ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

GENESIS ENERGY LIMITED

IBN 9429038698279

Prepared by Steve Woods, Bernie Cross and Tara Gannon

Date audit commenced: 1 December 2022

Date audit report completed: 13 April 2023

Audit report due date: 13 April 2023

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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. Unless otherwise specified, the processes and non-compliances described in the report relate to all codes.

Registry and Switching:

There is better identification of discrepancies and exceptions, and work is still in progress to ensure resource is available to resolve the issues identified.

Clearing of backlogs has led to some backdated registry events, but overall, there is an improvement in the timeliness of registry updates.

Recommendations have been made to increase the collection and use of meter readings during the disconnection and reconnection processes.

The timeliness and accuracy of switching files is mostly very good, however one issue found was that there were five of 20 ICPS where the reading in Derive+ was different to Gentrack in situations where a read change had been conducted. I recommend this is reviewed to see if there are more examples.

There are six distributed unmetered load database audit reports still to be finalised and nine of the databases have errors greater than 50,000 kWh per annum. This area now has a dedicated resource, and the improvements are becoming evident as a result.

Reading and Reconciliation:

There have been some improvements to reading and reconciliation:

- the creation of the exception team has improved the timeliness in resolving bridged meters,
- vacant consumption is better managed in Derive+, and
- improvements to the forward estimation calculation and process in Derive+.

The following key areas require some improvement to raise the level of compliance and controls to support these processes:

- **Read attainment:**

  Meter reading frequency reports are showing a lower ICP count than the equivalent LIS report from the registry; it is unknown whether this also affected the ICPs identified as not meeting read attainment levels.

- **Meter Event log monitoring:**

  Some meter events are not well understood by Genesis resulting in incomplete actions to resolve the issue undertaken by the metering team; additionally, the time difference reports, and meter event logs published by the AMI MEPS are not independently reviewed by Genesis.

- **HHR settlement of non-communicating AMI meters.**

  The process to transition an ICP back to NHH submission type is not sufficiently frequent to ensure there is no material impact to submission volumes; some ICPs continue to be submitted using default estimation values even after the max interrogation cycle period has expired meaning HHR data is likely lost.

- **Application of disconnection and reconnection reads.**

Disconnection and reconnection reads are not being consistently applied. While the historic estimation process will push all consumption volumes between reads into the active period, the lack of boundary reads means inactive consumption monitoring is incomplete.

All matters raised are shown in the tables below.

The audit raises 47 non-compliances, which is a reduction from 49 last audit. 22 recommendations are made. The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The audit risk rating has reduced from 120 to 101. 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 12 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	10.33(A)	**GENE** 110 new connections were not certified within five business days. 231 reconnections were not certified within five business days. 73 ICPs with bridged meters not recertified within five business days. **GEOL** Two new connections were not certified within five business days. 31 reconnections were not certified within five business days. **GENH** Seven new connections were not certified within five business days.	Moderate	Low	2	Identified
Meter bridging	2.17	10.33C and 2A of Schedule 15.2	**GENE** 11 meters have yet to be un-bridged. Consumption for the bridged period has not been submitted for ICP 0795798202LCD5F, and also six ICPs identified from the previous audit where an opportunity was still available to complete a volume correction prior to these ICPs moving outside the revision window. **GEOL** No active reporting is in place to monitor bridged meters.	Moderate	Low	2	Identified
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.	Moderate	Low	2	Identified
Trader responsibility for an ICP	3.4	11.18	**GENE** Four incorrect MEP nominations.	Strong	Low	1	Identified
Provision of information to	3.5	9 of schedule 11.1	**GENE**	Weak	Low	3	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
the registry manager			4,000 late updates for new connections (72.36% updated within five business days). 15 of a sample of 48 ICPs of a possible 1,952 ICPs had the incorrect first active date (31% error rate). Three discrepancies from the last audit still present. **GENH** 69 late updates for new connections (71.25% updated within five business days). One incorrect active date from the previous audit not yet resolved. One of a sample of 20 ICPs of a possible 27 ICPs had the incorrect first active date (5% error rate). **GEOL** 19 late updates for new connections (62.00% updated within five business days). Two of a sample of 16 ICPs of a possible 34 ICPs had the incorrect first active date (12.5% error rate). Four discrepancies from the last audit still present				
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	**GENE** 13 ICPs of a total of 35 ICPs checked with a category 2 meter and incorrectly recorded as residential. Eight ICPs of a sample of 100 ICPs checked with an incorrect ANZSIC code recorded. 8% error rate. **GEOL** One ICP with a T99 ANZSIC code, which has now been updated. Three ICPs of a total of six ICPs checked with a category 2 meter and incorrectly recorded as residential. Eight ICPs of a sample of 80 ICPs checked with an incorrect ANZSIC code recorded. 10% error rate. **GENH**	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			One ICP of a sample of 50 ICPs checked with an incorrect ANZSIC code recorded. 2% error rate.				
Changes to unmetered load	3.7	Clause 9(1)(f) of Schedule 11.1	**GENE** Two ICPs incorrectly had unmetered load recorded. Two ICPs with the incorrect unmetered daily kWh load recorded.	Moderate	Low	2	Identified
Management of "active" status	3.8	17 Schedule 11.1	**GENE** 15 of a sample of 48 ICPs of a possible 1,952 ICPs had the incorrect first active date (31% error rate). **GEOL** Two of a sample of 16 ICPs of a possible 34 ICPs had the incorrect first active date (12.5% error rate). **GENH** One of a sample of 20 ICPs of a possible 27 ICPs had the incorrect first active date (5% error rate).	Weak	Low	3	Identified
Management of "inactive" status	3.9	19 Schedule 11.1	**GENE** Two incorrect inactive reason statuses. Two of a sample of ten inactive ICPs with consumption have not been corrected to ensure all affected volume is included in the submission process. **GEOL** One incorrect inactive status date.	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 ET breaches. One AN had a proposed event date more than ten business days of the NT receipt date. All five "AA" AN files sampled of a possible 34 ICPs sent with the incorrect code. "AD" should have been used. **GEOL** Five ET breaches. One AN had a proposed event date more than ten business days of the NT receipt date.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			All four "AA" AN files with potentially incorrect AN codes were confirmed as incorrect. Three should have been AD and one should have been PD.				
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** All five ICPs checked of a possible 46 were sent with an incorrect last read date of the day before the switch but the read was an estimate. Five CS files were sent with a last actual read date after GENE's period of supply. Four E2 breaches. **GEOL** All five ICPs checked of a possible nine were sent with an incorrect last read date of the day before the switch but the read was an estimate. Two ICPs sent with a last actual read date after GENE's period of supply. Two E2 breaches.	Weak	Low	3	Identified
Retailers must use same reading - standard switch	4.4	6(1) and 6A Schedule 11.3	**GENE** Two RR breaches. Three incorrect start reads in Derive+ where RR files have been processed in Gentrack. Under submission of at least 3,155 kWh has occurred. **GEOL** Ten RR breaches.	Moderate	Low	2	Identified
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	**GENE** One late NT file. Two incorrect switch types of MI instead of TR. **GENH** All of a sample of five ICPs sent incorrectly as a MI switch instead of TR and not sent within two business days of the pre-conditions being met.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**GENE** One AN had proposed event dates more than ten business days after the NT receipt date. Five ET breaches. One E2 breach. All five "AA" AN files sampled of a possible 20 ICPs sent with the incorrect code. "AD" should have been used. Three "AD" AN files sampled of a possible 85 ICPs sent with the incorrect code. "AA" should have been sent. All seven "MU" AN files sampled of a possible 10 ICPs sent with the incorrect AN code. **GEOL** Two ANs had proposed event dates more than ten business days after the NT receipt date. One AN had a proposed event date before the gaining trader's requested date. Three ET breaches. One E2 breach. All five "AA" AN files sampled of a possible 15 ICPs sent with the incorrect code. "AD" should have been used. ICP 0000147039UNCD6 sent with the incorrect "MU"AN code.	Strong	Low	1	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** All five ICPs sampled of a possible 99 where the last read date was shown as the last billed date but the last read date was earlier. Two ICPs with an incorrect read date after the period of supply. One ICP with a last read date on the event date. One ICP with incorrect average daily consumption. **GEOL**	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			All five ICPs sampled of a possible 23 where the last read date was shown as the last billed date but the last read date was earlier. Estimated reads sent when actual reads were available for ICPs 0000006760DE9DB and 0000006824TRDAC processed during the last audit.				
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	**GENE** 54 RR breaches. Two incorrect start reads in Derive+ where RR files have been processed in Gentrack. Over submission of at least 150 kWh has occurred. **GEOL** Ten RR breaches.	Moderate	Low	2	Identified
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	Three late NT files.	Moderate	Low	2	Identified
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**GENE** Nine incorrect NW codes of a sample of 21 ICPs checked. Three NW files sent in error. 35 SR breaches. 200 NA breaches. **GEOL** Three incorrect NW codes of a sample of 15 ICPs checked. Three NW files sent in error. Nine SR breaches. 92 NA breaches.	Strong	Low	1	Identified
Metering information	4.16	16 Schedule 11.3	**GEOL** Estimated reads sent when actual reads were available for ICPs 0000006760DE9DB and 0000006824TRDAC processed during the last audit.	Strong	Low	1	Identified
Unmetered threshold	5.2	10.14 (2)(b)	**GENE** Seven ICPs with unmetered load over 6,000 kWh per annum.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
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	**GENE** Inaccurate submission information for several databases. Six database audit reports not finalised.	Moderate	High	6	Identified
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**GENE** 17 ICPs of the sample of 20 checked of a possible 170 ICPs that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. Eight of the ICPs reported in the 2022 audit that were generating have not been corrected. 29 ICPs did not have a settled I flow register present but were recorded with the RPS PV1 profile. ICP 0001447794UNFFA has a fuel type of Wind but the profile code PV1 has been applied. **GEOL** 27 ICPs that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. Four ICPs did not have a settled I flow register present but were recorded with the RPS PV1 profile. Two ICPs (1000027076BPD40 and 0002211560TGAA7) have a fuel type of Wind but the profile code PV1 has been applied. **Bridged meters** **GENE** 77 AMI meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code. **GEOL** An unknown number of meters are bridged each month. While	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			meters are bridged energy is not quantified in accordance with the code.				
Collection of information by certified reconciliation participant	6.5	2 Schedule 15.2	Time Sync reports not reviewed for all AMI MEPs. Raw meter data not corrected for HHR ICP 0000139594UNCEE on four occasions where the time correction exceeded 7,000 seconds. A sample of ten GENE and ten GEOL ICPs identified that the max interrogation cycle has expired remain as HHR submission type but on interval data interrogation has occurred in all cases.	Weak	Low	3	Identified
Derivation of meter readings	6.6	3(1), 3(2) and 5 Schedule 15.2	**GEOL** No consistent action taken to address the ICP with signs of electrically unsafe or tampering/damage. No follow up where service requests are turned down due to access issues, and H&S letters not followed up where consumers do not respond.	Moderate	Low	2	Identified
NHH meter reading application	6.7	6 Schedule 15.2	**GENE** One instance where no actual validated meter read used to transition an ICP between HHR and NHH submission type. NHH meter reading was not applied at 2400 on the day of the meter reading for upgrade to HHR for ICP 0000208520TE920. **GEOL** Two incorrect last reads sent of those sampled resulting in 157 kWh being pushed to the gaining trader.	Moderate	Low	2	Identified
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**GENE** Three 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. **GEOL** Eight of the sample of ten ICPs unread during the period of supply did not have exceptional circumstances and, the best	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			endeavours requirement was not met.				
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**GENE** Five of a sample of 14 ICPs unread in the 12 months ended November 2022, did not have exceptional circumstances and the best endeavors requirement was not met. **GEOL** Two of the sample of 11 ICPs unread in the 12 months ended November 2022, did not have exceptional circumstances and the best endeavors requirement was not met.	Moderate	Low	2	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	**GENE** Exceptional circumstances did not apply, and the best endeavours requirement was not met for 12 of the18 ICPs sampled. **GEOL** Exception circumstances did not apply, and the best endeavours requirement was not met for 11 of 21 ICPs sampled.	Moderate	Low	2	Identified
Correction of NHH meter readings	8.1	19(1) Schedule 15.2	NHH correction for ICP 0006111807RNF8E relating to a phase failure was not performed. Where errors occur for a period longer than 14 months the volume correction applied is only a subset (14 months) of the affected period.	Moderate	Low	2	Identified
Correction of HHR metering information	8.2	19(2) Schedule 15.2	Not all HHR detected errors are investigated and corrections performed. Extended period estimations not corrected or resolved in a timely manner where an AMI meter stops communicating.	Moderate	Medium	4	Identified
Meter data used to derive volume information	9.3	3(5) of schedule 15.2	Some data collected by Stark is rounded when collected from the metering installation. AMI meter reading data is truncated for import into Gentrack and Derive+.	Moderate	Low	2	Identified
Half hour estimates	9.4	15 Schedule 15.2	Reasonable endeavors not met where default estimation methodology applied due to	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			extended estimation performed on long term non communication AMI ICPs.				
NHH metering information data validation	9.5	16 Schedule 15.2	**GENE** and **GEOL** Not all inactive consumption is being captured.	Moderate	Low	2	Investigating
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	**GENE** and **GEOL** Not all AMI meter event logs are reviewed to identify and investigate any that may affect the integrity of metering data.	Strong	Low	1	Identified
Buying and selling notifications	11.1	15.3	HHR Seller (I direction) trading notification for KOE1101 was not notified to the Reconciliation Manager prior to the commencement of trading.	Strong	Low	1	Cleared
HHR aggregates information provision to the reconciliation manager	11.4	15.8	Hau Nui Wind Farm ICPs 0696299004PC30D and 0696299005PCF48 are missing from the HHRAGGS file.	Strong	Low	1	Cleared
Creation of submission information	12.2	15.4	**GENE** and **GEOL** ICP (0795798202LCD5F) switched away prior to being unbridged. No correction was applied for the affected bridged period. Six ICPs identified during the previous audit did not have corrections applied prior to the bridged period moving outside the available revision window. Raw meter data not corrected for HHR ICP 0000139594UNCEE on four occasions where the time correction exceeded 7,000 seconds. NHH volume correction not applied for ICP 0006111807RNF8E where a phase failure was reported by the AMI MEP. NHH volume correction not applied for ICP 0000039561UN5DA where a phase failure was reported by the AMI MEP. Genesis' policy around historic volume corrections are that they are only calculated and apportioned for the previous 14 months to algin with the revision	Moderate	Medium	4	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			window. Where an error has been detected for a longer period of time, only a subset of the correction is applied. ICP 0001450409UN0C4 the registry status was updated to "active" and back dated to November 2020 in October 2022. The cause of this extended period correction of status is that not all active consumption (31,131 kWh) will be recorded in the available revision window. ICP 0336105029LCA81, no "active" status update was applied to the status prior to the ICP switching away resulting in 151 kWh is not being included in the submission process. Unmetered volumes for 260 GENE and 39 GEOL unmetered ICPs are not included in submission with an annual volume of 20,786 kWh and 3,197 kWh. HHR volumes for day of disconnection not included in submission. **GENH** Unmetered load volumes not being submitted in NHH submission for two ICPs.				
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. **GENH** Unmetered load not reported for two ICPs.	Moderate	Medium	4	Identified
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. Some UML incorrectly labelled as Forward Estimates.	Moderate	Low	2	Identified
Reconciliation participants to prepare information	12.9	2 of schedule 15.3	**GENE** Shared unmetered load volumes not submitted since the implementation of Derive+. **GEOL**	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Shared unmetered load volumes not submitted since the implementation of Derive+. **GENH** Unmetered load volumes not submitted since the implementation of Derive+.				
Historical estimates and forward estimates	12.10	3 Schedule 15.3	**GENE** and **GEOL** Unmetered load was incorrectly labeled as Forward Estimate volumes for some consumption periods.	Strong	Low	1	Identified
Forward estimate process	12.11	4 Schedule 15.3	**GENE** and **GEOL** UML volumes have not been calculated where there is both metered and unmetered load present and the profile code recorded on the registry is RPS only.	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	Identified
Compulsory meter reading after profile change	12.13	7 Schedule 15.3	**GENE** One validated meter reading or a permanent estimate was not applied where a profile change occurs for ICP 0000466425WE09B.	Moderate	Low	2	Identified
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	Identified
Future Risk Rating						101	

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
Relevant information	2.1	Ensure trader and status reports are run and actioned at least monthly.

Subject	Section	Recommendation
Data transmission	2.3	Eliminate the current data transmission workaround for Hau Nui Wind farm replacing this with an integrated solution to ensure ICPs are also included in the ICPDAYs and HHRAGGS reports.
Disconnection methods	2.16	Require disconnection and reconnection contractors to provide a photo whenever disconnection or reconnection occurs at the metering point, to ensure seals are intact and that the disconnection method will ensure the customer cannot reconnect themselves.
Meter bridging	2.17	Implement monitoring of bridged meters to ensure the process is tracked and controlled from start to finish. Use this monitoring to work with the AMI MEPs to find way to reduce the frequency of meter bridging and subsequent impacts to submission.
Changes to unmetered load	3.7	Identify changes to distributor unmetered load to identify instances where unmetered load is changed or removed.
Changes to unmetered load	3.7	Put a process in place to monitor long term BTS supplies.
Disconnection and reconnection reads	3.8	Develop a process to enter reconnection reads where they are available and continue to liaise with contractors to obtain as many disconnection and reconnection reads as possible.
Disconnection and reconnection reads	3.8	Develop a process to manually enter disconnection and reconnection reads where they are available.
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.
Derive start reads	4.4	Compare Gentrack start reads vs Derive+ start reads for the previous 14 months.
Installation of compliant metering for generating ICPs	6.1	For any ICP where generation is present, either: • ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or • advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be provided to the reconciliation manager in a timely fashion.
ICPs switching in with DG that require meter upgrades	6.1	Extend the switching process to identify ICPS where the network event installation type is set to 'B' at time of acquisition to enable the HomeGen team to engage with the customer during the switch process to complete the HomeGen application to enable Genesis to arrange a meter upgrade.
Review of Wells meter condition information	6.6	Add agenda item to Wells meter reading operation meeting to review frequency of phase failure being identified by meter readers compared to AMI providers via meter event logs. Where power quality incidents cause phase failure within a region both AMI and non-AMI metering data providers should identify a similar number of phase failures per capita.
Review process of transitioning ICPs from AMI read sequences to	6.8	Add an additional step to the process of transitioning an ICP to a manual read route/sequence where a communication fault has been identified or where an AMI MEP updates the AMI communicating flag of the registry to 'N' to include a

Subject	Section	Recommendation
manual read sequences where comms faults are identified to include review of submission type.		check on the submission type and where an ICP is being settled as HHR then update this to NHH from a date where a suitable boundary read is present.
Increase frequency of review of ICP suitability for HHR settlement	9.4	Increase frequency of process to review suitability of HHR settlement of ICPs to reduce impact of long periods of HHR estimations where meters have been identified by MEPs as non-communicating.
Improve Gentrack consumption pattern validation by implementing meter register level consumption pattern checks	9.5	Implement meter register level consumption validation that will identify a sudden/unexpected change in consumption pattern for each meter register to better support processes to identify phase failure, stopped/faulty meters or the recent installation of distributed generation.
Develop a central register of all potential bridged/stopped meters.	9.5	Implementing a central register across all participant codes will ensure all potential exceptions are fully investigated, resolved, and where required consumption corrections made. This central register will also enable root cause analysis to be conducted in order to support initiatives to reduce the incidence of bridged/stopped meters.
Improve disconnection read capture.	9.5	Refine data capture processes around disconnections and reconnection to retrieve actual reads from either the AMI meter read tables or the work requests to improve the accuracy of the inactive consumption report.
Inactive Consumption Report	9.5	Inactive consumption report should use registry trader tenure and status information as the source to determine the inactive periods to assess if any consumption has been detected.
Identification and escalation of missing AMI interval data to MEPs.	9.6	Develop and implement reporting of missing/estimated interval data used in submission and the process to escalate these instances to the relevant AMI MEP for resolution.
Review historic unmetered load records where no description of unmetered load is present	12.2	Work with Wellington Electricity and other respective distributors to validate is historic unmetered load records where the daily kWh value is 0.5 kWh per day and no retailer or distributor UNM record is available to determine if this unmetered load is still valid
Review the operational characteristics of 72 unmetered payphones recorded with 12 hours of operation	12.2	Work with the customer associated with 72 unmetered payphones recorded with 12 hours of operation and review the operational characteristics of these phones with a view to updating the registry if the information is found to be incorrect.

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

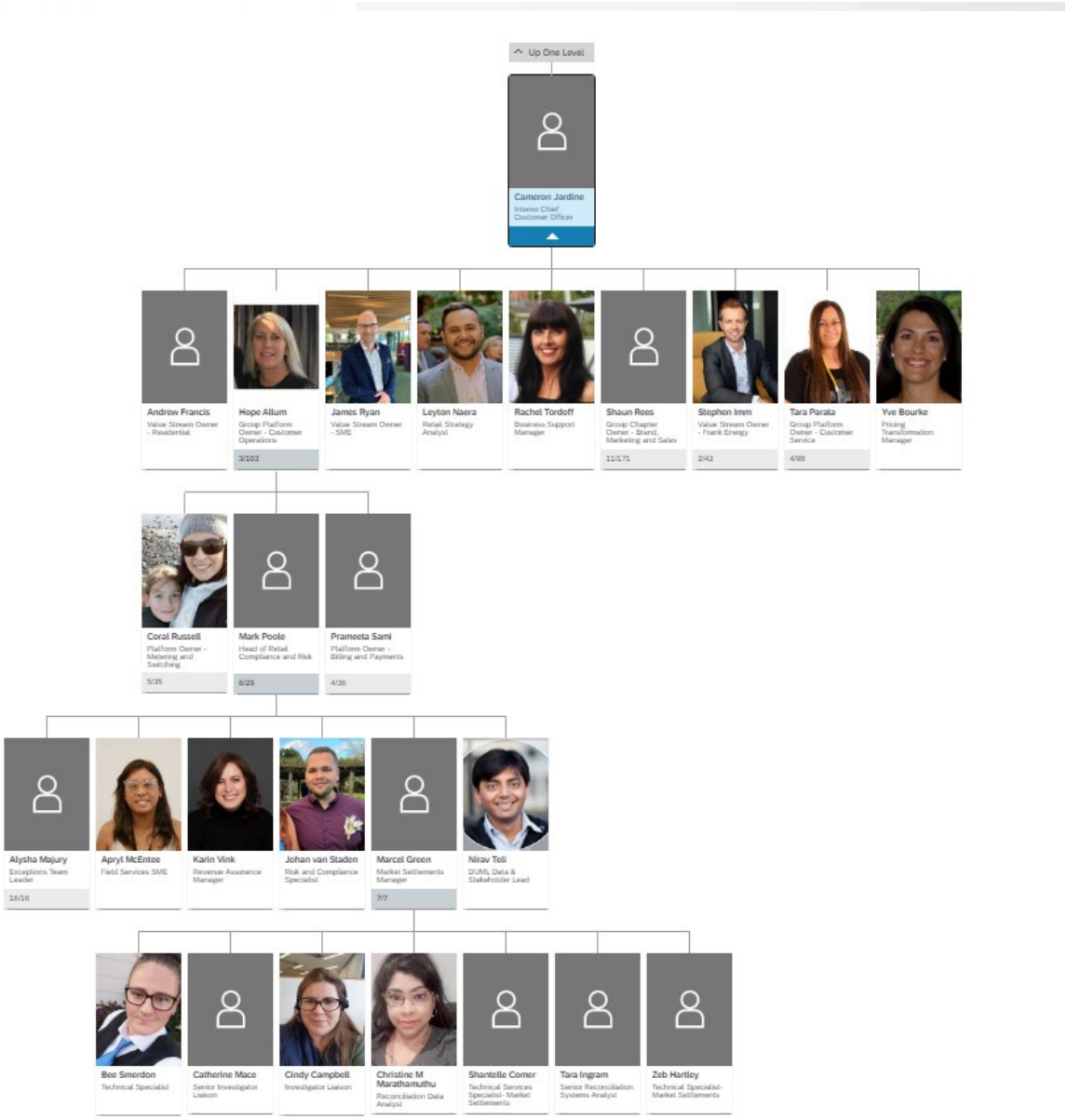
I checked the Authority's website to identify any relevant exemptions.

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
Bernie Cross	Veritek Limited	Supporting Auditor
Tara Gannon	Veritek Limited	Supporting Auditor

Personnel assisting in this audit were:

Name	Title
Mark Poole	Head of Retail Compliance and Risk
Johan van Staden	Risk and Compliance Specialist
Marcel Green	Market Settlements Manager
Pania Doak	Head of Frank Experience
Tamsin Cosgrove	Metering SME
Alysha Majury	Team Leader - Exceptions
Tara Ingram	Senior Reconciliation Systems Analyst
April McEntee	Field Services SME
Shantelle Comer	Technical Services Specialist – Market Settlements
Bee Smerdon	Technical Specialist – Market Settlements
Mamai Cooper	TOU Technical Facilitator
Rebecca Rahmann	Payments & Credit SME
Nirav Teli	DUML Data & Stakeholder Lead
Anna Fraser-Jones	New Connections SME
Ash Aitcheson	Senior Customer Services Representative- New Connections
Zeb Hartley	Technical Specialist – Market Settlements

Name	Title
Charlotte Corlette	Junior Financial Control Analyst

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.
EDMI	Gathering and storing of HHR data for HHR ICPs.
EMS	Provision of HHR metering information to the grid owner. 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.

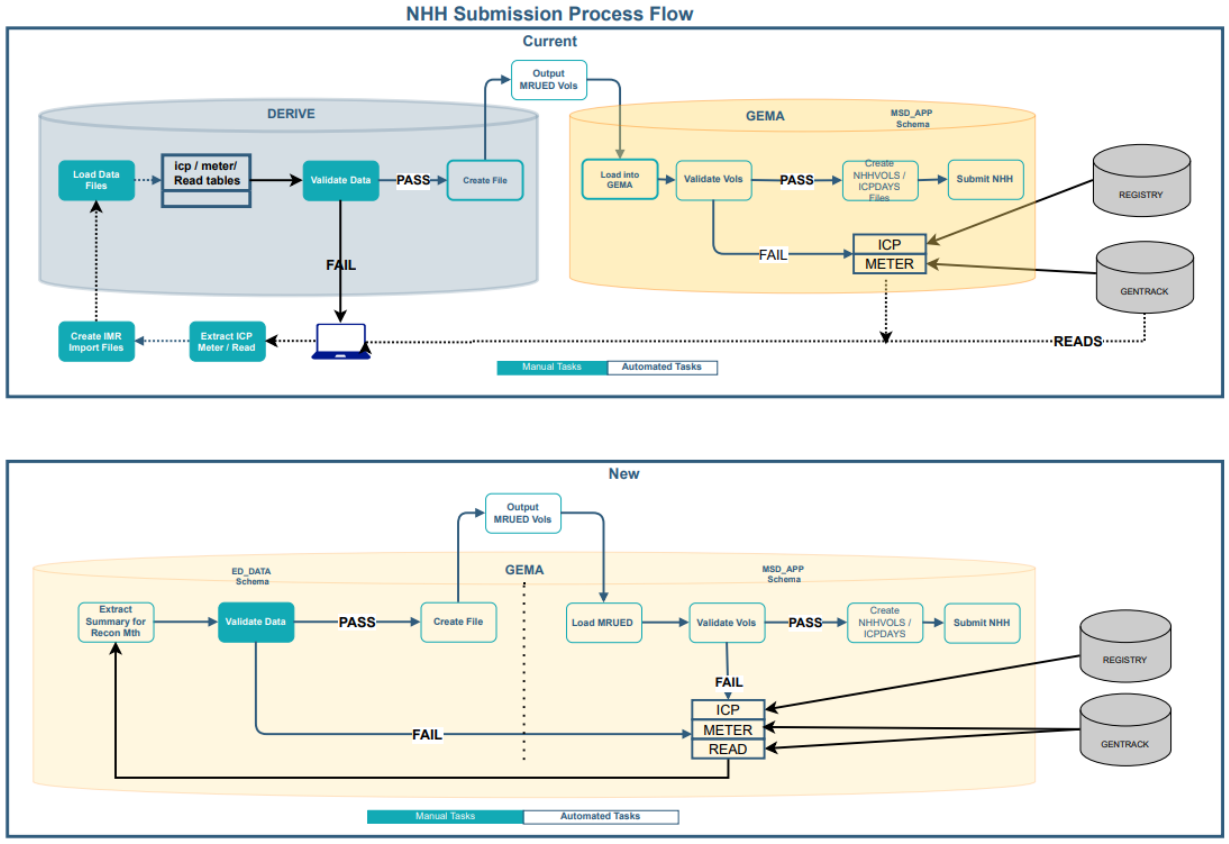
In addition, MEPs provide AMI data in their capacity as MEPs and are subject to a separate audit regime.

1.5. Hardware and Software

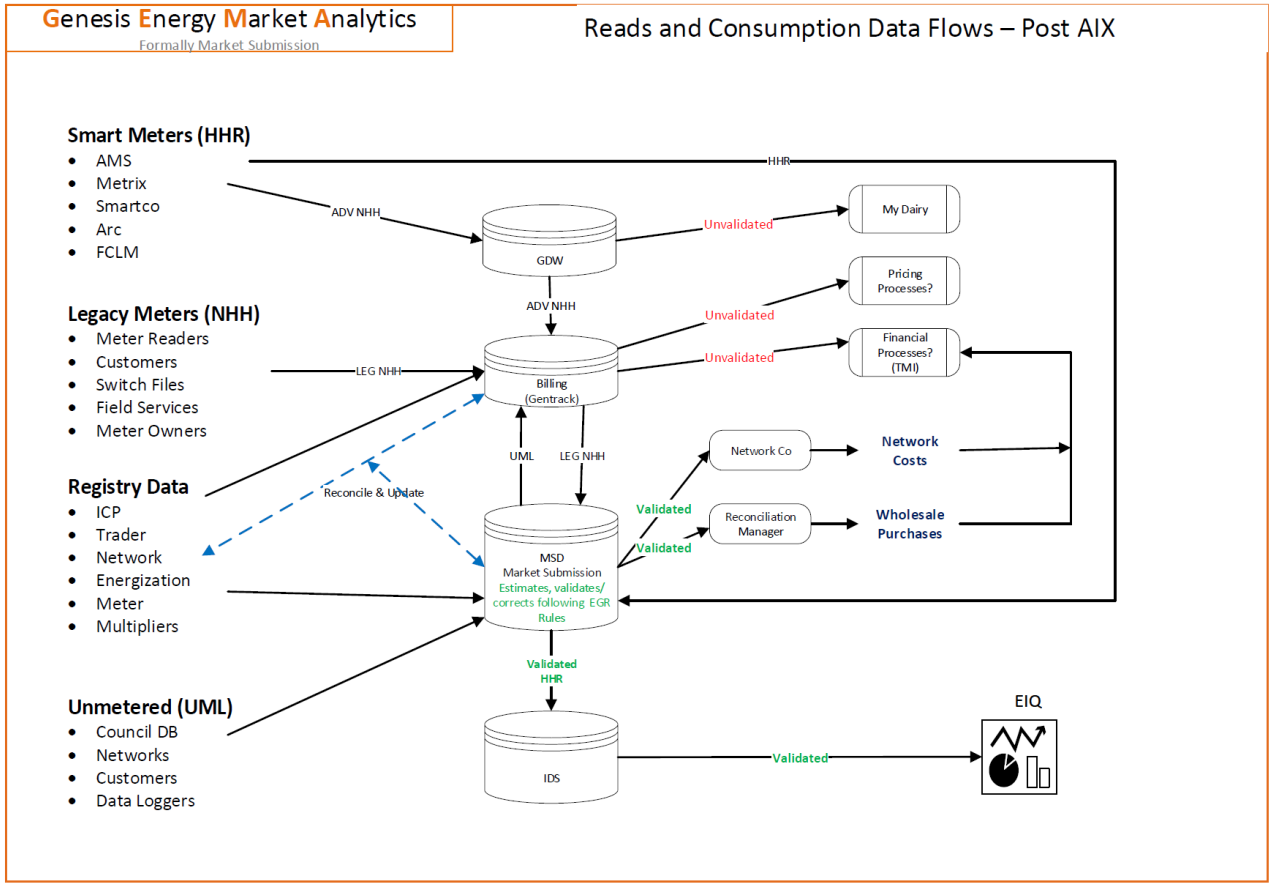
A diagram of the systems is shown below. All ICPs are managed in Gentrack.

Derive+ uses read and meter information from Gentrack, aggregation factor information from the registry, and shape value information from the reconciliation manager to calculate NHH volumes and ICP days. The raw submission data is then transferred to MSD for aggregation and validation before being submitted to the reconciliation manager.

Derive+ forms part of Genesis' existing GEMA (Genesis Energy Market Analytics) database, which also includes MSD.



A diagram of the AMI HHR application architecture is shown below. All HHR data is received directly into MSD and GDW. The IDDB platform has been decommissioned.



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

The Electricity Authority confirmed that there have been two alleged breaches relevant to the scope of this audit for Genesis Energy.

Breach ref	Clause breached	Status	Summary	Result
2212GENE1	Part 15 clause 15.2 (1) (a)	Fact finding	Breach relating to ensuring information is complete and accurate. The GENH November AV-090 RO file was submitted without volumes for KOE1101 being provided due to human error by Genesis' HHR agent AMS. The file was failing within the RM file checker validation process due to no HHR generation trading notification being in place for KOE1101. AMS attempted to strip the small amount of I flow volume from the AV-090 file to enable the file to load as a temporary measure while the trading notification was being set up however all volume was removed for this NSP. The RM queried the missing volume with Genesis on business day 6 and Genesis' HHR data agent sent a replacement file within two hours of the RM's initial query.	Early Closure
2212GENE2	Part 11 clause 11.15AA	Fact finding	Switch save protection issue, which is still in progress.	

1.7. ICP Data

GENE

All active ICPs are summarised by metering category in the table below. Active ICPs with a metering category of 9 or blank are discussed in **section 2.9.**

Metering Category	2023	2022	2021	2020	2019	2018	2017	2016
1	396,985	388,579	394,959	402,274	405,579	409,403	418,547	442,114
2	2,482	2,648	2,801	2,928	3027	2,918	2,703	2,865
3	1	0	1	1	1	1	1	0
4	0	0	0	0	0	0	0	0
5	2	2	2	2	2	2	2	2
9	628	626	819	719	822	927	1,172	1,132
Blank	2,226	2,222	2,335	2,238	2,178	2,318	2,387	1,161

Status		2022	2021	2020	2019	2018	2017	2016
Active (2,0)	402,324	394,077	400,917	408,162	411,609	415,569	424,722	447,274
Inactive - new connection in progress (1,12)	3,381	2,376	1,992	1,836	1,515	1,212	966	806
Inactive – vacant (1,4)	9,726	9,672	9,950	9,926	10,172	10,646	10,966	13,099
Inactive – AMI remote disconnection (1,7)	2,625	2,420	2,234	1,800	1,919	2,199	1,831	44
Inactive – de-energised due to meter disconnected (1,9)	33	28	31	24	26	36	33	0
Inactive – at pole fuse (1,8)	62	55	39	30	37	53	46	0
Inactive – de-energised at meter box fuse (1,10)	8	8	10	6	7	20	10	0
Inactive – at meter box switch (1,11)	5	5	11	7	6	10	8	0
Inactive – ready for decommissioning (1,6)	2,032	2,053	2,001	1,969	1,988	2,270	2,957	4,441
Inactive – reconciled elsewhere (1,5)	19	169	2	4	2	0	4	2
Decommissioned (3)	48,645	46,667	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. Active ICPs with a metering category of 9 or blank are discussed in **section 2.9.**

Metering Category	2023	2022	2021	2020	2019	2018	2017	2016
1	92,733	87,234	85,808	88,632	89,865	90,011	86,110	82,861
2	131	149	150	146	154	170	191	237
3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0

9	5	7	15	5	7	11	12	9
Blank	1	1	6	4	3	2	7	7

Status	2023	2022	2021	2020	2019	2018	2017	2016
Active (2,0)	92,870	87,391	85,979	88,787	90,029	90,194	86,230	83,114
Inactive - new connection in progress (1,12)	51	104	108	91	80	69	88	48
Inactive – vacant (1,4)	727	772	774	816	964	850	834	737
Inactive – AMI remote disconnection (1,7)	453	388	275	268	411	61	64	34
Inactive – de-energised due to meter disconnected (1,9)	81	26	14	9	3	2	0	0
Inactive – at pole fuse (1,8)	93	32	24	14	7	3	3	1
Inactive – de-energised at meter box fuse (1,10)	30	11	7	8	1	0	1	0
Inactive – at meter box switch (1,11)	35	10	11	4	0	1	0	0
Inactive – ready for decommissioning (1,6)	111	106	93	89	180	189	206	218
Inactive – reconciled elsewhere (1,5)		0	0	0	0	0	0	0
Decommissioned (3)	3,230	3,046	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. Active ICPs with a metering category of 9 or blank are discussed in **section 2.9.**

Metering Category	2023	2022	2021	2020	2019	2018	2017	2016
1	171	97	105	123	99	100	82	77
2	1,121	971	1,050	1,165	908	922	753	635
3	470	510	615	710	649	632	452	347

4	182	176	211	234	218	192	150	91
5	20	21	29	28	24	22	11	15
9	1	2	2	4	4	1	1	0
Blank	2	5	4	4	0	2	1	0

Status	**2023**	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**
Active (2,0)	1,967	1,782	2,016	2,268	1,902	1,841	1,450	1,165
Inactive - new connection in progress (1,12)	11	13	9	11	8	11	13	11
Inactive – vacant (1,4)	1	0	0	0	0	0	2	3
Inactive – AMI remote disconnection (1,7)	0	0	0	0	0	0	0	0
Inactive – de-energised due to meter disconnected (1,9)	0	0	0	0	0	0	1	0
Inactive – at pole fuse (1,8)	0	0	0	0	0	0	1	0
Inactive – de-energised at meter box fuse (1,10)	0	0	0	0	0	0	0	0
Inactive – at meter box switch (1,11)	0	0	0	0	0	0	0	0
Inactive – ready for decommissioning (1,6)	2	4	1	1	1	0	1	1
Inactive – reconciled elsewhere (1,5)	1	2	2	2	2	2	2	0
Decommissioned (3)	468	458	444	433	419	406	0	365

1.8. Authorisation Received

A letter of authorisation was received.

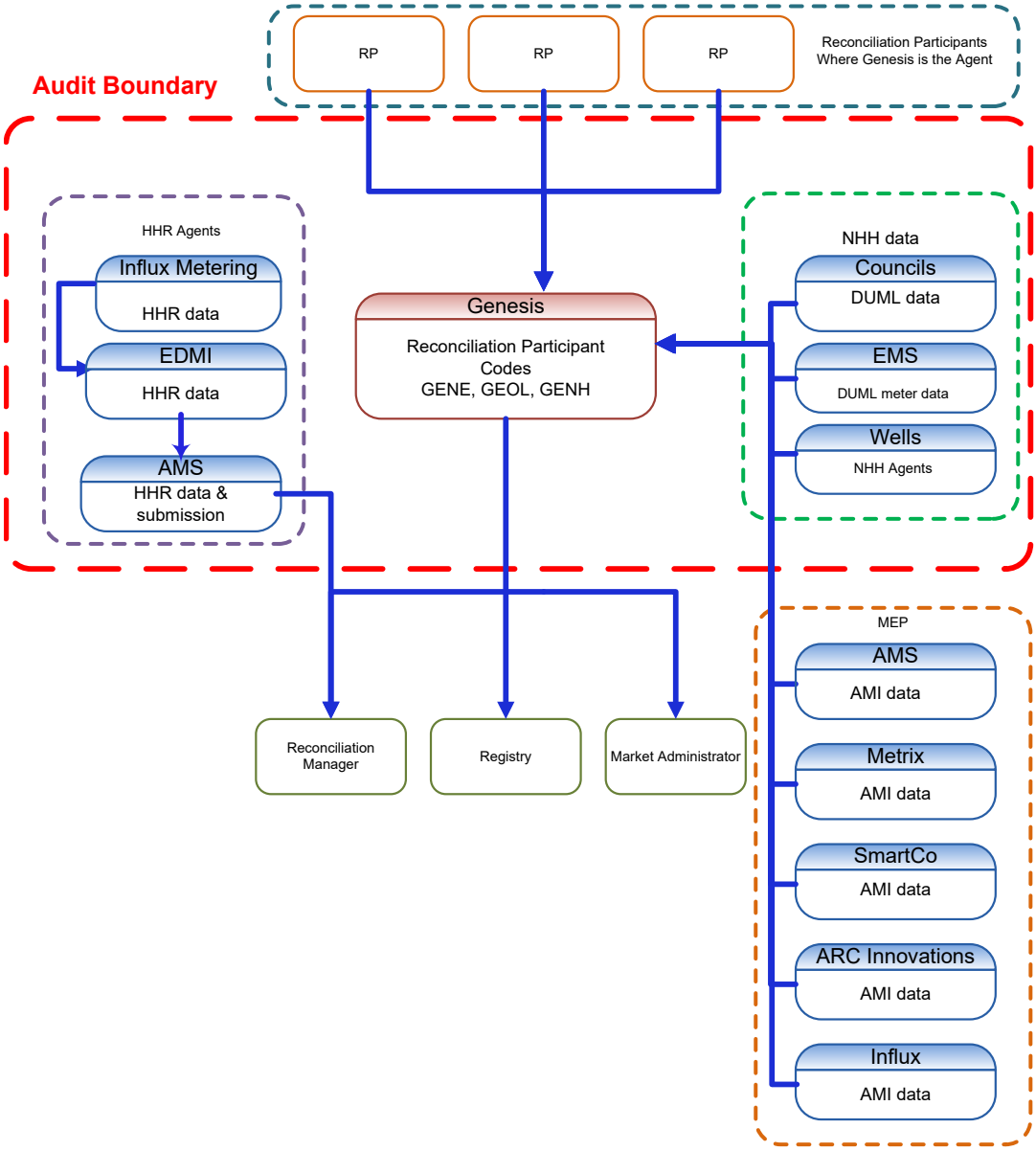
1.9. Scope of Audit

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 7 to 10 March 2023 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 EDMI- HHR Wells – NHH	AMS Intellihub 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 material change audit was conducted in October 2022 by Tara Gannon of Veritek Limited. The summary tables below show the status of the recommendation raised in the previous audit. Further comment is made in the relevant sections of this report.

Table of Recommendations

Subject	Section	Recommendation	Status
Disconnection and reconnection reads	3.8	Develop a process to consistently enter actual or permanent estimate disconnection and reconnection reads, ensuring that there is no consumption between disconnection and reconnection to ensure that all volumes are reported against the correct days. Develop a process to ensure that the agreed switch reading is applied on the reconnection date where an ICP switches in with inactive status and is later reconnected.	Still existing

The previous audit was conducted in April 2022 by Steve Woods (lead auditor) of Veritek Limited. The summary tables below show the statuses of the non-compliances and recommendations raised in the previous audit. Further comment is made in the relevant sections of this report.

Table of Non-compliances

Subject	Section	Clause	Non-compliance	Status
Relevant information	2.1	15.2	Some inaccurate data is recorded and was not updated as soon as practicable.	Still existing
Temporarily electrical connection of an ICP	2.10	10.33 (1)	Three ICPs temporarily electrically connected without written approval from the network owner.	Cleared
Electrical Connection of Point of Connection	2.11	10.33(A)	**GENE** Two new connections were not certified within five business days. 216 reconnections were not certified within five business days. **GEOL** 51 reconnections were not certified within five business days. **GENH** Three new connections were not certified within five business days.	Still existing
Meter bridging	2.17	10.33C and 2A of Schedule 15.2	**GENE** 12 meters have yet to be unbridged, including ten from the previous audit. Four have now switched out. Consumption for the bridged period has not been submitted for 39 unbridged ICPs, including 34 from the previous audit. **GEOL** One meter has yet to be unbridged.	Still existing

Subject	Section	Clause	Non-compliance	Status
			Consumption for the bridged period has not been submitted for one unbridged ICPs and one ICP where it's not clear if bridging is still in place.	
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** Two incorrect MEP nominations. **GEOL** Two incorrect MEP nominations. One decommissioned ICP where the MEP has not been notified of a sample of ten ICPs.	Still existing
Provision of information to the registry manager	3.5	9 of schedule 11.1	**GENE** 1,549 late updates for new connections (84.86% updated within five business days). 14 of a sample of 47 ICPs of a possible 1,310 ICPs had the incorrect first active date (29% error rate). **GENH** 18 late updates for new connections (47.06% updated within five business days). **GEOL** 177 late updates for new connections (37.46% updated within five business days). Eight of a sample of 21 ICPs of a possible 57 ICPs had the incorrect first active date (38% error rate).	Still existing
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	**GENE** Two ICPs of a sample of 15 ICPs checked of a possible 75 ICPs with a category 2 meter and incorrectly recorded as residential. Six ICPs of a sample of 100 ICPs checked with an incorrect ANZSIC code recorded. 6% error rate. **GEOL** 14 ICPs of a sample of 15 ICPs checked of a possible 69 ICPs with a category 2 meter and incorrectly recorded as residential. Nine ICPs of a sample of 80 ICPs checked with an incorrect ANZSIC code recorded. 11% error rate. **GENH** Five ICPs of a sample of 50 ICPs checked with an incorrect ANZSIC code recorded. 10% error rate	Still existing
Changes to unmetered load	3.7	Clause 9(1)(f) of	**GENE** Two ICPs with the daily unmetered kWh load missing.	Still existing

Subject	Section	Clause	Non-compliance	Status
		Schedule 11.1	17 ICPs with the incorrect unmetered daily kWh load recorded. ICP 0000554295NR0DA had no unmetered load but the unmetered load flag was incorrectly set to "Y.	
Management of "active" status	3.8	17 Schedule 11.1	**GENE** 14 of a sample of 47 ICPs of a possible 1,310 ICPs had the incorrect first active date (29% error rate). Five active unmetered BTS ICPs at the incorrect status. **GEOL** Eight of a sample of 21 ICPs of a possible 57 ICPs had the incorrect first active date (38% error rate).	Still existing
Management of "inactive" status	3.9	19 Schedule 11.1	**GENE** Two incorrect inactive reason statuses. 11 of a sample of 36 inactive ICPs with consumption have not been corrected.	Still existing
Inform registry of switch request for ICPs - standard switch	4.1	2 Schedule 11.3	**GEOL** One of the sample of ten ICPs sent incorrectly as a TR switch instead of MI.	Cleared
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**GENE** All five "AA" AN files sampled of a possible 55 ICPs sent with the incorrect code. "AD" should have been used. All five "AD" AN files sampled of a possible 404 ICPs sent with the incorrect code. "AA" should have been sent. ICP 0007197334RNBE4 was sent with an "MU" AN code in error. Two AN files incorrectly sent with the "PD" code. **GEOL** All five "AA" AN files sampled of a possible 29 ICPs sent with the incorrect code. "AD" should have been used. Four "AD" AN files sent with the incorrect code. "AA" should have been sent. Two ANs sent with a proposed event date greater than ten days in advance.	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** Three ICPs with a negative average daily consumption is incorrect as it is not consumption.	Still existing

Subject	Section	Clause	Non-compliance	Status
			All five ICPs checked of a possible 1,105 were sent with an incorrect last read date of the day before the switch but the read was an estimate. All three ICPs checked of a possible 14 were sent with a last actual read date after GENE's period of supply. Three of a possible 18 ICPs sent incorrectly with a last actual read date for the event date and two of these were sent with an incorrect read type of E. One E2 breach. **GEOL** Four of five ICPs sampled of a possible 80 ICPs with the incorrect average daily consumption of zero due to using the final billed average instead of read-to-read consumption. All five ICPs checked of a possible 315 were sent with an incorrect last read date of the day before the switch but the read was an estimate. One CS file sent with incorrect read type of estimate when it should have been actual. Two ICPs sent with a last actual read date after GENE's period of supply. All three ICPs checked of a possible six were sent incorrectly with a last actual read date for the event date. One E2 breach.	
Non-half hour switch event meter reading - standard switch	4.5	6(3) Schedule 11.3	**GENE** One RR rejected in error.	Cleared
Gaining trader informs registry of switch request - switch move	4.7	9 Schedule 11.3	**GENH** One of the sample of five ICPs sent incorrectly as a MI switch instead of TR.	Still existing
Losing trader provides information - switch move	4.8	10(1) Schedule 11.3	**GENE** All five "AA" AN files sampled of a possible 219 ICPs sent with the incorrect code. "AD" should have been used. All five "AD" AN files sampled of a possible 427 ICPs sent with the incorrect code. "AA" should have been sent. All five "MU" AN files sampled of a possible 12 ICPs sent with the incorrect AN code. Two AN files sent with a proposed event date greater than ten days after the NT receipt date. Two AN files sent with a proposed event date prior to the requested event date. 2 T2 breaches. **GEOL**	Still existing

Subject	Section	Clause	Non-compliance	Status
			All five "AA" AN files sampled of a possible 71 ICPs sent with the incorrect code. "AD" should have been used. All five "AD" AN files sampled of a possible 103 ICPs sent with the incorrect code. "AA" should have been sent. ICP 0000025568CE4FE sent with the incorrect "MU"AN code.	
Losing trader determines a different date - switch move	4.9	10(2) of schedule 11.3	**GENE** ICP 1000010079OY5BE was not completed within ten business days of the NT receipt date.	Cleared
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** 25 ICPs sent with a negative average daily consumption are incorrect as it is not consumption. All five ICPs sampled of a possible 1,899 where the last read date was shown as the last billed date but the last read date was earlier. Four of five ICPs with incorrect last read labelled as actuals. Three of a possible six ICPs with an incorrect read date after the period of supply. Two ICPs with a last read date on the event date. **GEOL** Five ICPs sent with a negative average daily consumption are incorrect as it is not consumption. One of the four ICPs with a high average daily consumption figure was found to be incorrect. All five ICPs sampled of a possible 493 where the last read date was shown as the last billed date but the last read date was earlier. Two CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility. Two CS files with a last actual read date on the switch event date. Two ICPs where the CS file was sent with last billed reads rather than the last actual read gained resulting in 157 kWh being pushed to the gaining trader.	Still existing
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	**GENE** RRs sent for ICPs 0147623847LC8C6 and 1000516809PCE61 were not supported by two validated reads. Four RR breaches.	Still existing

Subject	Section	Clause	Non-compliance	Status
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	HH switch NT files sent for three ineligible ICPs. One PT breach indicating a backdated switch.	Still existing
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**GENE** Two incorrect NW codes of a sample of 13 ICPs checked. Eight SR breaches. 53 NA breaches. **GEOL** Two incorrect NW codes of a sample of 13 ICPs checked. Five SR breaches. 26 NA breaches. **GENH** One incorrect NW code of a sample of nine ICPs checked. One NA breach.	Still existing
Metering information	4.16	16 Schedule 11.3	**GENE** Six incorrectly labelled last reads sent. **GEOL** One incorrectly labelled last read sent. Two incorrect last reads sent of those sampled resulting in 157 kWh being pushed to the gaining trader.	Still existing
Switch save protection	4.17	11.15AA to 11.15AC	GENE One of 15 ICPs checked where agent attempted to retain the customer.	Cleared
Maintaining shared unmetered load	5.1	11.14	**GENE** Four ICPs with the incorrect shared unmetered load value.	Cleared
Unmetered threshold	5.2	10.14 (2)(b)	**GENE** Seven 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	**GENE** Inaccurate submission information for several databases. Nine database audits not completed.	Still existing

Subject	Section	Clause	Non-compliance	Status
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**GENE** 14 ICPs of the sample of 20 checked of a possible 134 ICPs that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. Nine of the ICPs reported in the 2021 audit that were generating have not been corrected. ICP 1001156573UNA50 did not have a settled I flow register present but was recorded with the RPS PV1 profile. ICP 0000020776CE0EF had the incorrect generation profile of RPS PV1 and has been corrected to RPS EG1. **GEOL** 17 ICPs that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. **GENH** ICP 0000130740WEA40 is likely to be generating but does not have compliant metering installed, and notification of gifting had not been provided. **Bridged meters GENE and GEOL** Approximately 25 meters are bridged each month. While meters are bridged energy is not quantified in accordance with the code.	Still existing
Responsibility for metering at GIP	6.2	10.26(7)	One late certification update made to the RM.	Cleared
Collection of information by certified reconciliation participant	6.5	2 Schedule 15.2	Time Sync reports not reviewed for all AMI MEPs.	Still existing
Derivation of meter readings	6.6	3(1), 3(2) and 5 Schedule 15.2	**GENE** No consistent action taken to address the ICP with signs of tampering or damage. No follow up where service requests are tuned down due to access issues, H&S letters not followed up where consumers do not respond. Customer reads still not being validated against a set of readings from another source. **GEOL** No consistent action taken to address the ICP with signs of tampering or damage. No follow up where service requests are tuned down due to access issues, H&S letters not followed up where consumers do not respond Customer reads still not being validated against a set of readings from another source.	Still existing

Subject	Section	Clause	Non-compliance	Status
NHH meter reading application	6.7	6 Schedule 15.2	**GENE** Six incorrectly labelled last reads sent. Two instances where no actual validated meter read used to transition an ICP between HHR and NHH submission type. Switch loss reads for some MI switches not reflective of the HHR submission volumes up to the switch date. NHH meter reading is not applied at 2400 on the day of the meter reading for upgrades. **GEOL** One incorrectly labelled last read sent. Two incorrect last reads sent of those sampled resulting in 157 kWh being pushed to the gaining trader. One instances where no actual validated meter read used to transition an ICP between HHR and NHH submission type. Switch loss reads for two MI switches not reflective of the HHR submission volumes up to the switch date.	Still existing
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**GENE** Three 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. **GEOL** Five 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.	Still existing
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**GENE** Three of a sample of 14 ICPs unread in the 12 months ended Sept 2021, did not have exceptional circumstances and the best endeavors requirement was not met. **GEOL** Two of the sample of 10 ICPs unread in the 12 months ended Sept 2021, did not have exceptional circumstances 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** 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.	Still existing

Subject	Section	Clause	Non-compliance	Status
Correction of HHR metering information	8.2	19(2) Schedule 15.2	Not all HHR corrections performed. ICP 0005193958RN6F2 had no correction applied for missing data from removed meter. Extended period estimations not corrected or resolved in a timely manner where an AMI meter stops communicating.	Still existing
Identification of readings	9.1	3(3) Schedule 15.2	**GENE** Six incorrectly labelled last reads sent. **GEOL** One incorrectly labelled last read sent. Two incorrect last reads sent of those sampled resulting in 157 kWh being pushed to the gaining trader.	Cleared
Meter data used to derive volume information	9.3	3(5) of schedule 15.2	Some data collected by Stark is rounded when collected from the metering installation. AMI meter reading data is truncated for import into Gentrack and Derive.	Still existing
Half hour estimates	9.4	15 Schedule 15.2	Reasonable endeavours not met where default estimation methodology applied due to extended estimation performed on long term non communication AMI ICPs.	Still existing
NHH metering information data validation	9.5	16 Schedule 15.2	**GENE** and **GEOL** Not all vacant consumption is being captured. Not all inactive consumption is being captured.	Still existing
Electronic meter readings and estimated readings	9.6	17 Schedule 15.2	Not all AMI meter event logs are reviewed to identify and investigate any that may affect the integrity of metering data.	Still existing
HHR aggregates information provision to the reconciliation manager	11.4	15.8	Hau Nui Wind Farm ICPs 0696299004PC30D and 0696299005PCF48 are missing from the HHRAGGS file.	Still existing
Creation of submission information	12.2	15.4	**GENE** and **GEOL** Two ICPs with distributed generation where no generation volumes were submitted for ICPs 0000011546HR322 and 0000029648HRF96 whilst GENE was the trader. Two GENE ICPs identified in the 2020 audit 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.	Still existing

Subject	Section	Clause	Non-compliance	Status
			Some defective meter corrections not conducted. Consumption during bridged periods was missing from submissions because corrections were not processed as soon as practicable. Rounding of UML load at ICP level in Derive to zero decimal places. HHR volumes for day of disconnection not included in submission. Backdated switches older than 14 months. **GENH** Unmetered load volumes submitted incorrectly under the GENE participant code.	
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.	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 of schedule 15.3	**GENH** Unmetered load volumes submitted incorrectly under the GENE participant code.	Still existing
Forward estimate process	12.11	4 Schedule 15.3	**GENE** and **GEOL** UML volumes have been rounded to zero decimal places prior to aggregation into AV-080 file. UML volumes reported as Forward Estimate (FE) rather than Historic Estimate (HE) Customer and photo reads are not validated against two previous actual reads but used in HE calculation. PV1 and EG1 daily seasonal shapes not used for HE calculation.	Still existing
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
Compulsory meter reading after profile change	12.13	7 Schedule 15.3	**GENE** and **GEOL** Validated meter reading or a permanent estimate not always applied where a profile change occurs.	Still existing
Historical estimate reporting to RM	13.3	10 Schedule 15.3	**GENE** and **GEOL** Historic estimate thresholds were not met for some revisions.	Still existing

Table of Recommendations

Subject	Section	Recommendation	Status
Validations	2.1	Use the audit compliance report for validation of distributor's unmetered load details against GENE/GEOL unmetered load details. Compare the profile against the distributors' installation type and check the reverse power event to ensure DG is set up correctly.	Still existing for different issues
Data transmission	2.3	Eliminate the current data transmission workaround for Hau Nui Wind farm replacing this with an integrated solution to ensure ICPs are also included in the ICPDAYs and HHRAGGS reports.	Still existing
Blank metering records	2.9	Check the ICPs listed above to ensure the status is correct and whether metering should be in the registry.	Adopted. All of the affected ICPs now have metering installed or are decommissioned.
Bridged meter process	2.17	Implement monitoring of bridged meters to ensure the process is tracked and controlled from start to finish. Use this monitoring to work with the AMI MEPs to find way to reduce the frequency of meter bridging and subsequent impacts to submission. Bridged meter process	Still existing
Changes to registry information	3.3	Run a monthly list from the registry of all ICPs where GENE or GEOL are the proposed trader to ensure Gentrack records align.	Cleared
Provision of information to the registry	3.5	Consider making status changes to active based on load test dates from data collectors.	Cleared
		Check all 359 records from the AC020 file where the IECD id populated but the status is not active.	Cleared
Changes to unmetered load	3.7	Add a validation that looks for active ICPs with no metering and no unmetered load recorded.	Cleared
		Put a process in place to monitor long term BTS supplies	Still existing
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.	Still existing
Installation of compliant metering for generating ICPs	6.1	For any ICP where generation is present, either: • ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or • advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be provided to the reconciliation manager.	Still existing
Management of profiles for ICPs		Review the practice of moving ICPs with distributed generation from the HHR profile to RPS PV1.	Cleared

with distributed generation			
Confirm whether GENH ICPs are generating		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".	Cleared
Installation of compliant metering for generating ICPs		Confirm whether the following ICP is generating: • 0006679030RNFE2 (switched in with B installation type 1 January 2020) If this is generating arrange for compliant metering to be installed or notification of gifting to be provided to the reconciliation manager.	Cleared
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.	Cleared
		Add agenda item to Wells meter reading operation meeting to review frequency of phase failure being identified by meter readers compared to AMI providers via meter event logs. Where power quality incidents cause phase failure within a region both AMI and non-AMI metering data providers should identify a similar number of phase failures per capita.	Still existing
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.	Cleared
Review process of transitioning ICPs from AMI read sequences to manual read sequences where comms faults are identified to include review of submission type	6.8	Add an additional step to the process of transitioning an ICP to a manual read route/sequence where a communication fault has been identified or where an AMI MEP updates the AMI communicating flag of the registry to 'N' to include a check on the submission type and where an ICP is being settled as HHR then update this to NHH from a date where a suitable boundary read is present.	Still existing
Add connection status to Unread ICPs reporting		To enable prioritisation of effort in obtaining reads during period of supply/one read in 12-month period add registry status to report to allow for connected ICPs to be targeted first.	Cleared
Review annual read sequence and confirm suitability of each ICP within this list to remain on list	6.9	Regularly review annual read sequence to determine if ICP still meets the criteria to remain of this sequence based on previous read attainment suitability for AMI metering and reasons for being on such a sequence.	Cleared

Increase frequency of review of ICP suitability for HHR settlement	9.4	Increase frequency of process to review suitability of HHR settlement of ICPs to reduce impact of long periods of HHR estimations where meters have been identified by MEPs as non-communicating. Consider leveraging this process against the update of the meter reading sequence performed once Genesis is notified by MEPs of a change in AMI communication status.	Still existing
NHH metering information data validation		Review the low and high negative consumption validation process to help to promptly identify and resolve home generation issues.	Cleared
Improve Gentrack consumption pattern validation by implementing meter register level consumption pattern checks		Implement meter register level consumption validation that will identify a sudden/unexpected change in consumption pattern for each meter register to better support processes to identify phase failure, stopped/faulty meters or the recent installation of distributed generation.	Still existing
Develop a central register of all potential bridged/stopped meters	9.5	By implementing a central register across all participant codes will ensure all potential exceptions are fully investigated, resolved, and where required consumption corrections made. This central register will also enable root cause analysis to be conducted in order to support initiatives to reduce the incidence of bridged/stopped meters.	Still existing
Improve disconnection read attainment		Work with disconnection service providers to improve the attainment of disconnection reads to ensure all active period consumption is captured and submitted.	Cleared
Include disconnection reads in the inactive consumption report		Extend the current inactive consumption report to include disconnection reads to capture all instances of non-zero consumption being detected while the ICP has an inactive status on the registry.	Cleared
Identification and escalation of missing AMI interval data to MEPs	9.6	Develop and implement reporting of missing/estimated interval data used in submission and the process to escalate these instances to the relevant AMI MEP for resolution.	Still existing

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 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. As reported in the last audit, discrepancies are identified but these are sometimes slow to be corrected due to resourcing issues.

The trader report (ensuring the registry and Gentrack align with regard to trader start and end dates), is run periodically, but needs to be run at least monthly. The same is true for the status mis-match report, which is also run periodically but needs to be at least monthly.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 11.2	Ensure trader and status reports are run and actioned at least monthly.	Trader reports are run monthly and communicated with the appropriate teams. Status mismatch reports are run monthly by our Reconciliations team, we are in the process of changing this to daily	Identified

A review of alleged breach information found the following breach relating to the accuracy of submission occurred during the audit period.

Breach ref	Clause breached	Status	Comment
2212GENE1	Part 15 clause 15.2 (1) (a)	Fact finding	Breach relating to ensuring information is complete and accurate. The GENH November AV-090 RO file was submitted without volumes for KOE1101 being provided due to human error by Genesis' HHR agent AMS. The file was failing within the RM file checker validation process due to no HHR generation trading notification being in place for KOE1101. AMS attempted to strip the small amount of I flow volume from the AV-090 file to enable the file to load as a temporary measure while the trading notification was being set up however all volume was removed for this NSP. The RM queried the missing volume with Genesis on business day 6 and Genesis' HHR data agent sent a replacement file within two hours of the RM's initial query.

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

GENE

Issue	2023 Qty	2022 Qty	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	5	5	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	207	2,376	310	1,836	138	44	44	62	See **sections 3.5** and **3.8**.
Incorrect statuses or status event dates	15	19	N/A	N/A	N/A	N/A	N/A	N/A	See **sections 3.8** and **3.9**.
Active with Blank ANZSIC codes	-	-	-	-	1	-	-	-	None found in this audit.
Active with ANZSIC T994/994000 "Don't know"	2	4	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"	88	27	91	42	67	15	23	22	See **sections 2.9** and **3.4**.

Issue	2023 Qty	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
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	6	3	3	12	13	2	17	14	All were timing differences. See **section 3.7**.
Standard unmetered load different to distributor field	3	58	157	76	42	10	10	27	See **section 3.7**.
ICPs with unmetered load flag Y but load is recorded as zero	69	51	39	43	-	-	-	67	All were correct or DUML ICPs. See **section 3.7**.
Shared unmetered load ICPs with no UML	-	4	-	4	4	-	-	1	None found in this audit.
Shared unmetered load ICPs with incorrect load	-	4	-	4	-	-	5	5	See **section 5.1**.
Unmetered load differences between the registry and Derive+	-	2	-	-	-	-	-	1,226	See **section 3.7**.
Incorrect EG1 profiles	1	0	0	0	2	2,882	-	-	See **section 6.1**
Incorrect RPS profiles	23	20	14	97	372	-	-	-	Eight ICPs had RPS profile recorded on the registry, when RPS PV1 was applied for submission. 15 ICPs with distributed generation present but no import export metering and therefore the incorrect profile recorded. See **section 6.1**.
Incorrect PV1 profiles	29	2	0	1	10	-	-	-	29 ICPs have a generation profile recorded on the registry but no I flow

Issue	2023 Qty	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
									meter register flagged with a settlement indicator of 'Y' or generation details recorded by the distributor were present. See **section 6.1**.
Generating ICPs without import/export metering or arrangements for gifting in place	15	14	-	-	-	-	-	-	15 ICPs with distributed generation present but no import export metering and therefore the incorrect profile recorded. See **section 6.1**.

GEOL

Issue	2023 Qty	2022 Qty	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	35	10	11	4	-	1	-	0	See **section 3.9**.
Status of (1,12) "New connection in progress" or "ready" with an initial electrical connection date populated	3	104	-	91	16	5	8	2	See **sections 3.5** and **3.8**.
Incorrect statuses or status event dates	2	2	N/A	N/A	N/A	N/A	N/A	N/A	See **sections 3.8** and **3.9**
Blank ANZSIC codes	-	-	-	-	-	-	-	30	None found in this audit.
ANZSIC T994/994000 "Don't know"	1	1	-	-	1	10	16	49	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"	2	3	7	3	4	-	-	-	See **sections 2.9** and **3.4**.

Issue	2023 Qty	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Active ICP with no MEP	-	-	-	-	1	-	-	-	None found in this audit.
Standard unmetered load different to distributor field	-	-	1	-	6	-	-	-	None found in this audit.
ICPs with incorrect unmetered load	-	-	-	-	-	-	-	3	None found in this audit.
ICPs with Distributor unmetered load populated but retail unmetered load is blank and unmetered flag = N	-	-	1	-	1	9	-	6	None found in this audit.
ICPs with incorrect shared unmetered load	-	-	-	1	-	4	-	1	None found in this audit.
Incorrect EG1 profiles	2	0	0	0	50	69	-	-	See **section 6.1**.
Incorrect RPS profiles	3	17	1	9	-	-	-	-	See **section 6.1**.
Incorrect PV1 profiles	6	0	0	1	-	-	-	-	See **section 6.1**.

GENH

Issue	2023 Qty	2022 Qty	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" or "ready" with an initial electrical connection date populated	-	12	10	11	1	-	Compliant.
Active with Blank ANZSIC codes	-	-	-	-	-	-	None found this audit.
Active with ANZSIC T994/994000 "Don't know"	-	-	20	1	4	-	None found this audit.
Active with ANZSIC "T999" not stated	-	-	3	-	-	-	None found this audit.

Issue	2023 Qty	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	Comments
Meter category 9 or blank and active with MEP and UML "N"	3	8	7	8	4	-	See **sections 2.9** and **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	-	None found in this audit.
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	-	1	-	-	2	2	None found in this audit.

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:

Subject	Section	Comments	All practicable steps taken?
Defective meters	2.1, 12.2	Defective meters are typically identified from information provided by the meter reader, agent, the MEP, or the customer. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect, and a consumption correction is processed if necessary. Corrections are normally processed by recording an estimated closing read on the replaced meter, which is calculated	No

		using the daily average consumption for the new meter or the replaced meter prior to the fault. This process was used for those ICPs where corrections were conducted. I reviewed eight examples of potential stopped or faulty meters for GEOL and found all were operating correctly and no corrections were required. I reviewed ten examples of potentially stopped or faulty meters for GENE and found seven corrections were processed and three ICPs did not have corrections applied in full. NHH correction for ICP 0006111807RNF8E relating to a phase failure was not performed. Where errors occur for a period longer than 14 months the volume correction applied is only a subset (14 months) of the affected period. HHR ICP 0000112820WE032 was defective from 4 January 2021 to 30 March 2022 (450 days). No volume correction was applied, and Genesis have now undertaken a correction as part of the audit. However as there are only two months of the affected period available in the revision window, only 1,521 kWh of 12,015 kWh assessed volume impact will be applied as a HHR correction. I reviewed one AMI meter event relating to a phase failure for HHR ICP 0000039561UN5DA which occurred on 23 August 2022. An attempted work order was created however was incomplete, so no investigation was undertaken or correction of affected volume applied. Genesis have now sent an updated work order to the AMI MEP to investigate.	
Incorrect multipliers	8.2	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 eight multiplier corrections for GENE and confirmed that the corrected data flowed through to revision submissions for all of the ICPs.	Yes
Bridged meters	2.1,2.17, 6.4	Bridged meters are identified through a key word query that scans across all returned service request paperwork looking for words and phrases that indicates a meter has been bridged or bypassed. A summary spreadsheet was provided of 77 bridged meters for GENE, which showed that the process was not always operating as intended. Zero-consumption monitoring is now being performed. **GENE** A check of 77 bridged meters showed that 11 were still bridged. A sample of ten bridged ICPs were reviewed to check if these has been unbridged and if corrections were processed and found:	No

		• corrections were processed for the bridged period for eight of the ICPs and these volume correction calculations used an appropriate daily average consumption value for the affected period, • one ICP (0795798202LCD5F) had switched away prior to being unbridged; no correction was applied for the affected bridged period, and • one ICP (0000196544TR4FC) remains bridged since 19 October 2022 and there is an open works order with the MEP to un-bridge the meter. **GEOL** The GEOL process for bridging and un-bridging 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 un-bridge job in these instances. I have repeated last year's recommendation in section 2.17 that this process is reviewed to investigate how to improve visibility of these. No bridged meters were identified and provided for the audit to enable an assessment of impact to be performed.	
Consumption while inactive	2.1	At the time of the audit there were 1,557 ICPs identified where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 111,625 kWh. These are being worked through with the higher volume records being investigated first. The oldest exception is from September 2022. Some exceptions on the inactive consumption report are false positives as the report uses Gentrack as its source of connection status. Where an ICP switches away from Genesis while inactive then where the ICP switches back to Genesis the report retrieves both the last actual read from Genesis' previous tenure and also considers the entire switched period as inactive resulting in a false positive exception. I reviewed the 10 ICPs with the highest positive/negative values of disconnected consumption, and found: • five were false positive exceptions due to ICPs switching away historically as inactive then returning as active ICPs – the report treats the switched period as an exception, • three ICPs had the registry status updated to ensure all consumption recorded aligned with active periods, • for ICP 0001450409UN0C4 the registry status was updated to "active" and backdated to November 2020 in October 2022. The cause of this extended period correction of status is that not all active consumption (31,131 kWh) will be recorded in the available revision window, and • for ICP 0336105029LCA81, no update was applied to the status prior to the ICP switching away resulting in 151 kWh not being included in the submission process.	No

Unmetered load corrections	2.1, 3.7	Derive+ uses the daily kWh value on the registry as its source of unmetered load information. **GENE** The AC020 report recorded 41 ICPs where the daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh. All were examined and found: • 33 were DUML ICPs and are compliant, • three shared unmetered load ICPs had their expected load miscalculated by the report, and the trader daily unmetered kWh matched the manually calculated expected value within 0.1 kWh, • for ICP 0000557920UN07D and 0007129218RNA62 Genesis' daily unmetered kWh were confirmed to be correct during the previous audit, • ICP 0006980902RN6D0 has now been corrected, • ICP 0000006083TE8E2 has the correct unmetered load recorded by GENE, • ICP 1000544328PCC4B appears to one NZTA flag light, which will be added to the Lower North Island DUML database, • ICP 0080011453PC15F was updated to reflect there are six unmetered lights present; the UNM details – Retailer field was updated but the daily kWh value was not updated from 2 kWh per day to 10.98 kwh per day, and • ICP 0080011699PCE26 was updated to reflect there are three unmetered lights present; the UNM details – Retailer field was updated but the daily kWh value was not updated from 2 kWh per day to 6 kwh per day.	No
HHR part day volumes not submitted for disconnection day	12.2	MSD uses registry information to determine the selection window for HHR submission information. The registry considers inactive status change to occur at the beginning of the day, so any consumption recorded from midnight prior to the physical disconnection to the disconnection time is not included in the AV-090 submission file.	No

I checked the issues identified for GENE in the previous audit where corrections were still required. The table below shows these findings.

Issue	Section	Description	Status
NHH bridged meter corrections	**2.1**	I checked 30 ICPs from the previous audit where meters had been bridged. I found the following: • six ICPs were not unbridged; two have now switched out, • three ICPs have been corrected, and • 21 have been unbridged but no volume correction applied.	27 ICPs not corrected

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 15.2 From: 01-Apr-22 To: 11-Jan-23	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. Some of these issues have been present for at least the last three audits and these need to be addressed before the controls could be rated as strong overall. The impact is assessed to be medium based on kWh impacts to the market for volumes not reconciled within 14 months and incorrect data sent to other traders as part of the switching process.

Actions taken to resolve the issue	Completion date	Remedial action status
We continue to monitor the ICPs mentioned above that remain unbridged and are following up with the MEPs to resolve the issues. These controls have been strengthened and a bridged meter reconciliation is in place to ensure all bridged meters are unbridged. Regular follow ups are completed with MEPs regarding ICPs that remain unbridged. Once the meter is unbridged the consumption is estimated for the bridged period and submitted accordingly, Genesis believes these controls are strong and that the market impact is low due to the volume of bridged meters / consumption involved.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are reviewing the current process in relation to ICPs that are not unbridged in a timely manner to ensure we are estimating consumption for both billing and submission processes while the meter remains bridged.	01/06/2023	

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.

- EDMI provide HHR data to AMS,
- 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 (a technical services provider) 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 the respective AMI MEP and the Genesis reconciliation team.

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

- AMS (NGCM, ARCS, SMCO), Intellihub (IHUB, MTRX) and Influx (FCLM) provide 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.

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 are loaded into GDW and MSD by the AMI MEP/data collector, 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 readings for 15 NHH settled ICPs to Gentrack and Derive, and
- I traced Interval data for eight HHR settled ICPs to MSD.

Wells readings are loaded directly into Gentrack, and then transferred to DRDS and Derive+ overnight. To confirm the process, I traced readings for ten manually read ICPs from the read files provided by Wells to Gentrack and Derive. All readings matched.

GENE ICPs 0696299004PC30D and 0696299005PCF48 relate to the local service load (X Direction) for Hau Nui wind farm. The Genesis finance team read the meter and provide the data in a spreadsheet which is formatted into a HHRVOLS (AV-090) submission format using SQL scripts before it is manually appended into the GENE HHRVOLS submission file. I walked through the process and traced a sample of data from the source files to submission. While the process ensures the generation and load volumes for this wind farm are included in submission, it does not ensure that the ICP's are included in both the ICPDAY report (AV-110) and HHRAGGS (AV-140) files. Because of the missing ICPDAYS submission Genesis incur a small amount of scaling each month for the HHR load volumes reported against GYT0331 GN POCO.

I recommend that Genesis investigates implementing a process that allows the HHR consumption volumes for Hau Nui wind farm to be uploaded into MSD in a way that ensures no manual file updates are required plus both the AV-110 ICPDAYS and AV-140 HHRAGGS files are also correctly populated.

Description	Recommendation	Audited party comment	Remedial action
Regarding Clause 20 Schedule 15.2 Data transmission	Eliminate the current data transmission workaround for Hau Nui Wind farm replacing this with an integrated solution to ensure ICPs are also included in the ICPDAYs and HHRAGGS reports.	Hau Nui has now been incorporated into the mass market HHR data. Stark provides the volumes which are loaded into Market Submission. The days and volumes are now included in the submissions.	Identified

GENH

The AMS report confirms compliance.

Generation

Data is securely collected by Stark at after each half hour period ends via each meters IP address. 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 have made best endeavours to provide access. Access had not been gained for five GENE and five GEOL ICPs. Three jobs have been completed and the other seven have had the access issues resolved and the jobs will be re-issued.

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 one 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 is claimed, the MEP nomination is expected to be sent to the registry. This is not happening in all instances and 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 updates 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.

All active ICPs have an MEP recorded. The AC020 report recorded 88 active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- 10 were timing differences the ICP had metering details, unmetered load details or decommissioned status added after the report was run,
- 69 had accepted MEP nominations and were awaiting the update of metering details by the MEP, and
- the other nine ICPs remain active with no meter, unmetered load or MEP nomination; I investigated all nine ICPs and found that one is now decommissioned, three are now metered, two are now inactive and three are under investigation.

GEOL

GEOL has not been dealing with new connections since the end of 2022, therefore all reference to new connections relates to historic issues.

GEOL does not use Salesforce. New connections continue to be managed via email inboxes. There is some reporting in place to assist with management of this workflow but being email based has caused some issues.

All active ICPs have an MEP recorded. The AC020 report recorded two active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one ICP was decommissioned after the report was run, and
- ICP 0000565123NR068 was checked and the MEP had updated the metering details prior to the on-site audit.

GENH Status updates are conducted manually in the registry once metering details are received. In most cases the data collection agent notifies by way of load test or a "billing output" file that data collection has commenced. The status can be updated at this time, which was a recommendation from the last audit.

All active ICPs have an MEP recorded. The AC020 report recorded three active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one was a timing difference and metering details were added after the report was run,
- one had an accepted MEP nomination and was awaiting the update of metering details by the MEP, and
- ICP 0000014342WEDE5 was investigated and I found the MEP had updated the metering details by the time of the audit.

I re-checked the ICPs recorded as having their metering removed in the previous audit and found they now have metering installed or are decommissioned.

Audit outcome

Compliant

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

Code reference

Clause 10.33(1)

Code related audit information

A reconciliation participant may temporarily electrically connect a point of connection, or authorise 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.

I checked 16 of 118 new connections where the meter certification date was before the active status date to determine if temporary electrical connection had occurred. 10 of the 16 had incorrect active event dates, which is discussed further in **section 3.8**. Three ICPs had incorrect certification dates in the registry. Two ICPs were genuinely certified prior to the active date because a new embedded network was created. One ICP is being investigated.

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.

Two ICPs had certification dates before the active status date. Neither of these were temporary electrical connections, they were both date errors.

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.

Two ICPs had certification dates before the active status date. Neither of these were temporary electrical connections, they were both date errors.

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, 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 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 AC020 report was reviewed to identify active ICPs without metering or unmetered load for each participant code.

GENE All active ICPs have an MEP recorded. The AC020 report recorded 88 active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- 10 were timing differences the ICP had metering details, unmetered load details or decommissioned status added after the report was run,
- 69 had accepted MEP nominations and were awaiting the update of metering details by the MEP, and
- the other nine ICPs remain active with no meter, unmetered load or MEP nomination; I investigated all nine ICPs and found that one is now decommissioned, three are now metered, two are now inactive and three are under investigation.

GEOL All active ICPs have an MEP recorded. The AC020 report recorded two active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one ICP was decommissioned after the report was run, and
- ICP 0000565123NR068 was checked and the MEP had updated the metering details prior to the on-site audit.

GENH All active ICPs have an MEP recorded. The AC020 report recorded three active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one was a timing difference and metering details were added after the report was run,
- one had an accepted MEP nomination and was awaiting the update of metering details by the MEP, and
- ICP 0000014342WEDE5 was investigated and I found the MEP had updated the metering details by the time of the audit.

I re-checked the ICPs recorded as having their metering removed in the previous audit and found they now have metering installed or are decommissioned.

New Connections

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

GENE The AC020 report recorded 110 new connections which were expected to be metered but did not have meter certification within five business days of initial electrical connection. I checked a sample of ten ICPs with no meter certification details recorded on the AC020 report and the ten latest certifications.

Four of the 20 had certification dates populated late into the registry.

Five ICPs still do not have certification records in the registry. Two of the five are definitely not yet certified. Both of these ICPs are on the Electra network, where the previous metering contractor used to certify metering installations prior to electrical connection by using a portable generator. Wells is the new contractor and they install metering prior to electrical connection, then expect a work order to return to certify the installations. GENE were unaware of this requirement and many new connections had late certification as a result.

The remaining 11 ICPs were certified late. Six of the 11 were on the Electra network. The table below shows the relevant ICPs where certification was late.

ICP	MEP	Active date	Certification date	Days overdue	ATH
0110013402EL0A8	NGCM	16 December 2022	27 January 2023	42	Wells
0110013389EL434	NGCM	23 November 2022	Not certified		Wells
0110013156ELCAF	NGCM	16 November 2022	Not certified		
0000054003WEB93	MTRX	19 December 2022	Not sure if certified		
1002166786LCDFC	MTRX	23 September 2022	Not sure if certified		
1002163079UN003	IHUB	29 June 2022	Not sure if certified		
1002153552UN7AB	NGCM	25 January 2022	7 September 2022	155	VCOM
0007203292RN680	NGCM	28 July 2021	10 March 2022	154	Wells
1002156641LCFF1	NGCM	24 March 2022	28 September 2022	128	VCOM
0007205956RN6AB	NGCM	27 January 2022	23 June 2022	100	Delta
0110013120EL87D	NGCM	15 July 2022	24 November 2022	92	Wells
0110013185ELD2D	NGCM	4 August 2022	12 December 2022	90	Wells
0110013171ELC30	NGCM	11 August 2022	05 December 2022	80	Wells
0110013208EL43F	NGCM	29 August 2022	16 December 2022	77	Wells
0110013133ELE10	NGCM	28 July 2022	27 October 2022	63	Wells
0110013134EL3DA	NGCM	28 July 2022	27 October 2022	63	Wells

GEOL The AC020 report recorded two new connections which were expected to be metered but did not have meter certification recorded within five business days of initial electrical connection. In both cases the issue was incorrect dates, not late certification. The dates are in the process of being corrected.

GENH The AC020 report recorded seven new connections which were expected to be metered but did not have meter certification within five business days of initial electrical connection. One ICP was certified on time, and it was just a late update of the registry.

The table below shows the six late certifications. In five of the six cases, there was insufficient load to conduct certification tests, therefore insufficient load certification should have been conducted.

ICP	MEP	Active date	Certification date	Days overdue	ATH
1002170571UND13	AMCI	5 December 2022	25 January 2023	51	ACCL
0000052024HB882	AMCI	17 August 2022	26 August 2022	7	VCOM

1000598960PC121	AMCI	18 July 2022	5 August 2022	14	ACCL
0000052027HB442	AMCI	1 July 2022	11 July 2022	6	VCOM
0000052026HB807	AMCI	30 June 2022	11 July 2022	7	VCOM
1099581977CN98D	AMCI	1 April 2022	18 May 2022	30	ACCL

Reconnections

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

GENE The AC020 report recorded 231 metered ICPs that did not have full certification within five business days of reconnection. I checked a typical sample of ten ICPs and found:

- eight of the ten had been notified to the MEP, and
- records of notification to the MEP were not found for ICPs 0005307279RND70 and 0302038043LCDF6.

GEOL The AC020 report recorded 31 metered ICPs that did not have full certification within five business days of reconnection. I checked a typical sample of ten ICPs and found:

- six of the ten had been notified to the MEP,
- one ICP was not disconnected by GEOL, and
- records of notification to the MEP were not found for ICPs 0000066490TR040, 0001460330PC525 and 0001451142PCA76.

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

Bridged meters

Genesis provided a list of 77 bridged meters, all of which were supplied by the GENE trader code.

GENE Only four of the 77 were recertified within five days of reconnection. 73 of 77 were not recertified within five days.

GEOL No bridged meters were identified during the audit period.

GENH No bridged meters were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.11 With: Clause 10.33(a)	**GENE** 110 new connections were not certified within five business days. 231 reconnections were not certified within five business days. 73 ICPs with bridged meters not recertified within five business days. **GEOL**

Non-compliance	Description
From: 01-Apr-22 To: 11-Jan-23	Two new connections were not certified within five business days. 31 reconnections were not certified within five business days. **GENH** Seven new connections were not certified within five business days. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as 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
We will continue to notify MEPs of ICPs that are reconnected with non-certified meters. In relation to New Connections, we will continue to work with MEPs in relation to the timely certification of metering and the return of paperwork. We believe the regulated timeframes for both MEPs and Retailers to update the registry should be aligned	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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.

GEOL and GENH did not begin trading on any new networks during the audit period. GENE began trading on ISNZ during the audit period. The UoSA is still being negotiated but there is an "arrangement" in place while these negotiations are ongoing. There is also an arrangement in place with TENC but not a UoSA. Previous audits have confirmed that there are arrangements in place with all other distributors where Genesis supplies ICPs.

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.

Previous audits confirmed that 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 new 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, including review of reports used in the process.

Traders are only able to update ICP status for event dates where they are responsible for the ICP on the registry.

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.

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.

Audit commentary

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

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 un-bridge 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 do not carry out any of the work described above and they still rely on the MEPs and ATHs to conduct these activities.

If the network advises that a seal has been broken a job is issued to the MEP to reseal. MEPs are required to ensure that only qualified personnel perform work and manage and trace seals. The MEPs do not usually provide details of seals in their job completion paperwork.

I examined the processes for disconnection and reconnection, which often occurs at the meter or the metering point. It is not known whether seals are broken and replaced during this process, therefore I recommend Genesis requires disconnection/reconnection contractors to provide a photo every time disconnection or reconnection occurs at the meter or metering point.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 48(1C), 48 (1D), 48 (1E), 48 (1F) of Schedule 10.7	Require disconnection and reconnection contractors to provide a photo whenever disconnection or reconnection occurs at the metering point, to ensure seals are intact and that the disconnection method will ensure the customer cannot reconnect themselves.	Our contactors are instructed to provide photos when a disconnection / reconnection is completed at the meter. We will continue to work with them to ensure they comply to the contractual requirement	Identified

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

Meters are only bridged if they cannot be reconnected without bridging and delaying reconnection would cause significant disadvantage to the customer because they would be without hot water or power.

Reconnection of remotely disconnected meters is initiated by either one of two process paths:

- a remote reconnection request is made to the AMI MEP for an ICP that has been remotely disconnected by Genesis:
    - the AMI MEP provides a managed service in that where the AMI MEP is unable to remotely reconnect then they will initiate a field service technician to attend and bridge the meter,
    - while the AMI MEP is aware at this point that the AMI meter has been bridged, no action is taken to unbridge the meter until a works order is generated by Genesis,
- for all ICPs that require reconnection as part of a switch gain, a works order is generated for a WELLs field service technician to attend the site to undertake the reconciliation:

- the technician will attempt to contact the AMI MEP on site to facilitate an on-demand reconnection and if this attempt to contact the AMI MEP is unsuccessful or the AMI MEP is unable to communicate with the meter, then the meter is bridged.

Bridged meters are identified through a key word query that scans across all returned service request paperwork looking for words and phrases that indicates a meter has been bridged or bypassed. A summary spreadsheet was provided of 77 bridged meters for GENE, which showed that the process was not always operating as intended. This is discussed below.

GENE

Reporting is in place to identify instances where bridging has occurred, and these are cross checked to ensure that an un-bridging 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. The AMI MEPs should be notified within one day of the meter being bridged, but analysis of seven ICPs from the summary spreadsheet showed the following.

ICP	Bridge date	Work order date	Business days
0005463980RN1EB	26 October 2022	18 November 2022	17
0000181973UN49B	12 November 2022	15 November 2022	1
0143732005LC52D	16 November 2022	17 November 2022	1
0000701869MPB4B	23 November 2022	25 November 2022	2
0000168536CK2DD	22 November 2022	25 November 2022	3
0256471525LC85A	6 December 2022	8 December 2022	2
0001442078UNE7C	5 April 2022	1 July 2022	58

Five of seven notifications to the MEP were not within one business day.

The summary spreadsheet of 77 bridged meters showed that 11 were still bridged. The earliest bridge date was June 2022.

A sample of ten bridged ICPs were reviewed to check if these has been unbridged and if corrections were processed and found:

- corrections were processed for the bridged period for eight of the ICPs and these volume correction calculations used an appropriate daily average consumption value for the affected period,
- one ICP (0795798202LCD5F) had switched away prior to being unbridged; no correction was applied for the affected bridged period, and
- one ICP (0000196544TR4FC) remains bridged since 19 October 2022 and there is an open works order with the MEP to un-bridge the meter.

I reviewed an additional sample of seven previously bridged ICP/meters from the previous audit to confirm if appropriate volume corrections had been applied retrospectively. One of this additional sample had a volume correction applied and six did not prior to the bridged period moving outside the available revision window. Team resource levels was the reason provided for the delay in processing calculations of consumption volumes for the bridged periods. This is a manual process and is reliant on staff to calculate the volume correction for each instance.

Genesis have recently formed an exceptions team who are responsible for monitoring bridged meter tasks including volume correction being applied in Gentrack and advising the reconciliation team so that these

corrections are processed through into Derive+. Corrections are now being applied from the beginning of 2023 within Gentrack and this information is then passed to Derive+. The Reconciliation team have also applied volume correction for most other bridged meters during the audit period as part of a data clean up exercise.

Non-compliance is recorded below and in **sections 2.1, 6.4** and **12.2** where the volume correction was not applied for ICP 0795798202LCD5F which switched away prior to being unbridged.

GEOL

The GEOL process for bridging and un-bridging 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 un-bridge job in these instances. I have repeated last year's recommendation that this process is reviewed to investigate how to improve visibility of these. No bridged meters were identified and provided for the audit to enable an assessment of impact to be performed.

The reporting to identify examples could be tailored to look for ICPs with an active customer with zero consumption, where a reconnection job was booked during the period starting from when the customer switched in.

Description	Recommendation	Audited party comment	Remedial action
Bridged meter process	Implement monitoring of bridged meters to ensure the process is tracked and controlled from start to finish. Use this monitoring to work with the AMI MEPs to find way to reduce the frequency of meter bridging and subsequent impacts to submission.	A process is already in place to monitor bridged meters from start to finish. 0795798202LCD5F has now been corrected and estimated usage included for future submission washups. 0000196544TR4FC - We continue to follow up with the MEP to have this unbridged, the meter is inside. We have set-up a dummy meter to ensure usage is estimated for billing and submission purposes until the meter is unbridged	Identified

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: 01-Apr-22 To: 11-Jan-23	**GENE** 11 meters have yet to be un-bridged. Consumption for the bridged period has not been submitted for ICP 0795798202LCD5F, and also six ICPs identified from the previous audit where an opportunity was still available to complete a volume correction prior to these ICPs moving outside the revision window. **GEOL** No active reporting is in place to monitor bridged meters. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate overall for bridging: • there is improved reporting in place for GENE to adequately identify and notify the AMI MEPs of all bridged sites, • however, the GENE correction process has limited visibility to confirm if these are completed and actioned, • there is no meaningful monitoring in place for GEOL and no volume corrections were applied during the audit period, and • with the introduction of the remote reconnection managed service the decision to bridge the meter sits with the AMI MEP rather than Genesis for some non communicating AMI meters. 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
These controls have been strengthened and a bridged meter reconciliation is in place to ensure all bridged meters are unbridged. Regular follow ups are completed with MEPs regarding ICPs that remain unbridged. Once the meter is unbridged the consumption is estimated for the bridged period and submitted accordingly, Genesis believes the controls currently in place for GENE are strong.	Completed	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

We are reviewing the current process in relation to ICPs that are not unbridged in a timely manner to ensure we are estimating consumption for both billing and submission processes while the meter remains bridged. We will also review the current GEOL process and look for improvements We will also look for ways to ensure ICPs do not switch away while they are still bridged	01/06/2023	

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 checked, and Genesis Energy (GENE and GENH) and Frank Energy (GEOL) websites, terms and conditions, invoices and communications were reviewed.

Audit commentary

Clear and prominent information on Utilities Disputes is provided:

- in the footer of emails and letters,
- on Genesis Energy and Frank Energy invoices,
- on the Genesis Energy and Frank Energy websites,
- in the Genesis Energy and Frank Energy terms and conditions, and
- as a voice recording played for all inbound calls to Genesis Energy and Frank Energy.

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 Powerswitch is provided to customers was checked, and Genesis Energy (GENE and GENH) and Frank Energy (GEOL) websites, terms and conditions, invoices and communications were reviewed.

Audit commentary

Clear and prominent information on Powerswitch is provided:

- in the footer of emails and letters,
- on Genesis Energy and Frank Energy invoices, and
- on the Genesis Energy and Frank Energy websites.

Inclusion of information on Powerswitch on invoices achieves compliance with the requirement for annual notification to residential consumers.

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 50 new connections including HHR, NHH and unmetered load ICPs. 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 reconnection process is described in **section 3.8**. The timeliness of status updates to "active" (for reconnections) is set out on the tables below.

Code	Year	ICPs notified greater than five 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%
GENE	2021	2,629	7.78	73.01%
GENE	2022	1,329	21.32	69.93%
GENE	**2023**	**1,986**	**10.06**	**79.04%**

Code	Year	ICPs notified greater than five 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%
GEOL	2022	451	8.74	71.94%
GEOL	**2023**	**1,027**	**14.24**	**60.62%**

Code	Year	ICPs notified greater than five 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	-	-	-
GENH	2022	-	-	-
GENH	2023	-	-	-

GENE 459 of the 1,896 late reconnections were updated more than 30 business days after the event, 101 were updated more than 100 business days after the event, and eight were updated more than 1,000 business days after the event. The latest update was 4,546 business days after the event date. The 15 latest updates, and the ten late updates between 30 and 300 business days after the event date were checked:

- 10 examples had consumption on vacant ICP; any ICP suspected to have vacant consumption is returned to "active" and investigated and if this is not found to be the case the "active" update is reversed and the ICP is returned to "inactive" - nine of the sample of 10 checked are now outside of the 14-month revision period and these volumes won't be submitted which is recorded as non-compliance in **sections 2.1** and **12.7**,
- five examples were the result of a data clean-up exercise,
- three were identified by billing validation,
- two examples were backdated switches-in leading to backdated status changes,
- one example was a correction to the status after a switch withdrawal,
- the automated registry update did not operate as expected for one ICP, which was subsequently updated manually,
- one late update was due to an internal backlog,
- ICP 0000009974UNF18 has a status event date of 24 May 2022 and should be 23 May 2022, and
- ICP 0000049943HRC15 has a status event date of 15 August 2022 and should be 16 August 2022.

GEOL 166 of the 1,027 late reconnections were updated more than 30 business days after the event, 69 were updated more than 100 business days after the event, and one was updated more than 1,000 business days after the event. The latest update was 1,064 business days after the event date. The ten latest updates, and the ten late updates between 30 and 300 business days after the event date were checked:

- three ICPs were vacant with consumption and the status change to "active" was backdated to allow the consumption to be reconciled; all status event dates are within the 14-month window,
- five examples were the result of a data clean-up exercise,
- one was identified by billing validation,
- two examples were backdated switches-in leading to backdated status changes,
- four examples were corrections where ICPs were reconnected prior to the NT date, and the update could not be sent to the registry at that date because GEOL was not the trader,
- two examples were corrections to the status after switch withdrawals,
- the automated registry update did not operate as expected for two ICPs, which were subsequently updated manually, and
- one late update was due to an internal backlog.

GENH No late reconnections were identified on the AC020 or event detail reports.

Updates to inactive status

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

Code	Year	ICPs notified greater than five 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%
GENE	2022	962	7.40	93.43%
GENE	**2023**	**637**	**3.5**	**97.27%**

Code	Year	ICPs notified greater than five 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 five 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%
GEOL	2022	74	3.76	95.47%
GEOL	**2023**	**190**	**6.94**	**92.08%**

Code	Year	ICPs notified greater than five 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%
GENH	2022	10	23.30	66.67%
GENH	**2023**	**13**	**13.61**	**71.74%**

GENE Inactive new connection in progress status

Updates to 1,12 "inactive - new connection in progress" status are only considered late if they are made after the initial electrical connection date. I checked all 343 updates to 1,12 status recorded as late on the AC020 report and confirmed that they occurred before initial electrical connection.

Other inactive statuses

Following the last audit, Genesis intended to work on improving this area by providing better reporting and more resources. The average business days for updates has more than halved and the percentage on time has improved.

The other 294 late updates to "inactive" status were genuinely late. 110 disconnections were updated more than 30 business days after the event, 69 were updated more than 100 business days after the event, and four were updated more than 1,000 business days after the event. The latest update was 4,968 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:

- 20 were identified as part of a data clean-up exercise,
- 11 were backdated changes due to switching between GEOL and GENE,
- six were temporary disconnections for safety in Gentrack, but the registry does not have a corresponding reason code, therefore these needed to be manually updated at a subsequent date,
- 14 were late due to an internal processing backlog,
- one ICP had a late notification from the field,
- two corrections occurred for data entry errors, and
- one was a correction after a switching withdrawal.

GEOL Inactive new connection in progress status

Updates to 1,12 "inactive - new connection in progress" status are only considered late if they are made after the initial electrical connection date. I checked all 20 updates to 1,12 status recorded as late on the AC020 report and confirmed that they occurred before initial electrical connection.

Other inactive statuses

The other 170 late updates to "inactive" status were genuinely late. 66 disconnections were updated more than 30 business days after the event, 38 were updated more than 100 business days after the event, and one was updated more than 1,000 business days after the event. The latest update was 1,085 business days after the event. I checked the ten latest (or all late) status updates for each disconnection status reason code and found the following issues:

- eight were backdated switches,
- 27 were due to an internal processing backlog,
- nine were temporary disconnections for safety in Gentrack, but the registry does not have a corresponding reason code, therefore these needed to be manually updated at a subsequent date,
- four ICPs had late notifications from the field,
- 14 were backdated changes due to switching between GEOL and GENE,
- two were identified as part of a data clean-up exercise,
- one correction occurred for a data entry error, and
- two were corrections after switching withdrawals.

One ICP had an incorrect status event date, which is now corrected.

GENH Inactive new connection in progress status

Updates to 1,12 "inactive - new connection in progress" status are only considered late if they are made after the initial electrical connection date. I checked all 11 updates to 1,12 status recorded as late on the AC020 report and confirmed that they occurred before initial electrical connection.

Other inactive statuses

The other two late updates to "inactive" status were genuinely eight to 14 business days late. These were both due to internal processing issues.

Trader updates

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.

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

Code	Year	ICPs notified greater than five 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%
GENE	2022	12,088	24.33	28.41%
GENE	**2023**	**7,676**	**5.55**	**92.22%**

Code	Year	ICPs notified greater than five 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%
GEOL	2022	529	39.15	63.99%
GEOL	**2023**	**1,281**	**5.21**	**96.29%**

Code	Year	ICPs notified greater than five 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%
GENH	2022	11	8.78	70.27%
GENH	**2023**	**28**	**701.63**	**26.32%**

GENE There has been a significant improvement to the percentage of updates on time from 28.41% to 92.22% and average business days to update from 24.33 to 5.55.

1,140 of the 7,676 late trader updates were updated more than 30 business days after the event, 242 were updated more than 100 business days after the event, and ten were

updated more than 1,000 business days after the event. The latest update was 5,214 business days after the event date.

1,607 (20.9%) of the late updates indicated a profile and/or submission type change, and 3,053 (39.7%) of the late updates indicated an MEP change.

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

- ten changes to unmetered load information, including the five latest updates,
- ten changes to submission type information, including the five latest updates,
- ten changes to profile type information, including the five latest updates,
- ten MEP nominations, including the five latest updates, and
- ten ANZSIC code changes, including the five latest updates.

The findings are as follows:

- two were backdated switches in,
- 25 were the result of a data clean-up exercise,
- eight were corrections of data entry errors,
- five were late MEP nominations to NGCM,
- one was a late nomination to AMCI,
- three backdated meter changes occurred,
- four were backdated changes to NHH once it was confirmed that HHR data was incomplete, and
- two were due to internal backlogs.

GENE recorded that 19 of the 50 updates had an incorrect event date.

The AC020 report recorded 315 ICPs where the ANZSIC code was populated more than 20 business days after switch in or new connection. The updates were made 21 to 460 business days after trading commenced. The ten latest updates were checked, and were updated at the same time as the active status record for backdated new connections, or the same time as CS receipt for backdated switches in.

GEOL

There has been a significant improvement to the percentage of updates on time from 63.99% to 96.29% and average business days to update from 39.15 to 5.21.

163 of the 1,281 late trader updates were updated more than 30 business days after the event, 31 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 3,110 business days after the event date.

304 (23.7%) of the late updates indicated a profile and/or submission type change, and 929 (72.5%) of the late updates indicated an MEP change.

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

- all four changes to unmetered load information,
- ten changes to submission type information, including the five latest updates,
- ten changes to profile type information, including the five latest updates,
- ten MEP nominations, including the five latest updates, and
- ten ANZSIC code changes, including the five latest updates.

The findings are as follows:

- one was a backdated switch in,

- six were the result of a data clean-up exercise,
- nine were corrections of data entry errors,
- eight were examples where other registry events prevented a trader event being created,
- one was a late MEP nomination to NGCM,
- two were due to registry file errors,
- one backdated meter change occurred,
- 11 were backdated changes to NHH once it was confirmed that HHR data was incomplete, and
- five were due to internal backlogs.

GEOL recorded that 10 of the updates had incorrect event dates.

The AC020 report recorded 26 ICPs where the ANZSIC code was populated more than 20 business days after switch in or new connection. The updates were made 21 to 137 business days after trading commenced. The ten latest updates were checked, and were updated at the same time as the active status record for backdated new connections, or the same time as CS receipt for backdated switches in.

GENH

19 of the 28 late trader updates were updated more than 30 business days after the event, 18 were updated more than 100 business days after the event, and 11 were updated more than 1,000 business days after the event. The latest update was 3,110 business days after the event date.

18 (64.3%) of the late updates indicated an ANZSIC change, and ten (35.7%) indicated a MEP nomination.

I checked a typical sample of late updates recorded on the AC020 report for GENH as described below:

- all four changes to submission type information.
- the six latest MEP nominations.
- ten ANZSIC code changes, including the five latest updates.

The findings are as follows:

- 13 ANZSIC codes were changed from unknown to the correct code backdated to the ICP start date,
- three were due to internal backlogs,
- three were due to late notification of changes from the field, and
- one was a TOU downgrade where an existing metering event prevented a nomination by GENH.

The AC020 report recorded 21 ICPs where the ANZSIC code was populated more than 20 business days after switch in or new connection. The updates were made 21 to 147 business days after trading commenced. The ten latest updates were checked, and were updated at the same time as the active status record for backdated new connections, or the same time as CS receipt for backdated switches in.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 of schedule 11.1 From: 01-Apr-22 To: 11-Jan-23	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: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as Genesis has much better reporting but resource constraints are still present in some areas. The audit risk rating is assessed to be low based on the minor impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis has taken significant steps to improve reporting and resourcing in departments relevant to this non-compliance. This is still an area of focus and additional daily reporting is currently being implemented.	On-going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above	On-going	

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. Nomination rejections are identified and remedied.

GENE All "active" metered ICPs have an MEP recorded, and an MEP nomination accepted within 14 business days.

Five of the 21,693 MEP nominations recorded on the event detail report during the audit period were rejected. One was incorrectly rejected and four had the incorrect MEP nominated.

The AC020 report recorded 88 active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- 10 were timing differences the ICP had metering details, unmetered load details or "decommissioned" status added after the report was run,
- 69 had accepted MEP nominations and were awaiting the update of metering details by the MEP, and
- the other nine ICPs remain active with no meter, unmetered load or MEP nomination; I investigated all nine ICPs and found that one is now "decommissioned", three are now metered, two are now "inactive" and three are under investigation.

GEOL All "active" metered ICPs have an MEP recorded, and an MEP nomination accepted within 14 business days.

All 1,471 MEP nominations recorded on the event detail report during the audit period were accepted.

All "active" ICPs have an MEP recorded. The AC020 report recorded two "active" ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one ICP was decommissioned after the report was run, and
- ICP 0000565123NR068 was checked and the MEP had updated the metering details prior to the on-site audit.

GENH All "active" metered ICPs have an MEP recorded, and an MEP nomination accepted within 14 business days.

All 65 MEP nominations recorded on the event detail report during the audit period were accepted.

The AC020 report recorded three "active" ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one was a timing difference and metering details were added after the report was run,
- one had an accepted MEP nomination and was awaiting the update of metering details by the MEP, and
- ICP 0000014342WEDE5 was investigated and I found the MEP had updated the metering details by the time of the audit.

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	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.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.4 With: Clause 11.18 From: 01-Apr-22 To: 11-Jan-23	**GENE** Four incorrect MEP nominations. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	**Rationale for audit risk rating**		
Low	The controls are rated as strong because they mitigate risk to an acceptable level. The audit risk rating is low as the number of ICPs affected is small in relation to the overall volume.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**

Controls are in place to identify when an MEP is incorrectly nominated, and steps are then taken to correct. However, we will look at these controls and assess for potential improvements	01/08/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As Above	01/08/2023	

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. Genuinely late updates to "inactive - new connection in progress" status are discussed in **section 3.3**.

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

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%
GENE	2022	1,549	6.16	84.86%
GENE	**2023**	**4,000**	**7.78**	**72.36%**

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%
GEOL	2022	177	12.57	37.46%
GEOL	**2023**	**69**	**9.47**	**71.25%**

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%

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2019	3	9	77%
GENH	2020	21	18.43	40.00%
GENH	2021	41	13.63	35.94%
GENH	2022	18	19.59	47.06%
GENH	**2023**	**19**	**8.74**	**62.00%**

GENE

Genesis uses 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 as the ICP claim, the MEP nomination is 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. 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 all the details are confirmed 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. There is monitoring of the AC020 report to identify ICPs where the IECD is populated but the status is not yet "active".

All of the late updates had metering category 1 or 2 or were unmetered. 2,046 late updates were more than ten business days after the event date, 570 were made more than 30 business days after the event date, and 85 updates were made more than 100 business days after the event date. The latest update was 811 business days after the event date.

I reviewed the ten latest updates, and ten late updates over 30 business days, and found:

- one was a processing error,
- two were not new connections,
- seven were late due to processing backlogs,
- three examples ended up in the incorrect work queue,
- five were late information from the field, and
- two had conflicting dates provided from the field, requiring investigation,

GEOL

The management of new connections for GEOL does not involve the use of Salesforce and new connections continue to be managed via email inboxes.

All of the late updates had metering category 1. 30 late updates were more than ten business days after the event date, 11 were made more than 30 business days after the event date, and three updates were made more than 100 business days after the event date. The latest update was 340 business days after the event date.

I reviewed the ten latest updates, and five late updates over ten business days and found:

- six were processing issues,
- four were due to internal processing backlogs,
- three required corrections, and

- two were sent to the incorrect inbox.

GENH

Status updates are manual and are made once there is confirmation from the data collection agent that a load test has been conducted between them and the ATH.

13 late updates were more than ten business days after the event date, and four were made more than 30 business days after the event date. The latest update was 56 business days after the event date.

I checked all ten late HHR new connections or ICPs with metering category 3 and the five latest updates for ICPs with metering category 2.

- ten were due to late notification from the field,
- two were due to processing issues,
- two required investigations to determine the correct date, and
- one was a notification that metering was not installed, despite evidence that the site was electrically connected.

New connection information accuracy

The AC020 report is checked regularly to identify ICPs where the IECD is populated but the status is not "active".

GENE

Electrically connected ICPs where the trader has not changed the ICP status to active

The AC020 report recorded 207 ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress" or "ready" status. The 20 ICPs with the oldest initial electrical connection dates (31 January 2019 to 16 August 2022) were checked, which confirmed three are now active, one appears to be a duplicate ICP and 16 are in progress and still required.

Consistency with initial electrical connection dates and meter certification dates

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 2,102 ICPs with date discrepancies. For 150 ICPs the active date and initial electrical connection date was consistent and the ICP was unmetered. The other 1,952 exceptions were checked:

Scenario	Total	Sample	Confirmed incorrect	Findings
IECD = active date and MCD ≠ active date	15	5	1	ICP 1002147057LCB94 has a date of 4 August 2021 but it appears 3 August 2021 is the correct date.
IECD ≠ active date and MCD ≠ active date	94	5	5	Four of the five have been corrected. ICP 1002162643UN2CC has switched out but the status event date can still be changed for the period the ICP was with GENE.
IECD ≠ active date and MCD = active date	190	5	0	All five had the correct active event date.
IECD = active date and no MCD	62	5	0	All five had the correct active event date.

Scenario	Total	Sample	Confirmed incorrect	Findings
IECD ≠ active date and no MCD	6	5	3	ICPs 1000605677PC819, 0007207392RN904 and 0007206337RNDF4 require correction.
IECD ≠ active date and unmetered	2	2	0	One has the correct date, and one is decommissioned.
No IECD and MCD ≠ active date	1	1	1	ICP 1002155398LCB07 requires correction.
No IECD and MCD ≠ active date	8	5	3	Three have been corrected. ICP 1002169075LC749 still needs to be corrected. ICP 0110013145ELAC2 is still under investigation to determine the correct date.
No IECD and MCD = active date	1322	5	1	ICP 1002123972UNC4B requires correction.
No IECD and no MCD	143	5	1	Correction has occurred.
No IECD and unmetered	109	5	0	All five had the correct active event date.
Total	1,952	48	15	

I rechecked exceptions identified during the previous audit, and found the active status dates below were still incorrect:

ICP Identifier	Last audit comment
0007205116RN403	IECD ≠ active date and MCD ≠ active date and status event date is incorrect. The status date is 17 November 2022, but the meter certification and initial electrical connection dates are 11 January 2022.
0007204533RN9B8	IECD ≠ active date and MCD ≠ active date and status event date is incorrect. The status date is 1 November 2021, but the meter certification and initial electrical connection dates are 27 October 2021.
0007205065RN49A	IECD ≠ active date and MCD ≠ active date and status event date is incorrect. The status date is 2 December 2021, but the meter certification date is 30 November 2021 and initial electrical connection date is 1 December 2021.

GEOL

Electrically connected ICPs where the trader has not changed the ICP status to active

The AC020 report recorded three ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress" or "ready" status. Two were moved to "active" status after the report was run. ICP 0000574133NR384 is in the process of being changed to GENE and the GEOL "timeslice" will be removed.

Consistency with initial electrical connection dates and meter certification dates

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 34 ICPs with date discrepancies.

Scenario	Total	Sample	Confirmed incorrect	Findings
IECD = active date and MCD ≠ active date	1	1	0	One ICP has the correct active date.
IECD ≠ active date and MCD ≠ active date	1	1	0	ICP 1002156174UN050 was a new connection for a different trader and was not made active by them. GEOL made the ICP active from the switch in date.
IECD ≠ active date and MCD = active date	9	5	0	Five ICPs had the correct active dates
IECD = active date and no MCD	1	1	0	One ICP has the correct active date.
No IECD and MCD = active date	19	5	0	Five ICPs had the correct active dates
No IECD and no MCD	3	3	2	ICPs 0000053326HBAA4 and 1099582394CN71D have incorrect active dates.
Total	34	16	2	

I rechecked exceptions identified during the previous audit, and found the active status dates below were still incorrect:

ICP Identifier	Last audit comment
0001113566WM95C	IECD ≠ active date and MCD ≠ active date and active date is incorrect. The status date is 23 July 2021, but the meter certification and initial electrical connection dates are 13 July 2021.
1002150192LC4B1	IECD ≠ active date and MCD ≠ active date and active date is incorrect. The status date is 20 December 2021, but the meter certification and initial electrical connection dates are 17 December 2021.
0004327422TPE0C	No IECD and MCD ≠ active date and active date is incorrect. The status date is 26 August 2021, but the meter certification date is 26 July 2021.
0110012552EL004	ICP 0110012552EL004 has an incorrect first active date as the meter was certified on 13 August 2021 using a load bank on the Electra network and it wasn't electrically connected until 2 September 2021.

GENH

Electrically connected ICPs where the trader has not changed the ICP status to active

There were no ICPs at "inactive - new connection in progress" or "ready" status with initial electrical connection dates populated.

Consistency with initial electrical connection dates and meter certification dates

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 27 ICPs with date discrepancies.

Scenario	Total	Sample	Confirmed incorrect	Findings
IECD = active date and MCD ≠ active date	1	1	0	The correct active date is recorded
IECD ≠ active date and MCD ≠ active date	1	1	0	The correct active date is recorded
IECD = active date and MCD ≠ active date	4	4	0	The correct active dates are recorded
IECD ≠ active date and MCD = active date	1	1	0	The correct active date is recorded
IECD = active date and no MCD	4	4	1	ICP 0053800367WA3AE has 25 October 2022 as the active date but it should be 26 October 2022.
No IECD and MCD ≠ active date	2	2	0	The correct active dates are recorded
No IECD and MCD = active date	12	5	0	The correct active dates are recorded
No IECD and no MCD	2	2	0	The correct active dates are recorded
Total	27	20	1	

I rechecked exceptions identified during the previous audit, and found the "active" status dates below were still incorrect:

ICP Identifier	Last audit comment	This audit comment
007203849RNF1C	ICP 0007203849RNF1C has 21 December 2021 as the date in the high-risk database. The metering certification date and IECD are 24 January 2022, and the status event date is 15 December 2021. It appears 15 December 2021 may be incorrect. This is being investigated.	Discussion with MEP. Meter installed on Deadboard 15 December 2021 not livened. Revisit to complete low load Cert 24 January 2022 - site actually livened this date. Revisit to do full load Cert 16 February 2022.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 of schedule 11.1 From: 01-Apr-22 To: 11-Jan-23	**GENE** 4,000 late updates for new connections (72.36% updated within five business days). 15 of a sample of 48 ICPs of a possible 1,952 ICPs had the incorrect first active date (31% error rate). Three discrepancies from the last audit still present. **GENH** 69 late updates for new connections (71.25% updated within five business days). One incorrect active date from the previous audit not yet resolved. One of a sample of 20 ICPs of a possible 27 ICPs had the incorrect first active date (5% error rate). **GEOL** 19 late updates for new connections (62.00% updated within five business days). Two of a sample of 16 ICPs of a possible 34 ICPs had the incorrect first active date (12.5% error rate). Four discrepancies from the last audit still present. 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 overall as the new connections for GENE and GEOL do not have robust controls in place to ensure that ICPs are updated to "active" in good time and for the correct date. There is reporting available to assist with this but due to resource constraints these are not always able to be addressed. The audit risk rating is assessed to be low as this will have a small effect on reconciliation accuracy.

Actions taken to resolve the issue	Completion date	Remedial action status
The AC020 report is run monthly and potentially non-complaint ICP are sent to the relevant business unit for review / correction. Delays are often caused by paperwork being received late from MEPs / Contractors. The regulated timeframes for MEP and Retailers updating the registry should be aligned, We will continue to look for ways to further strengthen our controls and work with 3rd parties regarding late paperwork	On Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

As above		

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

The ANZSIC code is checked as part of the sign-up process with Genesis. These are also checked as part of the registry validation processes to look for blank and "T9" coded ICPs.

GENE

The AC020 report recorded:

- no ICPs with blank ANZSIC codes,
- two ICPs with T994 unknown ANZSIC codes; these are valid as the ICPs are currently active vacant sites with no customer registered,
- 35 ICPs with metering category 2 had residential ANZSIC codes; 22 were confirmed to be residential but 13 were incorrect and have now been corrected, and
- no ICPs with metering category three or above had residential ANZSIC codes.

A diverse sample of 100 active ICPs were checked to confirm the validity of ANZSIC codes, including ICPs assigned to each of the 20 most frequently used codes. This identified eight incorrect ANZSIC codes representing an 8% error rate, and these have been updated in the registry.

GEOL

The AC020 report recorded:

- no ICPs with blank ANZSIC codes,
- one ICP with a T994 unknown ANZSIC code, which has now been updated,
- six ICPs with metering category 2 had residential ANZSIC codes; two were confirmed to be residential, one is still being investigated and three have been corrected, and
- no ICPs with metering category 3 or above were supplied.

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 eight ICPs had the incorrect ANZSIC code applied representing a 10% error rate and these have since been updated.

GENH

The AC020 report recorded:

- no ICPs with blank or T994 series ANZSIC codes, and
- no ICPs with metering category 2 or above with residential ANZSIC codes.

A diverse sample of 50 active ICPs were checked to confirm the validity of ANZSIC codes, including ICPs assigned each of the ten most frequently used codes. This found one ICP had the incorrect ANZSIC code applied representing a 2% error rate, and this has since been updated.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.6 With: Clause 9(1)(k) of schedule 11.1 From: 01-Apr-22 To: 11-Jan-23	**GENE** 13 ICPs of a total of 35 ICPs checked with a category 2 meter and incorrectly recorded as residential. Eight ICPs of a sample of 100 ICPs checked with an incorrect ANZSIC code recorded. 8% error rate. **GEOL** One ICP with a T99 ANZSIC code, which has now been updated. Three ICPs of a total of six ICPs checked with a category 2 meter and incorrectly recorded as residential. Eight ICPs of a sample of 80 ICPs checked with an incorrect ANZSIC code recorded. 10% error rate. **GENH** One ICP of a sample of 50 ICPs checked with an incorrect ANZSIC code recorded. 2% error rate. 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 as the controls will mitigate risk to an acceptable level but there is room for improvement. The audit risk rating is low as this has no material effect on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
The AC020 report is run monthly, and the trader 12 report is reviewed on a regular basis. Most items on this report are false negatives and are residential.	On going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

We will look to improve our reporting so that only NTR ICPs on the trader 12 report need to be reviewed / updated each month so that false negatives do not need to be reviewed	1/04/2023	

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 unmetered load. There is no validation between the distributors unmetered load field and the load recorded by Genesis once the ICP has been gained. Unmetered load submissions are calculated in Derive+ based on the registry daily unmetered kWh.

The completeness and accuracy of unmetered load details was determined by reviewing the audit compliance and registry list reports.

GENE GENE supplies 3,014 active ICPs with unmetered load recorded by the distributor. 264 ICPs have shared unmetered load recorded by the distributor, 67 ICPs have DUML recorded by the distributor and the remainder have standard unmetered load recorded.

<u>Active ICPs with no metering or unmetered load recorded.</u>

All active ICPs have an MEP recorded. The AC020 report recorded 88 active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- 10 were timing differences the ICP had metering details, unmetered load details or "decommissioned" status added after the report was run, and
- 69 had accepted MEP nominations and were awaiting the update of metering details by the MEP.

The other nine ICPs remain active with no meter, unmetered load or MEP nomination. I investigated all nine ICPs and found that one is now "decommissioned", three are now metered, two are now "inactive" and three are under investigation.

Active ICPs with unmetered load recorded by the distributor but not the trader.

The AC020 report recorded six timing differences where trader unmetered load details were added after the report was run for ICPs with distributor unmetered load recorded.

Active ICPs with unmetered load recorded by the trader but not the distributor.

183 active ICPs have unmetered load recorded by the trader but not the distributor. 90 were confirmed to have unmetered load connected in previous audits or were DUML ICPs. I checked a sample of 15 of the remaining 93 ICPs and found:

- three have now been corrected by the distributor,
- two have now had unmetered load removed by GENE,
- nine are under investigation, and
- one is in the process of being decommissioned.

As noted above there is no validation of unmetered load once it has been gained and I recommend above that this is added to the registry validation processes.

Accuracy of daily unmetered kWh

69 DUML ICPs had the unmetered flag set to yes and a daily unmetered kWh of ENG, and are compliant. ICP 0000842905WPDC2 had daily unmetered kWh set to zero and is correct based on the distributor and trader unmetered load details.

The AC020 report recorded 41 ICPs where the daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh. All were examined and found:

- 33 were DUML ICPs, and are compliant,
- three shared unmetered load ICPs had their expected load miscalculated by the report, and the trader daily unmetered kWh matched the manually calculated expected value within 0.1 kWh,
- for ICP 0000557920UN07D and 0007129218RNA62 Genesis' daily unmetered kWh were confirmed to be correct during the previous audit,
- ICP 0006980902RN6D0 has now been corrected,
- ICP 0000006083TE8E2 has the correct unmetered load recorded by GENE,
- ICP 1000544328PCC4B appears to one NZTA flag light, which will be added to the Lower North Island DUML database, and the Distributor has agreed to decommission this ICP,
- ICP 0080011453PC15F was updated to reflect there are six unmetered lights present; the UNM details – Retailer field was updated but the daily kWh value was not updated from 2 kWh per day to 10.98 kwh per day. This has now been corrected, and
- ICP 0080011699PCE26 was updated to reflect there are three unmetered lights present; the UNM details – Retailer field was updated but the daily kWh value was not updated from 2 kWh per day to 6 kwh per day. This has now been corrected.

Unmetered builder's temporary supply (BTS) ICPs

298 unmetered BTS ICPs were recorded on the registry list. Nine had metering installed and eight of those had their unmetered BTS load removed from the same day. ICP 0007210041RN704 was corrected prior to the audit.

I checked all 28 unmetered BTS ICPs created prior to January 2021:

- ICP 0007196752RN83A is now decommissioned,
- 13 ICPs appear to have permanent supplies for the same address, all 13 were present during the last audit and four were present during the 2021 audit, and
- 14 ICPs do not have a permanent supply at the same address and are being investigated.

I recommend that a process is put in place to monitor long term unmetered BTS supplies.

GEOL GEOL supplies 142 active ICPs with standard unmetered load recorded by the distributor, and 40 active ICPs with shared unmetered load recorded by the distributor.

Active ICPs with no metering or unmetered load recorded.

All active ICPs have an MEP recorded. The AC020 report recorded two active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one ICP was decommissioned after the report was run, and
- ICP 0000565123NR068 was active with no meter, unmetered load or MEP nomination; this now has an MEP and metering details recorded.

Active ICPs with unmetered load recorded by the distributor but not the trader.

No active ICPs had distributor unmetered load details with no trader unmetered load.

Active ICPs with unmetered load recorded by the trader but not the distributor.

ICP 0003185519HB2B2 had trader unmetered load details with no distributor unmetered load details, and GEOL's unmetered load was confirmed to be correct during previous audits.

Accuracy of daily unmetered kWh

All active ICPs with the unmetered flag set to yes had a non-zero daily unmetered kWh. There were no ICPs where the trader daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh.

Unmetered BTS

There are no unmetered BTS ICPs.

GENH GENH supplies two active ICPs with standard unmetered load recorded by the distributor.

Active ICPs with no metering or unmetered load recorded.

All active ICPs have an MEP recorded. The AC020 report recorded three active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one was a timing difference and metering details were added after the report was run,
- one had an accepted MEP nomination and was awaiting the update of metering details by the MEP, and
- ICP 0000014342WEDE5 was "active" with no meter, unmetered load or MEP nomination; this now has an MEP and metering details are recorded.

Active ICPs with unmetered load recorded by the distributor but not the trader.

No active ICPs had distributor unmetered load details with no trader unmetered load.

Active ICPs with unmetered load recorded by the trader but not the distributor.

No active ICPs had trader unmetered load details with no distributor unmetered load details.

Accuracy of daily unmetered kWh

All active ICPs with the unmetered flag set to yes had a non-zero daily unmetered kWh. There were no ICPs where the trader daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh.

Unmetered BTS

There are no unmetered BTS ICPs.

Recommendation	Description	Audited party comment	Remedial action
Changes to unmetered load	Identify changes to distributor unmetered load to identify instances where unmetered load is changed or removed.	This is picked up through the AC020 report, trader 9 shows that significant improvement in this area has been made in the past 12 months.	Identified
Changes to unmetered load	Put a process in place to monitor long term BTS supplies.	We will investigate this recommendation	Identified

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 01-Apr-22 To: 11-Jan-23	**GENE** Two ICPs incorrectly had unmetered load recorded. Two ICPs with the incorrect unmetered daily kWh load recorded. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate but there is room for improvement. The impact on settlement is minor, therefore the audit risk rating is low.
Actions taken to resolve the issue	**Completion date** / **Remedial action status**

We are in the process of reviewing the unmetered processes and are looking to establish a process within the Market Settlements team to manage these more effectively.	01/06/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
There is also an RA project under way in relation to the BTS process and we will look at the long term unmeted BTS	01/07/2023	

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

New connections

GENE

Electrically connected ICPs where the trader has not changed the ICP status to active

The AC020 report recorded 207 ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress" or "ready" status. The 20 ICPs with the oldest initial electrical connection dates (31 January 2019 to 16 August 2022) were checked, which confirmed three are now "active", one appears to be a duplicate ICP and 16 are in progress and still required.

Consistency with initial electrical connection dates and meter certification dates

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 2,102 ICPs with date discrepancies. For 150 ICPs the active date and initial electrical connection date was consistent and the ICP was unmetered. The other 1,952 exceptions were checked:

Scenario	Total	Sample	Confirmed incorrect	Findings
IECD = active date and MCD ≠ active date	15	5	1	ICP 1002147057LCB94 has a date of 4 August 2021 but it appears 3 August 2021 is the correct date.
IECD ≠ active date and MCD ≠ active date	94	5	5	Four of the five had been corrected prior to the on-site audit. ICP 1002162643UN2CC has switched out and the status was corrected at the time of the audit.
IECD ≠ active date and MCD = active date	190	5	0	All five had the correct active event date.
IECD = active date and no MCD	62	5	0	All five had the correct active event date.
IECD ≠ active date and no MCD	6	5	3	ICPs 1000605677PC819, 0007207392RN904 and 0007206337RNDF4 require correction.
IECD ≠ active date and unmetered	2	2	0	One has the correct date, and one is decommissioned.
No IECD and MCD ≠ active date	1	1	1	ICP 1002155398LCB07 has now been corrected.
No IECD and MCD ≠ active date	8	5	3	Two were corrected prior to the on-site audit. ICP 1002169075LC749 was corrected at the time of the audit. ICP 0110013145ELAC2 is still under investigation to determine the correct date.
No IECD and MCD = active date	1322	5	1	ICP 1002123972UNC4B has now been corrected.
No IECD and no MCD	143	5	1	Correction has occurred.
No IECD and unmetered	109	5	0	All five had the correct active event date.
Total	1,952	48	15	

I rechecked exceptions identified during the previous audit, and found the active status dates below were still incorrect. All three were corrected immediately following the on-site audit.

ICP Identifier	Last audit comment
0007205116RN403	IECD ≠ active date and MCD ≠ active date and status event date is incorrect. The status date is 17 November 2022, but the meter certification and initial electrical connection dates are 11 January 2022.
0007204533RN9B8	IECD ≠ active date and MCD ≠ active date and status event date is incorrect. The status date is 1 November 2021, but the meter certification and initial electrical connection dates are 27 October 2021.
0007205065RN49A	IECD ≠ active date and MCD ≠ active date and status event date is incorrect. The status date is 2 December 2021, but the meter certification date is 30 November 2021 and initial electrical connection date is 1 December 2021.

GEOL

Electrically connected ICPs where the trader has not changed the ICP status to active

The AC020 report recorded three ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress" or "ready" status. Two were moved to "active" status after the report was run. ICP 0000574133NR384 is in the process of being changed to GENE and the GEOL "timeslice" will be removed.

Consistency with initial electrical connection dates and meter certification dates

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 34 ICPs with date discrepancies.

Scenario	Total	Sample	Confirmed incorrect	Findings
IECD = active date and MCD ≠ active date	1	1	0	One ICP has the correct active date.
IECD ≠ active date and MCD ≠ active date	1	1	0	ICP 1002156174UN050 was a new connection for a different trader and was not made active by them. GEOL made the ICP active from the switch in date.
IECD ≠ active date and MCD = active date	9	5	0	Five ICPs had the correct active dates.
IECD = active date and no MCD	1	1	0	One ICP has the correct active date.
No IECD and MCD = active date	19	5	0	Five ICPs had the correct active dates.
No IECD and no MCD	3	3	2	ICPs 0000053326HBAA4 and 1099582394CN71D had incorrect active dates. Both are now corrected.
Total	34	16	2	

I rechecked exceptions identified during the previous audit, and found the active status dates below were still incorrect:

ICP Identifier	Last audit comment
0001113566WM95C	IECD ≠ active date and MCD ≠ active date and active date is incorrect. The status date is 23 July 2021, but the meter certification and initial electrical connection dates are 13 July 2021.
1002150192LC4B1	IECD ≠ active date and MCD ≠ active date and active date is incorrect. The status date is 20 December 2021, but the meter certification and initial electrical connection dates are 17 December 2021.
0004327422TPE0C	No IECD and MCD ≠ active date and active date is incorrect. The status date is 26 August 2021, but the meter certification date is 26 July 2021.
0110012552EL004	ICP 0110012552EL004 had an incorrect first active date as the meter was certified on 13 August 2021 using a load bank on the Electra network and it wasn't electrically connected until 2 September 2021. This has now been corrected.

GENH

Electrically connected ICPs where the trader has not changed the ICP status to active

There were no ICPs at "inactive - new connection in progress" or "ready" status with initial electrical connection dates populated.

Consistency with initial electrical connection dates and meter certification dates

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 27 ICPs with date discrepancies.

Scenario	Total	Sample	Confirmed incorrect	Findings
IECD = active date and MCD ≠ active date	1	1	0	The correct active date is recorded.
IECD ≠ active date and MCD ≠ active date	1	1	0	The correct active date is recorded.
IECD = active date and MCD ≠ active date	4	4	0	The correct active dates are recorded.
IECD ≠ active date and MCD = active date	1	1	0	The correct active date is recorded.
IECD = active date and no MCD	4	4	1	ICP 0053800367WA3AE has 25 October 2022 as the active date but it should be 26 October 2022.
No IECD and MCD ≠ active date	2	2	0	The correct active dates are recorded.

Scenario	Total	Sample	Confirmed incorrect	Findings
No IECD and MCD = active date	12	5	0	The correct active dates are recorded.
No IECD and no MCD	2	2	0	The correct active dates are recorded.
Total	27	20	1	

Reconnections

When calculating historic estimate, Derive+ excludes the shape values for any inactive days from both the numerator and divisor of the historic estimate calculation, forcing all consumption into the active days of the read-to-read period. If an entire read-to-read period is inactive, no consumption will be reported.

GENE

Actual disconnection reads are automatically loaded to Gentrack where they are provided by the contractor, but reconnection reads are not loaded.

I recommend that GENE loads the reconnection reads where they are available and continues to liaise with contractors to obtain as many reads as possible. This will ensure that consumption is allocated against the correct days.

Description	Recommendation	Audited party comment	Remedial action
Disconnection and reconnection reads	Develop a process to enter reconnection reads where they are available and continue to liaise with contractors to obtain as many disconnection and reconnection reads as possible.	Genesis haves a strong relationship with our fieldwork contractors and are working to improve read attainment. A process has been created to collect reconnection/disconnection reads and use them where most necessary. However, it is not always possible / safe to obtain disconnection reads i.e., vacant disconnection and meter inside or Credit disconnection where it is not safe for the contractors to obtain a reading	Identified

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.

A vacant disconnection process is followed for vacant ICPs, and I confirmed that consumption is submitted for vacant ICPs where Derive+ is able to retrieve a meter read from Gentrack as described 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. These are passed to the one revenue assurance analyst to get the customer either to sign up, or the customer switches away. Where the ICP does switch away the CS file will include the move out read as the switch out read/estimate even if a scheduled meter read has been received since the move out. Where the ICP is settled as HHR this does create a mismatch between the consumption submitted as HHR compared to the register reads used in the switch process.

The vacant report/process generates automated emails that are uploaded into the NEXUS work management tool, which creates work queues that tracks the progress of tasks and where the exceptions team updates the status as each exception is worked.

A sample of 25 reconnections were checked and two were found to have incorrect status event dates as recorded in section 2.1.

GEOL

The process for GEOL is not automated. Field work is tracked through spreadsheets and returned through team inboxes that are worked through. The continued use of email inboxes to manage this work presents challenges as visibility is limited. The AC020 report is being used to provide visibility of the timeliness of updates.

Disconnection and reconnection reads are provided back by contractors where they are available, but they are not routinely entered into Gentrack. I recommend that GEOL develops a process to manually load readings. This will ensure that consumption is allocated against the correct days.

Description	Recommendation	Audited party comment	Remedial action
Disconnection and reconnection reads	Develop a process to manually enter disconnection and reconnection reads where they are available.	To be reviewed	Investigating

GEOL use the same process as GENE for disconnected vacant and active vacant with consumption. A vacant disconnection process is followed for vacant ICPs, and I confirmed that consumption is submitted for vacant ICPs where Derive+ is able to retrieve a meter read from Gentrack as described 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. These are passed to the one revenue assurance analyst to get the customer either to sign up, or the customer switches away. Where the ICP does switch away the CS file will include the move out read as the switch out read/estimate even if a scheduled meter read has been received since the move out. Where the ICP is settled as HHR this does create a mismatch between the consumption submitted as HHR compared to the register reads used in the switch process.

The vacant report/process generates automated emails that are uploaded into the NEXUS work management tool, which creates work queues that tracks the progress of tasks and where the exceptions team updates the status as each exception is worked.

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

GENH

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-Apr-22 To: 11-Jan-23	**GENE** 15 of a sample of 48 ICPs of a possible 1,952 ICPs had the incorrect first active date (31% error rate). **GEOL** Two of a sample of 16 ICPs of a possible 34 ICPs had the incorrect first active date (12.5% error rate). **GENH** One of a sample of 20 ICPs of a possible 27 ICPs had the incorrect first active date (5% error rate). 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 have improved since the last audit, with better reporting in place to identify potentially incorrect statuses or status dates, but there is still some improvement required in the resourcing of the remedial actions from these reports. The controls are still recorded as weak whilst the resourcing issues are being addressed. The audit risk rating is low when considering the number of potential ICPs with incorrect active dates.

Actions taken to resolve the issue	Completion date	Remedial action status
information is available through the AC020 report and will be escalated to teams to work through.	On-Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Currently a sample of these breaches are escalated to the new connections team, in future all breaches will be escalated to remedy these non-compliances.	01/04/2023	

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" status 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 all were found to be accurate.

I rechecked ICPs 0096279100WR4B1 and 0096281200WRF2E which were found to have an incorrect status reason during the last audit. They were still recorded as "reconciled elsewhere" at the time of the on-site audit but should be recorded as "inactive - vacant" as these are part of the Powerco Base Power trial, and they are not currently consuming and there is no volume being reconciled elsewhere. These are being investigated with Powerco with a view to having them decommissioned. Both are now recorded as "inactive-vacant".

The AC020 report recorded 551 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. A sample of 272 of these ICPs were checked including all moved to 1,7 status during the audit period. I found they had the AMI flag set to yes at the time of disconnection except 0000024551UN0E3, which was an unsuccessful disconnection and has been reversed and changed back to active as part of BAU.

GEOL

The process for disconnections is the same as for reconnections. It is a largely manual for GEOL and managed via email inboxes and spreadsheets.

68 status updates to "inactive" were checked and 67 were found to be accurate. ICP 0005762734CN308 was found to have an incorrect status event date and this has now been corrected.

The AC020 report recorded 68 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. A sample of 46 of these ICPs were checked including all moved to 1,7 status during the audit period. I found they had the AMI flag set to yes at the time of 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.

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

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.

GENE 232 ICPs have been at "inactive - new connection in progress" status for more than 24 months. A sample of the 15 oldest ICPs were checked and in all cases, the new connection is cancelled but the distributor has not been advised.

GEOL 38 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 ICP is 0000051526WE9AC has been at "inactive - new connection in progress" status for more than 24 months. This is being investigated.

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.

GENE and **GEOL** At the time of the audit there were 1,557 ICPs identified where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 111,625 kWh. These are being worked through with the higher volume records being investigated first. The oldest exception is from September 2022.

Some exceptions on the inactive consumption report are false positives as the report uses Gentrack as its source of connection status. Where an ICP switches away from Genesis while inactive then where the ICP switches back to Genesis the report retrieves both the last actual read from Genesis's previous tenure and also considers the entire switched period as inactive resulting in a false positive exception

I reviewed the ten ICPs with the highest positive/negative values of disconnected consumption, and found:

- five were false positive exceptions due to ICPs switching away historically as inactive then return as active ICPs – the report treats the switched period as an exception,
- three ICPs had the registry status updated to ensure all consumption recorded aligned with active periods,
- for ICP 0001450409UN0C4 the registry status was updated to "active" and back dated to November 2020 in October 2022; the cause of this extended period

correction of status is that not all active consumption (31,131 kWh) will be recorded in the available revision window, and

- for ICP 0336105029LCA81, no update was applied to the status prior to the ICP switching away resulting in 151 kWh not being included in the submission process.

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-Apr-22 To: 11-Jan-23	**GENE** Two incorrect inactive reason statuses. Two of a sample of ten inactive ICPs with consumption have not been corrected to ensure all affected volume is included in the submission process. **GEOL** One incorrect inactive status date. 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, and the volumes identified are large therefore the audit risk rating is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
We currently have a robust reporting to pick up ICP that are inactive, but consumption is recorded, and these are actively worked by our exceptions Team	On-Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Reporting regarding status mismatches has been created and is currently being reviewed daily, this reporting will be automated and worked by the Market Settlements team	01/05/2023	

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.	Monthly reporting will be created to pick up any active GENE / GEOL ICPs in the registry that do not have active accounts in Gentrack	Identified

GENE The registry list recorded 37 ICPs at "new" status and 1,196 ICPs at "ready" status. Seven ICPs have been at "new" status for more than 24 months and 66 ICPs has been at "ready" status for more than 24 months. I checked all "new" ICPs over 24 months and the ten oldest at "ready" and they were all being investigated and in three cases it appears decommissioning can occur.

GEOL The registry list recorded two ICPs at "new" status and 56 ICPs at "ready" status. Eight ICPs have been at "ready" status for more than 24 months, and no ICPs were at "new" status for over 24 months. All eight are being investigated.

GENH The registry list recorded two ICPs at "new" status and five ICPs at "ready" status. One ICP has been at "ready" status for more than 24 months, and no ICPs were at "new" status for over 24 months. I checked the two oldest examples, and they are both being investigated.

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. An extreme case sample of NTs 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

The 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 14,261 transfer switch NTs where metering details were available on the registry list and/or meter installation details report. None of the ICPs had a metering category of three or above.

I checked the ten most backdated NTs and found they 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 8,049 transfer switch NTs where metering details were available on the registry list and/or meter installation details report. None of the ICPs had a metering category of three or above.

I checked the ten most backdated NTs and found they 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 assigned is determined by hierarchy. AA is not used in the automated hierarchy. GTV will stop an AN file being sent if it detects a potential error. These are pushed to a manual queue to be reviewed by a person before they are released.

Switching is manually carried out directly in the registry for GENH.

GENE

I checked the validity of AN response codes, by comparing them to the latest ICP information on the registry list report.

Response code	Quantity of ANs	Confirmed correct	Confirmed incorrect	Findings
AA (acknowledge and accept)	102	68	5	34 ICPs had the AMI flag set to yes. I checked a sample of five and they all should have the AD code. AA was entered manually because a withdrawal was planned.
AD (advanced metering)	1,790	1,749	0	41 ICPs had the AMI flag set to no. I checked a sample of five and they were all correct.
PD (premises electrically disconnected)	19	16	0	Three ICPs did not have disconnected status. I checked these ICPs and the response code is correct.
Total	**1,911**	**1,833**	**5**	

The event detail report was reviewed for all 1,911 transfer ANs to assess compliance with the setting of event dates requirements.

- 1,886 (98.69%) had a proposed event date within five business days of the NT receipt date,
- 1,910 (99.95%) had a proposed event date within ten business days of the NT receipt date, and
- one AN had a proposed event date more than ten business days of the NT receipt date; ICP 0338985042LC5BE was processed manually and an incorrect date was used.

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

GEOL

I checked the validity of AN response codes, by comparing them to the latest ICP information on the registry list report.

Response code	Quantity of ANs	Confirmed correct	Confirmed incorrect	Findings
AA (acknowledge and accept)	27	23	4	Three ICPs had the AMI flag set to yes and one had an inactive status. All four had incorrect AN response codes.
AD (advanced metering)	494	488	-	Six ICPs had the AMI flag set to no but the flag was yes at the time the files were sent.
PD (premises electrically disconnected)	8	8	-	All were disconnected at the time the AN was issued.
Total	**529**	**520**	**4**	

The event detail report was reviewed for all 529 transfer ANs to assess compliance with the setting of event dates requirements.

- 526 (99.43%) had a proposed event date within five business days of the NT receipt date,

- 528 (99.81%) had a proposed event date within ten business days of the NT receipt date, and
- one AN for ICP 0317008021LC576 had a proposed event date more than ten business days of the NT receipt date; this was a processing error.

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

GENH

No ANs were issued for transfer switches by GENH, and the switch breach history report did not record any AN breaches for transfer switches.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: Clause 3 of schedule 11.3 From: 20-Apr-22 To: 19-Dec-22	**GENE** Three ET breaches. One AN had a proposed event date more than ten business days of the NT receipt date. All five "AA" AN files sampled of a possible 34 ICPs sent with the incorrect code. "AD" should have been used. **GEOL** Five ET breaches. One AN had a proposed event date more than ten business days of the NT receipt date. All four "AA" AN files with potentially incorrect AN codes were confirmed as incorrect. Three should have been AD and one should have been PD. 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 errors above were due to the manual processing of a small number of AN files. 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
We are confident that we have strong controls in place to manage this. The Switching processes will be reviewed as part of our billing platform change.	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

As Above		

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

CS files are automatically generated from Gentrack for GENE and GEOL. All examples of late files were due to files being created manually where intervention was required.

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. The 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.

Switching is manually carried out directly in the registry for GENH.

GENE

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

Count of transfer CS files	Estimated daily kWh	Findings
Negative	-	Compliant.
Zero	23	I sampled five ICPs and found that zero was correct in all five cases.
More than 200 kWh	1	The daily kWh figure is correct

I checked the 582 transfer switch CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions:

- 46 CS files had estimated switch event reads where the last actual read date was on the last day of responsibility; I checked a sample of five and found that the last read date is defaulting to the day before the event date, which is a known system issue,
- five CS files had a last actual read date after the effective switch date; I found these were all due to human error,
- no CS files with a last actual read date on the switch event date.
- no CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility, and
- three CS files with missing CSMETERINSTALL, CSMETERCOMP or CSMETERCHANNEL rows which were unmetered at the time of the switch and the file content was confirmed to be correct.

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 recorded four E2 breaches for transfer switches. These were all due to manual processing errors.

GEOL

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

Count of transfer CS files	Estimated daily kWh	Findings
Negative	-	
Zero	9	I sampled five ICPs and found that zero was correct in all five cases.
More than 200 kWh	-	

I checked the 120 transfer switch CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions:

- nine CS files had estimated switch event reads where the last actual read date was on the last day of responsibility; I checked a sample of five and found that the last read date is defaulting to the day before the event date, which is a known system issue,
- two CS files had a last actual read date on the switch event date; all were due to human error,
- no CS files had a last actual read date after the effective switch date,
- no CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility, and

- no CS files with missing CSMETERINSTALL, CSMETERCOMP or CSMETERCHANNEL rows.

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

The switch breach history report recorded two E2 breaches and one CS breach for transfer switches. Both were due to manual processing errors. The CS breach was not genuine.

GENH

No transfer CS files were issued during the audit period and 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: 07-Apr-22 To: 29-Dec-22	The average daily consumption calculation is not calculated from the last read period. **GENE** All five ICPs checked of a possible 46 were sent with an incorrect last read date of the day before the switch but the read was an estimate. Five CS files were sent with a last actual read date after GENE's period of supply. Four E2 breaches. **GEOL** All five ICPs checked of a possible nine were sent with an incorrect last read date of the day before the switch but the read was an estimate. Two ICPs sent with a last actual read date after GENE's period of supply. Two E2 breaches. 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 ICP sample was high indicating that the logic in Gentrack needs to be reviewed to improve accuracy. The audit risk rating is low as the overall volume of files with incorrect content were small in relation to the overall volume of switches processed.

Actions taken to resolve the issue	Completion date	Remedial action status
The Switching processes will also be reviewed as part of our billing platform change	TBC	Identified

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

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.

RR

GENE GENE issued 76 RR files for transfer switches. 62 were accepted and 14 were rejected. A sample of ten RRs were checked, including five accepted and five rejected files. There was

a genuine reason for GENE's RRs, and they were supported by at least two validated readings. My checks found three ICPs with different reads in Gentrack vs Derive+. The table below shows the differences, where the Gentrack reads are correct and the Derive+ reads are incorrect.

ICP	Date	Gentrack read	Derive read	Difference
0110002334EL09C	1 September 2022	93262	93637	375
0150143036LCD2B	18 October 2022	4865	5390	525
1001104707LCE20	12 May 2022	456761	459016	2255
			Total	**3,155**

GENE reported that this issue was caused by the methodology used to change the reads in Gentrack. GENE intends to change the discrepancy process to compare Derive+ start reads to Gentrack start reads. I recommend a query is run to compare all Gentrack start reads to Derive + start reads for the previous 14 months, because three discrepancies out of ten random samples is a high error rate.

The switch breach history recorded two RR breaches which were 124-127 days overdue. It took more than four months to gain actual reads or one ICP and for the other ICP the first RR was rejected in error.

GEOL GEOL issued 28 RR files for transfer switches. 21 were accepted and seven were rejected. A sample of ten RRs were checked, including five accepted and five rejected files. There was a genuine reason for GEOL'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.

The switch breach history report recorded 10 RR breaches which were 132 and 257 days overdue. All were late due to the time taken to get actual reads.

GENH No RR files were recorded on the event detail report, and the switch breach history report did not record any RR breaches.

AC

GENE GENE issued two AC files for transfer switches. One was accepted, and one was rejected. All were correct and the one rejected was accepted on a subsequent corrected RR file.

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

GEOL GENE issued two AC files for transfer switches. One was accepted, and one was rejected. The one rejected was rejected for valid reasons and Gentrack reflected the correct outcome of the RR process.

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

GENH No AC files were recorded on the event detail report, and the switch breach history report did not record any AC breaches.

CS files with estimated reads where no RR is issued

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

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

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

Recommendation	Description	Audited party comment	Remedial action
Regarding clause 6(1) and 6A of Schedule 11.3 Derive+ start reads	Compare Gentrack start reads vs Derive+ start reads for the previous 14 months.	We will compare Gentrack against Derive + as recommended	Identified

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.4 With: Clause 6(1) and 6A Schedule 11.3 From: 25-Aug-22 To: 11-Jan-23	**GENE** Two RR breaches. Three incorrect start reads in Derive+ where RR files have been processed in Gentrack. Under submission of at least 3,155 kWh has occurred. **GEOL** Ten RR breaches. Potential impact: High Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor for the sample checked but could be medium or high once more analysis has been conducted. I have recorded the audit risk rating is low based on the sample.

Actions taken to resolve the issue	Completion date	Remedial action status
As per the above recommendation we will compare Gentrack against Derive + as recommended	TBC	Identified
Preventative actions taken to ensure no further issues will occur		

The Switching processes will also be reviewed as part of our billing platform change	TBC	

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 did not identify any transfer switch RRs where the gaining trader had recorded a HHR profile in their NT file and issued the NT within five business days of switch completion which were rejected by GENE.

GEOL

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

I did not identify any transfer switch RRs where the gaining trader had recorded a HHR profile in their NT file and issued the NT within five business days of switch completion which were rejected by GEOL.

GENH

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

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. An extreme case sample of NTs 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

The 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 27,506 switch move NTs where metering details were available on the registry list and/or meter installation details report. None of the ICPs had a metering category of three or above.

I checked the ten most backdated NTs and found nine were sent within two business days of pre-conditions being cleared, and the correct switch type was selected for eight of ten ICPs. ICP 0311474039LCAD0 had an NT sent on time, then a withdrawal occurred for a metering issue due to a backdated meter change updated in the registry on 3 June 2022. The NW was not sent until 6 December 2022 and the new NT was not sent until 5 January 2022, which was not within two business days.

ICPs 1000024910BP8D6 and 1001139896LC981 had MI switch requests sent but they should have been TR.

GEOL

Review of the event detail report found 10,717 switch move NTs where metering details were available on the registry list and/or meter installation details report. None of the ICPs had a metering category of three or above.

I checked the ten most backdated NTs and found they 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 248 switch move NTs where metering details were available on the registry list and/or meter installation details report. None of the ICPs had a metering category of three or above.

I checked the five most backdated NTs and found they were not sent within two business days of pre-conditions being cleared, and the incorrect switch type of MI was selected. These were all due to manual processing issues.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.7 With: Clause 9 Schedule 11.3 From: 03-Apr-22 To: 05-Jan-23	**GENE** One late NT file. Two incorrect switch types of MI instead of TR. **GENH** All of a sample of five ICPs sent incorrectly as a MI switch instead of TR and not sent within two business days of the pre-conditions being met. Potential impact: Low Actual impact: Low Audit history: Twice previously 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, particularly with GENH NT files. The audit risk rating is assessed to be low because there is minimal impact on other parties and reconciliation because the revision process caters for the backdated submissions.

Actions taken to resolve the issue	Completion date	Remedial action status
We are confident that we have strong controls in place to manage this. The Switching processes will be reviewed as part of our billing platform change	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As Above		

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

The AN file is automatically generated for GENE and GEOL. The AN code assigned is determined by hierarchy. AA is not used in the automated hierarchy. GTV will stop an AN file being sent if it detects a potential error. These are pushed to a manual queue to be reviewed by a person before they are released.

Switching is manually carried out directly in the registry for GENH.

GENE

I checked the validity of AN response codes, by comparing them to the latest ICP information on the registry list report.

Response code	Quantity of ANs	Confirmed correct	Confirmed incorrect	Findings
AA (acknowledge and accept)	20	15	5	15 ICPs had the AMI flag set to yes and/or had inactive status. I checked a sample of five and they should all have been AD not AA.
AD (advanced metering)	85	82	3	Four ICPs had the AMI flag set to no. Two did not have AMI metering at the time the file was sent and one did not have metering at all when the file was sent.
MU (unmetered supply)	10	3	7	Seven ICPs were metered and did not have the unmetered flag populated.
OC (occupied premises)	1,816	5	0	All five checked were correct.
PD (premises electrically disconnected)	92	91	0	One ICP did not have disconnected status in the registry but was physically disconnected at the time the file was sent.
Total	2,023	180	**15**	

The event detail report was reviewed for all 2,023 switch move ANs to assess compliance with the setting of event dates requirements.

- 2,021 (99.99%) had proposed event dates within ten business days of the NT receipt date. One AN had proposed event dates more than ten business days after the NT receipt date and was subsequently withdrawn. ICP 0000047709HR2EA was processed manually and an incorrect date was used.
- No ANs had a proposed event date before the gaining trader's requested date.

The switch breach history report recorded the following breaches:

Breach type	Quantity reported	Finding
ET	4	Three were genuine. ICPs 0000584244UN338 and 1000606695PC0C6 used the gaining traders non-compliant date and were then withdrawn. ICP 1002151670UNA38 was incorrectly manually processed.
E2	1	ICP 1002070849LC38F was manually processed with an incorrect date.

GEOL

I checked the validity of AN response codes, by comparing them to the latest ICP information on the registry list report.

Response code	Quantity of ANs	Confirmed correct	Confirmed incorrect	Findings
AA (acknowledge and accept)	15	10	5	Nine ICPs had the AMI flag set to yes and/or had inactive status. I checked a sample of five and they all had the incorrect code of AA rather than AD.
AD (advanced metering)	29	29	-	
MU (unmetered supply)	1	-	1	The ICP was metered and ready for decommissioning, it was not unmetered.
OC (occupied premises)	455	5	-	All five of the sampled files were correct.
PD (premises electrically disconnected)	23	23	-	
Total	523	58	**6**	

The event detail report was reviewed for all 523 switch move ANs to assess compliance with the setting of event dates requirements.

- 520 ANs (99.43%) had proposed event dates within ten business days of the NT receipt date.
- Two ANs had proposed event dates more than ten business days after the NT receipt date. ICPs 0483103071LCCAB and 0000728270WP4BC used the gaining traders non-compliant date in the AN file then an NW was sent.
- One AN had a proposed event date before the gaining trader's requested date. ICP 0000905250TU63F was processed manually with an incorrect date.

The switch breach history report recorded the following breaches:

Breach type	Quantity reported	Finding
ET	5	Four were due to using the gaining trader's non-compliant date then sending an NW. One was processed manually with an incorrect date.
E2	1	ICP 0000691183TUB80 was processed manually with an incorrect date.

GENH

No ANs were issued for switch moves by GENH, and the switch breach history report did not record any AN or CS breaches for switch moves.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.8 With: Clause 10(1) of schedule 11.3 From: 20-Apr-22 To: 19-Dec-22	**GENE** One AN had proposed event dates more than ten business days after the NT receipt date. Three ET breaches. One E2 breach. All five "AA" AN files sampled of a possible 20 ICPs sent with the incorrect code. "AD" should have been used. Three "AD" AN files sampled of a possible 85 ICPs sent with the incorrect code. "AA" should have been sent. All seven "MU" AN files sampled of a possible 10 ICPs sent with the incorrect AN code. **GEOL** Two ANs had proposed event dates more than ten business days after the NT receipt date. One AN had a proposed event date before the gaining trader's requested date. Five ET breaches. One E2 breach. All five "AA" AN files sampled of a possible 15 ICPs sent with the incorrect code. "AD" should have been used. ICP 0000147039UNCD6 sent with the incorrect "MU"AN code. 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 errors above were due to the manual processing of a small number of AN files. 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
We are confident that we have strong controls in place to manage this. The Switching processes will be reviewed as part of our billing platform change	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As Above		

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

For all 2,023 switch move ANs the gaining trader's requested transfer date was applied as the AN proposed event date. Switches were completed as required by this clause.

GEOL

For 522 or the 523 switch move ANs the gaining trader's requested transfer date was applied as the AN proposed event date. ICP 0000905250TU63F AN-7705112 had a proposed event date which was one day before the gaining trader's requested date. The switch was completed effective from the gaining trader's requested date, and non-compliance is recorded in **section 4.8** for the non-compliant AN proposed event date. Switches were completed as required by this clause.

GENH

No AN or CS files were issued for switch moves.

Audit outcome

Compliant

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

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

CS files are automatically generated from Gentrack for GENE and GEOL. The switch breach report is used to monitor file timeliness.

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. The 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.

Switching is manually carried out directly in the registry for GENH.

GENE

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

Count of switch move CS files	Estimated daily kWh	Findings
Negative	-	Compliant.
Zero	109	I sampled five ICPs and found that zero was correct in all five cases.
More than 200 kWh	9	I sampled the five ICPs with the largest average daily consumption and confirmed they were correct.

I checked the 946 switch move CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions:

- 99 CS files had estimated switch event reads where the last actual read date was on the last day of responsibility; I checked a sample of five and found that the last read date is defaulting to the day before the event date, which is a known system issue,
- two CS files had a last actual read date after the effective switch date; I found these were all due to human error,
- one CS file with a last actual read date on the switch event date, which was populated in error,
- no CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility, and
- no CS files with missing CSMETERINSTALL, CSMETERCOMP or CSMETERCHANNEL rows.

The accuracy of the content of CS files was confirmed by checking a further five switch move CS files. One error was identified; ICP 0000159212UN571 had average daily consumption of zero but should have 38.

GEOL

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

Count of switch move CS files	Estimated daily kWh	Findings
Negative	-	
Zero	9	I sampled five ICPs and found that zero was correct in all five cases.
More than 200 kWh	-	

I checked the 253 switch move CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions:

- 23 CS files had estimated switch event reads where the last actual read date was on the last day of responsibility; I checked a sample of five and found that the last read date is defaulting to the day before the event date, which is a known system issue,
- no CS files had a last actual read date after the effective switch date,
- no CS files with a last actual read date on the switch event date,
- no CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility, and
- no CS files with missing CSMETERINSTALL, CSMETERCOMP or CSMETERCHANNEL rows.

The accuracy of the content of CS files was confirmed by checking a further three MI CS files, which were all correct.

During the previous audit it was identified that ICP 0000006760DE9DB was sent with an estimated read from the last billed date when an actual read was available resulting in 154 kWh being pushed to the gaining trader. ICP 0000006824TRDAC was also sent with an estimated read from the last billed date when an actual read was available resulting in 3 kWh being pushed to the gaining trader. RR files were not sent for either of these ICPs. This is recorded as non-compliance below and in **sections 4.16, 6.7** and **12.7**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 of schedule 11.3 From: 20-Apr-22 To: 19-Dec-22	The average daily consumption calculation is not calculated from the read-to-read period. **GENE** All five ICPs sampled of a possible 99 where the last read date was shown as the last billed date but the last read date was earlier. Two ICPs with an incorrect read date after the period of supply. One ICP with a last read date on the event date. One ICP with incorrect average daily consumption. **GEOL** All five ICPs sampled of a possible 23 where the last read date was shown as the last billed date but the last read date was earlier. Estimated reads sent when actual reads were available for ICPs 0000006760DE9DB and 0000006824TRDAC processed during the last audit. 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 recorded as moderate because they mitigate risk most of the time but there is room for improvement. The audit risk rating is low as the overall volume of files with incorrect content were small in relation to the overall volume of switches processed.

Actions taken to resolve the issue	Completion date	Remedial action status
We will review this process to see if improvements can be made within Gentrack The Switching processes will also be reviewed as part of our billing platform change	1/09/2023	Identified

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

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 dispute 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

RR

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 333 RR files for switch moves. 254 were accepted and 79 were rejected. A sample of ten RRs were checked, including five accepted and five rejected files. There was a genuine reason for GENE's RRs, and they were supported by at least two validated readings.

My checks found two ICPs with different reads in Gentrack vs Derive+. The table below shows the differences, where the Gentrack reads are correct and the Derive+ reads are incorrect.

ICP	Date	Gentrack read	Derive read	Difference
0005107610RN808	9 September 2022	694	569	-125
0005238552RNDD3	4 June 2022	140	115	-25
			Total	**-150**

GENE reported that this issue was caused by the methodology used to change the reads in Gentrack. GENE intends to change the discrepancy process to compare Derive+ start reads to Gentrack start reads. I recommend in **section 4.4** that a query is run to compare all Gentrack start reads to Derive + start reads for the previous 14 months, because three discrepancies out of ten random samples is a high error rate.

The switch breach history recorded 54 RR breaches which were between 123 and 222 days overdue. These were all due to the time taken to get meter readings.

GEOL

GEOL issued 66 RR files for switch moves. 55 were accepted and 11 were rejected. A sample of ten RRs were checked, including five accepted and five rejected files. There was a genuine reason for GEOL'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.

The switch breach history recorded ten RR breaches which were between 124 and 200 days overdue. These were all due to the time taken to get meter readings.

GENH

No RR files were recorded on the event detail report, and the switch breach history report did not record any RR breaches.

AC

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 seven AC files for switch moves. Five were accepted, and two were rejected. All were correct and the two rejected were accepted on a subsequent corrected RR file.

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

GEOL GEOL issued three AC files for switch moves. Two were accepted and one was rejected. The one rejected one was rejected for valid reasons and Gentrack reflected the correct outcome of the RR process.

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

GENH No AC files were recorded on the event detail report, and the switch breach history report did not record any AC breaches.

CS files with estimated reads where no RR is issued

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

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

GENH Review of all three switch move CS files with estimated reads where no RR was issued confirmed that the correct readings were recorded in Gentrack and Derive+.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 12 of schedule 11.3 From: 15-Aug-22 To: 28-Dec-22	**GENE** 54 RR breaches. Two incorrect start reads in Derive+ where RR files have been processed in Gentrack. Over submission of at least 150 kWh has occurred. **GEOL** Ten RR breaches. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are 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 for the sample checked but could be medium or high once more analysis has been conducted. I have recorded the audit risk rating is low based on the sample.

Actions taken to resolve the issue	Completion date	Remedial action status

We are confident that we have strong controls in place to manage this. The Switching processes will be reviewed as part of our billing platform change	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As Above		

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. An extreme case sample of 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

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

GENH

Review of the event detail report found 132 HH switch NTs where metering details were available on the registry list and/or meter installation details report. None of the ICPs had a metering category of 1 or 2.

I checked the ten most backdated NTs and found seven were sent within three business days of pre-conditions being cleared, and the correct switch type was selected, but ICPs 1001301977LC28E, 0001452101UN495 and 0000801503WA99E were sent late.

GENE

No HH switch requests were issued. All 41,767 ICPs requested as transfer switches or switch moves where metering details were available on the registry list and/or meter installation details report had a metering category below 3.

GEOL

No HH switch requests were issued. All 18,766 ICPs requested as transfer switches or switch moves where metering details were available on the registry list and/or meter installation details report had a metering category below 3.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.12 With: Clause 14 Schedule 11.3 From: 20-Apr-22 To: 19-Dec-22	Three late NT files. Potential impact: Low Actual impact: Low Audit history: Twice previously 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. 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**

We will review this process to see if improvements can be made. The Switching processes will also be reviewed as part of our billing platform change	01/09/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 the switch breach history report was examined.

Audit commentary

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

No HH AN files were issued for any of the Genesis trader codes, and no HH AN breaches were recorded on the switch breach report.

Audit outcome

Compliant

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

Code reference

Clause 16 Schedule 11.3

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

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

GENH

127 HH CS files were issued, and the CS content was as expected. The switch event history report did not record any alleged breaches for HH switches.

GENE

No HH CS files were issued, and the switch event history report did not record any alleged breaches for HH switches.

GEOL

No HH CS files were issued, and the switch event history report did not record any alleged breaches for HH switches.

Audit outcome

Compliant

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

Code reference

Clauses 17 and 18 Schedule 11.3

Code related audit information

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

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

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

with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16 (clause 18(f))

Audit observation

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

NW

These are reviewed on a case-by-case basis.

GENE GENE issued 2,129 NW files. 1,860 (87.4%) were accepted and 269 were rejected. The content of a sample of 21 NWs including three per reason code was checked, and in nine cases the withdrawal reasons provided by GENE were not correct. Three NWs were sent in error.

The switch breach history report recorded:

- 35 SR breaches where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; the files were one to 80 days overdue - I checked the ten latest files and found in all cases there was a lot of investigation involved to identify the best course of action, and
- 200 NA breaches where the NW was issued more than two calendar months after the switch completion date; the files were 62 to 249 days overdue - I checked the ten latest files and found and found that in most cases, the customer contact was late, or the incorrect property was identified late.

GEOL GEOL issued 576 NW files. 477 (82.8%) were accepted and 99 were rejected. The content of a sample of 15 NWs including three per reason code was checked, and in three cases the withdrawal reasons provided by GEOL were not correct. There were three NW files sent in error.

The switch breach history report recorded:

- nine SR breaches where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; the files were four to 14 days overdue - I checked the five latest files and found in all cases there was a lot of investigation involved to identify the best course of action, and
- 92 NA breaches where the NW was issued more than two calendar months after the switch completion date; the files were 62 to 204 days overdue - I checked the ten latest files and found that in most cases, the customer contact was late, or the incorrect property was identified late.

GENH GENH issued 14 NW files. Ten (71.4%) were accepted and four were rejected. The content of a sample of ten NWs was checked including two (or all) for each response code and all rejected withdrawal requests. All NW codes were correct.

The switch breach history report recorded did not record any breaches for NW files.

AW

The switch breach report is used to manage timeliness.

GENE 335 (10.6%) of the 3,171 AWs issued by GENE were rejections. I reviewed a sample of 21 rejections by GENE (including at least three or all per withdrawal reason code), and confirmed they were rejected based the information available at the time the response was issued.

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

GEOL 124 (11.9%) of the 1,038 AWs issued by GEOL were rejections. I reviewed a sample of 18 rejections by GEOL (including at least three or all per withdrawal reason code), and confirmed they were correctly rejected based the information available at the time the response was issued.

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

GENH Five (50.0%) of the ten AWs issued by GENH were rejected for valid reasons, and the other five were accepted.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.15 With: Clause 17 & 18 of schedule 11.3 From: 14-Jun-22 To: 11-Jan-23	**GENE** Nine incorrect NW codes of a sample of 21 ICPs checked. Three NW files sent in error. 35 SR breaches. 200 NA breaches. **GEOL** Three incorrect NW codes of a sample of 15 ICPs checked. Three NW files sent in error. Nine SR breaches. 92 NA breaches. 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 recorded as strong because they mitigate risk to an acceptable level. The audit risk rating is assessed to be low as this will have a minor effect on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
We will review this process to see if improvements can be made within Gentrack The Switching processes will also be reviewed as part of our billing platform change	01/09/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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:

GEOL

- Estimated reads sent when actual reads were available for ICPs 0000006760DE9DB and 0000006824TRDAC processed during the last audit.

The 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: 05-Dec-21 To: 15-Mar-23	**GEOL** Estimated reads sent when actual reads were available for ICPs 0000006760DE9DB and 0000006824TRDAC processed during the last audit. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as the controls will mitigate risk to an acceptable level. 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
We are confident that we have strong controls in place to manage this. The Switching processes will be reviewed as part of our billing platform change	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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.

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.

An alleged breach of clause 11.15AA was recorded:

Breach ref	Clause breached	Status	Comment
2212GENE2	Part 11 clause 11.15AA	Fact finding	This issue relates to a switch save protection issue, and is still in the fact finding stage.

GENE

430 withdrawals were issued with a CX reason code within 180 days of switch completion or before switch completion where GENE was the losing trader. 18 of the NWs were rejected. I checked the 18 rejections and listened to five phone calls and found:

- 13 had an incorrect NW code,
- three were withdrawn as the customer contacted Genesis and requested to stay, and
- two switches were cancelled by the customer once Genesis advised of the supply cancellation fee.

GEOL

Three withdrawals were issued with a CX reason code within 180 days of switch completion or before switch completion where GEOL was the losing trader. I checked all three and found:

- all three had an incorrect NW code, and
- call recordings confirmed compliance with the Code as far as switch save protection is concerned.

GENH

No withdrawals were issued with a CX reason code within 180 days of switch completion where GENH was the losing trader.

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 unmetered load. Unmetered load submissions are calculated in Derive+ based on the registry daily unmetered kWh.

The completeness and accuracy of unmetered load details was determined by reviewing the audit compliance and registry list reports.

GENE GENE supplies 264 active ICPs with shared unmetered load recorded by the distributor. ICP 0006980902RN6D0's daily unmetered kWh differed from the recalculation based on

the distributor information by more than ± 0.1 kWh. The unmetered load has now been removed.

GEOL GEOL supplies 40 active ICPs with shared unmetered load recorded by the distributor. The daily unmetered kWh matched the calculation based on the distributor's information within ± 0.1 kWh.

GENH GENH did 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 GENE supplies 114 active ICPs with unmetered load over 3,000 kWh p.a. recorded.

24 had unmetered load between 3,000 and 6,000 kWh p.a. Five were DUML ICPs and 18 ICPs were confirmed to have an approved load type. ICP 1001117616UN1D9 was investigated and it was found to be potentially an NZTA lighting installation that can possibly be added to a DUML database.

90 ICPs had unmetered load between 3,000 and 6,000 kWh p.a. and 83 of those were DUML ICPs. The other seven ICPs were checked.

0005000772HBA61: Bigsave - Still unable to get a definitive response in relation to the unmetered load currently on site. We will arrange for this ICP to be audited to ascertain the load.

0000081066CPA8F: 2022 comment: This load has now been confirmed as being reconciled against another ICP in the NZTA Lower North Island and should be decommissioned from the date the new database commenced being used for submission.

2023 comment: Email has been sent to Powerco requesting this ICP to be decommissioned.

0000562361UN29B: 2022 comment: 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 August 2021 - POCO initiated this discussion.

2023 comment: Under investigation

0088051701WM2E0: 2022 comment: These lights relate to harbour lights. The site is vacant. Customer has not been able to be found, decommissioning may be the next steps once any safety concerns have been revised.

2023 comment: Genesis to further liaise with the network company to arrange for a decommission.

0000455891UN0A2: 2022 comment: This is a bucket ICP for Nulite signs in West Auckland. 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.

2023 comment: DUML Stakeholder to liaise with the customer in relation to the load and if required will add to the DUML database and arrange for audit to be conducted.

1001243372UN366: 2022 comment: This is a bucket ICP for Nulite signs on the North Shore. 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.

2023 comment: DUML Stakeholder to liaise with the customer in relation to the load and if required will add to the DUML database and arrange for audit to be conducted.

0000179860TR9B6: 2022 comment: 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.

2023 comment: DUML Stakeholder to liaise with the customer in relation to the load and if required will add to the DUML database and arrange for audit to be conducted.

GEOL	GEOL supplies three active ICPs with unmetered load between 3,000 and 6,000 kWh p.a. and no ICPs with unmetered load over 6,000 kWh p.a. Two ICPs were confirmed to have an approved load type and ICP 0003738524HBF5F has now switched away.
GENH	GENH does not supply any active ICPs with unmetered loads over 3,000 kWh p.a.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.2 With: Clause 10.14 (2)(b) From: 01-Apr-22 To: 11-Jan-23	**GENE** Seven 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 because investigations and actions are underway in all cases, however some of these examples will be difficult to resolve. 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 is working with Customers and other parties to ensure the load on these ICPs are being measured for submission purposes. If required these ICPs will be added to the DUML database	01/10/2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Seven 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: 15-Mar-23	**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 because investigations and actions are underway in all cases, however some of these examples will be difficult to resolve. 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 is working with Customers and other parties to ensure this load is being measured for submission purposes. If required these ICPs will be added to the DUML database	01/10/2023	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 36 DUML databases. Most of these were audited by Veritek during the audit period.

All DUML is supplied using the GENE participant code.

Audit commentary

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.

Genesis is getting reporting from some councils now that enable them to calculate load changes at a daily level, however there are some databases where a snapshot is still being used.

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 nine databases with submission related issues where the variance is greater than 50,000 kWh per annum:

Database	Main issues	Potential kWh impact (per annum)
Waka Kotahi Waikato	The issue raised in the last audit that Waka Kotahi lights were being submitted by both Waka Kotahi and various local councils has largely been resolved. This audit found that the extract being used by Genesis contained duplicated load causing over submission to the market. This is expected to be corrected through the revision process. The audit report was due 7 February 2023, but comments have not been provided back for the audit to be finalised.	Over submission of 1,456,700 kWh
BOP East NZTA- last audit in 2018	Genesis is working with Waka Kotahi to get a RAMM database in place to reconcile the load from. They are continuing to use historic registry figures that appeared to be out of alignment from the database extract provided at the time of the last audit. Waka Kotahi have indicated they	Over submission of 157,655 kWh

Database	Main issues	Potential kWh impact (per annum)
	expect this to be in place and an audit completed by 1 August 2023	
McKenzie DC	The database is accurate, but the submission inaccuracy was caused by no revisions being carried to correct submissions between November 2021 to July 2022. Next audit is due 21 October 2023.	Over submission of 63,045 kWh
Whakatane DC	Genesis continues to use the registry figures as no database extract is being provided by the Council causing the estimated variance between the registry and the database extract provided for the audit. The audit report was due 17 October 2022, but comments have not been provided back for the audit to be finalised.	Under submission of 141,474 kWh
Napier CC	The database accuracy is poor as changes and new connections are not being updated in the database. Genesis is having difficulty engaging the council to progress this.	Over submission of 137,000 kWh
Tasman DC	This has been caused by an error in the wattage report being supplied to Genesis. They are working with Network Tasman to correct this and revisions are expected to be submitted. The audit report was due 12 October 2022, but comments have not been provided back for the audit to be finalised.	Over submission of 214,344 kWh
Upper Hutt CC	The database accuracy has declined since the last audit with additional lights and incorrect wattages found in the field. This suggests that the change management process is not working. The audit report was due 1 October 2022, but comments have not been provided back for the audit to be finalised.	Under submission of 120,500 kWh
Hutt CC	The database accuracy is poor as changes and new connections are not being updated in the database. Next audit is due 20 March 2023.	Over submission of 673,000 kWh
Waipa DC	The database accuracy is poor as changes and new connections are not being updated in the database.	Under submission of 131,400 kWh

The table below shows that 30 DUML databases have had their audits completed within the required timeframe. There are six 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)	
Waka Kotahi Waikato	3 February 2023 overdue	No	No	No	No	No	Yes	Yes	No	No	+1,456,700
Waka Kotahi Northland	1 October 2022	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	+20,929
Waka Kotahi BOP East	25 May 2018 overdue	No	Yes	Yes	No	No	No	Yes	No	No	157,655
Waka Kotahi Greater Wellington region	30 April 2023 Extension requested	No	No	Yes	No	Yes	Yes	Yes	No	No	-29,500
Waka Kotahi Hawkes Bay	1 September 2023	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Minor
Waka Kotahi Lower North Island	13 October 2023	No	Yes	Yes	No	No	Yes	Yes	No	No	+35,600
Waimate DC	31 March 2023	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	-
Central Hawkes Bay DC	1 June 2024	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	-
Hastings DC	1 September 2023	No	Yes	Yes	Yes	No	Yes	Yes	No	No	+24,900
Wairoa DC	28 February 2023	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Very minor

		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)	
Western BOP DC	15 March 2023	No	Yes	Yes	Yes	No	Yes	Yes	No	No	+3,800
Kaipara DC	1 April 2023	No	Yes	Yes	Yes	No	Yes	Yes	No	No	+12,568
Sth Taranaki DC	14 June 2023	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Very minor
Mackenzie DC	21 October 2022	No	No	Yes	Yes	No	Yes	Yes	No	No	+63,045
Kawerau DC	15 February 2023 Extension requested	No	No	Yes	No	No	Yes	Yes	No	No	+14,800
Opotiki DC	1 March 2023	No	Yes	Yes	No	No	Yes	Yes	No	No	-11,800
Whakatane DC	17 October 2022 overdue	No	Yes	No	Yes	Yes	Yes	Yes	No	No	-141,474
Marlborough Lines	1 October 2022 overdue	No	Yes	Yes	Yes	No	No	No	Yes	No	-31,968
Far North DC	1 September 2024	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	-
Napier CC	10 March 2023	No	No	Yes	Yes	No	Yes	Yes	No	No	+137,000
Otorohonga DC	1 December 2023	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Minor

		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)	
Alandale Retirement Village	28 July 2024	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Te Kauwhata Retirement Trust Board	1 December 2024	No	Yes	Yes	Yes	Yes	No	No	No	No	+1,552
Tasman DC	12 October 2022 overdue	No	Yes	No	Yes	Yes	Yes	Yes	No	No	+214,344
Timaru DC	1 June 2023	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Very minor
Queenstown Lakes DC	1 March 2023	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Southland DC	1 March 2024 Overdue	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	-
Gisborne DC	1 September 2023	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Very minor
Manawatu DC	1 March 2023	No	Yes	Yes	No	Yes	Yes	Yes	No	No	-4,470
Upper Hutt CC	1 October 2022 Overdue	No	Yes	No	No	No	Yes	Yes	No	No	-120,500
Hutt CC	20 March 2023	No	Yes	No	Yes	No	Yes	Yes	No	No	+673,000

		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)	
Nulite-GENE gained 20 April 2022	1 June 2023	Yes	Yes	No	No	No	Yes	Yes	No	Yes	-
Hamilton CC	1 August 2022	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-3,100
Waipa DC	30 August 2022	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-131,400
Hauraki DC	1 October 2021	No	Yes	Yes	No	Yes	Yes	Yes	No	No	Very minor
Matamata Piako DC	12 December 2022	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Minor

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.4 With: Clause 11 Schedule 15.3 From: 01-Mar-22 To: 15-Mar-23	**GENE** Inaccurate submission information for several databases. Six database audit reports not finalised. 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 now that a dedicated resource is working full time and effectively to resolve the issues present. 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
We believe we have seen a massive improvement in the management of DUML load from both a data and stakeholder perspective. We have a strong focus on this area and will continue to improve the engagement / database accuracy over the next 12 months. 4 of the 6 audits overdue are currently in progress and will be completed by the end of April 2023.	On-Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

The 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.

GENE The AC020 report recorded 88 active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- ten were timing differences the ICP had metering details, unmetered load details or decommissioned status added after the report was run,
- 69 had accepted MEP nominations and were awaiting the update of metering details by the MEP, and
- the other nine ICPs remain active with no meter, unmetered load or MEP nomination; I investigated all nine ICPs and found that one is now "decommissioned", three are now metered, two are now "inactive" and three are under investigation.

GEOL The AC020 report recorded two active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one ICP was decommissioned after the report was run, and

- ICP 0000565123NR068 was checked and the MEP had updated the metering details prior to the on-site audit.

GENH The AC020 report recorded three active ICPs with a metering category of 9, blank or 0 with no unmetered load recorded:

- one was a timing difference and metering details were added after the report was run,
- one had an accepted MEP nomination and was awaiting the update of metering details by the MEP, and
- ICP 0000014342WEDE5 was investigated and I found the MEP had updated the metering details by the time of the audit.

Distributed Generation

Genesis moves any ICPs that have distributed generation from the HHR profile to the RPS PV1 profile. Registry metering information is loaded into Gentrack, and then transferred to Derive+ when an ICP switches in. Any meter with energy flow direction I 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 a HomeGen application on the Genesis Energy website, 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 the fee for a meter upgrade, or the first attempt to complete the meter replacement was turned down, therefore I have repeated the previous 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: • ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or • advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be provided to the reconciliation manager in a timely fashion.	Reporting has been put in place to capture all sites where generation is on site and import/export metering is not in place. These customers will be contacted to enquire if they would like compliant metering installed. If not, these customers will be added to the gifting register.	Identified

There are three main triggers for the HomeGen team to be aware of a potential DG installation:

- customer completes a HomeGen application on the Genesis Website,
- a daily report is run that checks for ICPs where the Distributor has updated the Network event field Installation type from L to B, or
- the distributor sends a copy of their network approval for a DG installation to Genesis.

The HomeGen team will make contact with the customers and attempts to arrange a meter change to ensure an EG register is installed as close to the DG installation date as possible. Where a customer refuses the fee for the meter change, the customer is given an option to agree to be placed on the DG gifting register.

ICPs where the Network installation type is already 'B' at the of switch are not identified by the Genesis monitoring so actions to engage with the customer are often delayed. I recommend that Genesis includes a check in the switching process where if a requested ICP has the network event installation type set to 'B' that the HomeGen is notified so that the customer is encouraged to complete a HomeGen application, and a meter upgrade can be initiated.

Description	Recommendation	Audited party comment	Remedial action
ICPs switching in with DG that require meter upgrades	Extend the switching process to identify ICPS where the network event installation type is set to 'B' at time of acquisition to enable the HomeGen team to engage with the customer during the switch process to complete the HomeGen application to enable Genesis to arrange a meter upgrade.	This will not be a part of the switching process. However, Genesis will run a report to pick up all ICP's with install type 'B' but non-compliant metering and not in the gifting register.	Identified

The audit compliance report is used to identify ICPs where the distributor and the MEP indicate that distributed generation is present, but the trader has none.

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

GENE

Review of the registry list identified 7,031 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 Registry LIS report confirmed that there were 29 ICPs with generation recorded by the distributor and an I flow register is present but where GENE did not record a generation compatible profile, a small decrease from 31 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. Genesis confirmed that for 26 ICPs recent meter changes have been completed resulting in the correct profile is being applied for submission. One is a recent switch gain where the NHH profile is initially set to RPS as part of the switch completion and then a sweep is performed on a monthly basis to update the profile to RPS PV1. Two are awaiting paperwork from the MEP to complete the meter change in Gentrack.
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 170 ICPs where generation was recorded by the distributor, but there was no I flow register or profile compatible with distributed generation recorded. I reviewed a sample of 20 ICPs and confirmed that: • three ICPs now have EG metering installed, • two ICPs the customer has refused the cost of the meter change, but no attempts have been made to request the customer agree to be placed on the gifting register, and

	• for 15 ICPs there has been no progress in arranging for a meter upgrade to include an EG register. The 15 ICPs with distributed generation and no import export metering and the incorrect profile are recorded as non-compliance below and in **section 2.1.** I rechecked the 15 ICPs identified in the 2022 audit which were believed to be generating which did not have compliant metering installed or notification of gifting provided and confirmed that: • three are recorded on the gifting register no further action is required, • for four the customer confirmed that there was no DG present at the property and Genesis has notified the distributor to update the registry, and • eight are still being investigated by the HomeGen team. This is recorded as non-compliance below and in **section 2.1**.
Generation profile recorded but no generation details recorded by the distributor	249 ICPs had profiles indicating generation was present, but no generation was recorded by the distributor. All of those had settled I flow registers present and a review of 41 of these ICPs identifies 31 as having non-zero volumes being measured by the meter for the I flow register for September 2022. The other ten ICPs have I flow registers present, with zero consumption recorded.
Generation profile recorded but no I flow register recorded or generation details recorded by the distributor	29 ICPs have a generation profile recorded on the registry but no I flow meter register flagged with a settlement indicator of 'Y' or generation details recorded by the distributor were present. A review of all 29 ICP identified that all were set up in error due to an I flow register being present but the settlement indicator being set to 'N'. This is recorded as non-compliance below and in **section 2.1**.
Generation profiles inconsistent with the distributor fuel type	Where generation profiles were recorded, they were consistent with the generation fuel type apart from 134 ICPs where the distributor had recorded a generation fuel type of other and GENE applied PV1, and ICP 0001447794UNFFA where the distributor had recorded a generation fuel type of Wind and GENE applied PV1. 92 have been checked and confirmed that they are likely to have solar based on the information available. Non-compliance is recorded below and in **section 2.1** relating to the incorrect profile for ICP 0001447794UNFFA.

GEOL

Review of the registry list identified 805 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 Registry LIS report confirmed that there were seven ICPs with generation recorded by the distributor and an I flow register where GEOL did not record a generation compatible profile, an increase from three in the last audit. Genesis confirmed that four ICPs recent meter changes have been completed resulting in the correct profile being applied for submission. Three are recent switch gains where the NHH profile is initially set to RPS as part of the switch completion and then a sweep is performed on a monthly basis to update the profile to RPS PV1.

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 38 ICPs where generation was recorded by the distributor, but there was no I flow register or profile compatible with distributed generation recorded. A review of all 38 ICPs confirmed that: • eight ICPs now have EG metering installed, • three have switched away, and • for 27 ICPs there has been no progress in arranging for a meter upgrade to include an EG register. This is recorded as non-compliance below and in **section 2.1**.
Generation profile recorded but no generation details recorded by the distributor	52 ICPs had profiles indicating generation was present, but no generation was recorded by the distributor. All of those had settled I flow registers present and a review of 39 of these ICPs identifies 23 as having non-zero volumes being measured by the meter for the I flow register for September 2022. The other 16 ICPs have I flow registers present, with zero consumption recorded.
Generation profile recorded but no I flow register recorded or generation details recorded by the distributor	Four ICPs have a generation profile recorded on the registry but no I flow meter register flagged with a settlement indicator of 'Y' or generation details recorded by the distributor were present. A review of all four ICP identified that all were set up in error due to an I flow register being present but the settlement indicator being set to 'N'. This is recorded as non-compliance below and in **section 2.1**.
Generation profiles inconsistent with the distributor fuel type	I checked for consistency between the distributor generation details and the profiles applied and identified 31 ICPs with fuel type other indicated and PV1 profiles applied. 10 were reviewed and four were confirmed to have solar generation and profiles were correctly applied. Genesis is following up with the customer to confirm the correct fuel type for the other six. Two ICPs (1000027076BPD40 and 0002211560TGAA7) have a fuel type of Wind but the profile code PV1 has been applied. Genesis's Metering team are investigating. This is recorded as non-compliance below and in **section 2.1**.

GENH

Review of the registry list identified 62 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 20 ICPs with generation recorded by the distributor which did not have an I flow register.

- 14 have both X and I flows recorded in the December 2022 HHRAGGS file confirming I flow register is present; the metering record on the registry appears to be incorrect, and
- notification of gifting has been provided for the other six ICPs.

Bridged meters.

GENE

Genesis have recently formed an exceptions team who are responsible for monitoring bridged meter tasks for GENE including volume correction being applied in Gentrack and advising the reconciliation team so that these corrections are processed through into Derive+. Corrections are now being applied from the beginning of 2023 within Gentrack and this information is then passed to Derive+. The

Reconciliation team have also applied volume correction for most other bridged meters during the audit period as part of a data clean up exercise.

Reporting has identified approximately 77 ICPs were bridged during the audit period and 11 remained bridged for GENE.

GEOL

The GEOL process for bridging and un-bridging 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 un-bridge job in these instances. A recommendation is recorded in **section 2.17** for this process to be reviewed to determine how to improve visibility of these. GEOL have confirmed that meters have been bridged during the audit period however no bridged meters were identified and provided for the audit to enable an assessment of impact to be performed.

Whilst the process to identify these examples is sound for GENE, non-compliance exists because quantification does not occur during the bridged period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.1 With: Clause 10.13, Clause 10.24 and 15.13 From: 01-Apr-22 To: 11-Jan-23	**GENE** 17 ICPs of the sample of 20 checked of a possible 170 ICPs that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. Eight of the ICPs reported in the 2022 audit that were generating have not been corrected. 29 ICPs did not have a settled I flow register present but were recorded with the RPS PV1 profile. ICP 0001447794UNFFA has a fuel type of Wind but the profile code PV1 has been applied. **GEOL** 27 ICPs that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. Four ICPs did not have a settled I flow register present but were recorded with the RPS PV1 profile. Two ICPs (1000027076BPD40 and 0002211560TGAA7) have a fuel type of Wind but the profile code PV1 has been applied. **Bridged meters** **GENE** 77 AMI meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code. **GEOL** An unknown number of meters are bridged each month. While meters are bridged energy is not quantified in accordance with the code. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as the controls will mitigate risk most of the time but there is room for improvement around the management of distributed generation and bridged meters. The audit risk rating is assessed to be low due to the small number of ICPs affected.

Actions taken to resolve the issue	Completion date	Remedial action status

We believe that our controls have strengthened since the last audit and we now have reporting in place to manage non-compliant metering and add sites to the gifting register where required	Complete	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will continue to look for ways to improve our processes and strengthen our controls and will build reporting / processes in relation to newly obtain ICP with DG and non-compliant metering	1/10/2023	

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	22 September 2023
GENE	RANGIPO	RPO2201GENEGG	GENE	GG	11 November 2023
GENE	TEKAPO A	TKA0111GENEGG	GENE	GG	26 November 2023

Responsible party	Description	NSP	MEP	Reconciliation Type	Certification expiry date (NSP table)
GENE	TEKAPO B	TKB2201GENEGG	GENE	GG	24 February 2024
GENE	TOKAANU	TKU0331GENEGD	GENE	GD	1 September 2023
GENE	TOKAANU	TKU2201GENEGG	GENE	GG	9 February 2024
GENE	TUAI	TUI1101GENEGG	GENE	GG	19 January 2024

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

When meters are recertified, the Genesis engineer provides the updated certification details to the reconciliation manager using the NSPMTRG file.

Certification expiry dates were updated on 12 April 2022 for TKU0331GENEGD and 21 September 2022 for TKB2201GENEGG during the audit period. The NSP table was updated by Genesis for both stations within the 10 days (TKU0331GENEGD - two business days, TKB2201GENEGG – six business days) as specified by the code.

Audit outcome

Compliant

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 20 examples of potential defective meters, including ten bridged meters and ten stopped meters. In all cases, the MEP was advised within the allowable timeframe.

GEOL

I reviewed 10 examples of potential defective meters, all relating to ICPs appearing on the stopped meters report. For eight examples the exception was not genuine and GEOL was able to determine that either it was an unused meter, or the property was unoccupied. In two cases, the MEP was advised within the allowable timeframe.

GENH

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

Audit outcome

Compliant

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

Code reference

Clause 2 Schedule 15.2

Code related audit information

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

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

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

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

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

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

2(6) – The interrogation systems must record:

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

Audit observation

The data collection process was examined.

- AMS collects HHR data for GENE and GENH.
- EDMI collects HHR data for Genesis.
- AMS collects NHH AMI data for GENE and GEOL for NGCM, ARCS, SMCO MEP codes.
- Influx collects NHH AMI data for GENE and GEOL for FCLM MEP Code.
- Intellihub collects NHH AMI data for GENE and GEOL for IHUB, MTRX and COUP MEP codes.
- 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. Now that all generation meters have their own IP addresses and are interrogated each half hour the time sync process is automated and no instances of a time difference of more than five seconds was found.

Audit commentary

GENE and GEOL

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

Clock synchronisation event information from some AMI MEPs (NGCM, COUP, IHUB and MTRX) are 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 a site visit/meter replacement is required. The metering team reviews the email to check if the AMI MEP is requesting a works order to replace the meter, if not, the email is archived. The interval data for the affected period is not reviewed to determine if a correction is required and no check is undertaken to identify if the same ICP is reporting regular time corrections which is an indicator that an underlying meter integrity issue may be present.

Emailed clock synchronisation information emails were reviewed from AMS (13 time correction events) and IntelliHUB (four time correction events). All AMS time corrections were between 51 and 1,080 seconds and a spot check of the affected interval data confirmed no correction was required. For the IntelliHUB time corrections, two were between 201 and 762 seconds and a spot check of the affected interval data confirmed no correction was required. The remaining two time corrections for IntelliHUB related to ICP 0000139594UNCEE where two time corrections of 50,809 and 9,486 seconds were recorded. The interval data was reviewed and identified that these time corrections resulted in a material data shift (zero volume recorded for the affected periods of multiple intervals). Further investigations identified that there had been a total of four significant time corrections over 7,000 seconds over the last four months for this ICP. Genesis have now escalated this ICP to the AMI MEP for investigation and possible meter replacement.

Clock synchronisation notifications via email are not received for ARCS, SMCO, FCLM. Time difference reports from these MEPs that are available on the respective SFTP directories are not downloaded or independently reviewed.

Where an AMI meter is flagged as non communicating on the registry, Genesis arranges for the ICP to be transitioned to a Wells manual meter reading round to ensure the billing of the customer remains accurate. Where the ICP is HHR settled no update of the submission type or profile code is undertaken at the time of the change in meter reading source. Genesis does transition non communicating HHR ICPs back to NHH submission type in bulk processing activities on an infrequent basis during the year. Retailers have an obligation to ensure ICPs are read or downloaded within the max interrogation cycle published by the MEP on the registry to ensure no data is lost or becomes unrecoverable.

I reviewed a sample of ten GENE and ten GEOL ICPs where the submission type was HHR and where the MEPs max interrogation cycle now exceeded the period of time from when the AMI Flag was set to N. In all cases the ICPs remain "active" on the registry and continued to be flagged for HHR submission.

GENH

The 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

Non-compliant

Non-compliance	Description
Audit Ref: 6.5 With: Clause 2 Schedule 15.2 From: 01-Apr-22 To: 11-Jan-23	Time Sync reports not reviewed for all AMI MEPs. Raw meter data not corrected for HHR ICP 0000139594UNCEE on four occasions where the time correction exceeded 7,000 seconds. A sample of ten GENE and ten GEOL ICPs where the submission type was HHR and where the MEPs max interrogation cycle has expired. In all cases the ICPs remain "active" on the registry and continued to be flagged for HHR submission. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak as while AMI MEPs provide email notification of time sync issues the processes to investigate these and determine if any raw meter data is impacted is not well understood by the users and no data corrections are applied. The impact is assessed as low as the number of ICPs is small and these are metering installation category one ICPs in most cases.

Actions taken to resolve the issue	Completion date	Remedial action status
We will review our current processes / controls in relation to meter events and look to strengthen these. There are differences in the current MEP processes where some correct their consumption data to allow for any time sync issues, other only do this if the meter can be resynced. We will continue with MEPs to clarify this process.	01/08/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We are currently reviewing our processes in relation to when a profile change occurs	01/08/2023	

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

Code reference

Clauses 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. The Genesis processes to manage meter condition information were reviewed, including viewing a sample of meter condition events.

With the implementation of Derive+ customer and photo reads are no longer treated as validated meter readings in the calculation of historic estimates.

GENH does not deal with NHH readings.

Audit commentary

Wells readings

The Wells data collection processes were reviewed as part of their agent audit and found to be compliant. I checked a sample of readings provided by Wells of five ICPs each for GENE and GEOL and confirmed that they are loaded initially into DRDS and then Gentrack as actual readings and are validated as part of the billing process. Derive+ also performs validation on the volume information calculated from these readings.

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 received into the metering teams inbox is filtered into a work queue within the NEXUS application for resolution.
- For GENE the meter condition notes received within the read files are split between three teams for resolution:
    - access and difficultly finding properties is routed to the switch team for resolution,
    - meter related issues (new meter found, blank screen, broken seals etc) are routed to the metering team, and
    - all other meter condition codes are routed to the exceptions team to investigate.
- For GEOL all meter condition codes within the read files are sent to the GEOL metering team for investigation and resolution.

I reviewed a sample of meter condition events to determine whether appropriate action had been taken where appropriate.

Meter condition issue	GENE	GEOL
Different meter register present	Two examples identified. In both cases the customer was advised of a price change as a consequence of the meter	No examples identified during audit period.

Meter condition issue	GENE	GEOL
	configuration change prior to the meter change being performed in Gentrack.	
Seals are not present and intact	Site visit requests generated. Two examples identified. In both cases work orders were generated and seals were replaced.	Site visit requests generated. Two examples identified. In both cases work orders were generated and seals were replaced.
Signs of tampering or damage	Site visit requests generated and where access allows issues are rectified including volume corrections where tampering is confirmed. The tamper at ICP 0000241645UN5E7 was identified as occurring prior to the ICP switching to GENE and the meter was replaced. The ICP went through the GENE stopped meter process. No volume correction was applied for the affected period.	Site visit requests generated and where access allows issues are rectified. Two examples identified. One switched way prior to a site investigation being performed and the other ICP has an open work order in place for a site investigation.
Dials discrepancy	Investigations confirmed as being undertaken including site visits to confirm correct number of dials where onsite photos are provided.	No examples identified during audit period.
Meter digit discrepancy	Exceptions identified from comparison report between PR255 and Gentrack metering data as well as meter condition codes. Work orders/special read requests are generated to verify the correct number of digits present.	One example identified – work order generated to have the meter replaced with an AMI meter.
Phase failure	Where the AMI MEPs notify a phase failure related issue via email then service orders are raised to investigate and resolve issues and a case is generated to track the issue. No volume corrections are applied once the issue is resolved. Some cases are closed before resolution resulting in outstanding actions remaining. One example was identified relating to a NHH settled ICP during the audit period by an AMI MEP – where the meter was replaced.	Where the AMI MEPs notify a phase failure related issue via email then service orders are raised to investigate and resolve issues. Emails are used to track the issue. No volume correction was applied once the issue was resolved. As email chains are used to track issues some are archived before resolution resulting in outstanding actions remaining. No phase failures were reported by Wells during audit period.
Electrically unsafe	Two examples identified from works order turn downs due to on site hazards. In both cases the customer was notified including providing photos of issue where these are present. Follow ups now occur to ensure safety issue is monitored.	Two examples identified from works order turn downs due to on-site hazards. One was resolved and the meter replaced. The other remains outstanding. As GEOL does not use salesforce there is no mechanism to create a case and track this as a task

It was observed that very few if any phase failure incidents have been reported via the manual meter reading process even though appropriate training has been provided to meter readers. Phase failures

have a direct impact to both a customer's invoice and also to submission volumes accuracy and need to be addressed in a timely manner. It is recommended that Genesis monitor the frequency of phase failures by region and reading provider and have regular operational discussions with to ensure reporting is consistent across all providers.

Description	Recommendation	Audited party comment	Remedial action
Review of Wells meter condition information	Add agenda item to Wells meter reading operation meeting to review frequency of phase failure being identified by meter readers compared to AMI providers via meter event logs. Where power quality incidents cause phase failure within a region both AMI and non-AMI metering data providers should identify a similar number of phase failures per capita.	Will discuss this with Wells and look to add an agenda item to our monthly operations meetings	Identified

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 consumption, 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" (estimates) by the switching and billing processes are also now not used by the reconciliation process since Derive+ was implemented.

GENE

I checked 12 examples of customer, photo and web readings (including five that were provided by Wells) and found seven had been appropriately validated via the standard billing validation process. Five were not used (provided by Wells) and volumes via the normal estimation process were used instead.

GEOL

I checked 12 examples of customer, photo and web readings (including five that were provided by Wells) and found six had been appropriately validated via the standard billing validation process. Four were not used (provided by Wells) and volumes via the normal estimation process was used instead.

GENH

GENH does not deal with NHH readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.6 With: Clauses 3(1), 3(2) and 5 Schedule 15.2 From: 01-Apr-22 To: 11-Jan-23	**GEOL** No consistent action taken to address the ICP with signs of electrically unsafe or tampering/damage. No follow up where service requests are turned down due to access issues, and H&S letters not followed up where consumers do not respond. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate as the management of meter condition codes has improved for GENE but remains inconsistent for GEOL 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
We have a process in place to pick up any contractor notes from work orders that indicate tampering / damage to the meter, Wells I&E also advise us of any issues they come across in relation to potential tampering / H&S when attempting a meter reading. We will review our current processes / controls in relation to meter events and look to strengthen these	01/08/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

Clause 6 Schedule 15.2

Code related audit information

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

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

Audit observation

The process of the application of meter readings was examined.

Audit commentary

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

Readings relating to status event changes (active to inactive and vice versa) need to apply from the beginning of the day the status event change relates to.

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

GENE

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** and found to be compliant.

Where an ICP switches away where the no occupier customer has not yet been set up in Gentrack, then the switch loss read applied is the last billed (final read) reading in Gentrack. If the ICP is a HHR settled AMI metered ICP the selected switch loss read provided does not align with the HHR volumes submitted up to the switch date.

I checked the overall process for NHH to HHR meter changes in relation to this clause which remains the same, even though no examples were identified during this audit period.

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.

Review of the event detail report did find several submission type downgrades and upgrades during the audit period. These changes did not coincide with a meter change, and I reviewed ten examples of this process. For nine, actual validated meter readings were correctly applied for the transition date, however for one example (ICP 0000466425WE09B) an estimated read was applied for the transition date. As this process to transition ICPs between HHR and NHH submission where no meter change occurs is entirely manual these exceptions to the process were due to human error.

GEOL

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** and found that during the previous audit it was identified that ICP 0000006760DE9DB was sent with an estimated read from the last billed date when an actual read was available resulting in 154 kWh being pushed to the gaining trader. ICP 0000006824TRDAC was also sent with an estimated read from the last billed

date when an actual read was available resulting in 3 kWh being pushed to the gaining trader. RR files were not sent for either of these ICPs.

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.

Review of the event detail report did find several submission type downgrades and upgrades during the audit period. These changes did not coincide with a meter change, and I reviewed ten examples of this process. All ten submission type upgrades and downgrades had an actual read applied for the transition date.

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: 01-Apr-22 To: 11-Jan-23	**GENE** One instance where no actual validated meter read used to transition an ICP between HHR and NHH submission type. NHH meter reading was not applied at 2400 on the day of the meter reading for upgrade to HHR for ICP 0000466425WE09B. **GEOL** Two incorrect last reads sent of those sampled resulting in 157 kWh being pushed to the gaining trader. 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 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
We believe we have strong controls in place and will continue to look for ways to further strengthen them. We are also currently reviewing our processes in relation to when a profile change occurs	On Going	Identified

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

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 (ten each for GENE and GEOL) 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

<u>General read attainment process.</u>

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 was returned to the previous process at the end of the last audit period. The process during the COVID-19 pandemic was triggered when the customer had been with Genesis for more than 60 days and had two consecutive estimated reads. It was then sent to a work queue to be reviewed by the billing team. An outbound call was attempted to book a meter reader to visit. Beyond this follow up actions were determined by the billing team. This maybe a text or a letter. This was an ad-hoc process. If no read had been gained after 30 days, the ICP was reviewed by billing for possible disconnection. Genesis has recently reactivated the previous automated no read process 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, and
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 that AMS is responsible for interrogating (NGCM, ARCS) for approval and generation of a work order to undertake a site investigation. IntelliHUB provides similar reporting for AMI meters it is responsible for interrogating (IHUB, MTRX, COUP). The Genesis metering team raise fault jobs where necessary.

Genesis is also using a weekly AMI =Y (non communicating) report using registry data to identify ICPs that require to be moved to manual meter reading routes while the MEP investigates the communications issue. Genesis transitioned a bulk update of 2,000 non communicating AMI meters to Wells meter reading round in February 2023. However, the process to move a non-communicating AMI metered ICP to a manual meter reading round does not check to see if the ICP is settled as NHH or HHR. Where the ICP is settled as HHR no action is taken at the time of updating the meter reading sequence to manual to also update the submission type to NHH as interval data delivery is also impacted by the communication fault. This is discussed further in **section 6.5.**

Genesis now has an agreement with AMI MEP WASN and is now receiving AMI data daily which has improved the read attainment performance overall.

Description	Recommendation	Audited party comment	Remedial action
Review process of transitioning ICPs from AMI read sequences to manual read sequences where comms faults are identified to include review of submission type.	Add an additional step to the process of transitioning an ICP to a manual read route/sequence where a communication fault has been identified or where an AMI MEP updates the AMI communicating flag of the registry to 'N' to include a check on the submission type and where an ICP is being settled as HHR then update this to NHH from a date where a suitable boundary read is present.	We will review this recommendation and look to build this into our current processes in relation to assigning / amending submission profiles	Identified

ICPs unread during the period of supply

A report of 233 ICPs not read during the period of supply was provided for ICPs for the period ending November 2022. Of these, 90 (38%) were supplied for 60 days or less. I checked an extreme case sample of the ten ICPs with the longest periods of supply:

- seven out of the ten ICPs sampled were confirmed that best endeavours had been made to attempt to obtain a read, and
- for three ICPs no attempt to contact the customer outside of the schedule meter reading attempts had been made; two of these ICPs were account managed where the Account Management team were provided a list of access issue site to follow up with the customers, but no attempts were made.

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 76 ICPs not read during the period of supply was provided for ICPs for the month ending November 2022. Of these, 27 (35%) were supplied for 60 days or less. I checked an extreme case sample of the ten ICPs with the longest periods of supply:

- for six ICPs meter reading attempts were made, but the ICPs were vacant which prevented access to the meters or follow up with a customer,
- two have non communicating AMI meters where the no comms process was initially worked through prior to the no read process being initiated, and
- two were confirmed that best endeavours had been made to attempt to obtain a read.

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-22 To: 11-Jan-23	**GENE** Three 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. **GEOL** Eight 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: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are moderate as the management of unread ICPs has improved during this audit period. 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
We have controls in relation to Communication Faults and Not being able to access NHH meters, we do however appreciate that these can be strengthened further, and this is an area of continued focus. Sometime ICPs are only with a retailer for a very short period and if they have an NHH meter it is not always possible to obtain a reading during that time.	On-Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 June to November 2022 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 June to November 2022 were reviewed for GENE and GEOL, which confirmed that the reports were submitted on time and contained the required fields.

I compared the ICP population of NHH settled ICPs for November 2022 using the provided Registry LISHIST report to the population of ICP reported in the meter reading frequency report. For GENE the ICP population for November 2022 was 38,487 active ICPS where the submission type is NHH, and the meter reading frequency report reported 24,127 ICPs.

For GEOL GENE the ICP population for November 2022 was 8,724 active ICPS where the submission type is NHH, and the meter reading frequency report reported 6,713 ICPs.

Genesis is investigating the eligibility criteria of this report to ensure all active NHH ICPs are considered and included.

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
Jun-22	251	98	381	98.30%
Jul-22	250	106	416	98.10%
Aug-22	207	100	396	97.65%
Sep-22	247	100	359	98.28%
Oct-22	250	92	346	98.30%
Nov-22	251	100	377	98.14%
Jun-22	251	98	381	98.30%

The total percentages read are similar to the results found in the previous audits which reflects that while some improvements have been made to resolve read attainment for manually read meters, as more AMI meters are installed and ICPs transitioned to HHR submission, the attainment statistics remain consistent as a consequence.

I reviewed a diverse sample of 14 ICPs not read in the 12 months ending November 2022, including one ICP 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 five ICPs, the best endeavours requirement was met, or exceptional circumstances existed,

- three have been resolved either by obtaining a recent meter reading or the ICP has been decommissioned,
- for five ICPs no contact with the customer has been attempted in the last 12 months; two are vacant sites where recent disconnection activity was also unsuccessful, and
- one ICP is with metering team to resolve (ICP was for a portacom that has since been removed from site).

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
Jun-22	154	48	126	98.04%
Jul-22	155	55	148	97.66%
Aug-22	155	50	132	97.90%
Sep-22	154	54	128	97.91%
Oct-22	154	54	141	97.65%
Nov-22	153	54	141	97.65%
Jun-22	154	48	126	98.04%

The total percentages read are similar to the results found in the previous audits which reflects that while some improvement have been made to resolve read attainment for manually read meters, as more AMI meters are installed and ICPs transitioned to HHR submission, the attainment statistics remain consistent as a consequence.

I reviewed a diverse sample of 11 ICPs not read in the 12 months ending November 2022, including at least one ICP 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 five ICPs, the best endeavours requirement was met, or exceptional circumstances existed, and
- for six ICPs no contact with the customer has been attempted in the last 12 months; two are vacant sites where recent disconnection activity was also unsuccessful.

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-22 To: 11-Jan-23	**GENE** Five of a sample of 14 ICPs unread in the 12 months ended November 2022, did not have exceptional circumstances and the best endeavors requirement was not met. **GEOL** Two of the sample of 11 ICPs unread in the 12 months ended November 2022, did not have exceptional circumstances and the best endeavors requirement was not met. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are moderate as the process to manage of unread ICPs has been improved during the audit period with most 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
We have controls in relation to Communication Faults and Not being able to access NHH meters, we do however appreciate that these can be strengthened further, and this is an area of continued focus. We believe that interrogating 100% of NHH annually is unachievable, our current percentage across all GXPs is 96%. We also believe the customer reads that are backed up with a photo should be classed as actual reads, this will help further increase the interrogation rates	On Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 June to November 2022 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
Jun-22	257	74	2029	92.28%
Jul-22	256	71	2097	91.89%
Aug-22	255	63	1933	92.33%
Sep-22	251	63	1785	92.81%
Oct-22	254	64	1821	92.50%
Nov-22	255	64	1721	92.87%
Jun-22	257	74	2029	92.28%

The percentages read are consistent with the results found in the previous audit.

I reviewed a diverse sample of 18 ICPs connected to NSPs where compliance was not achieved in November 2022 to determine whether exceptional circumstances exist, and if GENE had used their best endeavours to obtain readings. I found that best endeavours requirement was not met, and exceptional circumstances did not exist for 12 ICPs. I note that all the NSPs affected were on either embedded networks or local NSPs where no more than six 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
Jun-22	158	53	538	92.59%

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	Total ICPs unread for 4 months	Overall percentage read
Jul-22	159	58	590	91.78%
Aug-22	159	50	534	92.51%
Sep-22	157	62	556	92.05%
Oct-22	158	59	561	91.76%
Nov-22	158	76	714	89.36%
Jun-22	158	53	538	92.59%

I reviewed a diverse sample of 21 ICPs connected to NSPs where compliance was not achieved in November 2022 to determine whether exceptional circumstances exist, and if GENE had used their best endeavours to obtain readings. I found that best endeavours requirement was not met for 11 ICPs, and exceptional circumstances did not exist. I note that nine of the 11 NSPs affected were on either embedded networks or local NSPs where no more than seven ICPs are held, therefore if one or two ICPs are not read, this causes GENE to breach this clause. One NSP had a high number of forced complete read failure due to meter reader resourcing issues relating to Covid and it is expected that attainment for this NSP will recover quickly.

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-Apr-22 To: 11-Jan-23	**GENE** Exceptional circumstances did not apply, and the best endeavours requirement was not met for 12 of the18 ICPs sampled. **GEOL** Exception circumstances did not apply, and the best endeavours requirement was not met for 11 of 21 ICPs sampled. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**

Low	Controls are rated as moderate as while the no read process is operating for non account managed ICPs, the account managed ICPs are still taking too long to resolve where the relationship between Genesis and the customer should not prevent access or read attainment. The impact is low, because overall read attainment rates are reasonably high.

Actions taken to resolve the issue	Completion date	Remedial action status
We have controls in relation to Communication Faults and Not being able to access NHH meters, we do however appreciate that these can be strengthened further, and this is an area of continued focus. our current percentage of meter read in the last 4 months across all GXPs is 87%. We also believe the customer reads that are backed up with a photo should be classed as actual reads, this will help further increase the interrogation rates. A report for account managed sites with access issues is ran monthly and sent to the relevant team to work through, we are looking to automate this report soon	On-Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 and EMS as part of their agent audit. The non-compliance recorded in the EMS agent audit for event logs not being reviewed for two manual downloads has not recurred and was detailed in the previous Genesis audit report.

Generation

Compliance with this clause has been demonstrated by Genesis for generation metering.

Audit outcome

Compliant

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

Code reference

Clause 11(3) Schedule 15.2

Code related audit information

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

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

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

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

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

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

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

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

Audit observation

HHR data is collected by 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 the AMS agent audit.

The 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 2010 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 the 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 Gentrack 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.

Sometimes a customer may provide their own read for a scheduled billing date that is received and validated and billed as a customer read, prior to the receipt of the scheduled actual meter read from the meter reader. In these cases, the scheduled actual read is compared to the customer read and if it is determined that the customer read already billed on is still accurate the actual meter read is noted in Gentrack Installation notes and no billing/read reversal occurs. This approach to managing customer expectation/impacts of bill reversals does have a small flow on impact to meter read frequency reporting as some actual reads received by Genesis are not used.

When back billing is completed by the billing team, they normally advise the reconciliation team. The reconciliation team checks the correction is appropriately apportioned 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. The Genesis policy around historic volume corrections are that they are only calculated and apportioned for the previous 14 months to algin with the revision window. Where an error has been detected for a longer period of time, only a subset of the correction is applied.

Transposed meters are corrected by removing and reinstalling the registers correctly in Gentrack or swapping the readings to the correct registers. No examples were identified during the audit period.

The reconciliation process retrieves and uses reads from sources other than Gentrack. Additional reads are retrieved from the Meter Reads database for vacant ICPs, CS files for where a switch out has occurred on ICPs where no consumer is set up in Gentrack and the switch date does not align with a billed read date. Month end AMI reads are retrieved from the AMI read database (DRDS) for all communicating AMI NHH settled ICPs. AMI meter reads are also retrieved as part of the profile changes from NHH to HHR and vice versa via the respective bulk update processes. Derive+ performs its own validations of meter reads prior to these being used for NHH submission. The Derive+ validation process was reviewed as part of this audit.

I reviewed one AMI meter event relating to a phase failure for ICP 0006111807RNF8E which occurred on 24 January 2022. The initial work order was sent to the incorrect service provider which delayed the resolution of this issue. The meter was replaced on 4 July 2022 however no volume correction was applied in either Gentrack or Derive+ to reflect that only part of the load consumed by the customer for the period 24 January 2022 to 4 July was being recorded by the meter.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.1 With: Clause 19(1) Schedule 15.2 From: 01-Apr-22 To: 11-Jan-23	NHH correction for ICP 0006111807RNF8E relating to a phase failure was not performed. Where errors occur for a period longer than 14 months, the volume correction applied is only a subset (14 months) of the affected period. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls around NHH corrections are robust for the more common sources of reading errors and defective meters, however where work orders are generated off AMI MEP meter event escalation emails the process to review the consumption volumes for the affected period to determine if a volume correction is required is not yet consistently applied resulting in controls being assessed as moderate overall. There are only a few ICPs/meters where corrections are not fully resolved for NHH volumes. The impact has been assessed as low.

Actions taken to resolve the issue	Completion date	Remedial action status
We will review our current processes / controls in relation to meter events and will look to strengthen these.	01/08/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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, and
- 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.

However, where an AMI ICP stops communicating and the AMI MEP reflects this on the registry the ICP continues to be submitted as HHR for at times an extended period of time, before retrospective action is taken to transition the ICP back to NHH with an effective back date to prior to the meter becoming non communicating. The consequence of this delay is that the accuracy of the initial HHR submissions declines as the reference point used for estimation moves further away from the period being estimated, resulting in less accurate estimations until this reference period runs out and default estimation values (0.5 kWh per interval) is applied. This inaccurate HHR submission data is then used by the RM to create the seasonal adjustment shapes to apportion NHH volumes into HHR intervals. Additionally, when the retrospective change of submission type is applied there is a further impact to NHH retailers HE calculations across consumption months due to the swings in Seasonal Adjustment Daily Shape Values calculated by the RM up to the 7-month wash up.

I checked eight multiplier corrections and found that the meters were all category 2 and the multiplier correction was appropriately applied to the HHR volumes.

I checked a bridged meter correction for ICP 0000514284NRDA7 which was flagged as HHR submission type for the affected period and found that the ICP was notified to the reconciliation team and the volume correction was applied across the affected interval data.

Three stopped meter escalations were reviewed. All three were confirmed as defective meters and the meter was replaced. Two ICPs had volume corrections applied both in Gentrack and Derive+. ICP 0000112820WE032 was defective from 4 January 2021 to 30 March 2022 (450 days). No volume correction was applied and Genesis have now undertaken a correction as part of the audit. However as there are only two months of the affected period available in the revision window, only 1,521 kWh of 12,015 kWh assessed volume impact will be applied as a HHR correction.

I reviewed one AMI meter event relating to a phase failure for ICP 0000039561UN5DA which occurred on 23 August 2022. An attempted work order was created however was incomplete, so no investigation was undertaken or correction of affected volume applied. Genesis have now sent an updated work order to the AMI MEP to investigate.

A sample of two corrections relating to AMI meter changes where the ICP was settled as HHR were reviewed. In both cases the removed meter was end dated in Gentrack as of midnight (2400) the day prior to the meter change using the removed reading from the AMI MEP and the new meter was installed as of 0000 hours of the meter change date. The system estimation performed inserted zero values for the missing intervals up to the actual meter change time as when the system performs its scaling task using the available midnight reads, no additional volume is detected by the system. The system also performed an estimation for the final day using the removed reading to apportion the volume between the last available midnight read and the removed reading as this volume is being pushed into the day prior to the meter change.

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. Where these are required, the correction is performed 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. No corrections were identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.2 With: Clause 19(2) Schedule 15.2 From: 01-Apr-22 To: 11-Jan-23	Not all HHR detected errors are investigated and corrections performed. Extended period estimations not corrected or resolved in a timely manner where an AMI meter stops communicating. Potential impact: Medium Actual impact: Medium Audit history: Once Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**

Medium	Controls around HHR escalation of detected errors and subsequent corrections are moderate as there is a reliance on the skill and expertise of the reconciliation analysts to process a number of email notifications of required corrections. There are only a few ICPs/meters where corrections are not fully resolved for HHR volumes however as this data is also used by the RM to produce seasonal shape files for all NHH retailers to calculate HE volumes. The impact has been assessed as medium.

Actions taken to resolve the issue	Completion date	Remedial action status
We will continue to look for ways to strengthen our control, however most errors are corrected in a timely manner, and we believe the impact to be minimal as the number of meters in question would not have a material impact on the seasonal shape.	On-going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As Above		

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 the AMS and Wells agent audits. And also AMS (NGCM, SMCO, ARCS), IntelliHUB (MTRX, IHUB, COUP) and Influx (FCLM) MEP audits relating to AMI data.

Audit commentary

NHH and HHR raw meter data is held by Wells and AMS, and their audits confirm that it cannot be edited.

Compliance with this clause has been demonstrated by the AMI MEPs.

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 the 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. All readings sampled were correctly classified.

GEOL

Readings are clearly identified as required by this clause. All readings sampled were correctly classified.

GENH

The 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

Compliant

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

Code reference

Clause 3(4) Schedule 15.2

Code related audit information

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

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

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

Audit observation

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

NHH 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 the Genesis agents and MEPs as part of their own audits.

GENE and GEOL

The AMS and EMS agent reports record compliance.

AMI data is truncated on import into Derive+.

Manual meter readings do not record decimal places and are not rounded or truncated on import into Derive+.

GENH

The AMS audit report confirms compliance for GENH.

Generation data

A sample of generation data was checked during the audit and found that Stark captures data to two decimal places using a unit of measure of kWhx10 (example: measured volume is 7.25 kWh which is saved as 0.73 in the Stark 'kWhx10' channel). This means that this volume information is already rounded to two decimal places prior to the creation of the submission information. In most instances the volume information comes from a single bus metering channel, so the impact of this rounding is zero unless generation data is aggregated outside of Stark.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.3 With: Clause 3(5) of schedule 15.2 From: 01-Apr-22 To: 11-Jan-23	Some data collected by Stark is rounded when collected from the metering installation. 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 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
The rounding issue will be addressed as part of our Billing platform change. This is unlikely to be change prior to this due to the impact being extremely low	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 (MGCM, SMCO, ARCS) and Influx (FCLM) provide null values where actual HHR data is not available. Estimates are automatically created in MSD based on the available interval consumption and midnight read data. IntelliHUB (COUP, MTRX, IHUB) provide HHR estimates where an AMI meter has an unsuccessful data interrogation and MSD strips these estimates out of the data file and performs its own estimation of a gap or missing 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 an average of the same interval, and day of the week for the previous four weeks (Back Proportional Average – BPA), or the next four weeks if this information is available (Proportional Average – PA).
- Where there is insufficient consumption available either prior to the missing HHR interval or post this affected period, then using the difference calculated between the midnight reads apportions this volume using a straight-line methodology.
- Where midnight readings are not available, the MSD estimates will be based on the average of the AMI consumption for the same day of week and interval for the ICP. The time period to use for the estimates is different when calculating estimates during month zero processing to the washup processing. The estimate time period used is:
    - for the month zero processing the estimate time period is all days in the same calendar month as the interval being estimated, and
    - for the washup processing the estimate time period is all days in the same calendar month as the interval being estimated plus the previous month and the following month.
- 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.
- As part of each revision each estimation is recalculated by MSD to ensure the best available HHR data is used for estimation replacing many of the previous straight-line and default estimations.

I reviewed a diverse sample of ten HHR estimates using a variety of estimation methods and confirmed the requirement to use reasonable endeavours to ensure estimates were accurate was met.

Where an HHR settled ICP requires an extended estimation while a communication fault is being investigated the accuracy of the ongoing estimations reduces as MSD runs out of viable historic consumption patterns and then moves to the default 0.5 kWh per trading period method. When this scenario occurs then reasonable endeavours no longer applies in terms of estimation accuracy as the correct treatment is to either arrange for regular manual downloads of the AMI meter or transition the ICP back to NHH submission as soon as practicable. The Genesis approach is for the ICP to be initially transitioned to manual meter reading and where reads are obtained then shaped estimations will continue to be applied until a decision is made to transition the ICP back to NHH submission. Genesis applies this approach to ensure all efforts to resolve communication issues are exhausted so are to reduce the instances where an ICP transition back and forth to HHR submission type because of intermittent communications with the AMI meter.

I repeat the previous audits recommendation that Genesis increases its frequency of reviewing ICP suitability for HHR submission and transition non communicating AMI meters to NHH settlement.

Description	Recommendation	Audited party comment	Remedial action
Increase frequency of review of ICP suitability for HHR settlement	Increase frequency of process to review suitability of HHR settlement of ICPs to reduce impact of long periods of HHR estimations where meters have been identified by MEPs as non-communicating.	We will look to review the submission profiles of all ICPs monthly and update accordingly	Identified

I reviewed a sample of 13 ICPs where default consumption was applied within the December 2022 HHRVOLS/HHRAGGS files and found:

- two ICPs (0000203292UN1BB - Ave monthly consumption Apr/Jul/Sep = 2,593 kWh and 0150940076LC61F - Ave monthly consumption Apr/Jul/Sep = 3,392 kWh) were backdated switch withdrawals where the ICP was returning to Genesis however Genesis did not receive AMI data for the period the ICP was previously with another retailer; as the estimation period exceeded four weeks the default estimation methodology was applied with a monthly volume of 744 kWh,
- four related to outstanding communication faults where the AMI MEP had flagged the ICP on the registry as AMI = N; all four have now undergone a change in submission type to NHH submission,
- three related to meter changes where there was a delay in processing the meter change by Genesis resulting in the missing period exceeding four weeks and default estimation methodology being applied; all three of the meter changes have been processed by Genesis,
- two were late registry updates to either transition the ICP to NHH submission or to decommission the ICP, and
- two were actual consumption volumes where the total volume was close to the default consumption total.

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.

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.

There were no examples of generation estimates identified during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.4 With: Clause 15 Schedule 15.2 From: 01-Apr-22 To: 11-Jan-23	Reasonable endeavors not met where default estimation methodology applied due to extended estimation performed on long term non communication AMI ICPs. Potential impact: Medium 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 while estimates are created, they are not always the correct treatment for addressing non communicating AMI ICPs. The impact is low because revised submission data is eventually provided in most cases once the submission type is backdated to NHH for historical periods. There is some impact to seasonal shapes used for NHH submissions where these bulk retrospective updates of submission types (HHR to NHH) occur.

Actions taken to resolve the issue	Completion date	Remedial action status
Improving estimation accuracy is an ongoing process and actively pursued. We have also recently began exploring opportunities around using AI predictive modelling. We are also currently reviewing our processes in relation to when a profile change occurs	On-going	Identified
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 used in the billing process using a multiple step validation process.

1. 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.
2. 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, the 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.

Derive+ consumption validations.

Not all reads are used in the NHH submission process as provided by Gentrack to Derive+. Unvalidated meter reads for vacant ICPs where no occupier consumer has been set up are retrieved by Derive+ from

DRDS. Switch loss estimate reads for vacant ICPs are retrieved from the respective CS files. Month end midnight reads are provided from DRDS for all communicating AMI meters being settled as NHH. AMI meter reads are also retrieved as part of the profile changes from NHH to HHR and vice versa via the respective bulk update processes.

The Derive+ validation process undertakes three key validations:

- **Dial Roll-over** – looks for scenarios where a read roll over has occurred where the daily average exceeds 30 kWh per day to identify likely misreads/transposed meters/registers or where the switch gain read is lower than the most recent received reading by Genesis,
- **Trend Validation** – reads are validated on import into Derive+, by comparing the normalised consumption calculated by Derive+ to a seasonally adjusted upper and lower limit calculated for each ICP. If there is insufficient ICP history to enable the comparison, data is compared to an average value calculated across all ICPs, and
- **ICP volumes over 5,000 kWh** – all ICPs where the volume for the consumption period exceeds 5,000 kWh the ICP is placed on hold for individual review; the Reconciliation team reviews all ICPs over 10,000 kWh and releases any ICP where the high volume can be explained (the Reconciliation team attempts to work through the hold list down to 5,000 kWh where time and resources permit).

Any ICP/meter/register that does not pass any of these Derive+ validation steps is quarantined as part of an 'on holds' list where one of the Reconciliation team must review and then manually release the read for submission purposes or remove any invalid reads and trigger an appropriate forward estimate.

This enables these reads to be used for the Historic Estimate calculation of volumes.

The Gentrack billing 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.

Code	Description	Action
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.
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.

The structure of the High dollar bill validation (GDR0052) is very binary in that there is a single upper level ICP threshold per customer type (Residential/business). The $900 threshold for residential and $5,000 are applied to all ICPs irrespective of whether they are low or standard user or metering installation category 1 or 2 which can mean some misreads can get missed initially until they appear next billing cycle as a negative consumption exception. Additionally, being a financial threshold as energy rates increase the overall validation threshold reduces over time. Also, there is no recognition of AMI reads in the validation process, where the risk of a misread due to human error is eliminated, therefore AMI reads can potentially be subject to a different set of validation thresholds to reduce the occurrence of false positive exceptions being identified.

I repeat the previous audits recommendation that a Gentrack meter read validation process be implemented at a meter register level to look to sudden changes in consumption patterns that would support processes to identify phase failure, stopped meters or the installation of distributed generation as this will reduce the impact of these read exceptions on the reconciliation/submission process at month end.

Description	Recommendation	Audited party comment	Remedial action
Improve Gentrack consumption pattern validation by implementing meter register level consumption pattern checks	Implement meter register level consumption validation that will identify a sudden/unexpected change in consumption pattern for each meter register to better support processes to identify phase failure, stopped/faulty meters or the recent installation of distributed generation.	We have processes in place to investigate zero consumption to see if it is legitimate or if the meter may have stopped. We will investigate what can be done to improve our controls in relation to phase failure.	Identified

Vacant consumption

A vacant disconnection process is followed for vacant ICPs, and I confirmed that consumption is submitted for vacant ICPs where Derive+ is able to retrieve a meter read from Gentrack as described 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. These are passed to the one revenue assurance analyst to get the customer either to sign up, or the customer switches away. Where the ICP does switch away the CS file will include the move out read as the switch out read/estimate even if a scheduled meter read has been received since the move out. Where the ICP is settled as HHR this does create a mismatch between the consumption submitted as HHR compared to the register reads used in the switch process.

The vacant report/process generates automated emails that are uploaded into the NEXUS work management tool which creates work queues that track the progress of tasks and where the exceptions team updates the status as each exception is worked.

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 now being worked on by the Exceptions team. This is now resulting in consumption being submitted where an adjustment/correction is being applied in Gentrack by adjusting the removed read of the faulty meter – however not all stopped/faulty meters have corrections applied. The non-compliance is recorded below.

Potential stopped and/or faulty meters may also be referred to revenue assurance for investigation and correction.

As detailed in **section 2.17**, bridged meters have not always consistently investigated and corrected in a timely manner, though recent improvements in the timeliness have been observed for GENE since the formation of the exceptions team. Some volume corrections have been applied in Derive+ only to resolve previous backlogs of corrections while others have been corrected via Gentrack. GEOL does not use salesforce case management to track these exceptions so rely on emails to track these.

With multiple teams involved across both participant codes and manual hand offs between these teams and no single complete register of ICPs with bridged meters/zero consumption/stopped meters there is a risk that not all exceptions identified will be resolved in a timely manner and consumption corrections fully applied. I repeat the previous audits recommendation to develop a central register of all potential

bridged/stopped meters to ensure there is adequate oversight that the end-to-end processes have been completed.

Description	Recommendation	Audited party comment	Remedial action
Develop a central register of all potential bridged/stopped meters.	Implementing a central register across all participant codes will ensure all potential exceptions are fully investigated, resolved, and where required consumption corrections made. This central register will also enable root cause analysis to be conducted in order to support initiatives to reduce the incidence of bridged/stopped meters.	We do maintain a registrar / reconciliation of all bridged meters and follow these through until they are resolved. If a bridged meter was missed this would be picked up by our automated stopped meter process. Which is run daily, any meter that are investigated and noted as 'genuine zero consumption' will only be excluded for 6 months and will them be picked up again by the report for further investigation.	Investigating

Disconnected ICPs with consumption

This process was reviewed and all disconnected ICPs with consumption detected between two validated actual reads within the inactive period investigated. The report does not currently consider the disconnection read in the detection of consumption. The reason why disconnection reads are not used is due to the proportion of disconnection reads being estimated as opposed to actual reads being retrieved and applied within Gentrack. In many cases a suitable disconnection/reconnection read is available either in the notes of the work request or available in the AMI meter read table. However, these reads are not consistently used.

I recommend that Genesis looks at ways to improve the capture of disconnection/reconnection reads to improve the accuracy of the inactive consumption monitoring process and enable more timely intervention where inactive consumption occurs.

Description	Recommendation	Audited party comment	Remedial action
Improve disconnection read capture.	Refine data capture processes around disconnections and reconnection to retrieve actual reads from either the AMI meter read tables or the work requests to improve the accuracy of the inactive consumption report.	We will investigate this recommendation further	Investigating

At the time of the audit there were 1,557 ICPs identified where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 111,625 kWh. These are being worked through with the higher volume records being investigated first. The oldest exception is from September 2022.

Some exceptions on the inactive consumption report are false positives as the report uses Gentrack as its source of connection status. Where an ICP switches away from Genesis while inactive then where the ICP switches back to Genesis the report retrieves both the last actual read from Genesis's previous tenure and also considers the entire switched period as inactive resulting in a false positive exception. I recommend that the inactive consumption report uses registry trader tenure and status information as the source to determine the inactive periods to assess if any consumption has been detected.

Description	Recommendation	Audited party comment	Remedial action
Inactive Consumption Report	Inactive consumption report should use registry trader tenure and status information as the source to determine the inactive periods to assess if any consumption has been detected.	We have vacant / disconnected reporting in place and each item on the report is investigated / corrected. We will continue to review and look for ways to strengthen this process	Investigating

Inactive consumption may also be referred to revenue assurance for investigation and correction. Where the cause of the inactive consumption exception is due to a meter reader misread, the invalid meter read is not corrected within the meter read database but only in Gentrack. As the source of meter reads for the inactive consumption report is the meter reads database the exception remains as an ongoing false positive exception to be excluded. The means that if the ICP does genuinely start consuming there is a risk that it will not be investigated.

MSD validations

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-Apr-22 To: 11-Jan-23	**GENE** and **GEOL** Not all inactive consumption is being captured. Potential impact: Medium Actual impact: Unknown Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate overall. Expected validations are being managed. However, the current level of reporting does not identify all potential exceptions for investigation (inactive consumption). The impact is assessed to be low but is unknown as to how much consumption is occurring due to not all inactive consumption exceptions being identified.

Actions taken to resolve the issue	Completion date	Remedial action status

As soon as we receive a meter read that suggests inactive consumption it is picked up in the reporting in place and each item on the report is investigated / corrected. We will continue to review and look for ways to strengthen this process	On-going	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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.

The AMS agent audit report was reviewed.

Audit commentary

GENE and GEOL

Electronic meter reading information is provided by MEPs. 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.

Meter events which could affect meter accuracy are emailed by some MEPs to GENE or GEOL's billing crew for action, which may include contacting the customer or raising a fault. I reviewed 20 examples of these emails received by GENE and GEOL from MEPs, including tamper alarms, voltage spikes, battery alarms, memory failures, over current events, voltage on load side of meter and reverse rotation and found that appropriate action had been taken for ten examples, however for the remaining ten where the

MEP is either recommending a work order is raised to enable the meter to be replaced (seven ICPs) or follow up with the customer is required as the load recorded by the meter is exceeding the rated capacity of the meter (three ICPs), either no work order has been raised or only initial attempts were made to contact the customer without success.

AMS (NGCM, ARCS, SMCO), Intellihub (MTRX, IHUB) and Influx (FCLM) provide meter event logs which are received by GENE and GEOL but are not reviewed. Because not all AMI MEPs have confirmed that they separately send any events requiring action there is a risk that not all meter accuracy events are identified and actioned.

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.

GENE and GEOL also conduct consumption validation for all HHR submitted AMI ICPs by performing a sum check comparison between the AMI midnight reads and the sum of the respective interval data. An exception list is produced for the reconciliation team to review and either release the data or escalate this issue to the respective MEP and replace the invalid interval data with an appropriate estimate.

An assessment of the count of AMI HHR intervals estimated for use in the GENE and GEOL HHR submission for the January 2022 submission was performed. Genesis performed estimations for six million intervals out of a total number of intervals submitted of 785.9 million intervals (0.77 % of all intervals estimated).

While the percentage of intervals estimated is relatively low as a proportion of total intervals used for HHR submission, the number of individual ICPs impacted is a higher percentage. The impact of this outstanding estimated interval data at the 7-month wash- up period in terms of both submission accuracy (+/- 10%) and also the impact to the last opportunity to produce accurate seasonal shapes for NHH submission for all NHH retailers cannot be quantified as there is no formal reporting in place, or escalation of outstanding data to the MEPs, or the amount of HHR estimations that used the default 0.5 kWh per interval method. I repeat the previous audits recommendation to identify and escalate missing AMI HHR data to the respective MEPs to determine if the data is in fact unrecoverable or just not delivered.

Description	Recommendation	Audited party comment	Remedial action
Identification and escalation of missing AMI interval data to MEPs.	Develop and implement reporting of missing /estimated interval data used in submission and the process to escalate these instances to the relevant AMI MEP for resolution.	We will investigate this recommendation, however feel that this is low impact / priority	Investigating

GENH

The AMS 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 the 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

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 9.6
With: Clause 17 Schedule 15.2

From: 01-Apr-22
To: 11-Jan-23</td><td colspan="3">GENE and GEOL
Not all AMI meter event logs are reviewed to identify and investigate any that may affect the integrity of metering data.
Potential impact: Low
Actual impact: Low
Audit history: Once
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">Controls of notified meter events are strong however not all AMI MEPs provide explicit emails notifying Genesis of a potential issue that may impact the accuracy of the AMI meter.</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">We will review our process in relation to meter events / logs</td><td>TBC</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">As above</td><td></td></tr>
</table>

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 has responsibilities for the provision of information to the grid owner. EMS conducts this activity as an agent. Compliance is confirmed in the EMS agent report.

Audit commentary

Genesis has responsibilities for the provision of information to the grid owner. EMS conducts this activity as an agent. Compliance is confirmed in the EMS agent report.

Audit outcome

Compliant

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

Code reference

Clause 13.137

Code related audit information

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

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

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

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

Audit observation

Genesis has responsibilities for the provision of information to the grid owner. EMS conducts this activity as an agent. Compliance is confirmed in the EMS agent report.

Audit commentary

Genesis has responsibilities for the provision of information to the grid owner. EMS conducts this activity as an agent. Compliance is confirmed in the EMS agent report.

Audit outcome

Compliant

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

Code reference

Clause 13.138

Code related audit information

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

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

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

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

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

Audit observation

Genesis has responsibilities for the provision of information to the grid owner. EMS conducts this activity as an agent. Compliance is confirmed in the EMS agent report.

Audit commentary

Genesis has responsibilities for the provision of information to the grid owner. EMS conducts this activity as an agent. Compliance is confirmed in the EMS agent report.

Audit outcome

Compliant

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

Code reference

Clause 13.140

Code related audit information

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

Audit observation

Genesis has responsibilities for the provision of information to the grid owner. EMS conducts this activity as an agent. Compliance is confirmed in the EMS agent report.

Audit commentary

Genesis has responsibilities for the provision of information to the grid owner. EMS conducts this activity as an agent. Compliance is confirmed in the EMS agent report.

Audit outcome

Compliant

11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

11.1. Buying and selling notifications (Clause 15.3)

Code reference

Clause 15.3

Code related audit information

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

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

Audit observation

Processes to create buying and selling notifications were reviewed. I checked whether any breach allegations had been made.

Audit commentary

One breach allegation (Ref: 2212GENE1) occurred during the audit period that was directly related to the late provision of a Seller (I direction) HHR trading notification for KOE1101 beginning 12 October 2022. While the I direction volume was stripped out of the October submission while Genesis's HHR agent AMS waited for a trading notification to be lodged with the RM, however for November both the X and I direction volumes for KOE1101 were removed from the AV-090 datafile prior to submission. The Reconciliation Manager identified the shortfall in overall submission information for KOE1101 and once they alerted Genesis's HHR agent a replacement file was provided. Genesis identified and implemented a number of improvements to the controls around monitoring the need for trading notification and also the controls around HHR data submission when the file initially fails any precheck process including the RM file checker.

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.

Genesis has extended checks around trading notifications and population of their profile shape file to ensure both the NHH submission file (AV-080) and the profile shape file (AV-100) are aligned for all submissions and wash ups prior to these files being uploaded into the reconciliation managers portal.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 11.1 With: Clause 15.3 From: 01-Apr-22 To: 11-Jan-23	HHR Seller (I direction) trading notification for KOE1101 was not notified to the Reconciliation Manager prior to the commencement of trading. 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 overall as trading notification are regularly provided accurately and on time. The impact of the late provision of a trading notification was assessed as low as there was a small under submission of I direction volume.

Actions taken to resolve the issue	Completion date	Remedial action status
Controls have been implemented to negate the risk of this happening in the future	01/04/2023	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 a sample of GR100 reports.

Alleged breaches were reviewed.

Audit commentary

No alleged breaches were recorded for late provision of ICP days information.

GENE

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.

HHR and NHH ICP days are provided on separate reports. The process for the calculation of ICP days was examined by checking 100 NSPs with a small number of HHR ICPs and 100 NSPs with a small number of NHH ICPs on the November 2022 submission. The ICP days calculation was confirmed to be correct.

For the AV-090 file selection criteria the process to select the relevant ICPs and submission period relies on an up-to-date registry file that is used to select the relevant data selection window for each HH ICP. This ensures ICP days alignment with the registry and very few, if any, mismatches are identified. However, the use of this process also means that where an HHR settled ICP is disconnected, the volume between midnight the day prior to the disconnection date and the actual disconnection effective time is not included in the GENE/GEOL AV-090 submission files as the registry reflects the change of status as being from the beginning of the day. The non-compliance is recorded in **section 12.7** – Accuracy of submission information.

ICP days comparison

The tables below show the difference between the AV110 ICP days submissions and the RM return file (GR100) for all available revisions for 23 months for GENE for both NHH and HHR submission types. Negative percentage figures indicate that the Genesis Energy AV110 ICP days figures are higher than those contained on the registry, and positive figures indicate that the registry's figures are higher than those contained in the AV110.

HHR

Month	R0	R1	R3	R7	R14
Jan 2021	-	-	-	-	0.00%
Feb 2021	-	-	-	-	0.00%
Mar 2021	-	-	-	-	0.00%
Apr 2021	-	-	-	-	0.00%
May 2021	-	-	-	-	0.00%
Jun 2021	-	-	-	0.00%	0.00%

Month	R0	R1	R3	R7	R14
Jul 2021	-	-	-	0.02%	0.00%
Aug 2021	-	-	-	-0.13%	0.00%
Sep 2021	-	-	-	0.00%	0.02%
Oct 2021	-	-	0.00%	0.00%	-
Nov 2021	-	-	0.01%	0.00%	-
Dec 2021	0.01%	0.01%	0.00%	0.00%	-
Jan 2022	0.02%	0.01%	0.00%	0.00%	-
Feb 2022	0.01%	0.00%	0.00%	0.00%	-
Mar 2022	-0.02%	0.01%	0.00%	0.00%	-
Apr 2022	0.00%	0.00%	0.00%	0.02%	-
May 2022	0.00%	0.00%	0.00%	0.00%	-
Jun 2022	0.00%	0.00%	0.00%	-	-
Jul 2022	0.01%	0.01%	0.00%	-	-
Aug 2022	0.03%	0.00%	0.41%	-	-
Sep 2022	0.00%	0.00%	0.00%	-	-
Oct 2022	0.00%	0.44%	-	-	-
Nov 2022	0.00%	0.00%	-	-	-

NHH

Month	R0	R1	R3	R7	R14
Jan 2021	-	-	-	-	-0.01%
Feb 2021	-	-	-	-	0.00%

Month	R0	R1	R3	R7	R14
Mar 2021	-	-	-	-	0.00%
Apr 2021	-	-	-	-	0.00%
May 2021	-	-	-	-	0.00%
Jun 2021	-	-	-	-0.01%	0.00%
Jul 2021	-	-	-	-0.04%	-0.01%
Aug 2021	-	-	-	-0.01%	0.00%
Sep 2021	-	-	-	-0.01%	0.00%
Oct 2021	-	-	-0.01%	-0.01%	-
Nov 2021	-	-	0.00%	-0.01%	-
Dec 2021	0.01%	-0.01%	-0.01%	-0.01%	-
Jan 2022	0.10%	0.00%	0.00%	-0.01%	-
Feb 2022	0.13%	0.04%	-0.01%	-0.01%	-
Mar 2022	0.02%	-0.03%	-0.01%	-0.01%	-
Apr 2022	0.01%	0.00%	0.00%	0.00%	-
May 2022	0.03%	-0.01%	0.00%	0.00%	-
Jun 2022	-0.06%	-0.01%	0.00%	-	-
Jul 2022	0.02%	0.00%	-0.01%	-	-
Aug 2022	0.06%	-0.01%	0.15%	-	-
Sep 2022	0.01%	-0.01%	0.00%	-	-
Oct 2022	0.02%	0.17%	-	-	-

Month	R0	R1	R3	R7	R14
Nov 2022	0.02%	0.00%	-	-	-

The GENE process for upgrades and downgrades achieves 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 100 NSPs with a small number of NHH ICPs and 100 NSPs with a small number of HHR ICPs on the November 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 23 months, and small differences were found. Negative percentage figures indicate that the GEOL ICP days figures are higher than those contained on the registry.

HHR

Month	R0	R1	R3	R7	R14
Jan 2021	-	-	-	-	0.00%
Feb 2021	-	-	-	-	0.00%
Mar 2021	-	-	-	-	0.00%
Apr 2021	-	-	-	-	0.00%
May 2021	-	-	-	-	0.00%
Jun 2021	-	-	-	-	0.00%
Jul 2021	-	-	-	-	0.00%
Aug 2021	-	-	-	-	0.00%
Sep 2021	-	-	-	0.00%	0.00%
Oct 2021	-	-	0.00%	0.00%	-
Nov 2021	-	-	0.01%	0.00%	-
Dec 2021	-0.01%	0.01%	0.00%	0.00%	-
Jan 2022	0.00%	0.01%	0.00%	0.00%	-

Month	R0	R1	R3	R7	R14
Feb 2022	0.02%	0.01%	0.00%	0.00%	-
Mar 2022	-0.03%	0.01%	0.00%	0.00%	-
Apr 2022	0.00%	0.00%	0.00%	0.00%	-
May 2022	0.01%	0.01%	0.00%	0.00%	-
Jun 2022	0.01%	0.00%	0.00%	-	-
Jul 2022	0.00%	0.00%	0.00%	-	-
Aug 2022	0.00%	0.00%	0.00%	-	-
Sep 2022	-0.01%	0.00%	0.00%	-	-
Oct 2022	0.00%	0.00%	-	-	-
Nov 2022	0.00%	0.00%	-	-	-

NHH

Month	Ri	R1	R3	R7	R14
Jan 2021	-	-	-	-	0.00%
Feb 2021	-	-	-	-	0.00%
Mar 2021	-	-	-	-	0.00%
Apr 2021	-	-	-	-	0.00%
May 2021	-	-	-	-	0.00%
Jun 2021	-	-	-	-	0.01%
Jul 2021	-	-	-	-	0.05%
Aug 2021	-	-	-	-	0.00%
Sep 2021	-	-	-	0.00%	0.00%

Month	Ri	R1	R3	R7	R14
Oct 2021	-	-	0.01%	0.00%	-
Nov 2021	-	-	-0.01%	0.00%	-
Dec 2021	0.02%	0.01%	0.01%	0.00%	-
Jan 2022	0.00%	0.00%	0.00%	0.00%	-
Feb 2022	-0.19%	0.03%	0.01%	0.00%	-
Mar 2022	0.01%	0.00%	0.00%	0.00%	-
Apr 2022	0.05%	0.00%	0.00%	0.00%	-
May 2022	0.04%	0.00%	0.00%	0.00%	-
Jun 2022	-0.23%	0.01%	0.00%	-	-
Jul 2022	0.03%	0.01%	0.00%	-	-
Aug 2022	0.01%	0.01%	0.00%	-	-
Sep 2022	0.04%	-0.01%	0.00%	-	-
Oct 2022	0.06%	0.00%	-	-	-
Nov 2022	0.01%	0.00%	-	-	-

The GEOL process for upgrades and downgrades achieves 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 the AMS audit report.

The process for the calculation of ICP days was examined by checking 50 NSPs with a small number of ICPs on the November 2022 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 23 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 2021	-	-	-	-	0.00%
Feb 2021	-	-	-	-	-0.05%
Mar 2021	-	-	-	-	-0.05%
Apr 2021	-	-	-	-	-0.05%
May 2021	-	-	-	-	-0.05%
Jun 2021	-	-	-	-0.10%	-0.05%
Jul 2021	-	-	-	-0.05%	0.00%
Aug 2021	-	-	-	-0.03%	-0.08%
Sep 2021	-	-	-	-0.10%	0.10%
Oct 2021	-	-	-0.15%	-0.10%	-
Nov 2021	-	-	0.05%	0.05%	-
Dec 2021	-0.09%	-0.07%	-0.01%	0.04%	-
Jan 2022	-0.09%	-0.10%	-0.02%	-0.02%	-
Feb 2022	-0.25%	0.01%	0.00%	0.00%	-
Mar 2022	-0.04%	-0.05%	-0.09%	0.00%	-
Apr 2022	0.11%	-0.07%	0.00%	0.27%	-
May 2022	0.05%	-0.01%	0.03%	0.25%	-
Jun 2022	-0.01%	-0.10%	-0.04%	-	-
Jul 2022	-0.18%	-0.07%	-0.07%	-	-
Aug 2022	-0.35%	-0.11%	0.10%	-	-

Month	Ri	R1	R3	R7	R14
Sep 2022	-0.14%	-0.09%	0.19%	-	-
Oct 2022	0.61%	0.00%	-	-	-
Nov 2022	-0.87%	-0.09%	-	-	-

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 January 2021 to October 2022 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

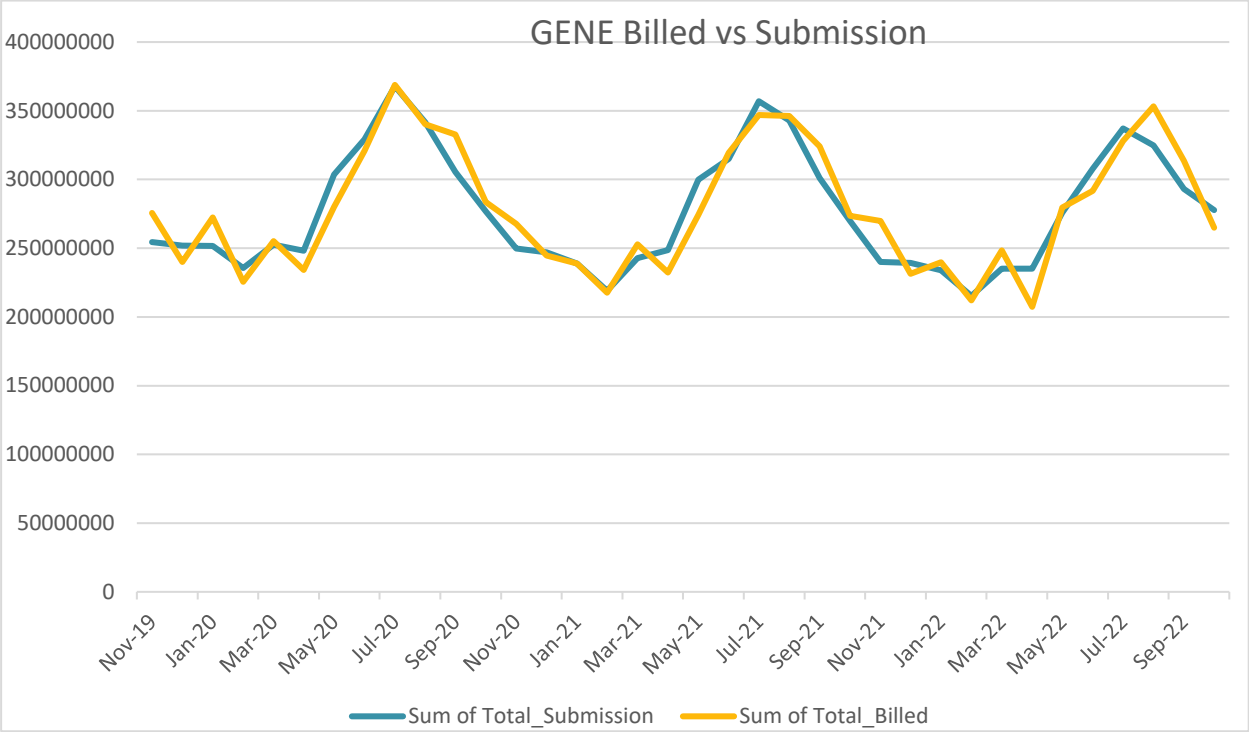
GENE

The process for the calculation of "as billed" volumes was examined by checking December 2022 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 November 2019 to October 2022, and the results are shown below. The difference between billed and submitted data for the year ended October 2022 is 1.0% (billed higher than submitted) and the two years ended October

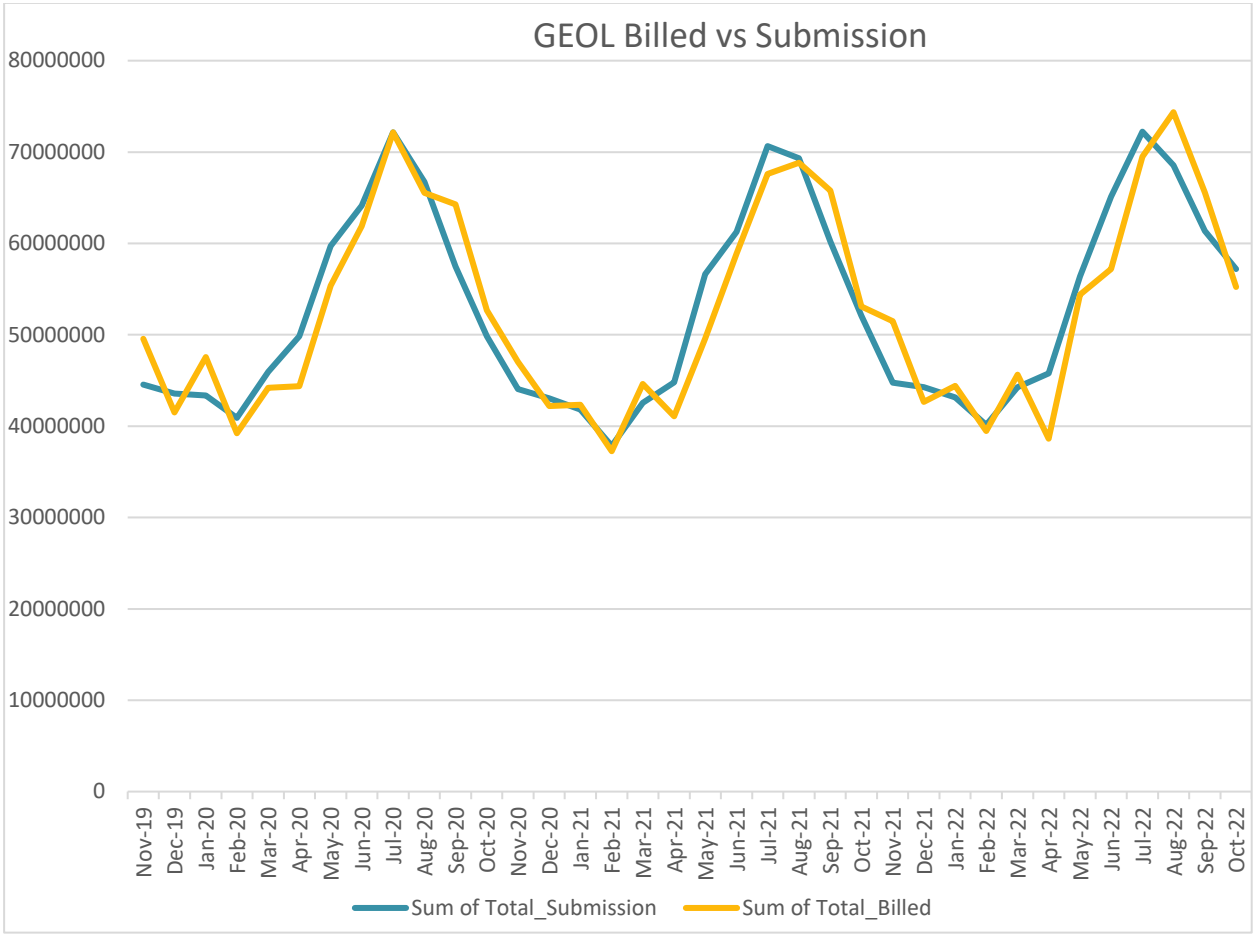
2022 is 0.5% (billed higher than submitted). The differences between billed and submitted data largely appear to be timing differences.



GEOL

The process for the calculation of "as billed" volumes was examined by checking December 2022 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.

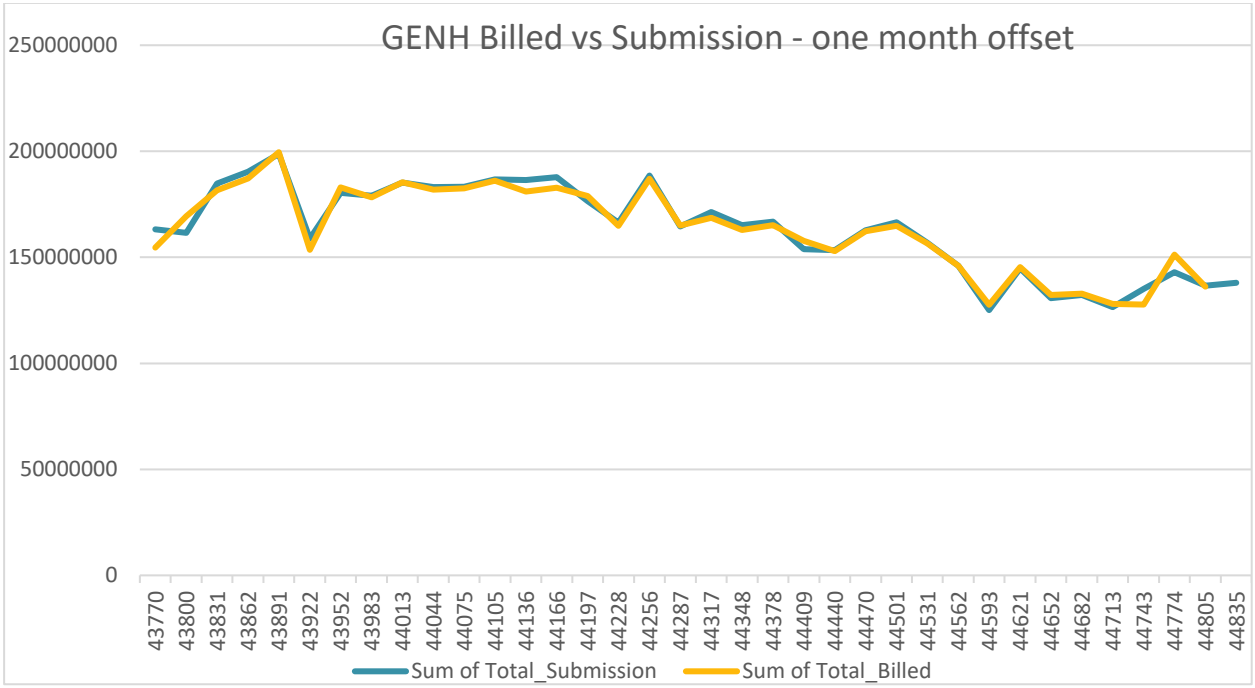
I checked the difference between submission and electricity supplied information for November 2019 to October 2022, and the results are shown below. The difference between billed and submitted data for the year ended October 2022 is 0.1% (billed higher than submitted) and the two years ended October 2022 is -0.3% (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 December 2022 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 November 2019 to October 2022, and the results are shown below. The difference between billed and submitted data for the year ended October 2022 is 0.3% (billed higher than submitted) and the two years ended October 2022 is -0.3% (billed lower than submitted). The differences 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

Using relevant volume information, each retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity consumed 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 that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data for a sample of submissions. Aggregates data was also matched to the raw meter reading data for a sample of ICPs.

The GR090 ICP Missing files were examined for all revisions for July 2021 to November 2022, and an extreme case sample of the ICPs which were missing from the most submissions were checked.

Audit commentary

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 ten submissions for GEOL and ten submissions for GENE. In all cases there were small rounding differences of less than ± 161 kWh and ± 0.000%. Detailed reconciliations at NSP level for a sample of GENE and GEOL submissions confirmed that the differences were due to rounding.

The GR090 ICP missing reports are not specifically monitored by GENE and GEOL, ICP differences are primarily identified through monitoring of ICP days. I examined the GR090 ICP Missing files for all revisions for July 2021 to November 2022.

GENE

I reviewed a sample of 22 ICPs recorded in the GR090 ICPMISS reports for January 2021 onwards and found:

- 13 related to backdated registry events and backdated switches,
- eight related in delays completing meter changes that also resulted in a change in submission type (NHH to HHR), and
- one related to an incorrect trader event which has now been updated to reflect the correct submission type.

As recorded in the previous audit, Hau Nui Wind Farm ICPs 0696299004PC30D and 0696299005PCF48 are missing from the HHRAGGS file as a manual HHRVOLS (AV-090) file is created for these ICPs due to the data originating from Stark and there is no formal interface between Stark and Derive. No corresponding manual entries are added to the HHRAGGS or ICPDAYS file; the consequence of this is a small amount of ICP Days scaling is applied to GENE HHR volumes by the RM. Genesis is working on improvements to MSD that will enable the correct ICP Days count to be reported for the Hau Nui Wind Farm.

Late status and trader updates are discussed in **sections 3.3** and **3.5**, and backdated switches are discussed in **section 4.**

GEOL

I reviewed a sample of six ICPs recorded in the GR090 ICPMISS reports for January 2021 onwards and found:

- one (ICP 0000712529TU4A6) related to backdated switch activity,
- two (ICPs 0180596160LCB96 and 0000132555UN8A4) were backdated status changes to correctly reflect the connection status in the field,
- one (ICP 0467097011LC7F5) relates to a backdated switch loss however GEOL continued to submit volume for this ICP in the next revision, and
- two (ICPs 0000140203UN7D8 and 0169136507LCAF8) had updated submission type changes from HHR to NHH due to the lack of available HHR data for submission; the registry was not updated at the time and events were eventually provided and were back dated (over six months) to ensure alignment between Genesis systems and the registry.

Late status and trader updates are discussed in **sections 3.3** and **3.5**, and backdated switches are discussed in **section 4.**

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 ten submissions. In nine cases there were small rounding differences of less than ± 107 kWh and ± 0.000%. For July 2022 R3 the difference between HHR

Aggregates and HHR volumes is 90,476 kWh. The cause of this difference is missing HHR volumes for NSP TFM0011 however ICP 0004557780TC6F0 belonging to this NSP is present in the respective HHR Aggregates file. Genesis is investigating the cause of this error with their HHR agent.

The process or calculation of volumes was checked by comparing raw meter data from MV90 against aggregates information as part of the AMS audit.

I reviewed a sample of ten ICPs recorded in the GR090 ICPMISS reports for January 2021 onwards and found:

- seven related to incorrect initial set ups which required remedial action from Genesis HHR agent,
- one related to a late switch withdrawal between GENH and GENE (backdated switches are discussed in **section 4**), and
- two related to backdated NSP changes notified by the distributor however these were not identified by Genesis HHR agent so volumes continued to the reported against the initial NSP.

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-Apr-22 To: 11-Jan-23	Hau Nui Wind Farm ICPs 0696299004PC30D and 0696299005PCF48 are missing from the HHRAGGS file. 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 overall, but as a manual HHRVOLS (AV-090) file is created for these ICPs due to the data originating from Stark and there is no formal interface between Stark and MSD, no corresponding entries are added to the HHRAGGS or ICPDAYS file.

Actions taken to resolve the issue	Completion date	Remedial action status
Hau Nui has now been incorporated into the mass market HHR data. Stark provides the volumes which are loaded into Market Submission. The days and volumes are now included in the submissions	01/04/2023	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 daylight savings changes were checked to confirm the correct number of trading periods were recorded.

Audit commentary

GENE and GEOL

Daylight savings processes for AMS (NGCM and SMCO), Influx, IntelliHUB (IHUB and MTRX), ARC, and ACCM 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.

Genesis is monitoring ICPs where the installation type is changed to B by distributors and for a number of networks Genesis is advised by the distributor that a DG application has been approved by them. Both triggers enable genesis to engage with their customers to arrange suitable I flow metering to be installed.

There are still delays in either installing a meter with an I flow register or getting a customer's acceptance for the ICP to be added to the gifting register where customers are reluctant to engage with Genesis around metering upgrades, as the follow up by the HomeGen team is inconsistent. A recommendation is recorded in **section 6.1** regarding the timeliness of follow up with customers to arrange appropriate metering to be installed or the ICP added to the gifting register.

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 - NHH

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. Where the entire read-to-read period is inactive (in the case of disconnection estimate reads treated by derive as actual), 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.**

At the time of the audit there were 1,557 ICPs identified where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 111,625 kWh. These are being worked through with the higher volume records being investigated first. The oldest exception is from September 2022.

Some exceptions on the inactive consumption report are false positives as the report uses Gentrack as its source of connection status. Where an ICP switches away from Genesis while inactive then where the ICP switches back to Genesis the report retrieves both the last actual read from Genesis's previous tenure and also considers the entire switched period as inactive resulting in a false positive exception

Ten ICPs were reviewedwith the highest positive/negative values of disconnected consumption, and found:

- five were false positive exceptions due to ICPs switching away historically as inactive then return as active ICPs – the report treats the switched period as an exception,

- three ICPs had the registry status updated to ensure all consumption recorded aligned with active periods,
- for ICP 0001450409UN0C4 the registry status was updated to "active" and back dated to November 2020 in October 2022; the cause of this extended period correction of status is that not all active consumption (31,131 kWh) will be recorded in the available revision window, and
- for ICP 0336105029LCA81, no update was applied to the status prior to the ICP switching away resulting in 151 kWh not being included in the submission process.

HHR volumes for day of disconnection

MSD uses registry information to determine the selection window for HHR submission information. The registry considers inactive status change to occur at the beginning of the day, so any consumption recorded from midnight prior to the physical disconnection to the disconnection time is not included in the AV-090 submission file.

Unmetered load

I checked a diverse sample of 20 GENE and GEOL ICPs with standard and shared unmetered load and identified that the information used to calculate submission information was incorrect for ICPs with shared unmetered load.

With the implementation of Derive+ in November 2022, the logic used to trigger an unmetered load calculation was amended to look at the profile code. Where the profile code is NST or CST then Derive+ will retrieve the monthly kWh values from the DUML database. Where the profile code is UML reflecting the ICP is solely unmetered, Derive+ will use the daily kWh value recorded on the registry and apply the number of active days for the ICP to calculate the unmetered load for submission. However ICPs with either shared unmetered load or a mix or metered and standard unmetered load, the profile code recorded on he registry is only RPS meaning the trigger used by Derive+ is not present to calculate unmetered load volumes for submission. Genesis is currently working on an enhancement to Derive + to ensure all unmetered load recorded in the registry is included in submission.

An assessment of the impact of this issue identified 260 GENE ICPs with an annualised volume impact of 20,786 kWh and 39 GEOL ICPs with an annualised volume impact of 3,197 kWh

A sample of ten unmetered load ICPs were reviewed where a placeholder daily kWh value of 0.5 kwh per day is recorded on the registry and no Retailer UNM details is recorded on the registry. The address information or ANZSIC code available on the registry indicated that these unmetered loads related to telecommunications cabinets associated with Vodafone. Vodafone has recently undergone a DUML audit and when comparing these results to this sample of ten ICPs it was confirmed that five ICPs are present in the Vodafone DUML database, so are no longer required and the remaining five ICPs were checked in the field, and it was confirmed that no unmetered load was present at these locations. I recommend that Genesis works with the distributor and Vodafone's current retailer to decommission these redundant ICPs once independent confirmation has been obtained.

Description	Recommendation	Audited party comment	Remedial action
Review historic unmetered load records where no description of unmetered load is present	Work with Wellington Electricity and other respective distributors to validate is historic unmetered load records where the daily kWh value is 0.5 kWh per day and no retailer or distributor UNM record is available to determine if this unmetered load is still valid.	We will pick this up as part of the unmetered process review that is mentioned in this audit	Identified

The operational hours of standard unmetered load were also reviewed to ensure this was consistent with the type of unmetered load recorded in the registry. 72 payphones are recorded on the registry with only 12 hours of operation recorded. Genesis also has 864 payphones where the hours of operation are recorded as 24 hours. Payphones do not normally have battery back up capability, so the operational hours recorded on the registry and used to calculate the daily kWh value appear inconsistent with both the other payphones traded by Genesis and the general operation of these phones. I recommend that Genesis review the operation characteristics with their customer and if it is found that these phones have 24 operational hours characteristics that the registry is updated to reflect this.

Description	Recommendation	Audited party comment	Remedial action
Review the operational characteristics of 72 unmetered payphones recorded with 12 hours of operation	Work with the customer associated with 72 unmetered payphones recorded with 12 hours of operation and review the operational characteristics of these phones with a view to updating the registry if the information is found to be incorrect.	We will liaise with the customer in relation to these payphones	Identified

Reconciled elsewhere ICPs

GENE has 19 ICPs that have "reconciled elsewhere" status:

- 13 relate to DUML and Genesis are investigating with the respective distributors whether these ICPs can be decommissioned given the load associated is recorded against another DUML ICP,
- for ICPs 0000062056CP2EA and 0000062058CP171, the distributor has confirmed these can now be decommissioned and the registry has been updated,
- ICP 0000360106TUA6A is a DOC site and is not supplied through the grid and no volumes are required to be submitted; Genesis have now updated the registry to "inactive – vacant",
- 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 so Genesis have now updated the registry to "inactive – vacant", and
- for ICPs 0096279100WR4B1 and 0096281200WRF2E, Genesis is working with the distributor to investigate whether these can be decommissioned.

Corrections

A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **sections 2.1, 2.17, 6.5, 8.1** and **8.2**.

A sample of ten bridged ICPs were reviewed to check if these has been unbridged and if corrections were processed and found:

- corrections were processed for the bridged period for eight of the ICPs and these volume correction calculations used an appropriate daily average consumption value for the affected period,
- one ICP (0795798202LCD5F) had switched away prior to being unbridged; no correction was applied for the affected bridged period, and
- one ICP (0000196544TR4FC) remains bridged since 19 October 2022 and there is an open works order with the MEP to un-bridge the meter.

I reviewed an additional sample of seven previously bridged ICP/meters from the previous audit to confirm if appropriate volume corrections had been applied retrospectively. One of this additional sample had a volume correction applied and six did not prior to the bridged period moving outside the available revision window.

The GEOL process for bridging and un-bridging 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 un-bridge job in these instances. In 2.17 I have repeated last year's recommendation that this process is reviewed to investigate how to improve visibility of these. No bridged meters were identified and provided for the audit to enable an assessment of impact to be performed.

Time corrections for IntelliHUB related to ICP 0000139594UNCEE with HHR submission type were reviewed where two time corrections of 50,809 and 9,486 seconds were recorded. The interval data was reviewed and identified that these time corrections resulted in a material data shift (zero volume recorded for the affected periods of multiple intervals). Further investigations identified that there had been a total of four significant time corrections over 7,000 seconds over the last four months for this ICP. Genesis have now escalated this ICP to the AMI MEP for investigation and possible meter replacement.

I reviewed one AMI meter event relating to a phase failure for ICP 0006111807RNF8E which occurred on 24 January 2022. The initial work order was sent to the incorrect service provider which delayed the resolution of this issue. The meter was replaced on 4 July 2022 however no volume correction was applied in either Gentrack or Derive+

I reviewed one AMI meter event relating to a phase failure for ICP 0000039561UN5DA which occurred on 23 August 2022. An attempted work order was created however was incomplete, so no investigation was undertaken, or correction of affected volume applied. Genesis have now sent an updated work order to the AMI MEP to investigate.

The Genesis policy around historic volume corrections are that they are only calculated and apportioned for the previous 14 months to align with the revision window. Where an error has been detected for a longer period of time, only a subset of the correction is applied.

ICP 0000112820WE032 was defective from 4 January 2021 to 30 March 2022 (450 days). No volume correction was applied and Genesis have now undertaken a HHR data correction as part of the audit. However, as there are only two months of the affected period available in the revision window, only 1,521 kWh of 12,015 kWh assessed volume impact will be applied as a HHR correction.

ICP 0000186897UN24F was defective from 19 June 2022 to 22 November 2022 (157 days). No volume correction has been applied for meter RD11102372 for the affected period.

GENH

As recorded in **section 1.6** - one alleged breach was recorded for incorrect provision of HHR submission information for KOE1101.

Breach ref	Clause breached	Status	Summary	Result
2212GENE1	Part 15 clause 15.2 (1) (a)	Fact finding	Breach relating to ensuring information is complete and accurate. The GENH November AV-090 RO file was submitted without volumes for KOE1101 being provided due to human error by Genesis's HHR agent AMS. The file was failing within the RM file checker validation process due to no HHR generation trading notification being in place for KOE1101. AMS attempted to strip the small amount of I flow volume from the AV-090 file to enable the file to load as a temporary measure while the trading notification was being set up however all volume was removed for this NSP. The RM queried the missing volume with Genesis on business day 6 and Genesis's HHR data agent sent a replacement file within two hours of the RM's initial query.	No result yet

HHR submissions are prepared by AMS as GENH's agent, as discussed in **section 11.4**.

Unmetered load

GENH supplies two active ICPs with unmetered load. These have not been set up in Derive+ and are not being submitted by either Genesis or their HHR agent AMS. Because AMS does not submit NHH volumes on behalf of Genesis, Genesis was previously submitting all GENH unmetered load as part of their GENE NHH submission within Derive. With the implementation of Derive+ this process has ceased.

Genesis is developing a process to enable a GENH NHH submission file to be created out of Derive+ and MSD to facilitate the submission of this unmetered load volume for these two ICPs.

This is recorded as a 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	**GENE** and **GEOL** ICP (0795798202LCD5F) switched away prior to being unbridged. No correction was applied for the affected bridged period. Six ICPs identified during the previous audit did not have corrections applied prior to the bridged period moving outside the available revision window.

From: 01-Apr-22 To: 11-Jan-23	Raw meter data not corrected for HHR ICP 0000139594UNCEE on four occasions where the time correction exceeded 7,000 seconds. NHH volume correction not applied for ICP 0006111807RNF8E where a phase failure was reported by the AMI MEP. NHH volume correction not applied for ICP 0000039561UN5DA where a phase failure was reported by the AMI MEP. Genesis's policy around historic volume corrections are that they are only calculated and apportioned for the previous 14 months to algin with the revision window. Where an error has been detected for a longer period of time, only a subset of the correction is applied. ICP 0001450409UN0C4 the registry status was updated to "active" and back dated to November 2020 in October 2022. The cause of this extended period correction of status is that not all active consumption (31,131 kWh) will be recorded in the available revision window. ICP 0336105029LCA81, no "active" status update was applied to the status prior to the ICP switching away resulting in 151 kWh is not being included in the submission process. Unmetered volumes for 260 GENE and 39 GEOL unmetered ICPs are not included in submission with an annual volume of 20,786 kWh and 3,197 kWh. HHR volumes for day of disconnection not included in submission. **GENH** Unmetered load volumes not being submitted in NHH submission for two ICPs. Potential impact: Medium Actual impact: Medium Audit history: Three times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate overall, but the processing of corrections and bridged/stopped meters has room for improvement. The impact is assessed to be medium due to: • the size of the missing UML volumes relating to shared unmetered load from submission, • the number and size of volume corrections identified where either no or only partial correction being performed in all some instances, and • some HHR volumes not submitted impacting seasonal shape values for all NHH traders.

Actions taken to resolve the issue	Completion date	Remedial action status

Our bridged meter processes have improved considerably but we will look to further strengthen these in relation to ICPs switching while they are still bridged and the submission of data. We are in the process of reviewing the end-end unmetered process and are looking to move the accountability to Market Settlements to improve compliance Hau Nui has now been incorporated into the mass market HHR data. Stark provides the volumes which are loaded into Market Submission. The days and volumes are now included in the submissions. GENH UML. This has now been corrected in Derive+ this process occurred in the old Derive.	On-Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 16 months and updates Derive+.

Metering and reading data are 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). Genesis have been making progress reviewing volume exceptions down to 5,000 kWh on a consistent basis where time and resources allow.

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 submission file 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 nine 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 are 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 or inaccurate. Corrections were reviewed in **sections 2.1, 8.1** and **8.2**.

Audit commentary

One breach was recorded for incomplete provision of HHR submission information relating to KOE0331 for November 2022.

GENE and GEOL

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

Subject	Section	Comments	All practicable steps taken?
Defective meters	2.1, 12.2	Defective meters are typically identified from information provided by the meter reader, agent, the MEP, or the customer. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect, and a consumption correction is processed if necessary. Corrections are normally processed by recording an estimated closing read on the replaced meter, which is calculated using the daily average consumption for the new meter	No

		or the replaced meter prior to the fault. This process was used for those ICPs where corrections were conducted. I reviewed eight examples of potential stopped or faulty meters for GEOL and found all were operating correctly and no corrections were required. I reviewed ten examples of potentially stopped or faulty meters for GENE and found seven corrections were processed and three ICPs did not have corrections applied in full. NHH correction for ICP 0006111807RNF8E relating to a phase failure was not performed. Where errors occur for a period longer than 14 months, the volume correction applied is only a subset (14 months) of the affected period. HHR ICP 0000112820WE032 was defective from 4 January 2021 to 30 March 2022 (450 days). No volume correction was applied, and Genesis have now undertaken a correction as part of the audit. However as there are only two months of the affected period available in the revision window, only 1,521 kWh of 12,015 kWh assessed volume impact will be applied as a HHR correction. I reviewed one AMI meter event relating to a phase failure for HHR ICP 0000039561UN5DA which occurred on 23 August 2022. An attempted work order was created however was incomplete, so no investigation was undertaken or correction of affected volume applied. Genesis have now sent an updated work order to the AMI MEP to investigate.	
Incorrect multipliers	8.2	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 eight multiplier corrections for GENE and confirmed that the corrected data flowed through to revision submissions for all of the ICPs.	Yes
Bridged meters	2.1,2.17, 6.4	Bridged meters are identified through a key word query that scans across all returned service request paperwork looking for words and phrases that indicates a meter has been bridged or bypassed. A summary spreadsheet was provided of 77 bridged meters for GENE, which showed that the process was not always operating as intended. Zero-consumption monitoring is now being performed. **GENE** A check of 77 bridged meters showed that 11 were still bridged. A sample of ten bridged ICPs were reviewed to check if these has been unbridged and if corrections were processed and found:	No

		• corrections were processed for the bridged period for eight of the ICPs and these volume correction calculations used an appropriate daily average consumption value for the affected period, • one ICP (0795798202LCD5F) had switched away prior to being unbridged; no correction was applied for the affected bridged period, and • one ICP (0000196544TR4FC) remains bridged since 19 October 2022 and there is an open works order with the MEP to un-bridge the meter. **GEOL** The GEOL process for bridging and un-bridging 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 un-bridge job in these instances. I have repeated last year's recommendation that this process is reviewed to investigate how to improve visibility of these. No bridged meters were identified and provided for the audit to enable an assessment of impact to be performed.	
Consumption while inactive	2.1	At the time of the audit there were 1,557 ICPs identified where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 111,625 kWh. These are being worked through with the higher volume records being investigated first. The oldest exception is from September 2022. Some exceptions on the inactive consumption report are false positives as the report uses Gentrack as its source of connection status. Where an ICP switches away from Genesis while inactive then where the ICP switches back to Genesis the report retrieves both the last actual read from Genesis's previous tenure and also considers the entire switched period as inactive resulting in a false positive exception. I reviewed the ten ICPs with the highest positive/negative values of disconnected consumption, and found: • five were false positive exceptions due to ICPs switching away historically as inactive then return as active ICPs – the report treats the switched period as an exception, • three ICPs had the registry status updated to ensure all consumption recorded aligned with active periods, • for ICP 0001450409UN0C4 the registry status was updated to "active" and back dated to November 2020 in October 2022; the cause of this extended period correction of status is that not all active consumption (31,131 kWh) will be recorded in the available revision window, and • for ICP 0336105029LCA81, no update was applied to the status prior to the ICP switching away resulting in 151 kWh not being included in the submission process.	No

Unmetered load corrections	2.1, 3.7, 12.2	Derive+ uses the daily kWh value on the registry as its source of unmetered load information. GENE The AC020 report recorded 41 ICPs where the daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh. All were examined and found: • 33 were DUML ICPs and are compliant, • three shared unmetered load ICPs had their expected load miscalculated by the report, and the trader daily unmetered kWh matched the manually calculated expected value within 0.1 kWh, • for ICP 0000557920UN07D and 0007129218RNA62 Genesis' daily unmetered kWh were confirmed to be correct during the previous audit, • ICP 0006980902RN6D0 has now been corrected, • ICP 0000006083TE8E2 has the correct unmetered load recorded by GENE, • ICP 0080011453PC15F was updated to reflect there are six unmetered lights present; the UNM details – Retailer field was updated but the daily kWh value was not updated from 2 kWh per day to 10.98 kwh per day, and • ICP 0080011699PCE26 was updated to reflect there are three unmetered lights present; the UNM details – Retailer field was updated but the daily kWh value was not updated from 2 kWh per day to 6 kwh per day. ICP 1000544328PCC4B appears to one NZTA flag light, which will be added to the Lower North Island DUML database.	No
HHR part day volumes not submitted for disconnection day	12.2	MSD uses registry information to determine the selection window for HHR submission information. Registry considers inactive status change to occur at the beginning of the day, so any consumption recorded from midnight prior to the physical disconnection to the disconnection time is not included in the AV-090 submission file.	No

I checked the issues identified for GENE in the previous audit where corrections were still required. The table below shows these findings.

Issue	Section	Description	Status
NHH bridged meter corrections	**2.1**	I checked 30 ICPs from the previous audit where meters had been bridged. I found the following: • six ICPs were not unbridged; two have now switched out, • three ICPs have been corrected, and • 21 have been unbridged but no volume correction applied.	27 ICPs not corrected

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

Issue	Section	Description	Status
Incorrect switch event readings	4.10	During the previous audit it was identified that ICP 0000006760DE9DB was sent with an estimated read from the	Not corrected

		last billed date when an actual read was available resulting in 154 kWh being pushed to the gaining trader. ICP 0000006824TRDAC was also sent with an estimated read from the last billed date when an actual read was available resulting in 3 kWh being pushed to the gaining trader. RR files were not sent for either of these ICPs.	

GENH

All read and volume issues were resolved as soon as practicable.

GENH supplies two active ICPs with unmetered load. These have not been set up in Derive+ and are not being submitted by either Genesis or their HHR agent AMS. This is discussed further 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-22 To: 11-Jan-23	**GENE** and **GEOL** Some submission data was inaccurate and was not corrected at the next available opportunity. **GENH** Unmetered load not reported for two ICPs. Potential impact: High Actual impact: Medium Audit history: Twice Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate overall, but the processing of corrections and bridged/stopped meters has room for improvement. The impact is assessed to be medium due to: • the size of the missing UML volumes relating to shared unmetered load from submission, • the number and size of volume corrections identified where either no or only partial correction being performed in all some instances, and • some HHR volumes not submitted impacting seasonal shape values for all NHH traders.

Actions taken to resolve the issue	Completion date	Remedial action status

Most of our submission's volumes are based on actual consumption data, and we believe the impact of this non-compliance is low. The submission correction process around bridged / stopped meters, vacant consumption and faulty meters has improved considerably during this audit period, and we will continue to look for improvements	On Going	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

Clause 4 Schedule 15.2

Code related audit information

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

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 May to July 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.

GENE

AV080 submissions were reviewed to identify the quantity of forward estimate remaining at revision 14:

Month	Forward estimate at revision 14
Jul 2021	697,258.12
Aug 2021	766,682.21
Sep 2021	639,064.92

Month	Forward estimate at revision 14
Grand Total	2,103,005.25

GEOL

AV080 submissions were reviewed to identify the quantity of forward estimate remaining at revision 14:

Month	Forward estimate at revision 14
Jul 2021	162,887.87
Aug 2021	171,520.62
Sep 2021	144,933.22
Grand Total	479,341.71

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. UML was incorrectly labelled as FE for these consumption periods due to a coding error within Derive+. The incorrect coding within Derive+ has now been updated to ensure that UML is correctly labelled as Historic Estimates

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 Schedule 15.2 From: Jul 21 to Sep 21 r14	**GENE** and **GEOL** Some estimates were not replaced with permanent estimates by revision 14. Some UML incorrectly labelled as Forward Estimates. Potential impact: Low Actual impact: Unknown Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate, because there are processes in place to attain readings by revision 14 and enter permanent estimate readings. The potential impact is rated as low. There are sound estimation processes, therefore I have recorded the audit risk rating as low.

Actions taken to resolve the issue	Completion date	Remedial action status

Due to minimal impact the process around updating historic estimate to permanent estimates will be addressed as part of our billing platform change	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 two active ICPs with meter category 3 or higher.
- ICPs 0696299004PC30D and 0696299005PCF48 relate to the Hau Nui wind farm and 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.
- 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 inaccurate due to ICPs with shared unmetered load not having the unmetered load portion of volume being calculated or included in the NHH submission file since the implementation of Derive+.
- 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 inaccurate due to ICPs with shared unmetered load not having the unmetered load portion of volume being calculated or included in the NHH submission file since the implementation of Derive+.
- 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 not being submitted 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

Non-compliance	Description
Audit Ref: 12.9 With: Clause 2 of schedule 15.3	**GENE** Shared unmetered load volumes not submitted since the implementation of Derive+. **GEOL** Shared unmetered load volumes not submitted since the implementation of Derive+. **GENH** Unmetered load volumes not submitted since the implementation of Derive+. Potential impact: Low Actual impact: Low

From: 01-Apr-22 To: 11-Jan-23	Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	**Rationale for audit risk rating**		
Low	The controls are rated as strong this non-compliance due to the HHR Agent for GENH not producing a NHH submission. While there was a process to include this GENH unmetered load volume under GENE this process was not incorporated in Derive+. Genesis have identified a process to include this unmetered load against a GENH NHHVOLS file which is being developed. The impact is assessed to be low as the volumes associated with these ICPs is minor.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**
We have now corrected this within Derive+		01/04/2023	Cleared
Preventative actions taken to ensure no further issues will occur		**Completion date**	

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 techniques described in clauses 4 to 7 to create historical estimates and forward estimates.

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.

As discussed in **section 13.3** UML volumes were being incorrectly flagged as forward estimate for a number of consumption months. Non compliance is recorded here relating to the incorrect labelling of UML as Forward Estimate.

GENH

GENH does not provide AV080 submissions.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.10 With: Clause 3 Schedule 15.3 From: 01-Apr-22 To: 11-Jan-23	**GENE** and **GEOL** Unmetered load was incorrectly labeled as Forward Estimate volumes for some consumption periods. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as the unmetered load volumes were being correctly calculated but just incorrectly labeled. There is no market impact from the incorrect labelling of this unmetered load.

Actions taken to resolve the issue	Completion date	Remedial action status
We are in the process of reviewing the end-end unmetered process and are looking to move the accountability to Market Settlements to improve compliance	01/07/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

Clauses 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 historical estimates of volume information for each ICP when the relevant seasonal adjustment shape is available, and the reconciliation participant is not using an approved profile in accordance with clause 4A.

If the Authority has approved a profile for the purpose of apportioning volume information (in kWh) to part or full consumption periods, a reconciliation participant may use the profile despite the relevant seasonal adjustment shape being available; and if it uses the profile, must otherwise prepare the historical estimate in accordance with the methodology in clause 4.

*If a seasonal adjustment shape is not available, and the **reconciliation participant** is not using an approved **profile** under clause 4A, 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 RPS shape values are loaded into Derive+ by GENE. The upload process has controls which inform the user whether the upload has completed successfully.

I reviewed examples of historic estimations being calculated for both X and I flows and confirmed that the process is consistent across each flow direction and the GR-030's NSP profile shape is used to calculate historic estimate volumes for PV1 and EG1 profile codes.

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	Outcome
A	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Pass
B	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Pass
C	ICP become Inactive then Active again within a month.	Consumption is only calculated for the Active portion of the month.	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
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 - Closing readings are all classified as actual.
F	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	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
H	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Pass

Test	Scenario	Test Expectation	Outcome
I	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Pass
J	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Pass
K	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Fail – Unmetered load not calculated where UML profile code is not present on the registry.
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
M	ICP with a customer read during the month	Customer reads are not used to calculate historic estimate.	No example provided
N	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate.	No example provided
O	ICP has a meter with a multiplier greater than 1	The multiplier is applied correctly	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.

Derive+ does not use customer or photo reads in its calculation of historic estimate volumes and no examples were identified for review.

I found that disconnection and reconnection readings are not always provided and subsequently 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

Non-compliant

Non-compliance	Description
Audit Ref: 12.11 With: Clause 4 Schedule 15.3 From: 01-Apr-22 To: 11-Jan-23	**GENE** and **GEOL** UML volumes have not been calculated where there is both metered and unmetered load present and the profile code recorded on the registry is RPS only. Potential impact: Medium Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as Derive+ correctly calculates the UML volume however where the UML profile is not assigned to the UML then Derive+ does not have the trigger required to initiate the calculation of UML volumes. The impact is assessed a medium as while only shared UML ICPs appears to be affected relating to a small number of ICPs (260 GENE and 39 GEOL) the annualised volume impact is 6,833 kWh for GENE and 1,051 kWh for GEOL.

Actions taken to resolve the issue	Completion date	Remedial action status
We are in the process of reviewing the end-end unmetered process and are looking to move the accountability to Market Settlements to improve compliance	01/07/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Derive+ will calculate or forward default estimate (FDE) for any active days where historic estimate cannot be calculated because validated actual or permanent estimates are not available.

Forward standard estimate (FSE)

FSE is calculated at meter register level for active days as:

$$\frac{\text{(most recent validated reading – previous validated reading)}}{\text{sum of shape values for read-to-read period}} \times \text{shape value for day to be estimated}$$

I reviewed examples of ICPs with FSE and confirmed that FSE was calculated as expected, and only used where historic estimate could not be calculated because insufficient read information was available.

Forward default estimate (FDE)

Where there is insufficient information available to calculate historic estimate or FSE, FDE is applied. An ICP level average daily consumption value for each region and month is applied. The daily average is split evenly between the ICP's meter registers where there is more than one meter on the day to be estimated.

I reviewed examples of ICPs with FDE and confirmed that FDE was calculated as expected, and only used where historic estimate and FSE could not be calculated.

GENE

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15%. The table below shows the number of balancing areas where this target was not met.

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Jan-21	11	32	37	42	-	-	-	-	248
Feb-21	5	23	27	34	-	-	-	-	252
Mar-21	8	19	27	27	-	-	-	-	255
Apr-21	19	31	37	39	-	-	-	1	260
May-21	4	25	32	34	-	-	-	1	263
Jun-21	16	37	44	45	-	-	-	1	236
Jul-21	10	22	29	31	1	2	2	3	241
Aug-21	5	49	62	74	-	-	-	2	246
Sep-21	9	32	51	60	-	-	-	-	247
Oct-21	10	50	72		-	-	-		247
Nov-21	16	48	62		-	-	-		253

Month	Over ±15%				Over ±15% and ±100,000 kWh				Total Balancing Areas
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14	
Dec-21	11	49	66		-	-	-		259
Jan-22	35	68	78		-	-	-		261
Feb-22	12	49	62		-	-	1		263
Mar-22	11	28	45		-	-	-		267
Apr-22	31	52	67		1	-	1		270
May-22	12	34			-	-			269
Jun-22	7	30			2	2			270
Jul-22	10	38			1	1			240
Aug-22	6	26			-	-			240
Sep-22	9				1				247
Oct-22	4				-				253

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

Month	Over ±15%				Volume impact Over ±15%			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-21	0.62%	2.54%	3.78%	4.06%	-	-	-	-
Feb-21	0.38%	0.91%	1.05%	0.99%	-	-	-	-
Mar-21	-0.27%	0.22%	0.62%	0.75%	-	-	-	-
Apr-21	-0.82%	-1.40%	-1.03%	-1.28%	-	-		-
May-21	-1.26%	-3.79%	-3.88%	-4.36%	-	-	-	-
Jun-21	-2.40%	-4.27%	-4.77%	-5.28%	-	-	-	-
Jul-21	-0.49%	-2.48%	-4.92%	-4.98%	-	-	-	-
Aug-21	-0.33%	-0.49%	-1.50%	-2.12%	-	-	-	-
Sep-21	0.46%	1.73%	1.51%	1.38%	-	-	-	-
Oct-21	2.22%	7.87%	6.98%		-	-	-	
Nov-21	2.76%	6.61%	6.40%		-	-	-	
Dec-21	1.43%	3.16%	4.94%		-	-	-	

Month	Over ±15%				Volume impact Over ±15%			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-22	1.15%	0.85%	1.05%		-	-	-	
Feb-22	-2.33%	0.55%	1.01%		-	-	-	
Mar-22	0.19%	0.71%	1.10%		-	-	-	
Apr-22	-0.72%	0.20%	0.59%		-	-	-	
May-22	-0.97%	-3.74%			-	-		
Jun-22	3.45%	0.65%			-	-		
Jul-22	-2.35%	-5.12%			-	-		
Aug-22	-0.48%	-0.28%			-	-		
Sep-22	1.09%				-	-		
Oct-22	1.82%							

I reviewed all balancing areas with variation between revisions of more than ± 15% which occurred after January 2021.

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%. The table below shows the number of balancing areas where this target was not met.

Month	Over ±15%				Volume impact Over ±15%			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-21	4	20	26	27	-	-	-	-
Feb-21	3	14	17	18	-	-	-	-
Mar-21	2	9	11	12	-	-	-	-
Apr-21	4	12	12	15	-	-	-	-
May-21	4	17	19	18	-	-	-	-
Jun-21	5	14	19	20	-	-	-	-
Jul-21	1	6	7	8	-	-	-	-
Aug-21	4	15	16	16	-	-	-	-
Sep-21	3	12	16	16	-	-	-	-
Oct-21	5	24	33		-	-	-	
Nov-21	4	24	28		-	-	-	

Month	Over ±15%				Volume impact Over ±15%			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Dec-21	4	17	21		-	-	-	
Jan-22	14	27	28		-	-	-	
Feb-22	3	12	13		-	-	-	
Mar-22	7	9	14		-	-	-	
Apr-22	7	26	28		-	-	-	
May-22	8	12			-	-		
Jun-22	1	9			-	-		
Jul-22	3	10			-	-		
Aug-22	1	14			-	-		
Sep-22	6				-			
Oct-22	4				-			

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

Month	Over ±15%				Volume impact Over ±15%			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-21	1.21%	3.97%	5.56%	5.93%	-	-	-	-
Feb-21	1.34%	2.66%	3.29%	3.44%	-	-	-	-
Mar-21	0.43%	0.78%	1.54%	1.60%	-	-	-	-
Apr-21	-0.45%	-1.35%	-1.05%	-1.06%	-	-		-
May-21	-1.43%	-5.96%	-6.41%	-6.48%	-	-	-	-
Jun-21	-3.28%	-6.12%	-7.24%	-7.58%	-	-	-	-
Jul-21	-1.84%	-4.87%	-6.76%	-7.28%	-	-	-	-
Aug-21	-0.49%	-1.59%	-2.41%	-2.71%	-	-	-	-
Sep-21	0.76%	2.36%	2.25%	2.35%	-	-	-	-
Oct-21	2.11%	8.89%	9.48%		-	-	-	
Nov-21	2.57%	8.05%	8.44%		-	-	-	
Dec-21	1.75%	3.95%	5.88%		-	-	-	

Month	Over ±15%				Volume impact Over ±15%			
	Revision 1	Revision 3	Revision 7	Revision 14	Revision 1	Revision 3	Revision 7	Revision 14
Jan-22	1.61%	1.34%	2.25%		-	-	-	
Feb-22	-1.62%	1.40%	1.36%		-	-	-	
Mar-22	0.47%	0.80%	1.22%		-	-	-	
Apr-22	-0.94%	-1.59%	-1.44%		-	-	-	
May-22	-0.99%	-5.08%			-	-		
Jun-22	-0.76%	-4.08%			-	-		
Jul-22	-0.87%	-3.05%			-	-		
Aug-22	-0.68%	-0.06%			-	-		
Sep-22	0.94%				-	-		
Oct-22	1.53%							

I reviewed all balancing areas with variation between revisions of more than ± 15% which occurred after January 2021.

The differences were found to be caused in all instances 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.

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-22 To: 11-Jan-23	**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 FSE process will ensure that forward estimate is consistent with the meter's historic consumption but does not take into account seasonality. The FDE process applies a region based daily average consumption but does not take into account customer type of metering installation category code which can influence the accuracy of a regional based estimation calculation. 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
We have reviewed the FE process on the back of previous audits. This will be picked up as part of our billing platform change and is unlikely to be changed prior to this	TBC	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 16 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 16 GENE and ten GEOL profile changes including downgrades, addition of generation profiles, and removal of UNM and addition of metered profiles, and found an actual reading had been correctly applied in most instances. The exceptions identified are discussed in more detail in **section 6.7.**

GENH

No profile changes were identified on the event detail report for GENH. All ICPs have the HHR profile.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.13 With: Clause 7 Schedule 15.3 From: 01-Apr-22 To: 11-Jan-23	**GENE** One validated meter reading or a permanent estimate was not applied where a profile change occurs for ICP 0000466425WE09B. Potential impact: Low Actual impact: Low Audit history: once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**

Low	Controls are rated as moderate. Where the manual processes incorporate the inclusion of a meter read into derive as part of a bulk update of profile codes validated actual reads are appropriately applied. However, where the process relies on a manual entry of reads there is a risk of human error or failure to perform the task routinely as there are no QA checks performed in these instances. The risk rating is low as in the impact to settlement is minimal.

Actions taken to resolve the issue	**Completion date**	**Remedial action status**
The ICP in question was a non-communicating advanced meter with no available reads. We are currently reviewing our processes in relation to when a profile change occurs	01/08/2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 the 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 HHR volumes and HHR aggregates submissions for GENE and GEOL confirmed that submission data is rounded to two decimal places.

Review of AV080 NHH volumes reports each for GENE and GEOL confirmed that submission data is rounded to two decimal places.

GENH

Review of AV140 HHR aggregates and 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.

With the introduction of Derive+ the way that UML volumes were derived was also changed.

- DUML volumes are retrieved from the Streetlight workings table.
- UML volumes are derived from the daily average kWh value on the registry x the number of days the ICP is to be included in submission.

The initial months since Derive+ was implemented the UML volumes were incorrectly flagged as FE not HE and this resulted in a higher than expected residual FE at 14 months. This incorrectly labelling of UML volumes has now been resolved in Derive+

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
Jul 2021	-	-	176	329
Aug 2021	-	-	178	332
Sep 2021	-	-	185	333
Jan 2022	-	309	-	346
Feb 2022	-	313	-	348
Mar 2022	-	318	-	350
Jul 2022	300	-	-	322
Aug 2022	298	-	-	322
Sep 2022	309	-	-	330

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
Jul 2021	-	-	98.93%
Aug 2021	-	-	98.84%
Sep 2021	-	-	98.95%
Jan 2022	-	96.45%	-
Feb 2022	-	96.00%	-
Mar 2022	-	95.99%	-
Jul 2022	92.39%	-	-

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Aug 2022	93.20%	-	-
Sep 2022	92.03%	-	-

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
Jul 2021	-	-	97	194
Aug 2021	-	-	100	197
Sep 2021	-	-	107	197
Jan 2022	-	190	-	200
Feb 2022	-	189	-	201
Mar 2022	-	192	-	203
Jul 2022	206	-	-	213
Aug 2022	174	-	-	189
Sep 2022	178	-	-	193

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
Jul 2021	-	-	98.95%
Aug 2021	-	-	98.97%
Sep 2021	-	-	99.05%

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jan 2022	-	96.10%	-
Feb 2022	-	95.80%	-
Mar 2022	-	96.23%	-
Jul 2022	95.72%	-	-
Aug 2022	92.60%	-	-
Sep 2022	91.40%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: 01-Apr-22 To: 11-Jan-23	**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
We are well above the parameters for the 3- and 7-month requirements and very close to the 14-month requirements We believe we have strong controls in place, due to minimal impact the process around updating historic estimate to permanent estimates will be addressed as part of our billing platform change	TBC	Identified

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

CONCLUSION

Genesis uses three codes: GENE, GENH and GEOL. Unless otherwise specified, the processes and non-compliances described in the report relate to all codes.

Registry and Switching:

There is better identification of discrepancies and exceptions, and work is still in progress to ensure resource is available to resolve the issues identified.

Clearing of backlogs has led to some backdated registry events, but overall, there is an improvement in the timeliness of registry updates.

Recommendations have been made to increase the collection and use of meter readings during the disconnection and reconnection processes.

The timeliness and accuracy of switching files is mostly very good, however one issue found was that there were five of 20 ICPS where the reading in Derive+ was different to Gentrack in situations where a read change had been conducted. I recommend this is reviewed to see if there are more examples.

There are six distributed unmetered load database audit reports still to be finalised and nine of the databases have errors greater than 50,000 kWh per annum. This area now has a dedicated resource, and the improvements are becoming evident as a result.

Reading and Reconciliation:

There have been some improvements to reading and reconciliation:

- the creation of the exception team has improved the timeliness in resolving bridged meters,
- vacant consumption is better managed in Derive+, and
- improvements to the forward estimation calculation and process in Derive+.

The following key areas require some improvement to raise the level of compliance and controls to support these processes:

- **Read attainment:**

  Meter reading frequency reports are showing a lower ICP count than the equivalent LIS report from the registry; it is unknown whether this also affected the ICPs identified as not meeting read attainment levels.

- **Meter Event log monitoring:**

  Some meter events are not well understood by Genesis resulting in incomplete actions to resolve the issue undertaken by the metering team; additionally, the time difference reports, and meter event logs published by the AMI MEPS are not independently reviewed by Genesis.

- **HHR settlement of non-communicating AMI meters.**

  The process to transition an ICP back to NHH submission type is not sufficiently frequent to ensure there is no material impact to submission volumes; some ICPs continue to be submitted using default estimation values even after the max interrogation cycle period has expired meaning HHR data is likely lost.

- **Application of disconnection and reconnection reads.**

  Disconnection and reconnection reads are not being consistently applied. While the historic estimation process will push all consumption volumes between reads into the active period, the lack of boundary reads means inactive consumption monitoring is incomplete.

All matters raised are shown in the tables below.

The audit raises 47 non-compliances, which is a reduction from 49 last audit. 22 recommendations are made. The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The audit risk rating has reduced from 120 to 101. The table in the audit summary section 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 12 months' time.

PARTICIPANT RESPONSE

We believe we have made some big improvements in the last 12 months and that that these have had a positive impact on our Compliance performance, below are details of some of these improvements.

Exceptions Team

In August 2022 we created an additional team within our Customer Operation and Compliance area. The Exception team are responsible for ensuring our customers receive timely and accurate invoices and manage the processes in relation to read attainment (no access and communication faults), bridged meters, investigation of meters that are not consuming electricity (potential stopped meters) and correcting multiplier mismatches. The team report directly the Head of Retail Risk and Compliance and this has improved the focus / compliance of these processes, we expect the improvement to continue over the next year.

Derive+

In November 2022 we transitioned to Derive+ to calculate our submissions volumes for ICPs with NHH metering. This has resulted in the streamlining of the submission process and is more aligned with that of the Half Hourly ICP's, this enables our Market Settlements Team to source all read data, not only what is contained in Gentrack. This provides improved estimation accuracy and allows for seasonal shape.

Read Attainment

We have seen a large increase in read attainment over the last 12 months, this is a result of the following.

- The creation of the Exceptions team
- Improved Customer Engagement
- Active Supplier Relationship Management
- Improved Non-Communicating Advanced Meter processes.

This will continue to be an area of focus.

With our high saturation of communicating advanced meters (91% and climbing) we are getting to the ICPs that are extremely hard to convert or interrogate on a regular basis. We believe the EA should review the code and allow for photo reads provided by customers to be classed as actual reads. We also believe the obligation of interrogation 90% of NHH ICPs every 4 months at an NSP levels should be reviewed, and that if a retailer holds under a certain number of ICP this should not apply. For example, for GENE the findings in this audit are that all NSPs under 90% were on either embedded networks or local NSPs where no more than six NHH ICPs were held.

Bridged Meters

As per the recommendation from our previous audit we have established a reconciliation process for bridged meters, this includes following up with MEPs if a meter is not unbridged in a timely manner and ensuring that submissions are corrected when the meter is unbridged, we will continue to look at strengthening these controls and review the processes on how we deal with ICPs that are not unbridged in a timely manner to ensure minimal market impact.

Registry Management – We continue to run the AC020 Report monthly and have monthly compliance meeting with individual teams to discuss. We will investigate if more regular internal reporting can be established to further improve compliance.

DUML Processes

With a dedicated Data and Stakeholder lead established in the DUML area we have seem a big improvement in the timeliness of audits being completed and stakeholder engagements.

In addition to continuing to focus on further strengthening our controls on the above we will also be looking to improve our compliance in relation to the below.

Meter Event Logs

We will review our current processes in relation to investigating meter event and will put processes in place to ensure we are working those that require investigation

HHR settlement of non-communicating AMI meters

We will review our current processes in relation to changing non communicating advanced meters from HHR, as part of this we will investigate the possible of creating an additional profile for non-communicating meters that we have previous half hourly consumption for and wish to continue submitting estimated half hourly data.

Unmetered Processes – We are in the process of reviewing our current end-to-end process and are looking to improve compliance.

Distributed Generation - We are in the process or reviewing our Distributed Generation process and are strengthening our controls in relation to identifying DG sites with non-compliant metering and liaising with customer to ensure DG is present and if so either install a compliant meter or add the ICP to the gifting register.

Digital Transformation - Our digital transformation team continue to work on the delivery of a new sales, service, and billing platform. There is a focus on ensuring that this helps to improve compliance issues that are a result of current system limitations.

Future Audits

We believe that it is a good time for the EA to review the format of Reconciliation Participant audits, and potentially audit the processes that have an impact on compliance and refer to the sections that this impact. The current process of auditing each clause separately results in multiple breaches due to the same process i.e., bridged meters.