01%	0.01%	-	-	-
Feb 2021	0.02%	0.00%	-	-	-
Mar 2021	0.00%	-	-	-	-

I reviewed 17 NSP level ICP days differences remaining at revision 7, and 14 of these related to one ICP on NSP STK0331. This NSP is on both Nelson Electricity and Network Tasman's networks. This was manually added with the wrong network associated. This was corrected before R14 in all instances. Validation scripting has been updated to ensure that both network and NSP are checked so this is not expected to occur again. The remaining three discrepancies checked were due backdated registry changes. The issue where an ICP had been supplied for one day and Derive reported zero ICP days has been resolved. Late status and trader updates are discussed in **sections 3.3** and **3.5**, and backdated switches are discussed in **section 4.**

GEOL's processes for upgrades and downgrades achieve accuracy for consumption information. The ICP days calculations are correct for upgrades and downgrades because they align with the consumption information.

GENH

Compliance is recorded in AMS' audit report.

The process for the calculation of ICP days was examined by checking 183 NSPs with a small number of ICPs on the March 2021 report. The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between GENH files and the RM return file (GR100) for all available revisions for 15 months, and small differences were found. Negative percentage figures indicate that the GENH ICP days figures are higher than those contained on the registry.

Month	Ri	R1	R3	R7	R14
Jan 2020	0.25%	0.15%	0.04%	0.05%	0.00%
Feb 2020	0.04%	0.11%	0.07%	0.04%	-
Mar 2020	0.19%	0.10%	0.02%	0.04%	-
Apr 2020	0.31%	0.13%	0.00%	0.04%	-

Month	Ri	R1	R3	R7	R14
May 2020	0.01%	0.00%	0.00%	0.04%	-
Jun 2020	-0.05%	0.06%	0.04%	0.04%	-
Jul 2020	-0.03%	0.00%	0.04%	0.00%	-
Aug 2020	0.14%	0.04%	0.08%	0.03%	-
Sep 2020	0.11%	0.15%	0.07%	-	-
Oct 2020	0.11%	0.13%	0.07%	-	-
Nov 2020	-	0.12%	-0.04%	-	-
Dec 2020	0.27%	0.00%	0.09%	-	-
Jan 2021	-0.19%	-0.02%	-	-	-
Feb 2021	0.24%	0.14%	-	-	-
Mar 2021	0.06%	-	-	-	-

I reviewed a sample of ten NSP level ICP days differences remaining at revision 7, and found they were timing differences caused by backdated switches. Backdated switches are discussed in **section 4.**

Audit outcome

Compliant

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

Code reference

Clause 15.7

Code related audit information

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

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

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

Audit observation

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 October 2018 to March 2021 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

Genesis monitors differences between billed and submitted volumes at an aggregate level using their dashboard.

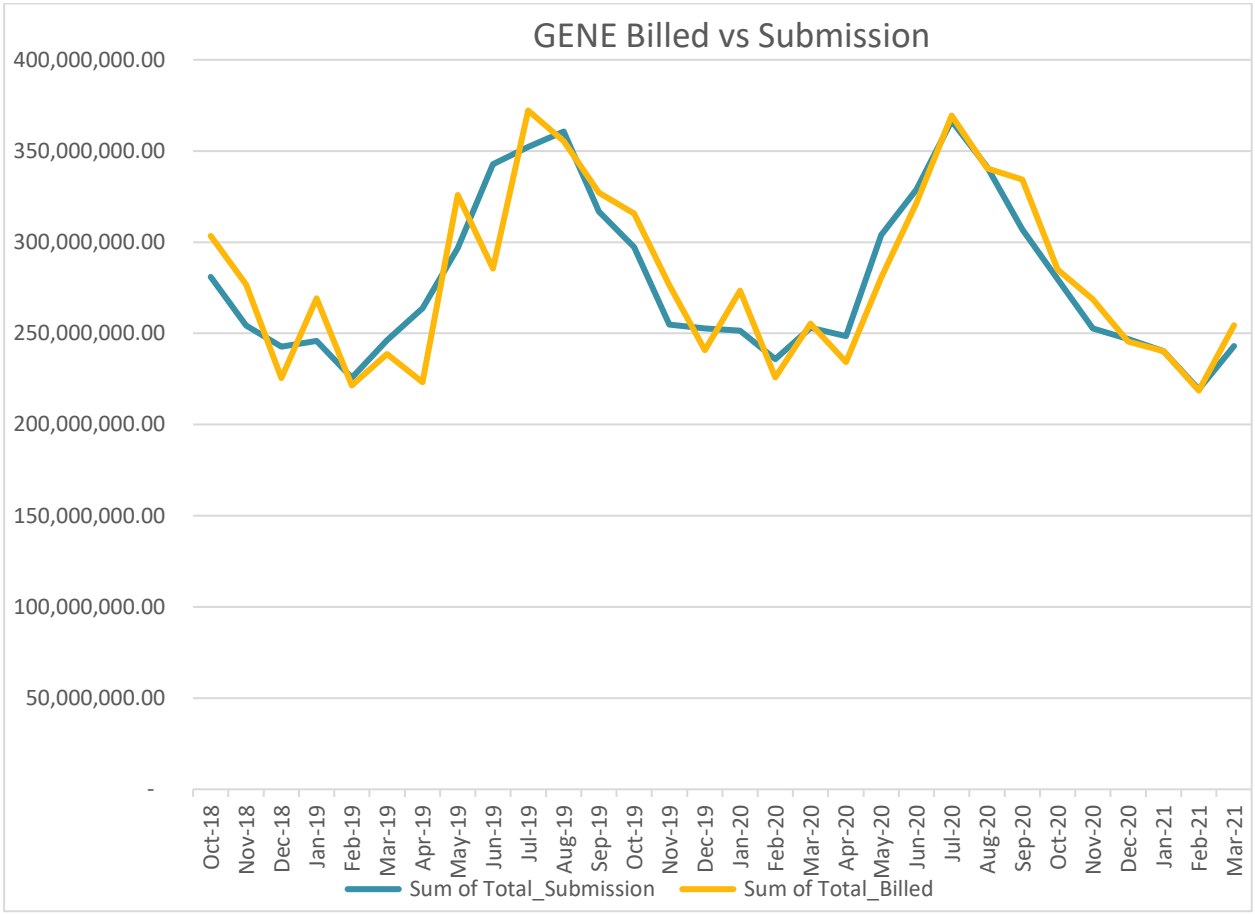
Audit commentary

GENE

The process for the calculation of "as billed" volumes was examined by checking March 2021 AV120 submissions for five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

GENE's as billed submissions are complicated by some streetlights which are submitted as NHH and billed as HHR. I walked through GENE's process to create "as billed" reports and found that these ICPs were identified and handled correctly when creating the "as billed" submissions.

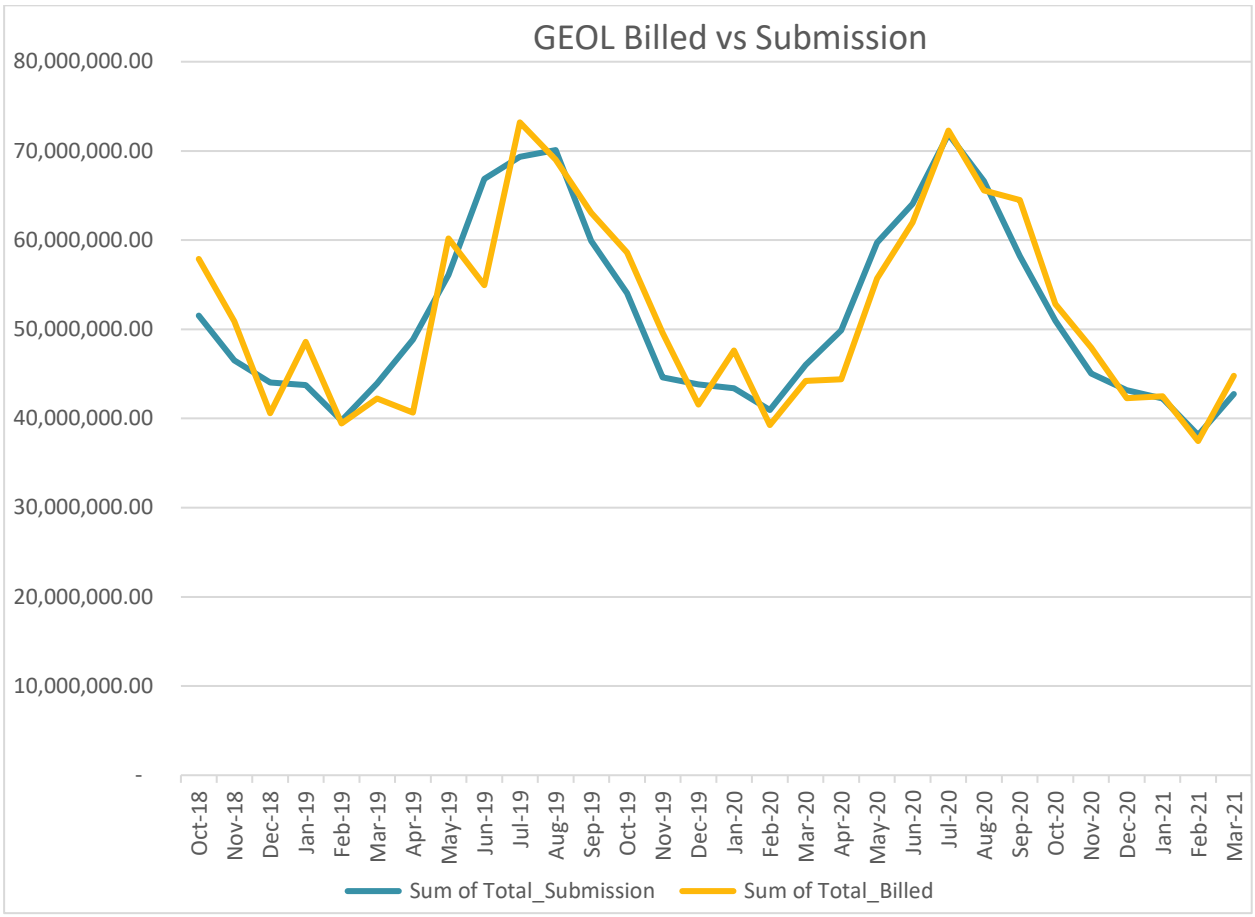
I checked the difference between submission and electricity supplied information for October 2018 to March 2021, and the results are shown below. The difference between billed and submitted data for the year ended March 2021 is -0.45% (billed higher than submitted) and the two years ended March 2021 is 0.21% (billed higher than submitted). The differences between billed and submitted data largely appear to be timing differences.



GEOL

The process for the calculation of "as billed" volumes was examined by checking March 2021 AV120 submissions for five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

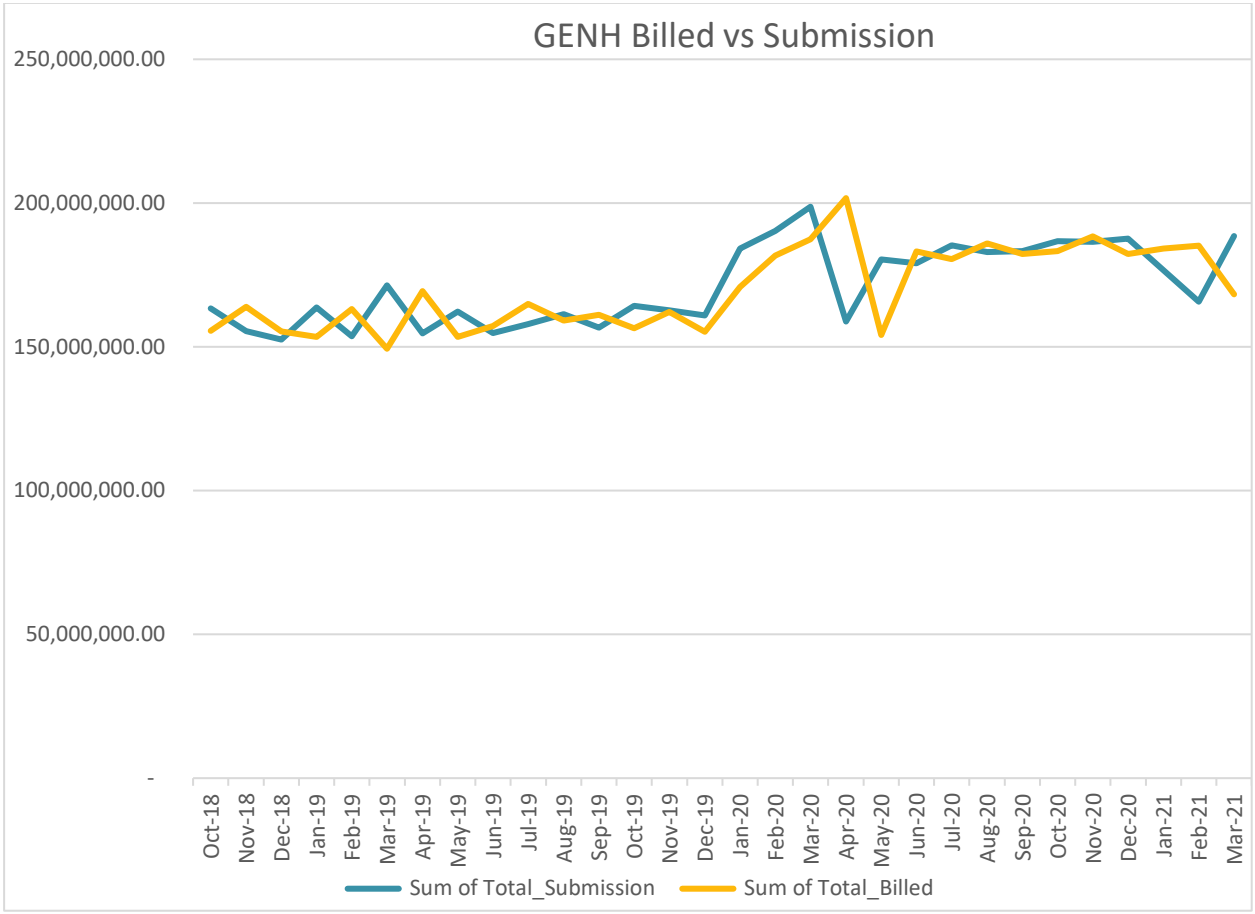
I checked the difference between submission and electricity supplied information for October 2018 to March 2021, and the results are shown below. The difference between billed and submitted data for the year ended March 2021 is -0.1% (billed lower than submitted) and the two years ended March 2021 is -0.2% (billed lower than submitted). The differences between billed and submitted data largely appear to be timing differences.



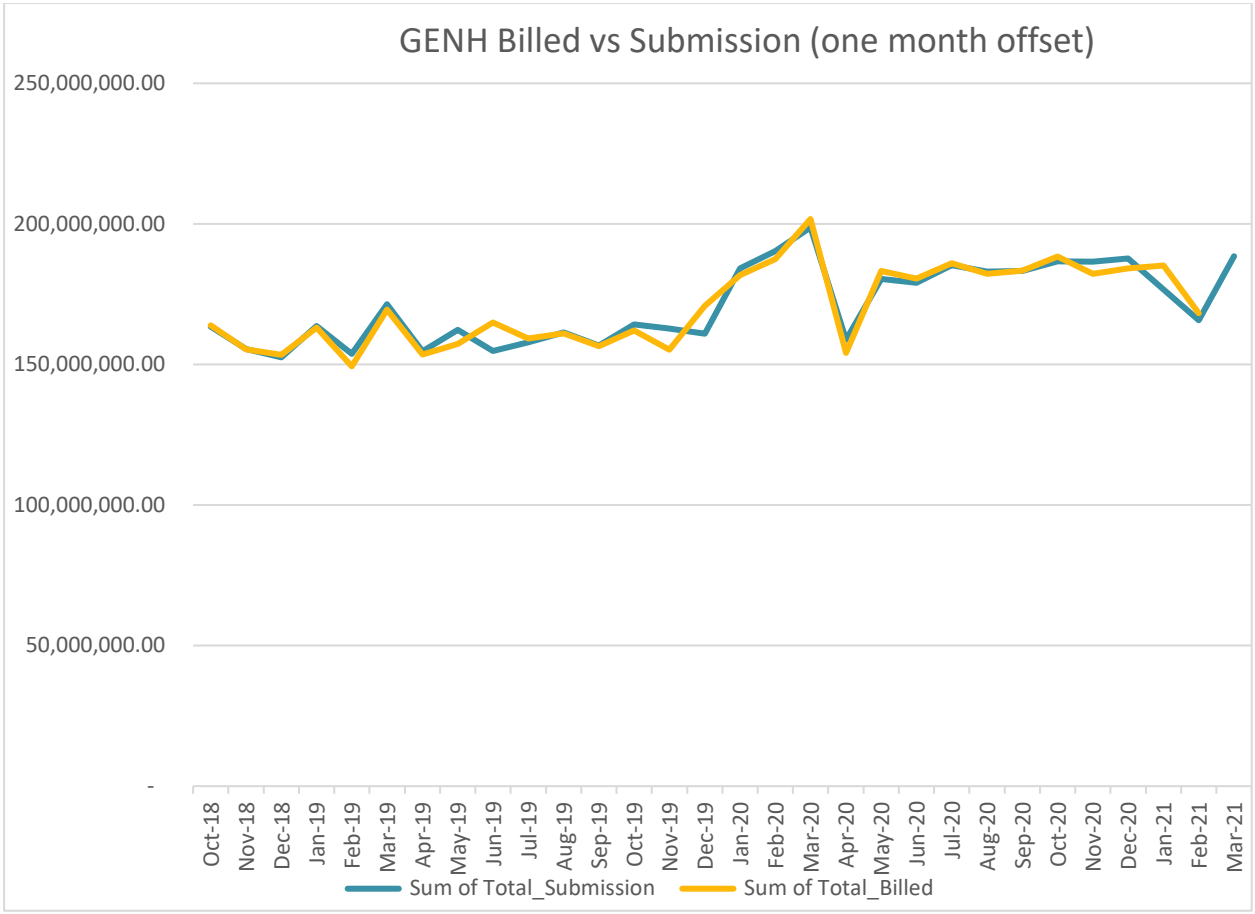
GENH

The process for the calculation of "as billed" volumes was examined by checking March 2021 AV120 submissions for five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

I checked the difference between submission and electricity supplied information for October 2018 to March 2021, and the results are shown below. The difference between billed and submitted data for the year ended March 2021 is 0.82% (billed higher than submitted) and the two years ended March 2021 is -0.28% (billed lower than submitted). The differences between billed and submitted data largely appear to be timing differences.



Once the billing and submission periods are aligned (as shown in the second chart), the other differences are minimal and appear to relate to timing.



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

HHR volumes and aggregates submissions are created by AMS for GENH, and Genesis for GENE and GEOL.

I confirmed whether the process for the calculation and aggregation of HHR data was correct, by:

- matching HHR aggregates information with the HHR volumes data, and
- tracing volumes for two HHR settled ICPs from DRDS to MSD and the HHR aggregates submissions.

The GR090 ICP Missing files were examined for all revisions for December 2019 to March 2021, and an extreme case sample of the ICPs which were missing from the most submissions were checked.

Audit commentary

GENE, GEOL and GENH's HHR aggregates reports contain submission information, not electricity supplied information as specified under clause 15.8. Although the reports Genesis and AMS produce are consistent with the Reconciliation Manager Functional Specification, this is recorded as non-compliance below.

GENE and GEOL

I confirmed that the process for the calculation and aggregation of HHR data is correct, by tracing volumes for two HHR settled ICPs from DRDS to MSD and the HHR aggregates submissions. All volumes matched.

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 nine submissions for GENE and nine submissions for GEOL.

- For GENE only small rounding differences were present (less than 120 kWh and 0.000%). I completed a NSP level reconciliation for February 2021 revision 1 and confirmed that there were small rounding differences at NSP level.
- For GEOL there were differences from 0.000% and 54.32 kWh (February 2021 r1) to 0.0001% and 593 kWh (September 2020 r0). I completed a NSP level reconciliation for these two revisions and confirmed that there were small rounding differences at NSP level.

All submission information reviewed was correctly rounded to two decimal places.

The GR090 ICP Missing files were examined for all revisions for December 2019 to March 2021. I checked a sample of the 15 ICPs missing from the most submissions each for GENE and GEOL and found all were timing differences due to backdated switches, backdated withdrawals, status changes, submission type changes, and generation sites which do not have aggregates data reported.

The GR090 ICP missing reports are not specifically monitored by GENE and GEOL, ICP differences are primarily identified through monitoring of ICP days.

GENH

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 nine submissions. Only small rounding differences were present (less than 120 kWh and 0.000%). I completed a detailed reconciliation for February 2021 revision 1 and confirmed that there were small rounding differences at NSP level.

The process or calculation of volumes was checked by comparing raw meter data from MV090 against aggregates information as part of AMS' audit.

The GR090 ICP Missing files were examined for all revisions for December 2019 to March 2021. I checked a sample of the 15 ICPs missing from most submissions (including all missing for more than six submissions) and found all were timing differences due to backdated switches and withdrawals.

The GR090 ICP missing reports are monitored by AMS as GENH's agent.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.4 With: Clause 15.8 From: 01-Jul-20 To: 30-Jul-21	**GENE, GEOL** and **GENH** HHR aggregates files do not contain electricity supplied information. 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 issue relating to content of the aggregates file is an error in the code, Genesis is providing submission information as expected.

Actions taken to resolve the issue	Completion date	Remedial action status
Correct, Genesis will not be changing its processes	n/a	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
n/a	n/a	

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.

A sample of changes to daylight savings on 27 September 2020 and from daylight savings on 4 April 2021 were checked to confirm the correct number of trading periods were recorded.

Audit commentary

GENE and GEOL

Daylight savings processes for AMS were reviewed as part of their audit and found to be compliant. The correct number of trading periods were recorded for all data reviewed.

GENH

The AMS report confirms compliance.

Generation

Daylight saving is appropriately dealt with for generation metering. The correct number of trading periods were recorded for all data reviewed.

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

Processes to ensure that HHR, NHH and generation submissions are accurate were reviewed. A list of breaches was obtained from the Electricity Authority.

Audit commentary

GENE and GEOL

HHR submissions are created using MSD and are discussed in **section 11.4**. NHH submissions are produced using Derive and validated prior to submission as discussed in **section 12.3**. Further information on calculation of historic estimate is recorded in **section 12.11**, and the aggregation of the AV080 report was found to be compliant in **section 12.3**.

A diverse sample of NHH ICPs were checked to confirm submissions were correct.

Distributed generation

I reviewed a sample of GENE and GEOL ICPs with injection/export registers and confirmed that generation consumption is correctly submitted.

Instances where a customer has installed generation but not provided an application are more difficult to identify. I recommend in **section 6.1**, that Genesis monitors ICPs where the installation type is B. Monitoring of injection registers is difficult because some MEPs routinely install ICPs with injection registers with a settlement indicator of Y, regardless of whether they are expected to be used. Where BOPE and Intellihub have an I flow register with no consumption reported but the network has recorded a L, the I flow/PV1 lines are removed from submission. I walked through this process and confirmed it was operating as expected.

The following exceptions were identified:

1. Two GENE ICPs which are believed to be generating did not have compliant metering installed or notification of gifting provided.

As detailed in **section 6.1**, I rechecked the 23 GENE ICPs identified in the 2020 audit, which were believed to be generating and did not have compliant metering installed or notification of gifting provided:

1. Nine have been corrected and revisions provided.
2. Nine have yet to be resolved.
3. Three have since switched away and the new trader has installed import export metering confirming the generation was present.
4. Two have confirmed that there is no distributed generation present.

The five ICPs (0007101788RN44D, 0000158386UN338, 0000321872WE3A, 0005617142WE037 and 0000047031TR076) identified in the 2020 audit which were believed to be generating which did not have compliant metering installed or notification of gifting provided are recorded as non-compliance below.

Vacant consumption

I checked the process for vacant consumption and confirmed that vacant consumption is reported. Vacant ICPs continue to be read. The readings are stored within the read tables in Gentrack but not against a customer account, and the reads are transferred from the read table to Derive.

Inactive consumption

Disconnected periods are excluded when calculating historic estimate. If part of a read-to-read period is active, the historic estimate calculation will force the consumption into the active portion of the period. If the entire read-to-read period is inactive, no consumption will be reported. Status corrections do not always occur on a timely basis for ICPs with inactive consumption and this is discussed further in **sections 2.1** and **9.5.**

I identified:

1. Ten of the sample of 20 GENE ICPs checked where corrections have not been processed resulting in 109,604 kWh of inactive consumption that has not been submitted. Nine have had their status corrected as a result of this audit and therefore submission will be corrected. ICP 0000036153UN7C6 switched away using the disconnection reads rather than the final read resulting in 4,819 kWh being pushed to the gaining trader and submitted for the wrong period.
2. Four of the sample of ten GEOL ICPs checked with total inactive consumption of 19,938 kWh had not had status corrections processed. The statuses have been corrected as a result of this audit.

The 2020 audit identified:

1. 19 GENE ICPs with total inactive consumption of 163,319 kWh had not had status corrections processed. All but three (ICPs 0000126138WE62E, 0000037854WEEE4 and 0000147481TRAA9) of these have been corrected. The 3,780 kWh associated with ICP 0000126138WE62E is now outside of the revision period. ICPs 0000037854WEEE4 and 0000147481TRAA9 switched out on the disconnection reads rather than the final reads. This has resulted in 4,757 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader.
2. Eight GEOL ICPs with total inactive consumption of 32,476 kWh had not had status corrections processed. Seven have since been corrected as a result of the audit. Some of the volume for two ICPs is outside of the 14-month revision cycle so won't be submitted. ICP 0000918556TUA73 switched out on the disconnected read. An RR was sent to Genesis to correct this but was incorrectly rejected by Genesis. This resulted in 20,820 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader. This is recorded as non-compliance in **section 4.11**.

Unmetered load

I checked a diverse sample of 20 GENE and GEOL ICPs with standard and shared unmetered load and confirmed that submission was correct. Gentrack records the unmetered load as a fixture, and dummy meter readings are created and loaded into Derive for submission.

Reconciled elsewhere ICPs

GENE ICPs 0000360106TUA6A and 0048241402PCD13 reconciled elsewhere status.

- ICP 0000360106TUA6A is a DOC site and is not supplied through the grid and no volumes are required to be submitted.
- ICP 0048241402PCD13 is confirmed to be Powerco base power ICP. Power is not supplied through the grid and no volumes are required to be submitted.

Corrections

A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **sections 2.1** and **8.1**. The following exceptions were identified for:

- no bridged meter correction was processed for 19 of the 31 GENE ICPs with meters unbridged, and

- ICP 0000015153HB6E4 was gained from GEOL to GENE; it had a blank screen so was estimated from 8 June 2020 to 1 December 2020 and the gain read was higher than the removal read but rather than issue an RR to correct this the volume was estimated to the removal date resulting in over submission of 22,434 kWh.

The exceptions identified in the 2020 audit were checked and found:

- that no corrections have been processed for ICPs 0000124164UN239 and 0000167710UN91D, and
- for the five bridged meters reported in the 2020 audit:
    a. two ICPs (0005765757RNE1C and 0131447424LC9D2) switched away before the meters could be unbridged so no correction has been processed,
    b. field jobs have been raised for two ICPs (0000119904UN6C8 and 0000540643WEC82), and
    c. no progress has been made for ICP 0049202053PCA93.

GENH

HHR submissions are prepared by AMS as GENH's agent, as discussed in **section 11.4**.

Unmetered load

GENH supplies five active ICPs with unmetered load. These have been set up in Derive and are being submitted. Because AMS does not handle unmetered load, Genesis submits all GENH unmetered load as part of their GENE NHH submission as GENH's agent. It is not possible to include the volumes in GENH's submission because the RM's database replaces previous submissions for the aggregation factor combination and month, and if two submissions are provided by GENH for the same combination and period one will overwrite the other. Therefore, the submissions for these ICPs are against an incorrect participant code is recorded. This is recorded as a technical non-compliance below and **section 12.9**.

Reconciled elsewhere ICPs

ICPs 1001158205LC354 and 1001158207LC3D1 have inactive reconciled elsewhere status and are excluded from submissions. The status has been confirmed as correct for both ICPs.

Generation

Generation submissions are discussed in **section 12.6**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.2 With: Clause 15.4 From: 01-April-20 To: 30-Jun-21	**GENE** Two ICPs with distributed generation where no generation volumes were submitted for ICPs 0000011546HR322 and 0000029648HRF96 whilst GENE was the trader. Five GENE ICPs identified in the 2020 which are believed to be generating which still do not have compliant metering installed or notification of gifting provided. Some inactive consumption was missing from submissions because corrections had not been processed as soon as practicable. Consumption during bridged periods was missing from submissions because corrections were not processed as soon as practicable. **GEOL** Some inactive consumption was missing from submissions because corrections had not been processed as soon as practicable. **GENH** Unmetered load volumes submitted incorrectly under the GENE participant code. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate overall, but processing of corrections and bridged meters have room for improvement. The impact is assessed to be low but is unknown in relation to the bridged meters as these corrections are not being processed in all instances.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will continue to review the process and look for effective solutions to enable process improvements	01/03/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Implement improvements found as part of the review	01/03/2022	

12.3. Allocation of submission information (Clause 15.5)

Code reference

Clause 15.5

Code related audit information

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

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

Audit observation

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

I evaluated the process for ensuring the correct NSP is recorded by conducting a walk-through of the registry validation and submission processes for NHH and HHR. NSP errors will also show in the ICPCOMP and ICPMISS reports, so these were checked as well.

The process for aggregating the AV080 was examined by checking five NSPs with a small number of ICPs each for GENE and GEOL.

Audit commentary

GENE and GEOL

Genesis prepares NHH submissions for GENE and GEOL using reconciliation consumption generated in Derive.

The process for aggregating the AV080 was examined by checking five NSPs with a small number of ICPs each for GENE and GEOL. Compliance is confirmed.

Changes to ICP level data are transferred from Gentrack to the registry. Derive imports ICP level data directly from the registry each night, including data maintained by other parties such as NSP information. The process compares event data for the past 14 months and updates Derive.

Metering and reading data is transferred from Gentrack to MSD and Derive, and end of month readings are transferred from GDW.DRDS to Derive. Derive validates reading data. Any reading which fails validation is placed "on hold" and will not be used by the reconciliation process unless is it is reviewed and passed. Derive's validations include checks for incomplete data, mismatched data, replacement data, data outside GENE or GEOL's period of ownership, and data that falls outside expected values (high or low compared to the previous submission, or over 10,000 kWh). Queries are used to obtain additional information on exceptions, and they can be passed in bulk so that outliers can be focused on. It is also possible to manually pass or fail exceptions individually.

The zeroing process is managed within MSD. MSD identifies any contracts which are open during the submission period where an aggregation line has not been provided. The reconciliation team review these exceptions and use scripts to create dummy ICPs in Derive with zero consumption and the appropriate aggregation factors, which will be incorporated into the AV080 report as zero lines. GR170 and AV080 files for five months and revisions each for GEOL and GENE were compared and found to contain the same NSPs, confirming that zeroing is occurring as required.

I walked through the process to review submission information in MSD using the Consumption Validation Manager Tool (MVMT). The tool allows comparison at distributor and NSP level between previous months and revisions and presents data graphically and in tables. It is possible to drill down to meter level and compare data from Gentrack and Derive.

Low and negative consumption is identified and resolved through Derive's validations before being viewed in MVMT. MVMT allows users to view the data only, if an exception requires correction, it must be adjusted in Derive and Gentrack (if necessary), and then re-checked using MVMT.

GENE and GEOL HHR data is also reviewed in MSD prior to submission. I walked through the validation process which includes checks against expected values and the previous 14 months of consumption for the ICP. The reconciliation team uses queries to prioritise the ICPs that have failed validations, focussing on the largest differences (more than ±150%) first and then working through smaller discrepancies.

GENH

HHR submissions are prepared by AMS as GENH's agent, as discussed in **section 11.4**.

Generation

Generation submissions are discussed in **section 12.6**.

Audit outcome

Compliant

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

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

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

Audit observation

The registry list and NSP table were reviewed.

Audit commentary

Genesis 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 lists and NSP table were reviewed.

Audit commentary

Genesis does not own any local or embedded networks; compliance was not assessed.

Audit outcome

Not applicable

12.6. Grid connected generation (Clause 15.11)

Code reference

Clause 15.11

Code related audit information

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

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

Audit observation

Genesis is a generator, and I examined the process for preparation of submission information.

Audit commentary

I matched the raw data retrieved using Stark to submissions for two NSPs and confirmed that the submissions were correct.

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 **sections 2.1, 8.1** and **8.2**.

Audit commentary

Review of alleged breaches confirmed there were no late revision submissions.

GENE

The following read and volume issues were identified during the audit for GENE which were not resolved as soon as practicable:

Issue	Description	Section
NHH bridged meter corrections	No corrections processed for 19 of the 31 unbridged meter ICPs. 30 known bridged meters are still to be unbridged. 16 of these have been bridged since before December 2020. The corrections below identified in the 2020 audit were rechecked and found: • no bridged meter correction has been processed for ICP 0000124164UN239 which was bridged from January to June 2020; consumption on the new meter is approximately 0.5 kWh per day, • ICP 0000167710UN91D's meter change was processed effective from 10/06/20 instead of 16/06/20 and has not been corrected, • of the five bridged meters reported: ○ two ICPs (0005765757RNE1C and 0131447424LC9D2) switched away before the meters could be unbridged so no correction has been processed, ○ field jobs have been raised for two ICPs (0000119904UN6C8 and 0000540643WEC82), and ○ no progress has been made for ICP 0049202053PCA93.	2.1
NHH inactive consumption corrections	Ten of the 20 ICPs checked with a total inactive consumption of 109,604 kWh had not had status corrections processed until the audit samples were provided at which time they were corrected. Of the 19 ICPs with inactive consumption recorded in the 2020 audit, three ICPs have not had corrections processed resulting in 8,537 kWh (3,780+2,932+1,825) not being submitted by Genesis.	2.1

Issue	Description	Section
Reporting of distributed generation volumes	Two ICPs with distributed generation did not have compliant metering installed whilst with Genesis. They have since switched away and the new trader has installed an import export meter. The Distributor indicated distributed generation was installed in mid-April 2021. These switched to other traders in mid to late May 2021. Of the 23 ICPs identified in the 2020 audit as potentially generating this audit found five ICPs (0007101788RN44D, 0000158386UN338, 0000321872WE3A, 0005617142WE037 and 0000047031TR076) still do not have compliant metering installed or notification of gifting provided.	6.1, 12.2, 12.7
Validation of customer readings	As reported in the 2020 audit, ICP 1000517104PC993 had customer readings on 31/07/19 and 18/09/19 which were treated as actual validated readings but were not validated against a set of readings from another source. This has not been corrected and is now outside the revision period.	6.6

The meter category 3 and 5 meters with NHH submission type have all been resolved.

As was noted in the 2020 audit for the 2019 corrections, I found that corrections identified as being required during the 2020 audit have not consistently been processed, but the 14-month submission window has now passed for the affected ICPs.

Genesis has had two breach allegations relevant to the scope of this audit recorded by the Electricity Authority during the audit period:

Ref	Breach Description	Clause	Outcome
2103GENE 2	GENE failed to submit complete profile shape information to the Reconciliation Manager in January 2021.	Part 15 clause 15.2 (1) (a)	No result yet
2104GENE 1	GENE failed to submit complete profile shape information to the Reconciliation Manager. GENE submitted under the CST special profile shape in January R1 at FHL0331-HAWK and WTU0331-HAWK in the AV-080 submission but did not submit at these NSPs in the AV-100 submission. GENE then failed to correct this information again, in the initial submissions on BD4 in March 2021.	Part 15 clause 15.2 (1) (a)	No result yet

The profile shape was submitted. The issue was that the incorrect profile of NST instead of CST was submitted against two streetlight ICPs. Any such error is usually picked up by the RM file checker, but this did not occur in these instances. Genesis has since added a further check for combinations against the registry prior to submission to prevent this occurring in the future.

GEOL

The following read and volume issues were identified during the audit for GEOL which were not resolved as soon as practicable:

Issue	Description	Section
NHH inactive consumption corrections	Four of the ten ICPs checked with a total inactive consumption of 19,938 kWh had not had status corrections processed until the audit samples were provided at which time they were corrected. Of the nine ICPs with inactive consumption recorded in the 2020 audit, corrections have been processed for eight of them, but I noted that some of the volume is outside of the 14-month revisions cycle so won't be submitted. ICP 0000918556TUA73 switched out on the disconnected read. An RR was sent to GEOL to correct this but was incorrectly rejected by GEOL. This resulted in 20,820 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader.	2.1
Validation of customer readings	As reported in the 2020 audit, ICP 0000289010TE558 had a customer reading on 30/08/20 which was treated as an actual validated reading but was not validated against a set of readings from another source.	6.6

GENH

All read and volume issues resolved as soon as practicable.

The unmetered data accuracy issues identified in the previous audit were re-checked and found they have been resolved. All unmetered load is being submitted but as noted in **section 12.2**, these volumes are being submitted as GENE NHH submission which results in the ICPs being submitted against the incorrect participant code. This is as a technical non-compliance in **sections 12.2** and **12.9**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 01-Apr-20 To: 30-Jun-21	**GENE and GEOL** Some submission data was inaccurate and was not corrected at the next available opportunity. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate overall as they are sufficient to ensure that most submission information is correct, but there is some room for improvement to the read and billing validation processes which identify and correct errors. The impact is assessed to be medium based on the proportion of corrections not carried against the sample checked. ,

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will be reviewing its current processes and implement change where possible. The reconciliation team continues to support these processes where exceptions are found and corrected.	01/02/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The above review will identify possible improvements	01/02/2022	

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

NHH volumes 14-month revisions were reviewed for December 2019 to February 2020 to identify any forward estimate still existing. A sample of AV080 aggregation rows with forward estimate remaining at the 14-month revision were checked.

Audit commentary

Review of the 14-month revisions showed that not all estimated meter readings had been replaced with validated meter readings. Estimated meter readings are not consistently being made permanent at the 14-month point as required by the Authority, because Genesis only enters permanent estimates where they can be validated against actual validated readings.

GENE

AV080 submissions were reviewed to identify the quantity of forward estimate remaining at revision 14:

Month	Forward estimate at revision 14
Dec-19	669,456.72
Jan-20	1,423,157.3
Feb-20	707,035.11
Grand Total	2,092,614.02

A sample of ICPs with forward estimate remaining were reviewed. Forward estimate remained because ICPs had not received an actual read by revision 14, and a permanent estimate was not entered because it could not be validated.

GEOL

AV080 submissions were reviewed to identify the quantity of forward estimate remaining at revision 14:

Month	Forward estimate at revision 14
Dec-19	97,627.97
Jan-20	217,519.73
Feb-20	109,861.83
Grand Total	425,009.53

A sample of ICPs with forward estimate remaining were reviewed. Forward estimate remained because ICPs had not received an actual read by revision 14, and a permanent estimate was not entered because it could not be validated.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 Schedule 15.2 From: Dec-19 r14 to Feb-20 r14	**GENE** and **GEOL** Some estimates were not replaced with permanent estimates by revision 14. Potential impact: Medium Actual impact: Unknown Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate, because there are processes in place to attain readings by revision 14 and enter permanent estimate readings. The potential impact is rated as low. There are sound estimation processes, therefore I have recorded the audit risk rating as medium.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will continue to look revising the read attainment processes to actively seek read data, Genesis will review the process and make any possible adjustments in accordance to the permanence of estimated reads requirements. Genesis also have a project underway to replace existing legacy meters with smart meters, which will assist with read attainment.	01/03/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Review and Revise current process to check whether permanent estimates are meeting 12.8 requirements. This will also require a revision of the read attainment processes for sites unable to be read which feeds the permeance process.	01/03/2022	

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

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

Aggregation and content of reconciliation submissions was reviewed, and the registry lists were reviewed.

Audit commentary

GENE

Compliance with this clause was assessed.

- GENE supplies three active ICPs with meter category 3 or higher.
  ICPs 0696299004PC30D and 0696299005PCF48 relate to the Haunui wind farm and now have HHR submission type and profile. The generation team read the meter and provide the data in a spreadsheet which is formatted into a HHR volumes submission using SQL scripts.
  The last audit recorded that ICP 0001130018PSF65 was being submitted with a NHH submission type and profile. This has been corrected to HHR as data is now being provided by Influx for this ICP.
- Unmetered load submissions were checked in **section 12.2** and found to be accurate.
- No profiles requiring a certified control device are used.
- No loss or compensation arrangements are required.

- Aggregation of the AV080 report is discussed in **section 12.3** and aggregation of the AV090 and AV140 reports is discussed in **section 11.4**.

GEOL

- GEOL does not supply any category 3 or higher ICPs.
- Analysis of the AC020 report found profile and submission flags appeared consistent for all ICPs.
- Unmetered load submissions were checked in **section 12.2** and found to be accurate.
- No profiles requiring a certified control device are used.
- No loss or compensation arrangements are required.
- Aggregation of the AV080 report is discussed in **section 12.3** and aggregation of the AV090 and AV140 reports is discussed in **section 11.4**.

GENH

- All active ICPs have submission type HHR and HHR profile.
- Analysis of the AC020 report found profile and submission flags appeared consistent for all ICPs.
- No profiles requiring a certified control device are used.
- GENH unmetered load is submitted against the GENE participant code as discussed in **section 12.2**.
- No loss or compensation arrangements are required.
- Aggregation of the AV090 and AV140 reports is discussed in **section 11.4**.

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 12.9
With: Clause 2 of schedule 15.3

From: 01-April-20
To: 30-Jun-21</td><td colspan="3">GENH
Unmetered load volumes submitted incorrectly under the GENE participant code.
Potential impact: Low
Actual impact: Low
Audit history: None
Controls: Strong
Breach risk rating: 1</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 rated as strong as this a technical non-compliance and the only way Genesis can submit these volumes without affecting the HHR submissions.
The impact is assessed to be low as the volumes associated with these ICPs is minor.</td></tr>
<tr><th colspan="2">Actions taken to resolve the issue</th><th>Completion date</th><th>Remedial action status</th></tr>
<tr><td colspan="2">Genesis will continue to review and where possible improve the processes.</td><td>01/05/2022</td><td rowspan="3">Identified</td></tr>
<tr><th colspan="2">Preventative actions taken to ensure no further issues will occur</th><th>Completion date</th></tr>
<tr><td colspan="2">Current processes were implemented to mitigate the risk. Where possible Genesis will make improvements on those processes.</td><td>01/05/2022</td></tr>
</table>

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 for GEOL and GENE, 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

GENE and GEOL

I reviewed a diverse sample of nine AV080 submissions each for GENE and GEOL, including a diverse sample of months and revisions. Forward and historic estimates are included and identified.

GENH

GENH does not provide AV080 submissions.

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

To assist with determining compliance of the historical estimate processes, GENE and GEOL were supplied with a list of scenarios, and for some individual ICPs a manual HE calculation was conducted and compared to the result from the Derive.

Audit commentary

The process for managing shape files was examined. Shape files are downloaded from the reconciliation manager portal after each set of allocation results are published. The shape files are loaded into Derive by GENE. The upload process has controls which inform the user whether the upload has completed successfully.

To assist with determining compliance of the historical estimate processes, GENE and GEOL tested a list of scenarios, and for some individual ICPs a manual calculation was conducted and compared to the system result. The table below shows that all scenarios tested were compliant.

Test	Scenario	Test Expectation	GENE	GEOL
A	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Pass	Pass
B	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Pass	Pass
C	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	Pass	Pass
D	ICP switches in part way through a month on an estimated switch reading	Consumption is calculated to include the 1st day of responsibility.	Pass	Pass
E	ICP switches out part way through a month on an estimated switch reading	Consumption is calculated to include the last day of responsibility.	Pass	Pass
F	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Pass	Pass
G	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Pass	Pass
H	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Pass	Pass
I	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Pass	Pass
J	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Pass	Pass
K	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Pass	Pass
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.	Pass	Pass

Test	Scenario	Test Expectation	GENE	GEOL
M	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate.	Pass	Pass
N	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate.	Pass	Pass
O	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	Pass	Pass

Review of historic estimate examples found that where part of a read-to-read period was inactive, the SASV inactive days were excluded from both the numerator and denominator when calculating the historic estimate, forcing all consumption to be reported within the active portion of the read-to-read period. Where an entire read-to-read period has inactive status, the numerator and denominator will be zero and no historic estimate will be reported. The status must be returned to "active" to allow consumption during inactive periods to be correctly reported.

I found that disconnection and reconnection readings are not always entered, but for all examples checked at least part of the read-to-read period was active and all consumption was forced into the active portion.

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

The forward estimate method is described below.

- Forward default estimate (FDE) of 25 kWh per day per meter register applies where there are less than two actual readings available.
- Forward standard estimate (FSE) applies where there are at least two actual readings available. FSE is calculated as the average daily consumption for each meter register, based on the actual reads available.

The FSE or FDE is multiplied by the number of days to be estimated. Without any adjustments for seasonality, the forward estimated volumes for shoulder months leading into winter are likely to be low and leading into summer are likely to be high.

GENE

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.

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Mar 2019	10	10	9	9	244
Apr 2019	0	2	3	3	240
May 2019	0	2	1	1	246
Jun 2019	0	1	3	2	245
Jul 2019	0	1	1	1	246
Aug 2019	0	1	1	1	244
Sep 2019	0	0	0	0	247
Oct 2019	0	0	0	1	250
Nov 2019	0	1	2	-	251
Dec 2019	0	1	1	-	251
Jan 2020	0	0	0	-	251
Feb 2020	0	0	1	-	241
Mar 2020	0	2	0	-	239
Apr 2020	0	1	3	-	239
May 2020	0	1	1	-	239
Jun 2020	0	2	4	-	245
Jul 2020	0	2	2	-	246

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Aug 2020	0	0	-	-	252
Sep 2020	0	1	-	-	253
Oct 2020	1	2	-	-	248

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Mar 2019	2.79%	7.39%	8.60%	8.78%
Apr 2019	-0.96%	-3.61%	-2.85%	-2.82%
May 2019	-0.93%	-4.42%	-3.51%	-3.52%
Jun 2019	-2.31%	-6.66%	-7.11%	-7.27%
Jul 2019	-0.65%	-2.56%	-2.97%	-3.18%
Aug 2019	-0.49%	-1.99%	-2.63%	-2.98%
Sep 2019	0.33%	1.81%	1.16%	0.98%
Oct 2019	0.92%	3.95%	3.80%	3.93%
Nov 2019	1.71%	4.79%	4.84%	-
Dec 2019	0.90%	2.97%	3.10%	-
Jan 2020	0.39%	0.57%	-0.01%	-
Feb 2020	-0.20%	0.26%	-0.39%	-
Mar 2020	-0.62%	1.47%	2.53%	-
Apr 2020	-0.20%	4.64%	6.62%	-
May 2020	0.29%	-2.82%	-2.31%	-
Jun 2020	-1.05%	-5.80%	-6.18%	-

Month	Revision 1	Revision 3	Revision 7	Revision 14
Jul 2020	-1.50%	-5.03%	-6.43%	-
Aug 2020	-0.75%	0.13%	-	-
Sep 2020	0.94%	3.88%	-	-
Oct 2020	2.09%	5.32%	-	-

I reviewed all 16 balancing areas with variation between revisions of more than ± 15% and ± 100,000 kWh which occurred in 2020. The differences were found to be caused by:

- forward estimate being higher or lower than the actual consumption where reads could not be obtained until later revisions; this is more prevalent when moving between seasons and is becoming more prevalent as the AMI rollout continues leaving the hard to read and reach ICPs in this pool, and
- misreads which were detected after the initial submission.

Non-compliance is recorded where the differences related to forward estimate being too high or low.

GEOL

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.

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Mar 2019	2	0	0	0	121
Apr 2019	0	0	0	0	122
May 2019	0	0	0	0	123
Jun 2019	0	1	1	1	125
Jul 2019	0	0	0	0	124
Aug 2019	0	0	0	0	125
Sep 2019	0	0	0	0	125
Oct 2019	0	2	2		113
Nov 2019	0	2	3		115
Dec 2019	0	0	0		116

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Jan 2020	0	0	0		118
Feb 2020	0	0	0		121
Mar 2020	0	0	0		111
Apr 2020	0	0	0		112
May 2020	0	0	1		113
Jun 2020	0	0	1		117
Jul 2020	0	0	1		116
Aug 2020	0	0			115
Sep 2020	0	1			115
Oct 2020	0	1			110

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Mar 2019	-2.10%	1.48%	1.72%	1.74%
Apr 2019	-0.08%	-1.13%	-0.80%	-0.75%
May 2019	-0.54%	-1.97%	-1.57%	-1.50%
Jun 2019	-0.73%	-2.58%	-2.66%	-2.66%
Jul 2019	-0.51%	-1.25%	-1.27%	-1.26%
Aug 2019	-0.17%	-0.42%	-0.71%	-0.56%
Sep 2019	0.17%	1.47%	0.88%	1.19%
Oct 2019	1.69%	10.47%	11.67%	11.85%
Nov 2019	3.43%	11.76%	13.29%	

Month	Revision 1	Revision 3	Revision 7	Revision 14
Dec 2020	2.16%	7.76%	8.95%	
Jan 2020	1.44%	3.12%	2.96%	
Feb 2020	0.33%	1.19%	-0.05%	
Mar 2020	0.00%	-2.44%	-2.08%	
Apr 2020	-0.49%	-2.04%	-1.18%	
May 2020	-1.43%	-8.98%	-9.15%	
Jun 2020	-2.47%	-9.50%	-9.96%	
Jul 2020	-2.61%	-6.98%	-8.71%	
Aug 2020	-0.66%	0.94%		
Sep 2020	1.02%	6.72%		
Oct 2020	3.62%	10.44%		

I reviewed all five balancing area differences where the variation between revisions was more than ± 15% and ± 100,000 kWh which occurred in 2020. The differences were found to be caused by:

- forward estimate being higher or lower than the actual consumption where reads could not be obtained until later revisions; this is more prevalent when moving between seasons and is becoming more prevalent as the AMI rollout continues leaving the hard to read and reach ICPs in this pool, and
- misreads which were detected after the initial submission.

Non-compliance is recorded where the differences related to forward estimate being too high or low.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.12 With: Clause 6 Schedule 15.3 From: 01-Apr-20 To: 30-Jun-21	**GENE** and **GEOL** The accuracy threshold was not met for some months and revisions, because forward estimate was too high or too low. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate. The FDE process will ensure that forward estimate is consistent with the meter's historic consumption but does not take into account seasonality. The FSE process applies the same daily average to each meter register regardless of the number of meter registers installed or customer type and does not take into account seasonality. Initial data is replaced with revised data and washed up. A small number of submissions had differences over the threshold.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will continue to look revising the read attainment processes to actively seek read data which will ultimately lesson the variance percentages between revisions. Genesis also have a project underway to replace existing legacy meters with smart meters, which will assist with read attainment.	01/03/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
The calculation of volume using seasonal adjustments only caters for historical estimation calculation. The forward estimation process does not as per the code. The systems implemented by Genesis in 2006 were and still are compliant although they are restricted, and seasonality is not currently used to adjust the initial calculation of energy volumes. With the changes coming in Genesis there will be a revision on the current NHH settlement tool which may enable the implementation of such seasonal adjustments to occur in the initial settlement process. Genesis are reviewing the read attainment process(s) to improve initial revision accuracy	01/03/2022	

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 reports for GENE, GEOL and GENH were examined to identify all ICPs which had a profile change during the audit period.

A typical sample of 15 ICPs with profile changes for GENE, and ten profile changes for GEOL were reviewed to confirm that there was an actual or permanent estimate reading on the day of the profile change. No profile changes were identified for GENH.

Audit commentary

GENE and GEOL

In the event of a profile change, Genesis uses a validated meter reading or a permanent estimate on the day that the change is effective.

I checked a sample of 15 GENE and ten GEOL profile changes including upgrades, downgrades, and addition of generation profiles, and found an actual reading had been correctly applied.

GENH

No profile changes were identified on the event detail report for GENH.

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

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

Aggregation of NHH volumes is discussed in **section 12.3**, aggregation of HHR volumes is discussed in **section 11.4** and NSP volumes are discussed in **section 12.6**.

Audit commentary

GENE and GEOL

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

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

GENH

GENH submissions are completed by AMS as GENH's agent. Compliance is recorded in AMS' audit report.

Generation

Generation submission information is compliant.

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

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

Audit observation

I reviewed the rounding of data on the AV090, AV140 and AV080 reports as part of the aggregation checks.

Audit commentary

GENE and GEOL

Review of nine HHR volumes submissions and nine HHR aggregates submissions each for GENE and GEOL confirmed that submission data is rounded to two decimal places.

Review of nine AV080 NHH volumes reports each for GENE and GEOL confirmed that submission data is rounded to two decimal places.

GENH

Review of nine AV140 HHR aggregates and nine AV090 HHR volumes reports confirmed that submission data is rounded to two decimal places.

Generation

Data is not rounded until the submission process.

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 a sample of nine AV080 reports each for GENE and GEOL to confirm whether historic estimate requirements were met.

Audit commentary

The quantity of historical estimates is contained in the submission file for GENE and GEOL and is not a separate report.

The three, seven and 14-month revision files were examined for a selection of nine submissions and the tables below show that the thresholds were not met for some NSPs for some revisions. Checks of a sample of ICPs confirmed that the thresholds were not met because readings were unable to be obtained, and permanent estimates were not entered in their place. Read attainment is discussed further in **sections 6.8 - 6.10**. Estimated meter readings are not consistently being made permanent at the 14-month point as required by the Authority, because Genesis only enters permanent estimates where they can be validated against actual validated readings.

GENE

The table below shows the number of NSPs where the threshold was met.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Dec 2019	-	-	213	337
Jan 2020	-	-	405	665
Feb 2020	-	-	208	338
Apr 2020	-	291	-	325
May 2020	-	314	-	324
Jun 2020	-	316	-	329
Sep 2020	319	-	-	337
Oct 2020	313	-	-	332
Nov 2020	309	-	-	335

The table below shows that the percentage HE at a summary level for all NSPs is well above the required targets for the three and seven-month revisions, and below the target for the 14-month revisions.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Dec 2019	99.21%	-	-
Jan 2020	99.19%	-	-
Feb 2020	98.76%	-	-
Apr 2020	-	96.13%	-
May 2020	-	97.59%	-
Jun 2020	-	97.87%	-
Sep 2020	-	-	94.97%

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Oct 2020	-	-	93.63%
Nov 2020	-	-	93.03%

GEOL

The table below shows the number of NSPs where the threshold was met.

Month	Revision 3 80% Met	Revision 7 90% Met	Revision 14 100% Met	Total
Dec 2019	-	-	136	199
Jan 2020	-	-	274	404
Feb 2020	-	-	134	200
Apr 2020	-	183	-	194
May 2020	-	187	-	197
Jun 2020	-	189	-	198
Sep 2020	187	-	-	197
Oct 2020	175	-	-	190
Nov 2020	182	-	-	194

The table below shows that the percentage HE at a summary level for all NSPs is well above the required targets for the three and seven-month revisions, and below the target for the 14-month revisions.

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Dec 2019	99.21%	-	-
Jan 2020	99.15%	-	-
Feb 2020	99.16%	-	-

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Apr 2020	-	96.66%	-
May 2020	-	97.58%	-
Jun 2020	-	98.02%	-
Sep 2020	-	-	94.37%
Oct 2020	-	-	93.04%
Nov 2020	-	-	92.49%

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: Dec 19-Feb 20 (r14), Apr 19-Jun 20 19 (r7) and Sep 20-Nov 20 (r3)	**GENE** and **GEOL** 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 some improvements can be made to ensure compliance. GENE and GEOL were reasonably close to the target in all cases. The impact is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will continue to review the controls in order to increase meter read attainment, leading to greater accuracy levels in HE on the affected NSPs	continuous improvements	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Implement improvements found as part of the review view be undertaken.	continuous improvements	

CONCLUSION

Genesis uses three codes: GENE, GENH and GEOL. GEOL's ICPs were migrated from Orion to Gentrack during the previous audit period. Unless otherwise specified, the processes and non-compliances described in the report relate to all codes.

Registry and Switching:

Registry timeliness and accuracy has a similar level of compliance to the previous audit. Almost all the validation occurs within the reconciliation team and not within the teams where the functions are managed. This was reported as being due to a lack of resources, which is also the cause of many of the late updates for new connections. The validation conducted within the reconciliation team is not "real time" which means very few of the corrections are conducted within five business days. Several recommendations have been made regarding validation improvements, some of which were also made in previous audits. There were a large number of ANZSIC code errors, and it appears additional controls are required in this area.

Switching compliance is expected to improve since system changes were made in early 2021. It is expected that the number of late files will improve and that the labelling of readings will become more accurate. There are still inaccurate switch event meter readings being sent because they are based on the last billed read, not the last read available. Compliance has been achieved for the audit period in relation to the switch save protection clauses.

There are eight distributed unmetered load databases still to be audited and six of the databases have errors greater than 50,000 kWh per annum.

Reading and Reconciliation:

The timeliness and accuracy of registry and switching processes directly affects reconciliation. I found that there are backlogs of bridged meters, and management of zero validation has been paused due to lack of resources. These backlogs are preventing Genesis from improving compliance.

Genesis have restructured the business and the new structure is expected to improve the compliance focus in the wider business. The internal audit role has been disestablished and replaced with subject matter expert roles within the business units. Their role will be to refine and improve processes at the front end and reduce the volume of exceptions managed at present by the reconciliation team. This is still to be bedded into the business, so the benefits of these changes are expected to be seen in the next audit.

All matters raised are shown in the tables below.

The audit raises 44 non-compliances and makes 13 recommendations. 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 recommends an audit frequency of three months. I have considered this in conjunction with Genesis' comments and recommend that the next audit be completed in nine months' time.

PARTICIPANT RESPONSE

Genesis Energy has recently been through a structural change and are confident these changes will improve the focus and visibility on compliance.

Below is a list of new roles (18) that have been established in the Customer Operations and Compliance area;

Head of Customer Operations and Compliance – Hope Allum appointed and started on the 21/06/2021. Hope is responsible for the Switching, Metering, Credit, Payments and compliance teams.

Compliance and Risk Manager – Mark Poole appointed and started on the 19/07/2021, Mark reports to Hope Allum as is responsible for identifying and managing compliance requirements

Compliance Practice Lead – Gareth Houghting appointed and started on the 1st July 2021, Gareth reports to Mark Poole and is responsible for ensuring that Genesis compliance framework is adopted across the Customer Operations team

Revenue Assurance Manager – Currently being recruited (Applications Close on 6th August 2021) This role will report to Mark Poole, and responsibilities will include monitoring financial and operational metrics as well as broader industry issues and working with other teams to implement recovery & prevention activities, strengthen financial and operational controls and identify and implement process improvements

Revenue Assurance Analyst – (To be advertised) This role will report to the Revenue Assurance Manager and will provide analytical support and coordinate control mechanisms associated with Revenue Assurance within Genesis Energy's Customer Operations.

Business Analyst x2 – A focus for the BA's will be working alongside our Customer Operations team to review / update the current process documents and ensure these are managed in a centralised location, this includes establishing any new processes and controls that may introduced on the back of compliance reviews completed including Revenue Assurance

Data Stakeholder Lead – (Application Closed, currently reviewing applicants) This role will manage Distributed Unmetered Load customers databases – The advertisement for this position has not closed and Genesis is reviewing the applications.

Subject Matter Experts x4 Genesis has recently appointed 4 new Subject Matter Experts (1 Switching, 1 Metering, 1 Billing and 1 Payments / Credit), these roles will work closely with the BAs around Process improvement, Process documentation and looking for ways to improve training for both new and existing employees.

Additional CSRs x6 (Applications close on the 6th August) This will address the current resource issues noted in this audit report and will help support current processes and controls, with a focus being placed on Bridged meters, Vacant consumption and Stopped meters

Genesis is also in the process of creating a compliance dashboard that will provide increased visibility of potential issues and act as a proactive control to mitigate compliance risks. Genesis will also be logging the compliance plan that results from this audit into an existing internal system that is currently used by our Wholesale Operations team. Audit points will be assigned the relevant business owner with a due date and tracked to ensure any agreed actions are completed.

Genesis have also established a monthly Compliance meeting for all internal stakeholders to discuss the progress on these actions and current compliance performance. Compliance visibility and reporting will also be provided to the Genesis senior management team on a monthly basis.

Genesis have also recently established a new General Manager Digital Transformation position. Rebecca Larking has been appointed in this role and will work on behalf of the retail business within the Digital Transformation programme to deliver the future state envisioned for Genesis. This include the below inflight projects;

- **Mahi Tahi:** means “working together” and centres around a new data architecture that decouples data from applications and consolidates it into a central place. This will simplify our data integration, unlock new capabilities and increase Genesis' agility when it comes to technology changes.
- **Project Rubiks:** named for the famous cube and is the implementation of a new sales, service and billing system for our retail customers.
- **“The way we work”** is focused on designing the Genesis Retail of the future; considering every aspect of how and by who value is generated for our customers.

Genesis request a 12-month Audit cycle, this will provide the time required to embed the changes and implement the improvements required.