ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

GENESIS ENERGY LIMITED

NZBN: 9429037706609

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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:

Genesis have made good progress in lifting the profile of compliance in the wider business. The improvements from this have yet to flow through in this audit but this is evident in some areas such as the timeliness for new connections for GEOL has gone from 5% in the last audit to 60% in this audit. With the relaunch of the GEOL brand as Frank the activity for this code has increased. Genesis have re-established a dedicated Frank team and this has improved focus and performance.

The reconciliation team are providing discrepancy reporting to the new connections teams but due to resource constraints these are not always able to be reviewed which is resulting in late updates to active and the incorrect first active date in some instances.

There has been an improvement in the timeliness of registry updates for new connections.

Management of vacant consumption has been an area of focus during the audit period. This has resulted in some long backdates. The backlog has now been worked through and this is being embedded in as a BAU activity, so going forward the average time to update should shorten and reconciliation accuracy will improve.

The switching area has improved during the audit period with only a few late files reported on the switch breach report. Most of the errors found in this area were due to human error. The practice of sending the last billed read as an estimated read rather than the last actual read is pushing vacant consumption to the gaining trader. Genesis is working to be able to provide the last actual read.

There are nine distributed unmetered load databases still to be audited and six of the databases have errors greater than 50,000 kWh per annum. Due to resource constraints in this area, there has been slow progress to get the issues addressed. Genesis are aware of this and additional resource is being trained to enable the dedicated resource to focus on this area.

Reading and Reconciliation:

As mentioned above, there have been improvements in validation reporting, but the lack of resource to resolve issues has a flow on affect to the accuracy of billing and settlement. The identification of bridged meters has improved, but there are a large number of bridged meters where the bridge is still in place, or the bridge has been removed but correction has not occurred.

Consumption on inactive ICPs requires improvement to ensure investigations are complete and that corrections are made where consumption is genuine.

A number of recommendations are made regarding improvements to controls, which, if adopted, are expected to lead to improved compliance.

It was identified that disconnection readings are only collected for approximately 50% of ICPs where manual disconnections occur. It was also identified that the meter reading processes of disconnection/reconnection contractors have not been subject to audit. Wells is the main contractor for Genesis and they have chosen not to have the scope of their audit expanded. I have therefore recommended several steps for Genesis to take to ensure Wells can demonstrate compliance and to ensure future audits of Wells have an expanded scope. I recommend the expanded scope includes

confirmation that Wells is approved by all relevant distributors to disconnect at the network fuse rather than at the meter, which can lead to unauthorised reconnection without the knowledge of Genesis.

All matters raised are shown in the tables below.

The audit raises 51 non-compliances and makes 29 recommendations. The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and recommends an audit frequency of three months. I have considered this in conjunction with Genesis' comments and recommend that the next audit be completed the first quarter of 2023. This should provide sufficient time to see the improvements from the process improvements that Genesis have put in place.

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	High	6	Identified
Temporarily electrical connection of an ICP	2.10	10.33 (1)	Three ICPs temporarily electrically connected without written approval from the network owner.	Moderate	Low	2	Identified
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.	Moderate	Low	2	Investigating
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. 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.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
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	Medium	4	Identified
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.	Moderate	Low	2	Identified
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).	Weak	Low	3	Investigating
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.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			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				
Changes to unmetered load	3.7	Clause 9(1)(f) of Schedule 11.1	**GENE** Two ICPs with the daily unmetered kWh load missing. 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.	Moderate	Low	2	Identified
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).	Weak	Low	3	Identified
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.	Moderate	Medium	4	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
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.	Strong	Low	1	Identified
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.	Strong	Low	1	Identified
Losing trader must provide final information - standard switch	4.3	5 Schedule 11.3	The average daily consumption calculation is not calculated from the last read period. **GENE** Three ICPs with a negative average daily consumption is incorrect as it is not consumption. 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.	Weak	Low	3	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			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.	Strong	Low	1	Identified
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.	Strong	Low	1	Identified
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.	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			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** 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.	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** 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.	Weak	Low	3	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			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.				
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.	Strong	Low	1	Identified
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.	Moderate	Low	2	Investigating
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**GENE** Two incorrect NW codes of a sample of 13 ICPs checked.	Strong	Low	1	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			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.				
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.	Moderate	Low	2	Investigating
Switch save protection	4.17	11.15AA to 11.15AC	**GENE** One of 15 ICPs checked where agent attempted to retain the customer.	Moderate	Low	2	Identified
Maintaining shared unmetered load	5.1	11.14	**GENE** Four ICPs with the incorrect shared unmetered load value.	Moderate	Low	2	Identified
Unmetered threshold	5.2	10.14 (2)(b)	**GENE** Seven ICPs with unmetered load over 6,000 kWh per annum.	Weak	Low	3	Investigating
Unmetered threshold exceeded	5.3	10.14 (5)	**GENE** Unmetered load over 6,000 kWh per annum and not resolved within the allowable timeframes.	Weak	Low	3	Investigating
Distributed unmetered load	5.4	11 Schedule 15.3	**GENE** Inaccurate submission information for several databases.	Weak	High	9	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Nine database audits not completed.				
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.	Weak	Low	3	Investigating
Responsibility for metering at GIP	6.2	10.26(7)	One late certification update made to the RM.	Moderate	Low	2	Identified
Collection of information by certified reconciliation participant	6.5	2 Schedule 15.2	Time Sync reports not reviewed for all AMI MEPs.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
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.	Weak	Low	3	Identified
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.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			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.				
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.	Moderate	Low	2	Identified
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.	Moderate	Low	2	Identified
NHH meters 90% read rate	6.10	9(1) and (2) Schedule 15.2	**GENE** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the15 ICPs sampled. **GEOL** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the ten ICPs sampled.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
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.	Moderate	Low	2	Investigating
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.	Moderate	Low	2	Investigating
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	Investigating
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.	Moderate	Low	2	Investigating
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.	Moderate	Medium	4	Identified
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.	Strong	Low	1	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
HHR aggregates information provision to the reconciliation manager	11.4	15.8	Hau Nui Wind Farm ICPs 0696299004PC30D and 0696299005PCF48 are missing from the HHRAGGS file.	Strong	Low	1	Investigating
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. 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.	Moderate	Medium	4	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Accuracy of submission information	12.7	15.12	**GENE** and **GEOL** Some submission data was inaccurate and was not corrected at the next available opportunity.	Moderate	High	6	Investigating
Permanence of meter readings for reconciliation	12.8	4 Schedule 15.2	**GENE** and **GEOL** Some estimates were not replaced with permanent estimates by revision 14.	Moderate	Low	2	Identified
Reconciliation participants to prepare information	12.9	2 of schedule 15.3	**GENH** Unmetered load volumes submitted incorrectly under the GENE participant code.	Strong	Low	1	Identified
Forward estimate process	12.11	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 & EG1 daily seasonal shapes not used for HE calculation.	Strong	Low	1	Identified
Forward estimate process	12.12	6 Schedule 15.3	**GENE** and **GEOL** The accuracy threshold was not met for some months and revisions, because forward estimate was too high or too low.	Moderate	Low	2	Investigating
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.	Moderate	Low	2	Investigating
Historical estimate reporting to RM	13.3	10 Schedule 15.3	**GENE** and **GEOL** Historic estimate thresholds were not met for some revisions.	Moderate	Low	2	Identified
Future Risk Rating						121	

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

RECOMMENDATIONS

Subject	Section	Recommendation
Validations	2.1	Use the audit compliance report for validation of distributor's unmetered load details against GENE/GEOL unmetered load details. Compare the profile against the distributors' installation type and check the reverse power event to ensure DG is set up correctly.
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.
Blank metering records	2.9	Check the ICPs listed above to ensure the status is correct and whether metering should be in the registry.
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
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.
Provision of information to the registry	3.5	Consider making status changes to active based on load test dates from data collectors.
		Check all 359 records from the AC020 file where the IECD id populated but the status is not active.
Changes to unmetered load	3.7	Add a validation that looks for active ICPs with no metering and no unmetered load recorded.
		Put a process in place to monitor long term BTS supplies and check the two ICPs above to confirm if these are still required.
Disconnection location	3.9	1) Strengthen the contract with Wells to require their disconnection processes to be audited. 2) Request evidence from Wells that they are approved by all Distributors to disconnect at the network fuse.
Monitoring of new and ready ICPs	3.10	Run a monthly list from the registry of all ICPs where GENE or GEOL are the proposed trader to ensure Gentrack records align.
Installation of compliant metering for generating ICPs	6.1	For any ICP where generation is present, either: 1. ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or

Subject	Section	Recommendation
		2. advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be provided to the reconciliation manager.
Management of profiles for ICPs with distributed generation		Review the practice of moving ICPs with distributed generation from the HHR profile to RPS PV1.
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".
Installation of compliant metering for generating ICPs		Confirm whether the following ICP is generating: • 0006679030RNFE2 (switched in with B installation type 01/01/20) If this is generating arrange for compliant metering to be installed or notification of gifting to be provided to the reconciliation manager.
Review of Wells meter condition information	6.6	Ensure that memos are created for all meter condition issues provided by Wells. Develop processes to review and take action on these meter condition issues, which could affect meter accuracy.
		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.
Disconnection readings		1) Strengthen the contract with Wells to require metering readings to be obtained during disconnection. 2) Strengthen the contract with Wells to require their disconnection reading process to be audited during their meter reading agent audit. 3) In the short term, require Wells to provide evidence that appropriate processes are in place to ensure meter readings are obtained, processes include the checks for seals present, signs of tampering or damage and electrically unsafe situations and appropriate training is provided.
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.
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.

Subject	Section	Recommendation
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.
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.
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.
NHH metering information data validation	9.5	Review the low and high negative consumption validation process to help to promptly identify and resolve home generation issues.
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.
Develop a central register of all potential bridged / stopped meters		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.
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.
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.
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.

ISSUES

Subject	Section	Description	Issue
		Nil	

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

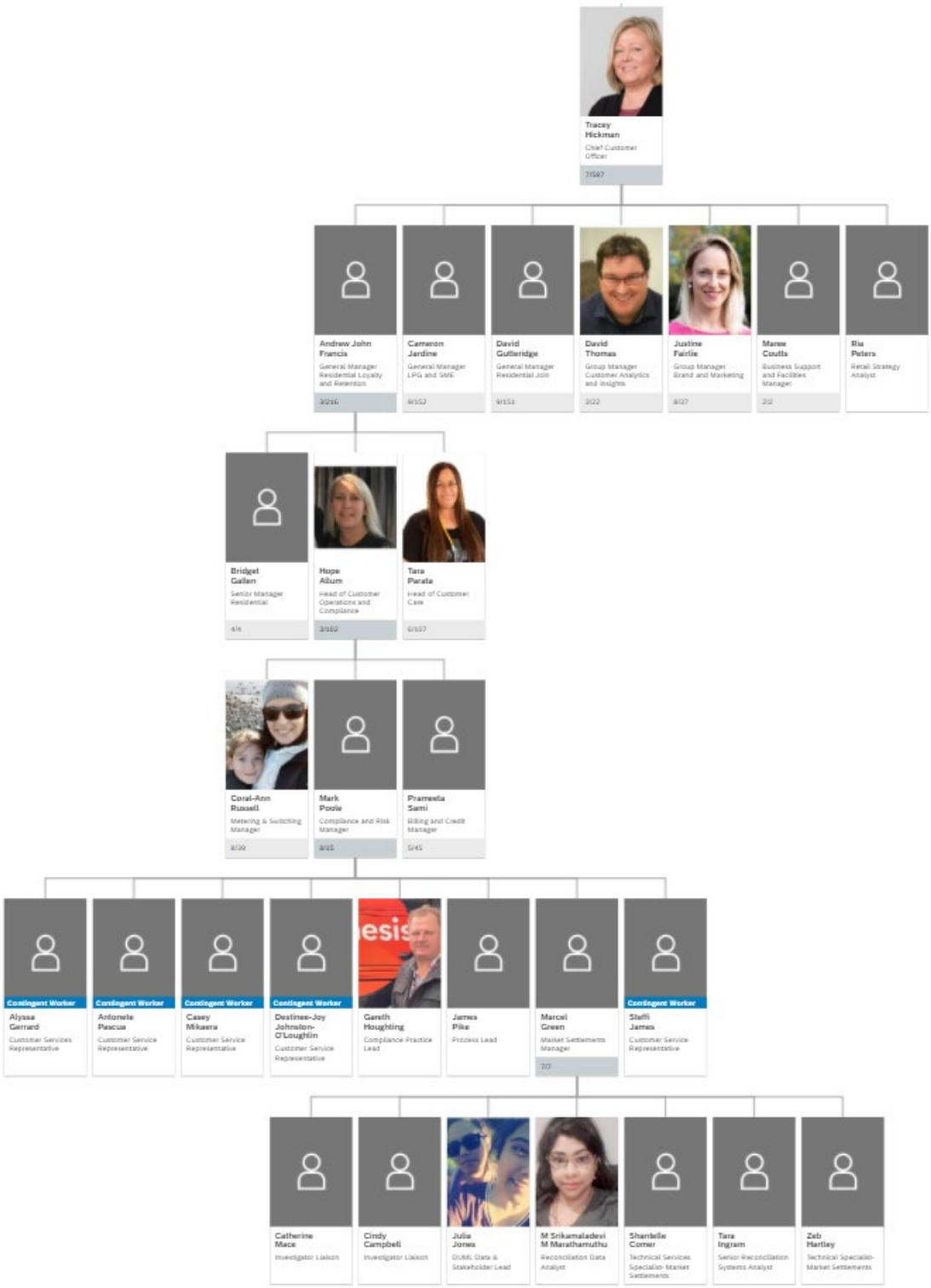
I checked the Authority's website to identify any relevant exemptions.

Audit commentary

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

1.2. Structure of Organisation

Genesis provided a copy of their organisational structure:



1.3. Persons involved in this audit

Auditors:

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

Personnel assisting in this audit were:

Name	Title
Mark Poole	Compliance and Risk Manager
Gareth Houghting	Compliance Practice Lead
Alysha Majury	Team Leader - Switching
Tara Ingram	Senior Reconciliation Technical Analyst
Julia Jones	DUML Data & Stakeholder Lead - Market Settlement Compliance
Shantelle Comer	Technical Specialist – Reconciliations Compliance
Maree Chubb	Senior Corporate Account Specialist
Sacha Wood	Team Leader Back Office
Fungie Tsimba	New Connections Team Leader
Stacey Gleeson	Metering Team Leader
Wenli Zhu	Accounting Technician, Finance Operations
Zeb Hartley	Technical Specialist – Market Settlements
Charlotte Corlette	Financial Control Analyst

Name	Title
Chris	Customer Service Representative
Tau Holden	Team Leader – Billing
Elmarie Durand	Technical Specialist – Billing
Holly Finn	Team Leader – Metering
Rebecca Rahmann	Technical Specialist – Payments and Credit

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

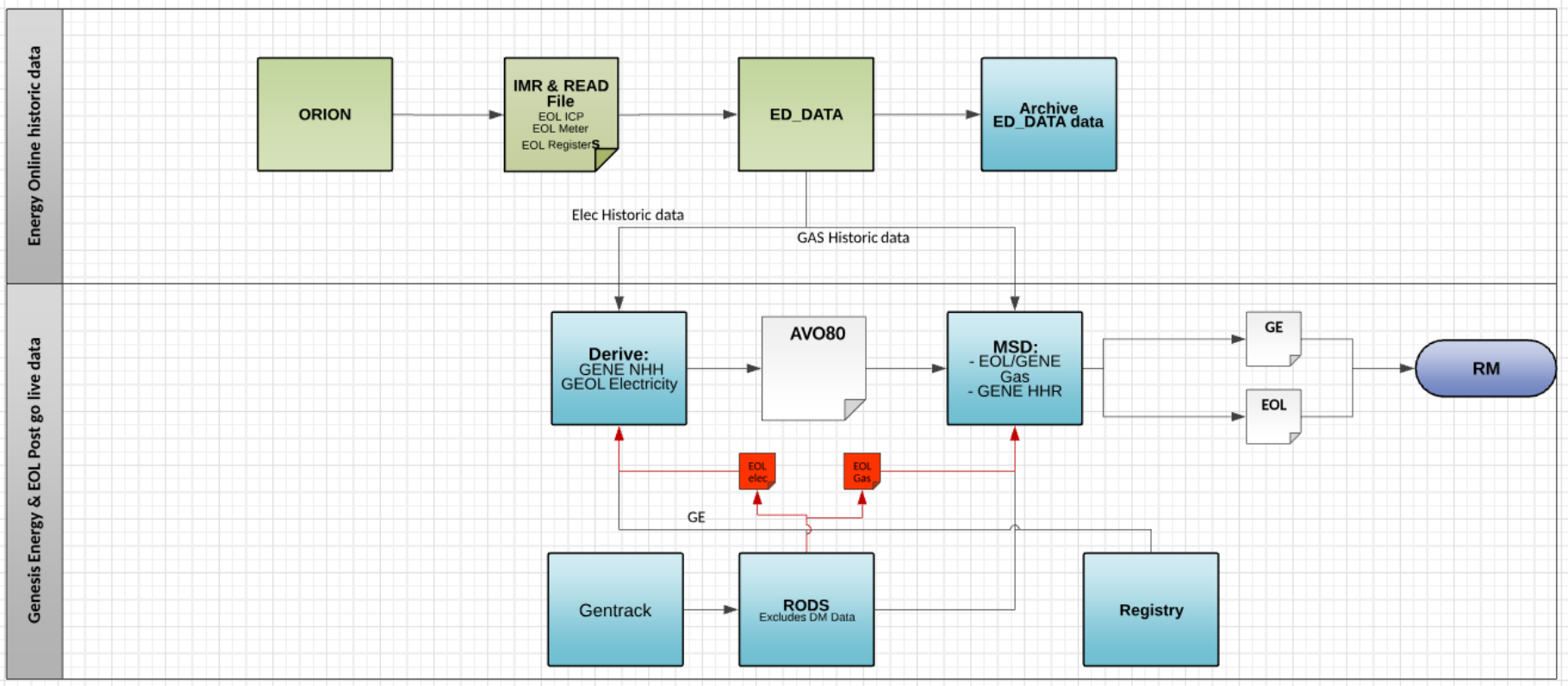
Genesis engages the following service providers:

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.

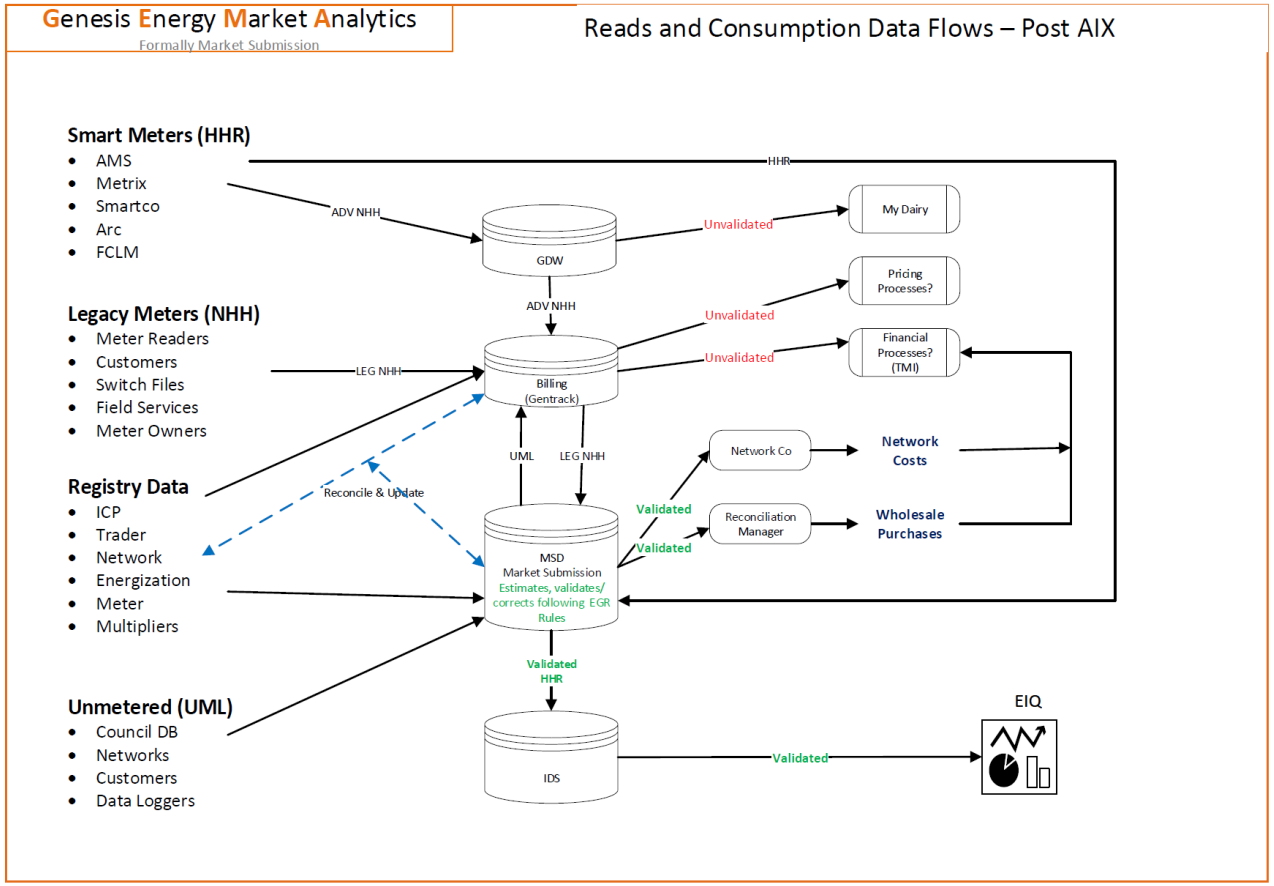
In addition, MEPs provide AMI data in their capacity as MEPs and are subject to a separate audit regime.

1.5. Hardware and Software

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



A diagram of the AMI HHR application architecture is shown below. All HHR data is 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

Alleged breaches 2103GENE2 Part 15 clause 15.2 (1) (a) and 2104GENE1 Part 15 clause 15.2 (1) (a) raised during the previous audit period were both closed early by the Authority.

Genesis had no breach allegations relevant to the scope of this audit recorded by the Electricity Authority during the audit period.

1.7. ICP Data

GENE

All active ICPs are summarised by metering category in the table below. 2,822 of the 2,848 active ICPs with a metering category of 9 or blank have trader unmetered load details recorded. The remaining 26 ICPs were checked:

- 13 ICPs have had MEP nominations made and accepted and are awaiting meter asset details,
- six had meter asset details populated after the report was run, and
- seven ICPs remain at meter category 9 and do not have an MEP nomination made; they are discussed further in **section 2.9.**

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

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

- five of the eight active ICPs with a metering category of 9 or blank have trader unmetered load details recorded,
- one ICP had metering details added after the report was run,
- one ICP was made decommissioned after the report was run, and
- one ICP had an MEP nomination made and accepted.

Metering Category	2022	2021	2020	2019	2018	2017	2016
1	87,234	85,808	88,632	89,865	90,011	86,110	82,861
2	149	150	146	154	170	191	237
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
9	7	15	5	7	11	12	9
Blank	1	6	4	3	2	7	7

Status	Number of ICPs (2022)	Number of ICPs (2021)	Number of ICPs (2020)	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	87,391	85,979	88,787	90,029	90,194	86,230	83,114
Inactive - new connection in progress (1,12)	104	108	91	80	69	88	48
Inactive – vacant (1,4)	772	774	816	964	850	834	737
Inactive – AMI remote disconnection (1,7)	388	275	268	411	61	64	34
Inactive – de-energised due to meter disconnected (1,9)	26	14	9	3	2	0	0
Inactive – at pole fuse (1,8)	32	24	14	7	3	3	1
Inactive – de-energised at meter box fuse (1,10)	11	7	8	1	0	1	0
Inactive – at meter box switch (1,11)	10	11	4	0	1	0	0
Inactive – ready for decommissioning (1,6)	106	93	89	180	189	206	218
Inactive – reconciled elsewhere (1,5)	0	0	0	0	0	0	0
Decommissioned (3)	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. The seven active ICPs with a metering category of 9 or blank that do not have trader unmetered load details recorded were checked:

- five ICPs had MEP nominations made and accepted,
- one ICP was decommissioned after the report was run, and
- ICP 0470677848LC610 has CTs loaded but not the meter; this is being followed up with AMCI.

In **section 2.9** I have reviewed ICPs which appeared on the AC020 report with a metering category of 9 or blank and no trader unmetered load details recorded.

Metering Category	2022	2021	2020	2019	2018	2017	2016
1	97	105	123	99	100	82	77
2	971	1050	1165	908	922	753	635
3	510	615	710	649	632	452	347
4	176	211	234	218	192	150	91
5	21	29	28	24	22	11	15
9	2	2	4	4	1	1	0
Blank	5	4	4	0	2	1	0

Status	Number of ICPs (2022)	Number of ICPs (2021)	Number of ICPs (2020)	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Active (2,0)	1,782	2,016	2,268	1,902	1,841	1,450	1,165
Inactive - new connection in progress (1,12)	13	9	11	8	11	13	11
Inactive – vacant (1,4)	0	0	0	0	0	2	3
Inactive – AMI remote disconnection (1,7)	0	0	0	0	0	0	0
Inactive – de-energised due to meter disconnected (1,9)	0	0	0	0	0	1	0
Inactive – at pole fuse (1,8)	0	0	0	0	0	1	0
Inactive – de-energised at meter box fuse (1,10)	0	0	0	0	0	0	0
Inactive – at meter box switch (1,11)	0	0	0	0	0	0	0

Status	Number of ICPs (2022)	Number of ICPs (2021)	Number of ICPs (2020)	Number of ICPs (2019)	Number of ICPs (2018)	Number of ICPs (2017)	Number of ICPs (2016)
Inactive – ready for decommissioning (1,6)	4	1	1	1	0	1	1
Inactive – reconciled elsewhere (1,5)	2	2	2	2	2	2	0
Decommissioned (3)	458	444	433	419	406	0	365

1.8. Authorisation Received

A letter of authorisation was received.

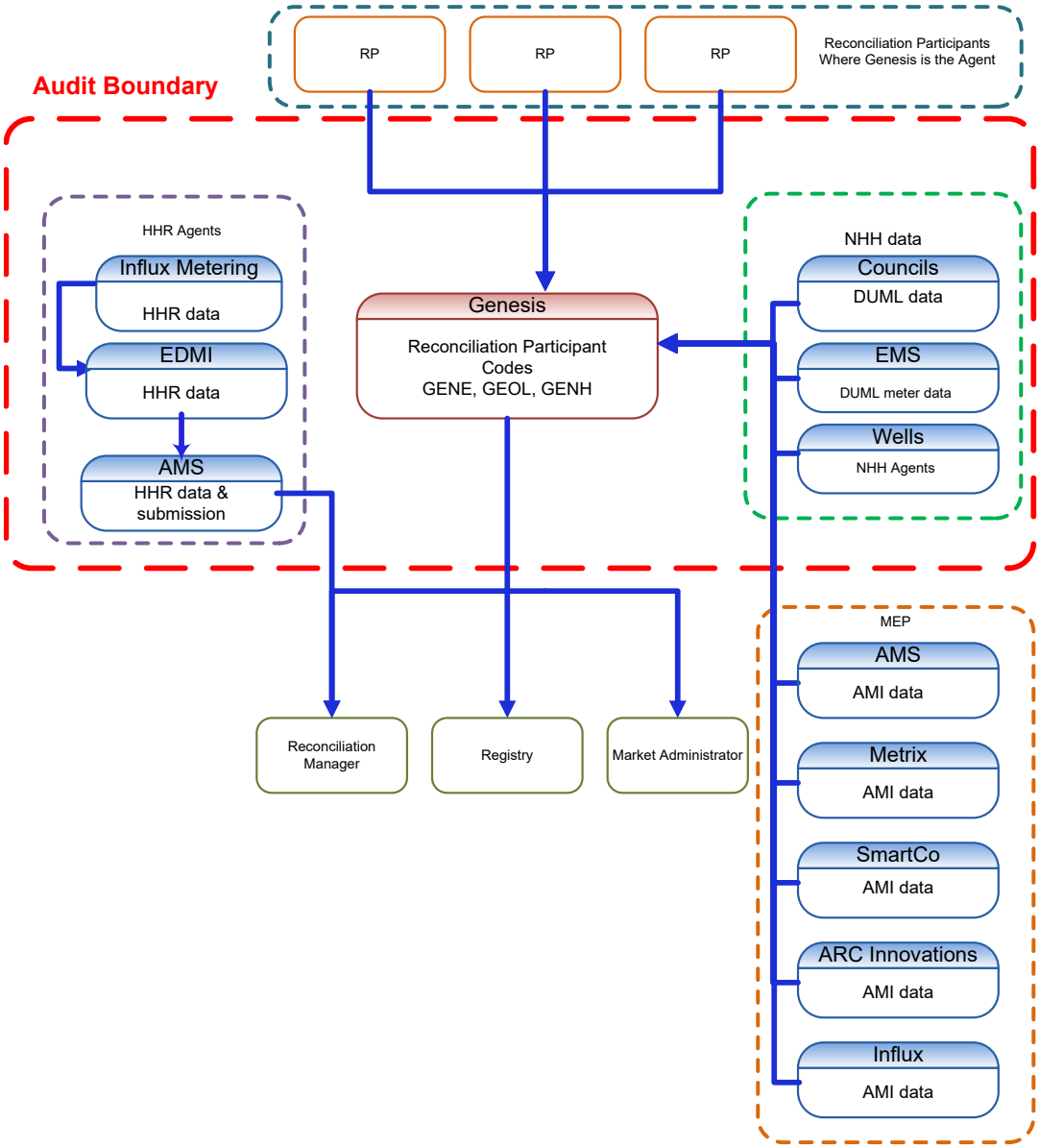
1.9. Scope of Audit

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 8 to 10 March 2022 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.


RP
RP
RP
Reconciliation Participants
Where Genesis is the Agent
Audit Boundary
HHR Agents
Influx Metering
HHR data
EDMI
HHR data
AMS
HHR data &
submission
Genesis
Reconciliation Participant
Codes
GENE, GEOL, GENH
NHH data
Councils
DUML data
EMS
DUML meter data
Wells
NHH Agents
MEP
AMS
AMI data
Metrix
AMI data
SmartCo
AMI data
ARC Innovations
AMI data
Influx
AMI data
Reconciliation
Manager
Registry
Market Administrator

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 audit was conducted in July 2021 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
Electrical Connection of Point of Connection	2.11	10.33A	**GENE** Four new connections were not certified within five business days. 232 reconnections were not certified within five business days. ICP 1000023102BP693 has not been recertified when it was unbridged. **GEOL** 50 reconnections were not certified within five business days. **GENH** Three new connections were not certified within five business days.	Still existing
Meter Bridging	2.17	10.33C and 2A of Schedule 15.2	**GENE** MEPs not notified within one business day of bridging occurring in all instances. 30 meters have yet to be unbridged. Consumption for the bridged period has not been submitted for 19 of the 31 unbridged ICPs.	Still existing
Changes to registry information	3.3	10 Schedule 11.1	Some status and trader updates were not processed within five business days of the event on the Registry.	Still existing
Trader responsibility for an ICP	3.4	11.18	**GENE** Two incorrect MEP nominations. **GEOL** One incorrect MEP nomination.	Still existing
Provision of information to the registry manager	3.5	9 Schedule 11.1	Some late and incorrect status updates.	Still existing
ANZSIC codes	3.6	9 (1(k) of Schedule 11.1	A moderate number of incorrect ANZSIC codes.	Still existing

Subject	Section	Clause	Non-compliance	Status
Changes to unmetered load	3.7	9(1)(f) of Schedule 11.1	**GENE** One ICP had missing daily unmetered kWh. Three ICPs had incorrect daily unmetered kWh. Five ICPs incorrectly have BTS unmetered recorded. **GENH** Missing unmetered details for one ICP.	Still existing
Management of "active" status	3.8	17 Schedule 11.1	**GENE** 11 incorrect first active dates of those ICPs sampled. **GEOL** Six incorrect first active dates. **GENH** Two incorrect first active dates.	Still existing
Management of "inactive" status	3.9	19 Schedule 11.1	**GENE and GEOL** Some incorrect inactive statuses.	Still existing
Losing trader response to switch request and event dates - standard switch	4.2	3 and 4 Schedule 11.3	**GENE** Three incorrect AN codes sent of the sample checked. **GEOL** Two incorrect AN codes sent of the sample checked. **GENH** One late AN file.	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** Five of 15 ICPs checked with last reads incorrectly labelled as actual but should have been sent as estimates. Five of 15 ICPs (different to the five above) checked where the last read date was the last billed date and the last read date was earlier. **GEOL** Two ICPs with a negative average daily consumption is incorrect as it is not consumption. One ICP with incorrect average daily consumption due to using the final billed average instead of read-to-read consumption.	Still existing

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

Subject	Section	Clause	Non-compliance	Status
			Five of 15 ICPs checked where the last read date was the last billed date and the last read date was earlier. Six of the 15 ICPs where the incorrect final read was in the CS file. Six ICPs not read during the period of supply were sent with the disconnection reads as actuals for the event date. **GEOL** All 17 ICPs with a negative average daily consumption are incorrect as it is not consumption, and all were sent with an incorrect final read. One of the four ICPs with a high average daily consumption figure was found to be incorrect. Four of 15 ICPs checked with incorrect last read labelled as actual but should have been sent as estimates. Five of 15 ICPs checked where the last actual read date is recorded incorrectly. Four of 15 ICPs checked with incorrect switch event meter readings. Two ICPs where the CS file was sent with estimated last billed reads rather than the last actual read gained.	
Gaining trader changes to switch meter reading - switch move	4.11	12 Schedule 11.3	**GENE** 23 late RR files. RR incorrectly rejected for ICP 0000214277UNACF. **GEOL** Five late RR files. RR files incorrectly rejected for ICPs 0006995667RN4A1, 0007122856RNEB6 and 0000918556TUA73.	Still existing
Gaining trader informs registry of switch request - gaining trader switch	4.12	14 Schedule 11.3	HH switch NT files sent for ineligible ICPs. One late NT file. One PT breach indicating a backdated switch.	Still existing
Losing trader provision of information - gaining trader switch	4.13	15 Schedule 11.3	**GENH** Five AN breaches. One incorrect response code.	Cleared
Gaining trader to advise the registry	4.14	16 Schedule 11.3	**GENH** Two CS breaches.	Cleared

Subject	Section	Clause	Non-compliance	Status
manager - gaining trader switch				
Withdrawal of switch requests	4.15	17 and 18 Schedule 11.3	**GENE** Two incorrect NW codes. 11 SR breaches. 100 NA breaches. **GEOL** One incorrect NW code. Seven SR breaches. 33 NA breaches. **GENH** One incorrect NW code. One SR breach. One NW breach. Two NA breaches. One late AW	Still existing
Metering information	4.16	16 Schedule 11.3	**GENE** 17 incorrect last reads sent of those sampled. **GEOL** 11 incorrect last reads sent of those sampled.	Still existing
Unmetered threshold	5.2	10.14 (2)(b)	**GENE** 10 ICPs with unmetered load over 6,000 kWh per annum.	Still existing
Unmetered threshold exceeded	5.3	10.14 (5)	**GENE** Unmetered load over 6,000 kWh per annum and not resolved within the allowable timeframes.	Still existing
Distributed unmetered load	5.4	11 Schedule 15.3, Clause 15.37B	**GENE** Inaccurate submission information for several databases. Eight database audits not completed.	Still existing
Electricity conveyed & notification by embedded generators	6.1	10.13, Clause 10.24 and 15.13	**GENE** Two ICPs of the sample checked that were generating or likely to be generating but did not have compliant metering installed, and notification of gifting had not been provided. Five of the ICPs reported in the 2020 audit that were generating have either not been corrected prior to switching away from Genesis (3 ICPs) or are still to be corrected (2 ICPs).	Still existing

Subject	Section	Clause	Non-compliance	Status
			61 meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code. **GEOL** Four meters were bridged during the audit period. While meters are bridged energy is not quantified in accordance with the code.	
Responsibility for metering at GIP	6.2	10.26(7)	Four late certification updates made to the RM.	Still existing
Reporting of defective meters	6.4	10.43(2) and (3)	**GENE** The MEP was not advised of one meter bridged on 19/10/20 of the sample provided as the service request was not issued to them to un-bridge it.	Cleared
Derivation of meter readings	6.6	3(1), 3(2) and 5 Schedule 15.2	**GENE** No action taken to address the ICP with signs of tampering or damage, and the ICP with missing or broken seals identified in the 2020 audit. Customer reads still not being validated against a set of readings from another source. Evident in the 2020 example that has not been corrected as this is a system issue. **GEOL** No action taken to address the ICP with signs of tampering or damage, and the ICP with missing or broken seals identified in the 2020 audit. Further evidence of meter events not being actioned with one example of seals not present and intact, and one example of phase failure not being actioned. Customer reads still not being validated against a set of readings from another source. Evident in the 2020 example that has not been corrected as this is a system issue.	Still existing
NHH meter reading application	6.7	6 Schedule 15.2	**GENE** 11 incorrect switch reads. **GEOL** Nine incorrect switch reads. **GENE and GENH** NHH meter readings not applied at 2400 on the day of the meter reading for NHH to HHR upgrades and downgrades where the meter is replaced.	Still existing

Subject	Section	Clause	Non-compliance	Status
Interrogate meters once	6.8	7(1) and (2) Schedule 15.2	**GENE** Four of the samples of ten ICPs unread during the period of supply did not have exceptional circumstances and, the best endeavours requirement was not met. **GEOL** Six of the sample of ten ICPs unread during the period of supply did not have exceptional circumstances and, the best endeavours requirement was not met.	Still existing
NHH meters interrogated annually	6.9	8(1) and (2) Schedule 15.2	**GENE** 18 of the sample of 26 ICPs unread in the 12 months ended March 2021 did not have exceptional circumstances and the best endeavours requirement was not met. **GEOL** 12 of the sample of 15 ICPs unread in the 12 months ended March 2021 did not have exceptional circumstances and the best endeavours requirement was not met.	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 the 15 ICPs sampled. **GEOL** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the ten ICPs sampled.	Still existing
HHR interrogation data requirement	6.13	11(2) Schedule 15.2	Event logs were not received and reviewed for one manual download.	Cleared
Identification of readings	9.1	3(3) Schedule 15.2	**GENE and GEOL** Because all meter removal reads are recorded as actual, estimated meter removal readings which capture consumption during stopped, faulty or bridged periods are incorrectly classified as actual readings. Some CS files had estimated readings classified as actual readings.	Still existing
Meter data used to derive volume information	9.3	3(5) of schedule 15.2	AMS' EIEP3 and GENDF file formats round trading period data to 2 decimal places. AMI meter reading data is truncated for import into Gentrack and Derive.	Still existing
Half hour estimates	9.4	15 Schedule 15.2	**GENH**	Still existing

Subject	Section	Clause	Non-compliance	Status
			No estimated data was provided for ICP 1000588995PC498 for Oct 2020 r0 and r1, Nov 2020 r0 and r1, and Dec 2020 r0 and r1 as insufficient information was available to create the estimate.	
NHH metering information data validation	9.5	16 Schedule 15.2	**GENE and GEOL** Zero consumption validation not being carried out.	Still existing
HHR aggregates information provision to the reconciliation manager	11.4	15.8	**GENE, GEOL and GENH** HHR aggregates files do not contain electricity supplied information.	Still existing but for different reason
Creation of submission information	12.2	15.4	**GENE** Two ICPs with distributed generation where no generation volumes were submitted for ICPs 0000011546HR322 and 0000029648HRF96 whilst GENE was the trader. 12 GENE ICPs identified in the 2020 which are believed to be generating which still do not have compliant metering installed or notification of gifting provided. Some inactive consumption was missing from submissions because corrections had not been processed as soon as practicable. Consumption during bridged periods was missing from submissions because corrections were not processed as soon as practicable. **GEOL** Some inactive consumption was missing from submissions because corrections had not been processed as soon as practicable.	Still existing
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	12.12	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

Table of Recommendations

Subject	Section	Clause	Recommendations	Status
Validations	2.1	Use the audit compliance report for: • validation of distributor's unmetered load details against GENE/GEOL unmetered load details, • validation of initial electrical connection date, first meter certification date and first active date, and • compare the profile against the Distributors' installation type and check the reverse power event to ensure DG is set up correctly.	Use the audit compliance report for: • validation of distributor's unmetered load details against GENE/GEOL unmetered load details, • validation of initial electrical connection date, first meter certification date and first active date, and compare the profile against the Distributors' installation type and check the reverse power event to ensure DG is set up correctly.	Repeated
Bridged meter process	2.17	Investigate reporting/ monitoring of bridged meters to ensure that an un-bridge service request is generated.	Investigate reporting/ monitoring of bridged meters to ensure that an un-bridge service request is generated.	Adopted
Provision of information to the registry	3.5	Consider making status changes to active based on load test dates from data collectors.	Consider making status changes to active based on load test dates from data collectors.	Repeated
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.	Repeated
Installation of compliant metering for generating ICPs	6.1		For any ICP where generation is present, either: 1. ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or 2. advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be	Repeated

Subject	Section	Clause	Recommendations	Status
			provided to the reconciliation manager	
Monitoring of ICPs with potential distributed generation and Genesis has none.	6.1		Monitor ICPs where the distributor has distributed generation indicated and Genesis have none.	Adopted
Distributed generation profile	6.1		Check with Vector for confirmation of fuel type "other" to confirm if the sites have batteries that will inject to the network. If present the profile type should be changed to "EG".	Repeated
Confirm whether GENH ICPs are generating	6.1		Confirm whether the following ICPs are generating: • 0000039832WE85B (previously had category 1 meter with an I channel and upgraded to category 2 meter but no I channel is present), • 0000130740WEA40 (generation added by the Distributor 2016 but injection metering has never been present), • 0006679030RNFE2 (switched in with B installation type 01/01/20), and • 0303925043LC693 (switched in with B installation type 01/02/20). If they are generating arrange for compliant metering to be installed or notification of gifting to be provided to the reconciliation manager.	Cleared except for ICP 0006679030RNFE2, which is repeated
Review of Wells meter condition information	6.6		Ensure that memos are created for all meter condition issues provided by Wells. Develop processes to review and take action on these meter condition issues, which could affect meter accuracy.	Repeated
Validation of customer, web and photo readings	6.6		Update processes to ensure that customer, web, and photo readings must be validated against at least two actual validated readings from another source.	Repeated

Subject	Section	Clause	Recommendations	Status
Account managed ICP read attainment	6.8		Develop clear processes for read attainment for account managed customers to ensure that the read attainment requirements are met.	Repeated with updated wording
Identification of generating ICPs	9.5		Ensure that the Billing team is aware that sudden low or negative consumption could be caused by home generation without an EG register installed. These exceptions could be checked against the high-risk database, customer account notes, or google satellite information to determine whether it is likely that solar is installed. Any ICPs which appear likely to have home generation should be passed to the home generation team, so that compliant metering can be installed where necessary.	Updated recommendation made in this audit
Zero consumption validation	9.5		Recommence the zero-consumption process to identify stopped, faulty, and bridged meters.	Repeated

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.6, 11.2, 15.2

Code related audit information

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

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

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

Audit observation

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

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

Audit commentary

Registry and static data accuracy

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

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

GENE

Issue	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	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	2,376	310	1,836	138	44	44	62	See **sections 3.5** and **3.8**.

Issue	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Incorrect statuses or status event dates	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"	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"	27	91	42	67	15	23	22	See **sections 2.9** and **3.4**.
Active ICP with no MEP	-	-	-	49	-	32	1	None found in this audit.
ICPs with Distributor unmetered load populated but retail unmetered load is blank	3	3	12	13	2	17	14	See **section 3.7**.
Standard unmetered load different to distributor field	58	157	76	42	10	10	27	See **section 3.7**.
ICPs with unmetered load flag Y but load is recorded as zero	51	39	43	-	-	-	67	49 were confirmed to be DUML ICPs. See **section 3.7**.
Shared unmetered load ICPs with no UML	4	-	4	4	-	-	1	See **section 5.1**.
Shared unmetered load ICPs with incorrect load	4	-	4	-	-	5	5	See **section 5.1**.
Unmetered load differences	2	-	-	-	-	-	1,226	See **section 3.7**.

Issue	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
between the registry and Derive								
Incorrect EG1 profiles	0	0	0	2	2,882	-	-	None found in this audit.
Incorrect RPS profiles	20	14	97	372	-	-	-	Six ICPs had RPS profile recorded on the registry, when RPS PV1 was applied for submission. 14 ICPs with distributed generation present but no import export metering and therefore the incorrect profile recorded. See **section 6.1**.
Incorrect PV1 profiles	2	0	1	10	-	-	-	ICP 1001156573UNA50 did not have a settled I flow register present but was recorded with the RPS PV1 profile. ICP 0000020776CE0EF where the distributor had recorded a generation fuel type of fresh water and GENE applied PV1 See **section 6.1**.
Generating ICPs without import/export metering or arrangements for gifting in place	14	-	-	-	-	-	-	14 ICPs with distributed generation present but no import export metering. See **section 6.1**.

GEOL

Issue	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Status of (1,12) "New connection in progress" with an initial electrical connection date populated	104	-	91	16	5	8	2	See **sections 3.5** and **3.8**.

Issue	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	10	11	4	-	1	-	0	See **section 3.9**.
Incorrect statuses or status event dates	2	N/A	N/A	N/A	N/A	N/A	N/A	See **section 3.8**.
Blank ANZSIC codes	-	-	-	-	-	-	30	None found in this audit.
ANZSIC T994/994000 "Don't know"	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"	3	7	3	4	-	-	-	See **sections 2.9** and **3.4**.
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.

Issue	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	2017 Qty	2016 Qty	Comments
Incorrect EG1 profiles	0	0	0	50	69	-	-	None found in this audit.
Incorrect RPS profiles	17	1	9	-	-	-	-	See **section 6.1**.
Incorrect PV1 profiles	0	0	1	-	-	-	-	None found in this audit.

GENH

Issue	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" with an initial electrical connection date populated	12	10	11	1	-	See **sections 3.5** and **3.8**.
Active with Blank ANZSIC codes	-	-	-	-	-	None found this audit.
Active with ANZSIC T994/994000 "Don't know"	-	20	1	4	-	None found this audit.
Active with ANZSIC "T999" not stated	-	3	-	-	-	None found this audit.
Meter category 9 or blank and active with MEP and UML "N"	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.

Issue	2022 Qty	2021 Qty	2020 Qty	2019 Qty	2018 Qty	Comments
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	See **section 6.1**.

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. This was particularly evident in the GENE new connections area. The last audit identified three additional validations:

- the reconciliation team are now providing the new connections teams with any ICPs with a date difference between the first active date, the initial electrical connection date, and the meter certification date to be investigated, and
- checks for variations between the distributor and trader unmetered load fields have not yet been implemented although only a small number of unmetered load discrepancies were found, and these were due to the lack of validation post the ICP joining Genesis; unmetered loads are validated when gained or electrically connected but I repeat the last audit's recommendation to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Regarding Clause 15.2 Validations	Use the audit compliance report for validation of distributor's unmetered load details against GENE/GEOL unmetered load details.	We are now running the AC020 report monthly. This is reviewed by the relevant business areas with the aim to provide RCA and actionable insights than can be implemented to improve compliance	Adopted

The AC020 report is being used to identify ICPs where the distributor and the MEP indicate that distributed generation is present, but the trader has none, this includes a check for generation type. Due to the current resource constraint in this area these are not always able to be reviewed. Genesis is addressing this. Genesis have yet to implement the last audit's recommendation to check the "reverse power" event from MEPs to assist with getting distributed generation set up in an accurate and timely manner. I have repeated this to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Regarding Clause 15.2 Validations	Compare the profile against the distributors' installation type and check the reverse power event to ensure DG is set up correctly.	Genesis will implement this recommendation and check metering events including reverse power	Identified

As detailed in **section 6.1**, nine ICPs were identified in the 2021 audit which were believed to be generating and did not have compliant metering installed or notification of gifting provided. All nine are still with GENE and no progress has been made getting I flow registers installed. This is recorded as non-compliance.

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	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 or the replaced meter prior to the fault. This process was used for those ICPs where corrections were conducted. I reviewed eight examples of stopped or faulty meters for GEOL and found five corrections were processed but ICPs 2622040000CH59B, 0000250576UN49D and 2622008000CH30E have had meters replaced but corrections were not conducted. I reviewed eight examples of potentially stopped or faulty meters for GENE and found three corrections were processed and five ICPs did not have defects following investigation.	No
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.	No

		I reviewed four multiplier corrections for GENE and one for GEOL and confirmed that the corrected data flowed through to revision submissions for three of the GENE ICPs and the single GEOL ICP. One GENE ICP is still to be corrected (single phase meter in three phase supply) as Genesis are working with the customer to get the metering fully compliant as part of the correction process.	
Bridged meters	2.1,2.17, 6.4	Bridged meters are now typically identified through key word exception reports across completed service request reconnection paperwork returned from the contractor or stopped meter cases identified from the zero-consumption reporting. This new reporting is capturing between 20 and 30 bridged meters per month. Zero-consumption monitoring is now being performed as additional resource has been allocated to this process since the last audit. The previous audit discussed the internal audit of the bridged meter processes. This identified that process improvements were required to prevent bridging, promptly un-bridge where bridging has occurred, and ensure that bridged consumption is consistently identified and corrected where it does occur. As only some of that audit's recommendations have been implemented there are still bridged meters that are not being un-bridged (in particular where the initial service request is turned down and no new service request is raised with revised access instructions), so a correction is not processed in all instances, or in a timely manner. **GENE** GENE provided a list of ten bridged meters. ICPs 0000041746TR223 and 0000167824TRA38 have not yet been un-bridged (ICP 0000041746TR223 was bridged on 21/12/21 and ICP 0000167824TRA38 was bridged on 02/07/21). Five of the remaining eight ICPs did not have corrections conducted. **GEOL** I reviewed a sample of seven bridged meters. Four were bridged control devices, not bridged meters. One ICP was un-bridged, but the correction was not conducted. One ICP is still bridged and it's unclear if the last ICP is un-bridged or not.	No
Consumption while inactive	2.1	**ICPs with inactive consumption** Review of historic estimate examples found that where part of a read-to-read period was inactive, the SASV inactive days were excluded from both the numerator and denominator when calculating the historic estimate, forcing all consumption to be reported within the active portion of the read-to-read period. Where an entire read-to-read period has inactive status, the numerator and denominator will be zero and no historic estimate will be reported. The status must be returned to active to allow consumption during inactive periods to be correctly reported. **GENE and GEOL** At the time of the audit there were 89 ICPs to be investigated where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 248,000 kWh. These are being worked through but due to resource constraints this is taking longer than desired,	No

		GENE provided a report with 89 ICPs with inactive consumption, totalling 248,000 kWh. I reviewed the 36 ICPs with the highest positive/negative values of disconnected consumption, and found: • eleven where exceptions have not yet been investigated or corrections processed resulting in 238,420 kWh of inactive consumption that has not been submitted, • 18 were confirmed not to be consuming as the reads were either from the wrong meter or were misreads, • two were back dated switch losses so consumption has been accounted for, and • one was corrected to ensure all volume was accounted for.	
Unmetered load corrections	2.1, 3.7	Gentrack records the unmetered load as a fixture, and dummy meter readings are created and loaded into Derive for submission. I reviewed three unmetered load corrections for GENE and found they had been processed correctly into Derive. However, Derive rounds the resultant calculation of monthly unmetered volume to zero decimal places making the effort to monitor and capture accurate UML information somewhat redundant.	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
Defective meters	2.1	I rechecked the previous audit issue relating to ICP 0000015153HB6E4 which was gained from GEOL to GENE. It had a blank screen so was estimated from 8 June 2020 to 1 December 2020. The gain read was higher than the removal read but rather than issue an RR to correct this the volume was estimated to the removal date resulting in over submission of 22,434 kWh. This is recorded as non-compliance.	Not corrected
NHH bridged meter corrections	**2.1**	I checked 50 ICPs from the previous audit where meters had been bridged. I found the following: • 10 ICPs were not unbridged; four have now switched out, • six ICPs have been corrected, and • 34 ICPs were unbridged but corrections were not conducted.	44 ICPs not corrected
NHH inactive consumption corrections	**2.1**	I rechecked the 2021 audit findings and found issues had been corrected or have now passed the 14-month window apart from ICP 0000036153UN7C6 which switched away using the disconnection reads rather than the final read, resulting in 4,819 kWh being pushed to the gaining trader and submitted for the wrong period.	One issue remaining
Reporting of distributed generation volumes	**6.1, 12.2 & 12.7**	I rechecked the two ICPs identified in the 2021 audit which did not have compliant metering installed or notification of gifting provided and found they had switched out.	Two issues remaining

Issue	Section	Description	Status
		I rechecked the five ICPs identified in the 2020 audit which were believed to be generating which did not have compliant metering installed or notification of gifting provided. Three had switched out in late 2020 or early 2021 before I flow metering was installed. ICPs 0005617142WE037 and 0000047031TR076 still don't have import/export metering installed due to customer related issues.	

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
NHH inactive consumption corrections	2.1	ICP 0000918556TUA73 switched out on the disconnected read. An RR was sent to Genesis to correct this but was incorrectly rejected by Genesis. This resulted in 20,820 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader.	Not corrected

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 15.2 From: 01-Jul-21 To: 31-Jan-22	Some inaccurate data is recorded and was not updated as soon as practicable. 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 recorded as moderate overall but there is room for improvement identified. Some of these issues have been present for at least the last two audits and these need to be addressed before the controls could be rated as strong overall. The impact is assessed to be high 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
Bridged Meters – We have implemented a report that picks up any meters that have potentially been bridged and these are worked daily. We also advise the MEP of these separate to the W/O being raised. We have also initiated a daily report to pick up sites that have zero consumption which is an additional control to pick up meters that may have been bridged. When a meter is unbridged the missing consumption is calculated, and the information sent to our Marker Settlements team to ensure the submissions are corrected. We will look to conduct an internal audit to ensure these processes are being followed	Nov 2022	Identified
NHH Vacant / Inactive consumption corrections- A new report has been created to pick up any inactive and vacant sites that are consuming energy. When these are worked the ICP is made active from the date that consumption restarted. Based on this audit we will be looking at potential improvement to the report / process	July 2022	
Defective meters -We have a report that has created in Feb 22 that picks up any contractor notes that require attention i.e., tamper / broken seal etc. This has strengthened our controls, but we agree that further work is required to ensure defectives meters are picked up ASAP.	Aug 2022	
Reporting of distributed generation volumes - We will be reviewing our end-to-end distributed generation process over the coming months with the intention of improving compliance	Oct 2022	
Incorrect multipliers - Our Revenue Assurance team are currently working on registry mismatches including multiplier differences with the aim of creating a robust process for this	July 2022	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 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) 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.

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

Audit commentary

GENE and GEOL

AMI and HHR data is loaded into GDW and MSD by 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 volumes for two HHR settled ICPs from AMS to MSD and the HHR aggregates submissions, and
- I traced readings for three NHH settled ICPs to Gentrack and Derive.

Wells readings are loaded directly into Gentrack, and then transferred from Gentrack to Derive overnight. To confirm the process, I traced readings for 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 HHR volumes submission using SQL scripts. I walked through the process and traced a sample of data from the source files to submission. The Generation volumes (I direction) from the same metering point is included a separate GENE HHRVOLS file created by the finance team responsible for submitting the NSPVOLS file for all other grid generation. The reason why volumes are split across two files is to prevent inadvertent overwriting of HHR submission volumes where two AV-090 files are being generated for the same NSP and participant code and flow direction. While this process minimises the risk of X direction volumes being overwritten between Hau Nui Wind Farm local service and GENE HHR submission for AMI meters settled as HHR, there is an ongoing risk that Genesis switches an ICP with both X&I registers and begins to settle this as HHR therefore creating another overwrite scenario.

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.	This recommendation will be reviewed	Investigating

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 has not been gained for two GENE and one GEOL ICPs, but Genesis is continuing to attempt to contact the customers to arrange access.

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 there is no reporting in place to identify when this fails. In these cases, this can cause delays in updating the registry to push through the MEP nomination and complete the new connection. Once the service request is returned, and providing all the details are complete, Salesforce automatically closes the service request and this updates to Gentrack which then 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.

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded,
- 27 ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which 16 ICPs had MEP nominations made and accepted, and three were metered after the report was run; the findings for the remaining eight ICPs are as follows:
    - two ICPs have now been decommissioned,
    - one ICP is ready for decommissioning,
    - one ICP has metering populated in the registry,
    - two ICPs have metering installation details but not metering component details, and
    - two ICPs have meters removed in the registry.

I recommend the four ICPs without metering details are investigated to ensure the status is correct and whether metering should be in the registry. The ICPs are listed at the end of this section.

GEOL

There has been no change to the new connection process during the audit period. With the relaunch of the GEOL product as Frank, there is an increase in activity. The management of new connections has been moved from being within the metering and premise team back to a dedicated team. They do 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 is less than ideal.

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded,
- three ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which two ICPs had MEP nominations made and accepted, and one was metered after the report was run.

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 a "billing output" file that data collection has commenced. As mentioned during the last audit, the status can be updated at this time. A recommendation is made in **section 3.5**.

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded,
- eight ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which:
    - six ICPs had MEP nominations made and accepted, and
    - ICPs 0006404723RNECC and 0470677848LC610 have AMCI metering removed in the registry, but a nomination has not occurred for another MEP; I recommend GENH investigates these to check whether a nomination needs to be made or whether the status is incorrect.

ICP	MEP	Comments
0000175681UN81A	NGCM	Metering installation details present but not components
0000056080TE756	LMGL	LMGL metering showing as removed
0001611075TGA34	TRUM	TRUM metering showing as removed
0009595055LN79A	SMCO	Metering installation details present but not components
0006404723RNECC	AMCI	AMCI metering showing as removed
0470677848LC610	AMCI	AMCI metering showing as removed

Subject	Description	Audited party comment	Remedial action
Blank metering records	Check the ICPs listed above to ensure the status is correct and whether metering should be in the registry.	The above ICPs are under review by our TOU metering team and will be updated accordingly	Identified

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 the first active date against the meter certification date and the initial electrically connected date for all new connections and found three ICPs where temporary electrical connection had occurred for metering certification, then the ICPs were electrically disconnected. The registry has the correct status of "inactive – vacant" from the certification date until the electrical connection date, but this clause requires GENE to have written approval from the owner of the network. This written approval was not obtained. The MEP may also be non-compliant for not having approval from GENE for the temporary electrical connection. The ICPs are shown in the table below.

ICP	Temporary electrical connection date	Electrical connection date	MEP	ATH
0110012590EL76E	21/07/21	08/09/21	NGCM	INDS
0000166154CK969	21/07/21	08/09/21	NGCM	INDS
0000166488CK230	21/09/21	09/10/21	NGCM	INDS

GEOL

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

Temporary electrical connections occur rarely. No examples were identified.

GENH

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

Temporary electrical connections occur rarely. No examples were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.10 With: Clause 10.33(1) From: 21-Jul-21 To: 09-Oct-21	Three ICPs temporarily electrically connected without written approval from the network owner. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
We have a monthly compliance meeting with our New Connections team and will continue to review our processes / controls to look for improvements.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded,
- 27 ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which 16 ICPs had MEP nominations made and accepted, and three were metered after the report was run; the findings for the remaining eight ICPs are as follows:
    - two ICPs have now been decommissioned,
    - one ICP is ready for decommissioning,
    - one ICP has metering populated in the registry,
    - two ICPs have metering installation details but not metering component details, and
    - two ICPs have meters removed in the registry.

I recommend in **section 2.9** that the four ICPs without metering details are investigated to ensure the status is correct and whether metering should be in the registry.

GEOL

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded, and
- three ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which two ICPs had MEP nominations made and accepted, and one was metered after the report was run.

GENH

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded,
- eight ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which:
    - six ICPs had MEP nominations made and accepted, and
    - ICPs 0006404723RNECC and 0470677848LC610 have AMCI metering removed in the registry, but a nomination has not occurred for another MEP.

I recommend in **section 2.9** that GENH investigates these to check whether a nomination needs to be made or whether the status is incorrect.

New Connections

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

GENE

The AC020 report recorded 248 ICPs which did not have full certification within five business days of initial electrical connection. 235 were permanent unmetered load or unmetered builder's temporary supplies and were not expected to have metering on initial electrical connection. I checked the other 13 ICPs:

- eight were certified on time, but the registry was updated late by the MEP,
- three had incorrect status event dates (ICPs 1002145627UN19B, 0000034605EAA24 and 0007205493RN903), and
- two had genuine late certification (ICPs 1002142934UNC99 and 1002143219UNC39).

GEOL

According to the AC020 report all metered ICPs had full certification within five business days of initial electrical connection.

GENH

The AC020 report recorded eight metered ICPs which did not have full certification within five business days of initial electrical connection. Four ICPs were certified on time but the registry was updated late or not updated. ICP 0000166840CKBC7 has an incorrect status of "active". It is not yet electrically connected. ICPs 0007203849RNF1C, 1002056122LC7AF and 0000061361NT320 were certified late.

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 218 ICPs that did not have full certification within five business days of reconnection. Two of the ICPs were unmetered and are compliant. I checked a typical sample of ten ICPs and found:

- nine of the ten had been notified to the MEP, and
- the notification was missed for ICP 0079021030WE3EC due to human error.

The 216 ICPs reconnected with no certified metering in place within five business days of reconnection are recorded as non-compliance.

GEOL

The AC020 report recorded 51 metered ICPs that did not have full certification within five business days of reconnection. I checked a typical sample of ten ICPs and found:

- nine of the ten had been notified to the MEP, and
- ICP 0005230926RN888 has not been notified to the MEP due to human error.

The 51 ICPs reconnected with no certified metering are recorded as non-compliance.

GENH

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

Bridged meters

GENE

GENE provided a list of ten bridged meters. Where un-bridging occurred, recertification also occurred.

GEOL

GENE provided a list of seven bridged meters. Where un-bridging occurred, recertification also occurred**.**

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) From: 01-Jul-21 To: 28-Jan-22	**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. Potential impact: Medium Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as 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 review our correct controls and look for improvements. Genesis notify MEPs of any reconnections that have an uncertified meter within 5 business days, we feel that the responsibility to certify the meter then sits with the MEP rather than Genesis We will continue to monitor our compliance via the AC020 report and seek to complete RCA for noncompliance and gain actionable insights	Ongoing	Investigating
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.

GENE, GEOL, and GENH did not begin using trading on any new networks during the audit period.

Audit outcome

Compliant

2.13. Arrangements for metering equipment provision (Clause 10.36)

Code reference

Clause 10.36

Code related audit information

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

Audit observation

The process to ensure an arrangement is in place with the metering equipment provider before an ICP can be created or switched in was examined and controls within Gentrack were checked.

Audit commentary

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

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

GENE, GEOL, and GENH did not begin using any 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.

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 will only be 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.

Bridged meters are now 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. The metering team receives daily reports from this automated query and notify the respective MEPs by raising service requests.

The last audit discussed the internal audit of the bridged meter processes. This identified that process improvements were required to prevent bridging, promptly un-bridge where bridging has occurred, and ensure that bridged consumption is consistently identified and corrected where it does occur. As only some of that audit's recommendations have been implemented there are still bridged meters that are not being un-bridged (for example service request turn downs due to access issues – no replacement service request raised), so a correction is not processed in all instances, or in a timely manner. This is discussed in **section 2.1**.

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.

GENE provided a list of ten bridged meters. Eight have since been un-bridged and two are still bridged. Corrections were processed for the bridged period for three of the eight. The remaining five had no correction processed as yet – three were waiting in the metering team work queue to action. I reviewed an additional sample of ten previously bridged ICP/meters from the previous audit to confirm if appropriate volume corrections had been applied retrospectively. None of this additional sample have had volume corrections applied. 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 for each instance. Genesis is aware of this. This is recorded as non-compliance below and in **sections 2.1** and **6.4**.

The AMI MEPs are now being notified within one day of the meter being bridged.

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 recommend that this process is reviewed to investigate how to improve visibility of these.

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.	We will look to implement this recommendation and have a process in place to track all bridged meters. We do have a report in place to picks up jobs that contractors have not been able to complete, this was only created in Feb 2022 but is an additional control to pick up work orders that have been turned down and need to be reviewed	Investigating

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-Jul-21 To: 13-Jan-22	**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. 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. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate for bridging as there is improved reporting in place to adequately identify and notify the AMI MEPs of all bridged sites. There is room for improvement by confirming that all are corrections are completed and actioned. The number of ICPs affected is small and therefore the impact on settlement is minor therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Bridged Meter Reporting – We have implemented an automated Bridged Meter report that is worked by the metering team and W/O booked to ensure meters are unbridged. A separate report is also sent to MEPs advising them that their meters have been bridged	Dec 2021	Identified
Stopped Meter Reporting- A new automated daily zero consumption report has now been implemented (30th March) and is worked by the metering team via a queue.	Mar 2021	
Work Order Report - a report has been created to highlight any W/O notes that are returned and need further investigation. This include picking up items that the contractor has been unable to complete and acts as an additional control.	Feb 2021	
Bridged Meter Tracking - We will look to implement further tracking of Bridged meter to ensure all are followed through to completion and that the submission volumes are corrected.	July 2022	
Preventative actions taken to ensure no further issues will occur	**Completion date**	

As above		

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 53 new connections including HHR and NHH. The accuracy and timeliness of registry updates is discussed in **section 3.5**.

Audit outcome

Compliant

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

Code reference

Clause 10 Schedule 11.1

Code related audit information

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

Audit observation

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

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

Audit commentary

Updates to active status

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

GENE

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	2016	1,155	11.2	66%
GENE	2017	1,443	10.7	61%
GENE	2018	696	9.4	79%
GENE	2019	1,106	8	69%
GENE	2020	2,148	11.6	76.14%
GENE	2021	2,629	7.78	73.01%
GENE	**2022**	**1,329**	**21.32**	**69.93%**

The reconnection process is described in **section 3.8**. GENE had 250 reconnections updated more than 30 business days after the event, 88 updated more than 100 business days after the event, and 24 updated more than 1,000 business days after the event. The latest update was 3,474 business days after the event date.

The 15 latest updates, and the ten late updates between 30 and 500 business days late were checked.

- 22 examples had consumption on vacant ICPs. This is an area of focus for Genesis as this was not being actively worked for a time but is being now. This has resulted in long backdates as the backlog has been worked through. Any ICP suspected to have vacant consumption is returned to active and investigated. If this is not found to be the case the active update is reversed and the ICP is returned to inactive. 11 of the sample checked are now outside of the 14-month revision period and these volumes won't be submitted. The backlog has been cleared and this process is being managed as part of BAU so I would expect the average days to update to reduce going forward. This is recorded as non-compliance in **section 2.1** and **12.7**.
- Status validation reporting identified two corrections for ICPs 0000012451UND0B and 1000003704BP8D7.
- ICP 0000510094DE736 switched in on 3 May 2021 with a disconnected status. The meter was changed on 11 May 2021 and the supply reconnected, but the status update was missed and was corrected on 17 October 2021.

GENH

No late reconnections were identified on the AC020 or event detail reports, all active status updates related to new connections.

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2016	-	-	-
GENH	2017	-	-	-
GENH	2018	-	-	-
GENH	2019	-	-	-
GENH	2020	1	9	0.00%
GENH	2021	-	-	-
GENH	2022	-	-	-

GEOL

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2016	290	11.8	47%
GEOL	2017	475	21	29%
GEOL	2018	648	13.2	52%
GEOL	2019	752	11	38%
GEOL	2020	1,870	13.11	43.98%
GEOL	2021	1,125	8.84	72.39%
GEOL	**2022**	**451**	**8.74**	**71.94%**

The reconnection process is described in **section 3.8**. GEOL had 47 reconnections updated more than 30 business days after the event, 11 updated more than 100 business days after the event. The latest update was 1,075 business days after the event date. The ten latest updates, and ten late updates between 30 and 100 business days late were checked. The following issues were identified:

- 13 ICPs were vacant with consumption which as detailed in the GENE section above, has been an area of focus and the backlog of these have been worked through; two ICPs 0000161941UNE9B and 0000561205WEBC4 were backdated more than 14 months and therefore any volume before this period will not be reconciled which is recorded as non-compliance in **sections 2.1** and **12.7**,
- two ICPs 0000556490WTA8C and 0000019968TR492 were due to late paperwork being returned,
- ICP 0000206384UN4BD was a backdated switch in as the customer was reconnected but due to an addressing issue the switch was late,

- registry validation reporting identified ICP 0045370015HBB78 at the incorrect status and was corrected, this was backdated to active for 17 July 2018 on 9 September 2021 therefore any volume between 17 July 2018 to 1 July 2020 will not be reconciled. This is recorded as non-compliance in **sections 2.1** and **12.7,**
- the reconnection work order was received by GEOL for ICP 0000921425TU766, but the status was not updated in GTV and was corrected on 22 October 2021 for 13 February 2020, therefore any volume between 13 February 2020 to 1 September 2020 will not be reconciled which is recorded as non-compliance in **sections 2.1** and **12.7,**
- the meter seal was advised as broken for ICP 0000505187HBF9E in December 2020 and there was no consumption being recorded; due to the resource issues and zero consumption not being worked this was finally corrected on 22 October 2021 for an active date of 13 February 2020, therefore, any volumes between 13 February 2020 to 1 September 2020 will not have been reconciled which is recorded as non-compliance in **sections 2.1** and **12.7, and**
- ICP 0000281445EN311 was incorrectly decommissioned and identified when a new connection was requested and the contractor found an existing meter on the site; this was backdated to active for 19 February 2018 and estimated to be consuming 100 units, then updated to active on 30 September 2021 resulting in an estimated 92,400 kWh of consumption from February 2018 to August 2020 not being submitted, which is recorded as non-compliance in **sections 2.1** and **12.7**.

Updates to inactive status

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

GENE

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	2016	849	6.30	85.42%
GENE	2017	493	5.85	87.58%
GENE	2018	373	5.40	87.98%
GENE	2019	696	2.60	91.56%
GENE	2020	959	9.77	95.08%
GENE	2021	793	2.94	97.02%
GENE	**2022**	**962**	**7.40**	**93.43%**

I checked all 392 late updates to "inactive - new connection in progress" identified on the AC020 report. 260 of the updates were made prior to the initial electrical connection date and are considered to be on time. 132 updates occurred after the initial electrical connection date and were genuinely late. I checked the ten latest updates, and all were backdated new connections. The updating of new connections is discussed in **section 3.5**.

The other 570 late updates recorded on the AC020 report were reviewed. GENE had 266 disconnections updated more than 30 business days after the event, 63 updated more than 100 business days after the event, and 14 updated more than 1,000 business days after the event. The latest update was 5,021 business days after the event.

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

- the distributor advised of ten decommissioned installations from 2013 through to 2021,
- eight were thought to have vacant consumption and were backdated to active but once investigated none was found so these were returned to disconnected,
- eight were moved to reconciled elsewhere as part ICP consolidations for DUML loads, these are expected to be decommissioned once agreed with the distributor,
- four were due to status changes that were repopulated post a switch withdrawal,
- four were due to safety disconnections carried out by the distributor due to fire or other reason,
- two were due to corrections identified by the validation process carried out by the reconciliation team,
- two ICPs (0096279100WR4B1 and 0096281200WRF2E) are part of the Powerco Base Power trial; these ICPs are not currently connected and should be recorded as "inactive - vacant" rather than "reconciled elsewhere" as they are not currently consuming and there is no volume being reconciled elsewhere, this is being corrected and is recorded as non-compliance in **section 3.9**, and
- ICP 0000379165TPD39 was delayed due to resource constraints at the time.

Genesis is continuing to work on improving this area by providing improved reporting and more resources and the benefits of this will be more evident in the next audit.

GENH

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2016	0	0	100.00%
GENH	2017	4	18.83	33.33%
GENH	2018	2	19.50	0.00%
GENH	2019	4	4.53	76.74%
GENH	2020	6	7.36	84.85%
GENH	2021	30	21.06	51.61%
GENH	**2022**	10	23.30	66.67%

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

The other seven late status updates for disconnections were advised late by either the customer or the distributor. The updates were nine to 223 business days after the event date.

GEOL

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2016	47	9.45	84.33%
GEOL	2017	282	25.54	21.01%
GEOL	2018	148	65.73	37.29%
GEOL	2019	494	2.13	73.08%
GEOL	2020	354	7.92	84.45%
GEOL	2021	166	9.10	91.03%
GEOL	**2022**	**74**	**3.76**	**95.47%**

I checked all 27 late updates to "inactive - new connection in progress" identified on the AC020 report. Three of the updates were made prior to the initial electrical connection date and are considered to be on time. 24 updates occurred after the initial electrical connection date and were genuinely late. I checked the ten latest updates and found all were backdated new connections. Seven were updated as a result of a data cleanse and three were late notification of the metering. The updating of new connections is discussed in **section 3.5**.

The other 47 late updates recorded on the AC020 report were reviewed. GEOL had 19 disconnections updated more than 30 business days after the event, six updated more than 100 business days after the event. The latest update was 939 business days after the event.

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

- seven were due to late paperwork from the contractors,
- four were due to late notification from the distributor; two were decommissioned ICPs and two were safety disconnections,
- three were due to an internal backlog due to resource constraints,
- three were corrections of which:
    - two were ICPs (0003460425WM6C5 and 0003460425WM6C5) that were returned to active for the last customer sign in date rather than the date consumption commenced and these inactive updates were to correct this which is recorded as non-compliance in **section 3.8**,
    - all ICPs are moved to "active" when the switch completes and are only moved to disconnected if it is found that they have not been reconnected and this is caused ICP 0000023013WEFE7 to be backdated 12 days after switching in to correct this,
- three ICPs (0099551455CN14B, 0007231806AL654 and 0005085721RN2B8) were updated in Gentrack on 21 July 2021 but the updates didn't get to the registry until 27 July 2021 causing these to be late; I recommend below this is investigated.
- three ICPs (0000141892UNFD0, 0110003113ELBA4 and 0005153859RN703) were identified by the meter reader but these notes were not actioned resulting in these being identified late and backdated, and
- ICP 0000147039UNCD6 was due to late notification from the customer of the ICP being decommissioned.

Recommendation	Description	Audited party comment	Remedial action
Changes to registry information	Run a monthly list from the registry of all ICPs where GENE or GEOL are the proposed trader to ensure Gentrack records align.	Genesis will look to implement this recommendation	Investigating

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.

GENE

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	2019	22,017	20.5	17.3%
GENE	2020	55,838	18.01	8.14%
GENE	2021	28,648	14.56	44.53%
GENE	**2022**	**12,088**	**24.33**	**28.41%**

8,607 (71.2%) of the late updates indicated a profile and/or submission type change, and 8,972 (74.2%) of the late updates indicated an MEP change.

654 trader updates were made more than 30 business days after the event, 274 were updated more than 100 business days after the event, and 42 were updated more than 1,000 business days after the event. The latest update was made 4,923 business days after the event date.

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

ANZSIC updates - changes	Five late ANZSIC code updates made over 170 business days after the event date were checked and four were corrections. The updates were processed after receiving confirmation of the correct ANZSIC code. ICP 0000047989WEF40 was updated as part of a meter change from a BTS to a permanent supply.
ANZSIC updates – new connections and switch ins	There were 187 late ANZSIC code updates for new connections and switch ins. 124 of those were more than 30 business days after the event date. I checked the ten latest updates and found they were caused by: • backdated switches in, and • backdated new connections.
Unmetered daily kWh and/or trader unmetered load details changes	A sample of ten updates which were over 200 business days after the event date were checked and found to be corrections carried out as part of a data cleanse exercise. I recommend in **section 2.1**, that regular checks are put in place for changes to unmetered load details as part of the registry validation processes.

Profile updates	A sample of ten updates which were over 40 business days after the event date were checked and found: • six were ICPs with distributed generation, identified through validation and this process is discussed in **section 6.1,** • three were updates from UNM to a streetlight profile for distributed unmetered load ICPs, and • ICP 0007202582RN28F was changed from RPS to the UNM profile and the unmetered load details were added.
Submission type updates	A sample of 11 updates which were over 270 business days after the event date were checked, and found: • four were incorrectly identified as submission changes in the AC020 but were corrections to the ANZSIC code, • four were due to a correction of the submission type from HHR to NHH due to no AMI data being received; these are always backdated as they can only be updated once a sufficient time has elapsed to change these to a manual meter round as no data is being gained, • ICP 0001121308MLD3E was backdated to NHH due to distributed generation being added, and • ICPs 0005470153RNA65 and 0000034146TR9BC were reverted back to NHH due to defective meters.
MEP nominations	A sample of ten updates which were over 100 business days after the event date were checked and found: • six of these were due to the first nomination being issued with the wrong event date and therefore they had to be resent for the correct date, • the nomination for two ICPs (1000019149BP58E and 0000011334EAA71) were delayed as the existing MEP had to reverse events so that GENE could nominate for the correct date, • the MEP nomination was raised in error for ICP 0003221110WFA6E as a Metrix labelled meter was found on site, but the asset is owned by FCLM, and • the nomination for ICP 0000557654NR591 appears to have been missed due to a weekly report from AMS not being sent meaning this nomination was missed until AMS prompted GENE to nominate them.

GENH

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2019	32	2	**47.5%**
GENH	2020	8	14.5	60.0%
GENH	2021	8	16.96	68.0%
GENH	**2022**	**11**	**8.78**	**70.27%**

Four late updates indicated an MEP change, four were submission type corrections and three were ANZSIC code changes.

Five trader updates were made more than 30 business days after the event. The latest update was 50 business days after the event.

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

ANZSIC updates - changes	Three late updates were processed after receiving confirmation of the correct ANZSIC code.
ANZSIC updates – new connections and switch ins	There were 23 late ANZSIC code updates for new connections and switch ins. 13 of those were more than 30 business days after the event date. I checked the ten latest updates and found they were caused by: • backdated switches in, and • backdated new connections.
Submission type updates	There were four late submission type corrections backdated as part of a data cleanse exercise carried out in November and December 2021.
MEP nominations	I checked all four late updates and found these were caused by either user error or late MEP notification.

GEOL

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2019	37	3	85.8%
GEOL	2020	78,004	16.76	1.03%
GEOL	2021	6,687	16.70	39.69%
GEOL	**2022**	**529**	**39.15**	**63.99%**

78 (14.7%) of the late updates indicated a profile and/or submission type change, and 408 (77.1%) of the late updates indicated an MEP change.

GEOL had 95 trader updates made more than 30 business days after the event, 45 updated more than 100 business days after the event, and 20 updated more than 1,000 business days after the event. The latest update was 3,898 business days after the event date. The late updates over 1,000 business days related to ANZSIC code corrections or unmetered load changes.

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

ANZSIC updates - changes	Five late ANZSIC code updates made over 20 business days after the event date were checked. All of the updates were corrections. ICP 0007012220WMF21 was updated with the correct code when it switched in, but a later update returned this to the residential code. This will occur if the contract start date is not the same as the switch in date as the ICP will revert to the ANZSIC code until the contract starts which in this case was 26 days after the gain date.
ANZSIC updates – new connections and switch ins	There were 33 late ANZSIC code updates for new connections and switch ins. 17 of those were more than 30 business days after the event date. I checked the ten latest updates over 30 days and found they were caused by: • backdated switches in, and • backdated new connection.

Unmetered daily kWh and/or trader unmetered load details changes	Five late unmetered load updates made over 1,000 business days after the event date were checked and found all were corrections carried out as part of a data cleanse exercise. I recommend in **section 2.1**, that regular checks are put in place for changes to unmetered load details as part of the registry validation processes.
Profile updates	Five late profile updates made over 30 business days after the event date were checked and found all were ICPs with distributed generation added, identified through validation. This process is discussed in **section 6.1**.
Submission type updates	A sample of five submission type updates made more than 230 business days after the event date were checked and found: • four were changes to RPS due to insufficient HHR data, and • ICP 0263204227LC8EC was from RPS to HHR.
MEP nominations	I checked the ten latest MEP nominations and found: • three (0006547516RN365, 2622008000CH30E and 0006961584RN2C4) were sent late as they would not flow from GTV to the registry causing these to be late, • ICP 0000019384DEFEB was nominated for the incorrect date, • ICP 2622040000CH59B was delayed due to events from the existing MEP needing to be reversed before the new MEP could be nominated for the correct date, • a meter change was not processed for ICP 0000521878NR2A8, but this was not picked up as the ICP was switching away, • the reconciliation team notified the metering team of the MEP nomination failing for ICP 0006845940RN30C, but this wasn't actioned until December 2021 causing the MEP nomination to be backdated 95 days, • ICP 0000600009HBBDF was a correction to the unmetered load details and was incorrectly noted as an MEP nomination, and • ICP 0000474182WEBEA was due to the incorrect MEP being nominated in the first instance on the WEL network; this can be confusing as sites often have two meters present.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.3 With: Clause 10 of schedule 11.1 From: 01-Jul-21 To: 13-Jan-22	Some status and trader updates were not processed within five business days of the event on the Registry. 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 as Genesis have improved reporting and resource has been added but there is room for further improvement. The audit risk rating is assessed to be medium as the late updates have caused some volumes not to be corrected within the 14-month revision period.

Actions taken to resolve the issue	Completion date	Remedial action status
Vacant consumption is now been actively worked and the report improved to remove unnecessary noise, based on some recommendation from this audit we will be looking to tweak this further to ensure it is effective. However, the fact that these issues occur make it impossible to be fully compliant with this clause	Feb 2022	Identified
New Connections have an MEP failure report in place to identify issues with MEP nominations, this is worked daily but we will look for improvements to this report.	Ongoing	
The AC020 report is run each month as is being used to gain RCA and provide actionable insights to improve compliance	Ongoing	
Genesis will also look to implement the above audit recommendation	Jul 2022	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

3.4. Trader responsibility for an ICP (Clause 11.18)

Code reference

Clause 11.18

Code related audit information

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

A trader ceases to be responsible for an ICP if:

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

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

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

Audit observation

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

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

Audit commentary

Retailers Responsibility to Nominate and Record MEP in the Registry

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

GENE

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded,
- 27 ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which 16 ICPs had MEP nominations made and accepted, and three were metered after the report was run; the findings for the remaining eight ICPs are as follows:
    - two ICPs have now been decommissioned,
    - one ICP is ready for decommissioning,
    - one ICP has metering populated in the registry,
    - two ICPs have metering installation details but not metering component details, and
    - two ICPs have meters removed in the registry, and
- three MEP nominations were late, two because the incorrect MEP was nominated initially, and one was due to a processing delay.

GEOL

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded,
- three ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which two ICPs had MEP nominations made and accepted, and one was metered after the report was run, and
- all MEP nominations were accepted within 14 business days.

Two of the 1,341 MEP nominations recorded on the event detail report were rejected. NPOW was incorrectly nominated for ICP 0000573767NR8E0 and was reissued correctly to NGCM. SMCO was nominated in error for ICP 0000573528NRF9C and hasn't been reissued as the new connection is still in progress.

GENH

The AC020 report recorded that:

- all active metered ICPs had an MEP recorded,
- eight ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which:
    - six ICPs had MEP nominations made and accepted, and
    - ICPs 0006404723RNECC and 0470677848LC610 have AMCI metering removed in the registry, but a nomination has not occurred for another MEP; I recommend GENH investigates these to check whether a nomination needs to be made or whether the status is incorrect,
- all MEP nominations were accepted within 14 business days.

One of the 37 MEP nominations recorded on the event detail report was rejected. ICP 0000051526WE9AC still does not have an acceptance because AMCI has stated they do not have a service request. The resolution of this matter is still in progress.

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 for all but ICP 0012156136ELCE4. The MEP has not been notified in this instance due to human error. This notification is being sent. This is recorded as non-compliance below.

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-Jul-21 To: 13-Jan-22	**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. 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 most of the time. 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
The AC020 report is run each month as is being used to gain RCA and provide actionable insights to improve compliance New Connection have strong control in place to pick up and correct issue with MEP nominations. We have a monthly Compliance meeting with the New Connections team to discuss performance / required corrective actions	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 recorded as non-compliance in **section 3.3**.

As discussed in **section 3.4**, the AC020 report showed three GENE MEP nominations which were not accepted within 14 business days of being issued.

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

GENE

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENE	2016	685	6.2	54%
GENE	2017	911	8.04	51%
GENE	2018	824	7.8	57%
GENE	2019	597	4	84%
GENE	2020	4,032	6.99	65.09%
GENE	2021	4,897	6.53	70.2%
GENE	**2022**	**1,549**	**6.16**	**84.86%**

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. In those cases, this can cause delays in updating the registry to push through the MEP nomination and complete the new connection. Once the service request is returned and providing all the details are complete, Salesforce automatically closes the service request and this updates to Gentrack which then writes to the registry. If the service order is unable to be autocompleted an exception is sent to a work queue. These are then reviewed and actioned by the new connection team through to completion. There is now monitoring of the AC020 report to identify ICPs where the IECD is populated but the status is not yet active.

242 updates were made more than 30 business days after the event date, and 28 updates were made more than 100 business days after the event date. The latest update was 5,322 business days after the event date. I reviewed the ten latest updates, and ten late updates over 30 business days including three ICPs with HHR submission type:

- eight were processing errors,
- one was not a new connection,
- two were late information from the field,
- seven were where the original job was turned down, but the electrical connection was then completed without a replacement service request and GENE was not notified, and
- two were system issues where jobs were closed in Salesforce and Gentrack was not automatically updated.

GENH

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GENH	2016	0	3	100%
GENH	2017	1	1.9	92%
GENH	2018	4	6	43%
GENH	2019	3	9	77%
GENH	2020	21	18.43	40.00%
GENH	2021	41	13.63	35.94%
GENH	**2022**	**18**	**19.59**	**47.06%**

Eight updates were made more than 30 business days after the event date, and the latest update was 105 business days after the event date. I reviewed all 13 late updates over ten business days:

- three were due to late notification from the field,
- eight were due to processing issues,
- one was a late notification from the data collection agent and from the field, and
- one was due to the registry not allowing an update because another participant had an event for the incorrect date.

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

Recommendation	Description	Audited party comment	Remedial action
Provision of information to the registry	Consider making status changes to active based on load test dates from data collectors.	We will investigate the possibility of implementing this recommendation	Investigating

GEOL

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	2016	29	6.8	53%
GEOL	2017	16	7.4	76%
GEOL	2018	16	5.7	82%
GEOL	2019	37	8	59%
GEOL	2020	163	11.56	48.09%
GEOL	2021	410	17.48	5.75%
GEOL	**2022**	**177**	**12.57**	**37.46%**

The management of new connections for GEOL, has been moved from being within the metering and premise team back to a dedicated team. They do not use Salesforce and new connections continue to be managed via email inboxes. I checked a later time slice and found timeliness of updates to the registry continues to improve:

Code	Year	ICPs notified greater than 5 days	Average Business Days between Status Event and Status Input Dates	Percentage on time
GEOL	Dec 2021-March 2022	54	10.68	60%

17 updates were made more than 30 business days after the event date, and one update was made more than 100 business days after the event date. The latest update was 135 business days after the event date. I reviewed the ten latest updates, and ten late updates over 20 business days and found:

- nine were due to late paperwork from the field,
- six were updated in the first instance and then found to be active for the incorrect date so the backdated updates were corrections,
- two (ICPs 0000508330CAEF7 and 1002141548LCE22) were delayed due to a backlog in the GEOL new connection area prior to being worked in the dedicated team,
- GENE was nominated and claimed in error, and this delayed GEOL updating the status for ICP 0004327422TPE0C,
- ICP 0001113632WM35D was delayed due to the change of line charge billing at The Lines Company, and
- ICP 1099581150CN91F was delayed due to the meter still being recorded on a decommissioned ICP in GTV.

New connection information accuracy

The last two audits recommended that validation be put in place to compare the initial electrical connection date and first meter certification date with the first active date. The AC020 report is now checked regularly to identify ICPs where the IECD is populated but the status is not “active”.

GENE

The AC020 report recorded 359 ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress" or "ready" status. The 21 ICPs with the oldest initial electrical connection date which had not been updated to active status were checked:

- eight are at the "ready" status and Genesis has no customer or applications for these sites, all of these are on the Electricity Ashburton network, and it appears they are ICP splits where there is an additional ICP being created at a large number of rural properties, and GENE has not agreed to be the trader,
- four are not electrically connected and it appears the distributor's IECD may be incorrect,
- four are now "active", and
- five appear that they should be recorded as active; the ICPs are listed below.

ICP	Registry status	IECD	Comments
1002147057LCB94	Ready	04/08/2021	The High-Risk Database confirms electrical connection on 03/08/2021
1002123972UNC4B	Inactive, new connection in progress	05/08/2021	05/08/2021 appears to be the correct date according to GENE's records.
0000167646CKDE3	Inactive, new connection in progress	22/09/2021	22/09/2021 appears to be the correct date
1002144356LC632	Inactive, new connection in progress	29/09/2021	The High-Risk Database confirms electrical connection on 29/09/2021
0001113389WMA3E	Inactive, new connection in progress	07/10/2021	The High-Risk Database confirms electrical connection on 07/10/2021

I recommend all 359 ICPs are investigated to ensure the GENE status is correct.

Recommendation	Description	Audited party comment	Remedial action
IECD without active status	Check all 359 records from the AC020 file where the IECD id populated but the status is not active.	[Participant comment]	[auditor comment]

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 1,445 ICPs with date discrepancies. For 135 ICPs the active date and initial electrical connection date was consistent and the ICP was unmetered. The other 1,310 exceptions were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	11	A sample of five were checked. In all cases, temporary electrical connection had occurred. The active dates are correct.
IECD ≠ active date and MCD = active date	63	A sample of five were checked. Three ICPs have the correct active date. ICP 0007204693RN2A4 had a BTS recorded in the high-risk database from 25/03/21, then a BTS to permanent on 29/10/21. GENE only has 22/12/21 as the active date. ICP 0000050916WE3F8 is recorded in the high-risk database with a data of 01/11/21, the initial electrical connection date is 02/11/21 but GENE has 19/11/21.
IECD ≠ active date and MCD ≠ active date	42	ICPs 1002149460LC567, 0007205116RN403, 1002150162LC4A6, 0007204533RN9B8 and 0007205065RN49A all have incorrect active event dates.
IECD = active date and no MCD	88	A sample of five were checked. All five ICPs now have certification dates matching the IECD and the active dates.
IECD ≠ active date and no MCD	2	Both were checked. There is insufficient information to confirm the correct date for ICP 0009595702LND5A. The difference is only one day. ICP 1000594071PC540 had a BTS installed on 20/01/21 according to the high-risk database, then on 21/09/21 there was a BTS to permanent record in the high-risk database. GENE does not have a record of the BTS.
IECD ≠ active date and unmetered	14	A sample of five were checked. All five have incorrect active dates. The ICPs are 0007203874RN7BF, 0007203697RN7CE, 0007201722RN277, 0007204607RNC49 and 0007204566RNCFF.
No IECD and MCD = active date	988	A sample of five were checked. They all appear to be correct.
No IECD and MCD ≠ active date	6	A sample of five were checked. They all appear to be correct.
No IECD and no MCD	44	A sample of five were checked. ICP 0007205730RNEDF has an incorrect status event date. The other four are correct.
No IECD and unmetered	52	A sample of five were checked. They all appear to be correct.
Total	1,310	

GENH

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

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 17 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	1	This ICP appears to be correct.
IECD = active date and no MCD	4	All were checked. They all appear to be correct.
IECD ≠ active date and no MCD	1	This ICP appears to be correct.
No IECD and MCD = active date	7	A sample of five were checked. They all appear to be correct.
No IECD and no MCD	4	ICP 0007203849RNF1C has 21/12/21 as the date in the high-risk database. The metering certification date and IECD are 24/01/22 and the status event date is 15/12/21. It appears 15/12/21 may be incorrect. This is being investigated.
Grand Total	17	

GEOL

The AC020 report recorded eight ICPs which had an initial electrical connection date populated which remained at "inactive - new connection in progress" or "ready" status. All have since been made active as part of BAU.

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 57 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD ≠ active date and MCD = active date	5	All were checked and found four to have the correct active date. ICP 0000512626DE047 had a BTS recorded in the high-risk database from 13/08/21, then a BTS to permanent on 03/09/21. GEOL only has 03/09/21 as the active date.
IECD ≠ active date and MCD ≠ active date	4	All (ICPs 0001113566WM95C, 1002150192LC4B1, 1002150185LC3D6 and 0000573625NR3C4) were checked and found that all had the incorrect first active date recorded.
IECD = active date and no MCD	1	The ICP was checked and confirmed to be correct.
No IECD and MCD = active date	41	A sample of five were checked and were confirmed to be correct.
No IECD and MCD ≠ active date	3	All were checked and found ICP 0110012660EL47A had the correct first active date. ICPs 0004327422TPE0C and 0110012450EL985 had the incorrect first active date.
No IECD and no MCD	3	All were checked and found two were correct. ICP 0110012552EL004 has an incorrect first active date as the meter was certified on 13/08/21 using a load bank on the Electra network and it wasn't electrically connected until 02/09/21.
Total	57	

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.5 With: Clause 9 of schedule 11.1 From: 01-Jul-21 To: 13-Jan-22	**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). 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 particularly for GENE these are not always able to be worked. 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
We have a monthly compliance meeting with our New Connections team and will continue to review our processes / controls to look for improvements.	Ongoing	Investigating
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,
- four ICPs with T994 unknown ANZSIC codes; these are valid as the ICPs are currently active vacant sites with no customer registered,
- 75 ICPs with metering category 2 had residential ANZSIC codes, no ICPs with metering category three or above had residential ANZSIC codes; a sample of 15 were checked and found 13 were correct but ICP 0089211300PC122 and 1000515482PCB13 were incorrect and have been corrected (a check for this combination has been added to the registry discrepancy reporting to review these on a regular basis) and these are recorded as non-compliance below.

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 six incorrect ANZSIC codes representing an 6% 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,
- 69 ICPs with metering category 2 had residential ANZSIC codes; a sample of 15 were checked and found 14 were incorrect and have since been updated (as noted above this check has been added to the registry discrepancy reporting) and these are recorded as non-compliance below, 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 nine ICPs had the incorrect ANZSIC code applied representing a 11% 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 20 most frequently used codes. This found five ICPs had the incorrect ANZSIC code applied representing a 10% error rate, and these have 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-Jul-21 To: 13-Jan-22	**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 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
Controls are in place to pick up any ANZSIC codes that are blank or not known and these are corrected accordingly. We are currently using the AC020 report to report on ANZSIC code errors and will be using this to investigate and correct these issues	Completed Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

Clause 9(1)(f) of Schedule 11.1

Code related audit information

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

- *the code ENG - if the load is profiled through an engineering profile in accordance with profile class 2.1 (clause 9(1)(f)(i)); or*
- *the daily average kWh of unmetered load at the ICP - in all other cases (clause 9(1)(f)(ii)).*

Audit observation

The process to manage unmetered load was examined. The registry list and AC020 reports were examined to identify ICPs where:

- unmetered load is identified by the distributor, and none is recorded by Genesis,
- unmetered load is identified by Genesis, and none is recorded by the distributor,
- unmetered load is indicated but the unmetered daily kWh is zero or blank, and
- Genesis' unmetered load figure does not match with the distributor's figure (where it is possible to calculate this if the distributor is using the recommended format) and the variance is greater than 0.1 kWh per day (0.1 kWh per day was chosen as a sample only; this does not indicate compliance is achieved if an error is found that is less than 0.1 kWh per day).

Audit commentary

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

GENE

Active ICPs with no metering or unmetered load recorded by GENE

The AC020 report recorded that:

- 27 ICPs had a metering category of 9, null or zero and did not have unmetered load recorded of which 16 ICPs had MEP nominations made and accepted, and three were metered after the report was run; the findings for the remaining eight ICPs are as follows:
  - two ICPs have now been decommissioned,
  - one ICP is ready for decommissioning,
  - one ICP has metering populated in the registry,
  - two ICPs have metering installation details but not metering component details, and
  - two ICPs have meters removed in the registry.

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

Three ICPs have distributor unmetered load details and no unmetered load populated by GENE. These were checked and I found that:

- ICPs 0007202790RN2A0 and 0007202845RNDA2 are both unmetered BTS sites but as the MEP has been nominated for the permanent supply the unmetered supply has been missed; I recommend below that a validation is added to look for active ICPs with no meter and no unmetered load recorded to identify these, and this is recorded as non-compliance below, and
- ICP 0007200358RN81A was an unmetered BTS supply that has since been metered and the distributor needs to remove the unmetered load details from the registry.

Recommendation	Description	Audited party comment	Remedial action
Changes to unmetered load	Add a validation that looks for active ICPs with no metering and no unmetered load recorded.	We will implement this recommendation	Identified

ICPs with unmetered load recorded by GENE but not the distributor

183 ICPs have unmetered load details recorded by GENE, but not the distributor. 96 were confirmed to have unmetered load connected in previous audits or were DUML ICPs. I checked a sample of 13 of the remaining 87 ICPs and found:

- eight appear to be correct but Genesis is confirming this with the customer and the network,
- ICPs 0001570008PCF47 and 0001570034PCBA1 appear to be orphan ICPs; these are both right of way streetlights that either need to be added to an existing ICP as standard unmetered load or created by the network as shared unmetered load if more than one customer is benefiting (Genesis intends to raise this with Powerco),
- a check on Google maps of ICPs 0000536530NRB90 and 0005019168RN40E found these lights have been removed and Genesis has removed the unmetered load from these ICPs, and
- ICP 0000024988EA7DB has had its unmetered load removed as a result of the pre-audit analysis but the load has been confirmed as present and this needs to be added back in.

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 trader unmetered daily kWh

Review of the AC020 report found 50 ICPs had the unmetered flag set to Y with a zero or ENG daily unmetered kWh. 49 were confirmed to be DUML ICPs. ICP 0000554295NR0DA had the no unmetered load recorded but the flag was incorrectly recorded as "Y". This has been corrected.

The last audit noted that ICP 0000003759TEF13 is recorded as reconciled under ICP 0000003758TE356. This is confirmed as correct and the ICP should not be decommissioned.

The AC020 report recorded 58 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:

- 40 were DUML ICPs,
- 11 are ARC sites where the daily kWh figure is recorded as 0.53 but the value should be 0.28; this will be resulting in an estimated minor over submission of 1,003 kWh per annum,
- ICP 0007135402RN739 is also an ARC site and the daily kWh value should also be 0.28 but is recorded as 0.2,
- the retailer value was confirmed to be correct for three ICPs,
- two ICPs (0007189849RN2CD and 0007134437RNC2E) were found to have the incorrect unmetered load details and have been corrected on the registry, and
- there is a wattage value difference of 20W recorded for ICP 0007189849RN2CD; this is being investigated by Genesis to determine the correct load.

Unmetered builder's temporary supply (BTS) ICPs

200 unmetered BTS ICPs were recorded on the registry list. I checked all 20 ICPs created prior to 2020 and found:

- two active ICPs for 14 Tomes Road, Christchurch; ICP 0007176021RN3D8 is the unmetered BTS and ICP 0005152909RN7AF is the metered supply - the unmetered BTS should be decommissioned,
- two active ICPs for 16 Luxembourg Crescent; ICP 0007185902RNC38 is the unmetered BTS and Orion have indicated in the address details that this has been decommissioned and ICP 0007186740RNAF3 is the metered supply,
- two active ICPs for 33 Tuckers Road; ICP 0007189456RNBB2 is the unmetered BTS and Orion have indicated in the address details that this has been decommissioned and ICP 0005826853RN716 is the metered supply,
- the unmetered supply for 154 Barlett Street has been active since 2 September 2019 and there are now six active ICPs for completed units on site - the unmetered BTS supply ICP 0007190842RN858 needs to be decommissioned, and
- two active ICPs for 15 Rawnsley Terrace; ICP 0007193508RNF84 is the unmetered BTS and Orion have indicated in the address details that this has been decommissioned and ICP 0007159175RN373 is the metered supply.

The ICPs at the incorrect status are recorded as non-compliance in **section 3.8**.

I recommend that a process is put in place to monitor long term unmetered BTS supplies and that the following ICPs are investigated to confirm if these should still be supplied using an unmetered BTS:

ICP	Network	Comments	Unmetered BTS since
0007175978RNE68	Orion	Completed building	25/07/16
0007184165RNFAF	Orion	Completed house	01/03/18

Recommendation	Description	Audited party comment	Remedial action
Changes to unmetered load	Put a process in place to monitor long term BTS supplies and check the two ICPs above to confirm if these are still required.	The above 2 ICPs are being investigated and we will look to implement this improvement and monitor BTS ICPs over a certain age more consistently	Investigating

The remaining 13 ICPs were confirmed to still be in progress and are correctly recorded as unmetered BTS supplies.

GEOL

Active ICPs with no metering or unmetered load recorded by GEOL

The AC020 report recorded that three ICPs had a metering category of 9, null or zero and did not have unmetered load recorded. Two ICPs had MEP nominations made and accepted, and one was metered after the report was run.

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

All ICPs with distributor unmetered load recorded also had trader unmetered load.

ICPs with unmetered load recorded by GEOL but not the distributor

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

Accuracy of trader unmetered daily kWh

Review of the AC020 report found no ICPs had the unmetered flag set to Y with a zero or blank daily unmetered kWh value, and the difference between the trader and distributor's unmetered load was less than ±0.1 kWh where this could be calculated.

Unmetered builder's temporary supply (BTS) ICPs

No unmetered BTS ICPs were recorded on the registry list.

GENH

Active ICPs with no metering or unmetered load recorded by GENH

The AC020 report recorded that eight ICPs had a metering category of 9, null or zero and did not have unmetered load recorded. Six ICPs had MEP nominations made and accepted. ICPs 0006404723RNECC and 0470677848LC610 have AMCI metering removed in the registry, but a nomination has not occurred for another MEP. I recommend in **section 2.9**, that GENH investigates these to check whether a nomination needs to be made or whether the status is incorrect.

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

All ICPs with distributor unmetered load recorded also had trader unmetered load.

ICPs with unmetered load recorded by GENH but not the distributor

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

Accuracy of trader unmetered daily kWh

Review of the AC020 report found no ICPs had the unmetered flag set to Y with a zero or blank daily unmetered kWh value, and the difference between the trader and distributor's unmetered load was less than ±0.1 kWh where this could be calculated.

Unmetered builder's temporary supply (BTS) ICPs

No unmetered BTS ICPs were recorded on the registry list.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.7 With: Clause 9(1)(f) of Schedule 11.1 From: 01-Jul-21 To: 13-Jan-22	**GENE** Two ICPs with the daily unmetered kWh load missing. 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. 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
The AC020 report is now being run monthly and we will continue to use this to monitor compliance and correct issues.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

The process in Salesforce is automated so once the customer is confirmed and all the required details have been completed, Salesforce issues a service request. At the same time the ICP is claimed, 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. In these cases, this can cause delays in updating the registry to push through the MEP nomination and complete the new connection. Once the service request is returned, and providing all the details are complete, Salesforce automatically closes the service request and this updates to Gentrack which then 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.

During the previous audit, I recommended, in **section 2.1,** that the audit compliance reporting be used to check for alignment between the initial electrical connection date, first meter certification date and first active date, assist with identifying potential missed new connections or incorrect first active dates. This report is now run to identify ICPs at the "new connection in progress" status, where the distributor has populated the initial electrical connection date.

The 2020 audit found seven ICPs were made active for one day and then decommissioned, although they had never been active. I checked the registry list with history and did not identify ICPs which had a one-day status event where the status was inactive, and the current status was "decommissioned - set up in error".

The AC020 report recorded 359 ICPs which had an initial electrical connection date populated and which remained at "inactive - new connection in progress" or "ready" status. The 21 ICPs with the oldest initial electrical connection date which had not been updated to active status were checked:

- eight are at the "ready" status and Genesis has no customer or applications for these sites, all of these are on the Electricity Ashburton network, and it appears they are ICP splits where there is an additional ICP being created at a large number of rural properties, and GENE has not agreed to be the trader,
- four are not electrically connected and it appears the distributor's IECD may be incorrect,
- four are now "active", and
- five appear that they should be recorded as "active"; the ICPs are listed below.

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 1,445 ICPs with date discrepancies. For 135 ICPs the active date and initial electrical connection date was consistent and the ICP was unmetered. The other 1,310 exceptions were checked:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	11	A sample of five were checked. In all cases, temporary electrical connection had occurred. The active dates are correct.
IECD ≠ active date and MCD = active date	63	A sample of five were checked. Three ICPs have the correct active date. ICP 0007204693RN2A4 had a BTS recorded in the high-risk database from 25/03/21, then a BTS to permanent on 29/10/21. GENE only has 22/12/21 as the active date. ICP 0000050916WE3F8 is recorded in the high-risk database with a date of 01/11/21, the IECD is 02/11/21 but GENE has 19/11/21.
IECD ≠ active date and MCD ≠ active date	42	ICPs 1002149460LC567, 0007205116RN403, 1002150162LC4A6, 0007204533RN9B8 and 0007205065RN49A all have incorrect active event dates.
IECD = active date and no MCD	88	A sample of five were checked. All five ICPs now have certification dates matching the IECD and the active dates.
IECD ≠ active date and no MCD	2	Both were checked. There is insufficient information to confirm the correct date for ICP 0009595702LND5A. The difference is only one day. ICP 1000594071PC540 had a BTS installed on 20/01/21 according to the high-risk database, then on 21/09/21 there was a BTS to permanent record in the high-risk database. GENE does not have a record of the BTS.
IECD ≠ active date and unmetered	14	A sample of five were checked. All five have incorrect active dates. The ICPs are 0007203874RN7BF, 0007203697RN7CE, 0007201722RN277, 0007204607RNC49 and 0007204566RNCFF.
No IECD and MCD = active date	988	A sample of five were checked. They all appear to be correct.
No IECD and MCD ≠ active date	6	A sample of five were checked. They all appear to be correct.

Exception type	Quantity	Commentary
No IECD and no MCD	44	A sample of five were checked. ICP 0007205730RNEDF has an incorrect status event date. The other four are correct.
No IECD and unmetered	52	A sample of five were checked. They all appear to be correct.
Total	1,310	

I checked four ICPs where the previous trader has multiple customers per ICP. Gentrack does not allow multiple customers per ICP and these ICPs all have one customer.

As detailed in **section 3.7**, five ICPs with unmetered BTS supplies should be decommissioned and are therefore at the incorrect status in the registry. This is recorded as non-compliance below.

GENH

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

Active dates for new connections were compared to the distributor's initial electrical connection date, and MEP's certification date using the AC020 report. The AC020 report identified 17 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD = active date and MCD ≠ active date	1	This ICP appears to be correct.
IECD = active date and no MCD	4	All were checked. They all appear to be correct.
IECD ≠ active date and no MCD	1	This ICP appears to be correct.
No IECD and MCD = active date	7	A sample of five were checked. They all appear to be correct.
No IECD and no MCD	4	ICP 0007203849RNF1C has 21/12/21 as the date in the high-risk database. The metering certification date and IECD are 24/01/22 and the status event date is 15/12/21. It appears 15/12/21 may be incorrect. This is being investigated.
Grand Total	17	

GEOL

The AC020 report recorded eight ICPs which had an initial electrical connection date populated which remained at "inactive - new connection in progress" or "ready" status. All have since been made active as part of BAU.

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 57 ICPs with date discrepancies:

Exception type	Quantity	Commentary
IECD ≠ active date and MCD = active date	5	All were checked and found four to have the correct active date. ICP 0000512626DE047 had a BTS recorded in the high-risk database from 13/08/21, then a BTS to permanent on 03/09/21. GEOL only has 03/09/21 as the active date.
IECD ≠ active date and MCD ≠ active date	4	All (ICPs 0001113566WM95C, 1002150192LC4B1, 1002150185LC3D6 and 0000573625NR3C4) were checked and found that all had the incorrect first active date recorded.
IECD = active date and no MCD	1	The ICP was checked and confirmed to be correct.
No IECD and MCD = active date	41	A sample of five were checked and were confirmed to be correct.
No IECD and MCD ≠ active date	3	All were checked and found ICP 0110012660EL47A had the correct first active date. ICPs 0004327422TPE0C and 0110012450EL985 had the incorrect first active date.
No IECD and no MCD	3	All were checked and found two were correct. ICP 0110012552EL004 has an incorrect first active date as the meter was certified on 13/08/21 using a load bank on the Electra network and it wasn't electrically connected until 02/09/21.
Total	57	

Reconnections

GENE

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

Disconnected vacant and active vacant consumption is monitored by the Billing team and any disconnected ICPs are returned to "active" to ensure the consumption is submitted. This process was paused for a time and has been restarted but this has resulted in long backdates as the backlog has been worked through. Some of the corrections are now outside of the 14-month revision period and these volumes won't be submitted. The backlog has been cleared and this process is being managed as part of BAU so I would expect the average days to update to reduce going forward. This is recorded as non-compliance in **section 2.1** and **12.7**.

The reconciliation team also monitor a disconnected and consuming report as part of the reconciliation process and will correct the ICP status where required to ensure that volumes are reconciled. This is done as part of the reconciliation process prior to day 4 and 13 therefore these updates will be backdated. The timeliness of updates is discussed in **section 3.3**.

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

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.

GEOL

The process for GEOL is not automated. Field work is tracked through spreadsheets and returned through team inboxes that are worked through. This function has been moved during the audit period from metering and premise back to a dedicated GEOL team and with the change of brand to Frank there has been an increase in activity. 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.

GEOL use the same process as GENE for disconnected vacant and active vacant with consumption. Disconnected vacant and active vacant consumption is monitored by the Billing team and any disconnected ICPs are returned to "active" to ensure the consumption is submitted. This process was paused for a time and has been restarted but this has resulted in long backdates as the backlog has been worked through. Some of the corrections are now outside of the 14-month revision period and these volumes won't be submitted. The backlog has been cleared and this process is being managed as part of BAU so I would expect the average days to update to reduce going forward. This is recorded as non-compliance in **section 2.1** and **12.7**. The timeliness of updates is discussed in **section 3.3**.

A sample of 20 reconnections were checked and found to be processed accurately at the time. A small number have since been reversed and corrected as part of BAU.

The sample of 54 inactive status updates found two ICPs (0003460425WM6C5 and 0003460425WM6C5) that were made active for the incorrect date due to the date of the last customer being used rather than the date of consumption recorded. These have been corrected and training provided to the team to ensure that the correct active date is used.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.8 With: Clause 17 of schedule 11.1 From: 01-Jul-21 To: 13-Jan-22	**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). 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 for the correct date. There is reporting available to assist with this but due to resource constraints particularly for GENE these are not always able to be worked. 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
The AC020 report is now being run monthly and we will continue to use this to monitor compliance and correct issues.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

Clause 19 Schedule 11.1

Code related audit information

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

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

Audit observation

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

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

Audit commentary

Management of inactive status

GENE

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

54 status updates to "inactive" were checked and found all to be accurate except for two ICPs (0096279100WR4B1 and 0096281200WRF2E) which are recorded as "reconciled elsewhere" 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. This is being corrected. This is recorded as non-compliance below.

The AC020 report recorded 467 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. A sample of 180 of these ICPs were checked and found all were correct and the ICP was subsequently updated to non-communicating after the disconnection.

GEOL

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

24 status updates to "inactive" were checked and found to be accurate. A small number have since been reversed and corrected as part of BAU.

The AC020 report recorded 60 ICPs with status reason indicating they were remotely disconnected by AMI metering, but the AMI flag was set to no. All were correct and the ICP was subsequently updated to non-communicating after the disconnection.

GENH

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

Seven status updates to "inactive" were checked and found to be accurate.

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

Inactive new connections in progress

GENE

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.

156 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 in all cases, the new connection is cancelled but the distributor has not been advised.

GEOL

16 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 0000015502TCED5 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 89 ICPs to be investigated where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 248,000 kWh. These are being worked through but due to resource constraints this is taking longer than desired.

GENE provided a report with 89 ICPs with inactive consumption, totalling 248,000 kWh. I reviewed the 36 ICPs with the highest positive/negative values of disconnected consumption, and found:

- eleven where exceptions have not yet been investigated or corrections processed resulting in 238,420 kWh of inactive consumption that has not been submitted,
- 18 were confirmed not to be consuming as the reads were either from the wrong meter or were misreads, and
- two were back dated switch losses so consumption has been accounted for.

One was corrected to ensure all volume was accounted for.

I rechecked the 2021 audit findings and found issues had been corrected or have now passed the 14-month window apart from ICP 0000036153UN7C6 which switched away using the disconnection reads rather than the final read resulting in 4,819 kWh being pushed to the gaining trader and submitted for the wrong period.

One of the issues discussed was whether disconnection was being conducted at the meter or at the boundary. It seems that there are an increasing number of disconnections occurring at the meter rather than at the pole fuse or pillar box fuse. Disconnection at the meter makes it much easier for the customer or other party to reconnection without Genesis knowing. Wells conducts disconnections for Genesis and I advised Wells of the intention to expand the scope of their agent audit to include the location of disconnections. Wells has chosen not to expand the scope of their audit to include this process. I therefore recommend Genesis takes the following actions to assist with compliance:

1) Strengthen the contract with Wells to require their disconnection processes to be audited.
2) Request evidence from Wells that they are approved by all Distributors to disconnect at the network fuse.

Recommendation	Description	Audited party comment	Remedial action
Disconnection location	1) Strengthen the contract with Wells to require their disconnection processes to be audited. 2) Request evidence from Wells that they are approved by all Distributors to disconnect at the network fuse.	We will work with Wells regarding the disconnection process and the need for reads to be provided for all disconnections. We have also requested that Wells provide evidence of distributor approval to disconnect at the network fuse	Identified

GENH

No ICPs with inactive consumption were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.9 With: Clause 19 of schedule 11.1 From: 01-Jul-21 To: 13-Jan-22	**GENE** Two incorrect inactive reason statuses. 11 of a sample of 36 inactive ICPs with consumption have not been corrected. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate because there is room for improvement with regard to the identification and correction of incorrect statuses. Settlement is not occurring in some cases until the status is corrected, therefore the audit risk rating is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
Vacant consumption is now been actively worked and the report improved to remove unnecessary noise, based on some recommendation from this audit we will be looking to tweak this further to ensure it is effective. However, the fact that these issues occur make it impossible to be fully compliant with this clause	Ongoing	Identified
The AC020 report is run each month as is being used to gain RCA and provide actionable insights to improve compliance	Ongoing	

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

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.	We will look to implement a report to cover this recommendation	Identified

GENE

Analysis of the registry list found 42 ICPs at "ready" status for two years or more, and 16 ICPs at "new" status for two years or more. A sample of 10 ICPs at "ready" and ten ICPs at "new" were checked, with the following findings:

- eight ICPs at ready are on the Electricity Ashburton network and GENE has not agreed to be the trader,
- five ICPs at "new" are now decommissioned,
- the distributor has been asked to cancel five new connections at "new" status,
- four ICPs at "ready" are on hold but still required, and
- one ICP at "ready" does not have an application.

GEOL

Analysis of the registry list found seven ICPs at “ready” status for two years or more, and no ICPs at “new” status for two years or more. All are part of the Counties deconsolidation project and are being followed up with the distributor.

GENH

Analysis of the registry list found no ICPs at “new” or “ready” status for two years or more.

Audit outcome

Compliant

4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

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

Code reference

Clause 2 Schedule 11.3

Code related audit information

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

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

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

Audit observation

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

Audit commentary

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

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

GENE

Review of the event detail report found 6,032 transfer switch NTs for GENE. I matched the NTs to the meter category recorded on the registry list for 5,329 ICPs and found none had a metering category of three or above.

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

GEOL

Review of the event detail report found 4,217 transfer switch NTs for GEOL. I matched the NTs to the meter category recorded on the registry list for 3,537 ICPs and found none had a metering category of three or above.

The ten NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected for nine ICPs. ICP 1001113897UN85D was sent as a TR switch but should have been sent as an MI switch due to human error.

GENH

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: Clause 2 of schedule 11.3 From: 07-Jul-21 To: 09-Jul-21	**GEOL** One of the sample of ten ICPs sent incorrectly as a TR switch instead of MI. Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. The audit risk rating is assessed to be none but low is the best alternative option as this has no 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		

4.2. 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

The switching process was examined in relation to GENE as the "losing trader":

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	786	For 728 ICPs the code was confirmed to be correct. 55 ICPs had the AMI flag set to yes and three ICPs had the UNM flag set to yes. I checked a typical sample of five ICPs with the AMI flag set to yes and found that all were manually released, and the staff selected AA by default, but AD would have been more accurate. This is recorded as non-compliance below. All three ICPs with unmetered load and metered load were checked and AA was sent as these are not solely unmetered supplies.
AD (Advanced metering)	10,730	I checked the 10,576 ICPs where AMI flag information was available on the registry list and found 10,172 had the AMI flag set to yes and 404 had the AMI flag set to no. I checked a typical sample of five ICPs and found that all had not been moved to manual meter reading rounds in Gentrack, so these were incorrectly sent as "AD". This is recorded as non-compliance below.
MU (Unmetered supply)	1	ICP 0007197334RNBE4 is a metered supply sent with an "MU" code due to human error. This is recorded as non-compliance below.
OC (Unmetered supply)	9	I checked a typical sample of five ICPs and found all were occupied which is to be expected as these are transfer switches. OC is typically used for the move switch process but is not technically non-compliant for transfer switches.

Response code	Quantity of ANs	Findings
PD (Premises electrically disconnected)	18	16 were disconnected at the time the AN was issued. ICPs 0000657458UNE88 and 0000374949TU97D were incorrectly sent as PD due to human error.

The event detail report was reviewed for all 11,544 transfer ANs to assess compliance with the setting of event dates requirements.

- 11,323 (98.09%) had a proposed event date within five business days of the NT receipt date, and
- all had proposed event dates within ten business days of the NT receipt date.

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

GEOL

The switching process was examined in relation to GENE as the "losing trader":

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	245	For 216 ICPs the code was confirmed to be correct. 29 ICPs had the AMI flag set to yes. I checked a typical sample of five ICPs with the AMI flag set to yes and found that all were manually released, and the staff select AA by default, but AD would have been more accurate. This is recorded as non-compliance below.
AD (Advanced metering)	2,581	I checked the 2,581 ICPs where AMI flag information was available on the registry list and found 2,577 had the AMI flag set to yes and four had the AMI flag set to no. These had not been moved to manual meter reading rounds in Gentrack, so were incorrectly sent as "AD". This is recorded as non-compliance below.
OC (Unmetered supply)	3	All were occupied which is to be expected as these are transfer switches. OC is typically used for the move switch process but is not technically non-compliant for transfer switches.
PD (Premises electrically disconnected)	13	All were disconnected at the time the AN was issued.

The event detail report was reviewed for all 2,842 transfer ANs to assess compliance with the setting of event dates requirements.

- 2,785 (97.99%) had a proposed event date within five business days of the NT receipt date,
- 2,840 (99.93%) had a proposed event date within ten business days of the NT receipt date, and
- two ANs had proposed event dates more than ten business days of the NT receipt date. Both of these were due to human error.

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

GENH

The switching process was examined in relation to GENE as the "losing trader" for all transfer switch AN files.

One transfer switch AN was identified on the event detail report. The AN response code was correct, and the proposed event date was within five business days of the NT receipt date.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.2 With: Clause 3 of schedule 11.3 From: 01-Jul-21 To: 13-Jan-22	**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. 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

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

GENE

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

Count of transfer CS files	Estimated daily kWh	Findings
Negative	3	All three had had estimated readings and the final reading was less than the estimates creating a negative average daily consumption figure. This is recorded as non-compliance below.
Zero	408	I sampled five ICPs and found that zero was correct in all five cases.
More than 200 kWh	102	I sampled the five ICPs with the largest average daily consumption and confirmed they were correct.

I checked the 10,194 transfer switch CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions:

- 1,105 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,
- 14 CS files with a last actual read date after the effective switch date; I checked a sample of three and found these were all due to human error,
- 18 CS files with a last actual read date on the switch event date; I checked a sample of three and found two were due to human error and these were sent with an incorrect read type of E, and ICP 1001286805LC17B was due to the last read date defaulting to the last billed date but the read and read type were correct, and
- No CS files with actual switch event reads where the last actual read date was prior to the last day of responsibility.

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 one E2 breach for a transfer switch. ICP 1001110343UN5FB was requested for 3 November 2021 but the CS file was sent for 21 November 2021 due to human error.

GEOL

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

Count of transfer CS files	Estimated daily kWh	Findings
Negative	-	
Zero	80	I sampled five ICPs and found that four were calculated incorrectly due to the timing of the last actual billed and the switch process closing on the same day. This causes the consumption between the last billed read and the switch out read to be zero.
More than 200 kWh	1	This was confirmed to be correct.

I checked the 2,486 transfer switch CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions:

- 315 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,
- one CS file with an actual switch event read where the last actual read date was prior to the last day of responsibility; ICP 0001524972WEA51 was sent with a read type of actual but should have an estimate due to this being an internal switch from GEOL to GENE,
- two CS files with a last actual read date after the effective switch date; both were checked and found to be due to human error, and
- six CS files with a last actual read date on the switch event date; I checked a sample of three and found all were due to human error.

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 one E2 breach for a transfer switch. ICP 0000001128DEB0C was sent late due to the incorrect event date being loaded due to human error.

GENH

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

Count of transfer CS files	Estimated daily kWh	Findings
Negative	-	
Zero	3	As these are reconciled half hourly, hence a zero is recorded.
More than 200 kWh	-	

I checked all transfer CS files and they were compliant.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.3 With: Clause 5 of schedule 11.3 From: 01-Jul-21 To: 13-Jan-22	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. 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. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak as the volume of errors found in the ICPs sample was high indicating that the logic in Gentrack needs to be reviewed to improve accuracy. The audit risk rating is low as 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	Oct 22 TBC	Investigating

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 39 RR files for transfer switches. 36 were accepted and three were rejected. A sample of ten RRs were checked, including all the rejected files. There was a genuine reason for GENE's RRs, and they were supported by at least two validated readings, and the reads recorded in Gentrack reflected the outcome of the RR process.

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

GEOL

GEOL issued 34 RR files for transfer switches. 32 were accepted and two were rejected. A sample of ten files including all rejections were checked. There was a genuine reason for GEOL's RRs and all were based on two validated reads.

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

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 116 AC files for transfer switches. 85 were accepted, and 31 were rejected. A sample of five AC rejections and five acceptances were checked. All were correct and the five rejected were accepted on a subsequent corrected RR file.

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

GEOL

GEOL issued 51 AC files for transfer switches. 81 were accepted and 15 were rejected. A sample of five AC rejections and five acceptances were checked. All were rejected for valid reasons and Gentrack reflected the correct outcome of the RR process.

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.

GEOL

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

GENH

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

Audit outcome

Compliant

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

Code reference

Clause 6(2) and (3) Schedule 11.3

Code related audit information

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

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

Audit observation

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

Audit commentary

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

GENE

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

I identified 22 RR files for transfer switches issued to GENE within five business days of CS completion where the NT specified a HHR profile. I checked all ten rejected files:

- eight were validly rejected because the CS files contained actual reads,
- one was validly rejected so that a withdrawal for wrong premises could be processed the following day, and
- the RR for ICP 1002077707LC9DE was initially rejected due to human error, and then was later accepted on the same reading; this is recorded as non-compliance below.

GEOL

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

I identified ten RR files for transfer switches issued to GENE within five business days of CS completion where the NT specified a HHR profile. I checked all three rejected files:

- two were validly rejected because the CS files contained actual reads, and
- one was validly rejected and the switch was subsequently withdrawn.

GENH

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.5 With: Clause 6(3) Schedule 11.3 From: 09-Jul-21 To: 16-Jul-21	**GENE** One RR rejected in error. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. This was a one-off human error. The audit risk rating is assessed to be low as the correct read was subsequently accepted.

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**	
Training has been provided to the CSR in question	Mar 22	

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

Code reference

Clause 7 Schedule 11.3

Code related audit information

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

Audit observation

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

Audit commentary

Genesis confirms that no disputes have needed to be resolved in accordance with this clause. Genesis understands the requirements of this clause.

Audit outcome

Compliant

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

Code reference

Clause 9 Schedule 11.3

Code related audit information

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

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

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

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

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

Audit observation

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

Audit commentary

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

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

GENE

Review of the event detail report found 17,981 switch move NTs for GENE. I matched the NTs to the meter category recorded on the registry list for 14,818 ICPs and found none had a metering category of three or above.

The 15 NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected.

GEOL

Review of the event detail report found 8,340 switch move NTs for GEOL. I matched the NTs to the meter category recorded on the registry list for 6,822 ICPs and found none had a metering category of three or above.

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

GENH

Review of the event detail report found 47 switch move NTs for GENH. I matched the NTs to the meter category recorded on the registry list and found none had a metering category of three or above.

All five NT files checked were sent within two business days of pre-conditions being cleared, and the correct switch type was selected for four of these. ICP 0000049298WE266 was sent as a MI switch but was a TR switch from GENE. MI was used as there was a meter change was occurring at the same time and therefore needed to be gained for a specific date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.7 With: Clause 9 Schedule 11.3 From: 06-Sep-21 To: 07-Oct-21	**GENH** One of the sample of five ICPs sent incorrectly as a MI switch instead of TR. Potential impact: None Actual impact: None Audit history: Once previously 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 none but low is the best alternative option as this has no 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		

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

Code reference

Clause 10(1) Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail reports were reviewed to:

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

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

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

Audit commentary

GENE

The switching process was examined in relation to GENE as the "losing trader":

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	829	For 567 ICPs the code was confirmed to be correct. 219 ICPs had the AMI flag set to yes and five ICPs had the UNM flag set to yes. I checked a typical sample of five ICPs with the AMI flag set to yes and found that all were manually released, and the staff select AA by default, but AD would have been more accurate. This is recorded as non-compliance below. All five ICPs with unmetered load and metered load were checked and AA was sent as these are not solely unmetered supplies.
AD (Advanced metering)	7,411	I checked the 7,094 ICPs where AMI flag information was available on the registry list and found 6,667 had the AMI flag set to yes and 427 had the AMI flag set to no. I checked a typical sample of five ICPs and found that all had not been moved to manual meter reading rounds in Gentrack, so these were incorrectly sent as "AD". This is recorded as non-compliance below.
MU (Unmetered supply)	37	25 were unmetered at the time the AN was issued and 12 had the unmetered flag set to N. All five ICPs sampled were incorrectly sent with the "MU" code as there was no meter loaded against

Response code	Quantity of ANs	Findings
		them at the time of the switch, but all are metered supplies. This is recorded as non-compliance below.
OC (Unmetered supply)	16,708	I checked a typical sample of five ICPs and found all were occupied.
PD (Premises electrically disconnected)	2,350	I checked a sample of ten ICPs and confirmed that they were disconnected at the time the AN was issued.

The event detail report was reviewed for all 27,335 switch move ANs to assess compliance with the setting of event dates requirements.

- 27,333 (99.99%) 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. ICP 0062192003WA4EA matched the gaining trader's requested date which was greater than ten business days in advance causing Genesis to be non-compliant. This was subsequently withdrawn for date failure but the AN was sent automatically prior to this. The proposed event date was entered with the incorrect year for ICP 1000010079OY5BE. These are recorded as non-compliance below.
- Two ANs had a proposed event date before the gaining trader's requested date. Both were due to human error. These are recorded as non-compliance below.

The switch breach history report recorded:

Breach type	Quantity reported	Finding
AN	-	-
E2	1	This was reviewed and found to be invalid.
T2	2	Both were due to human error.

GEOL

The switching process was examined in relation to GEOL as the "losing trader:

Response code	Quantity of ANs	Findings
AA (Acknowledge and accept)	360	For 278 ICPs the code was confirmed to be correct. 71 ICPs had the AMI flag set to yes. I checked a typical sample of five ICPs with the AMI flag set to yes and found that all were manually released, and the staff select AA by default, but AD would have been more accurate. This is recorded as non-compliance below.
AD (Advanced metering)	2,822	I checked the 2,808 ICPs where AMI flag information was available on the registry list and found 2,705 had the AMI flag set to yes and 103 had the AMI flag set to no. I checked a typical sample of five ICPs and found that all had not been moved to manual meter reading rounds in Gentrack, so these were incorrectly sent as "AD". This is recorded as non-compliance below.

Response code	Quantity of ANs	Findings
MU (Unmetered supply)	1	ICP 0000025568CE4FE was sent with the "MU" code as there was no meter loaded against them at the time of the switch, but this was a metered supply. This is recorded as non-compliance below.
OC (Unmetered supply)	420	I checked a typical sample of five ICPs and found all were occupied.
PD (Premises electrically disconnected)	119	I checked a sample of ten ICPs and confirmed that they were disconnected at the time the AN was issued.

The event detail report was reviewed for all 8,346 switch move ANs to assess compliance with the setting of event dates requirements.

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

The switch breach history report did not record any AN or CS breaches for switch moves.

GENH

The switching process was examined in relation to GENH as the "losing trader". All 19 switch move AN files had the correct AN response code applied.

The event detail report was reviewed to assess compliance with the setting of event dates requirements:

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

The switch breach history report 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: 01-Jul-21 To: 13-Jan-22	**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** 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. 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

In the majority of cases (27,321 out of 27,335), Genesis applied the gaining trader's requested date as the AN proposed event date. Analysis found all switch move ANs had a valid switch response code, and event dates were compliant apart from:

- two ANs had proposed event dates more than ten business days after the NT receipt date; one matched the gaining trader's requested date and was subsequently withdrawn as a date failed switch, while the incorrect year was entered for ICP 1000010079OY5BE and the switch was not completed within ten business days of the NT receipt date which is recorded as non-compliance below.
- two ANs had a proposed event date before the gaining trader's requested date. Two ANs had a proposed event date before the gaining trader's requested date. Both were due to human error. Both were completed for the correct event date within ten business days of the NT receipt date and are compliant with this clause.

Switches were completed as required by this clause.

GEOL

In the majority of cases (8,342 out of 8,346) Genesis applied the gaining trader's requested date as the AN proposed event date. Analysis found all switch move ANs had a valid switch response code, and event dates were compliant. Switches were completed as required by this clause.

GENH

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.9 With: Clause 10(2) of schedule 11.3 From: 07-Jan-22 To: 21-Jan-22	**GENE** ICP 1000010079OY5BE was not completed within ten business days of the NT receipt date. 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 as they are robust and will mitigate risk to an acceptable level. The audit risk rating is low as only one ICP was found to be non-compliant.

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		

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

Code reference

Clause 11 Schedule 11.3

Code related audit information

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

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

Audit observation

The event detail report was reviewed to identify CS files issued by Genesis during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of records per trader code. The content checked included:

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

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

Audit commentary

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

GENE

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

Count of switch move CS files	Estimated daily kWh	Findings
Negative	25	I sampled the five ICPs with the largest negative average daily consumption and found that the final reading was less than the estimates creating a negative average daily consumption figure. This a known system issue and is recorded as non-compliance below.
Zero	3,348	I sampled five ICPs and found that zero was correct in all five cases.
More than 200 kWh	161	I sampled the five ICPs with the largest average daily consumption and confirmed they were correct.

I checked the 26,192 switch move CS files for inconsistencies between last actual read dates and switch event read types, and checked a sample of exceptions:

- 1,899 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 with actual switch event reads where the last actual read date was prior to the last day of responsibility; these were all due to human error and four all had the incorrect read type of "A" and should have been sent as "E" but the correct read was sent in all instances,
- six CS files with a last actual read date after the effective switch date; I checked a sample of three and found these were all due to human error and all had the incorrect last read date, but the read and read type were accurate,
- two CS files with a last actual read date on the switch event date; both were checked and found to be due to human error, and
- 23 CS files with CS premises rows only; all were unmetered at the time of the switch, or HHR ICPs with category 1 or 2 metering.

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

GEOL

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

Count of switch move CS files	Estimated daily kWh	Findings
Negative	5	I checked all five ICPs and found they had estimated readings and the final reading was less than the estimates creating a negative average daily consumption figure. This is recorded as non-compliance below.
Zero	869	I sampled five ICPs and found all were correct.
More than 200 kWh	4	All four ICPs with the largest average daily consumption were reviewed. Three were confirmed to be correct. ICP 0000561238WE367 should have been 35 but 204 was sent. Genesis are investigating this.

I checked for inconsistencies between last actual read dates and switch event read types, and checked a I checked the 8,075 switch move CS files for inconsistencies between the last actual read dates and switch event read types, and checked a sample of exceptions:

- 493 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 with actual switch event reads where the last actual read date was prior to the last day of responsibility; both were new connections completed for the day before the switch and the last read was dated 2020 rather than 2021 which appears to be a system issue, but these are the only two examples identified (Genesis are investigating why this has occurred),
- no CS files with a last actual read date after the effective switch date, and
- two CS files with a last actual read date on the switch event date; ICP 0007145138RNDEC was due to human error and ICP 0110006949EL610 was due to a meter change occurring at the same time as the switch causing the last read date to be incorrect, but the reads and read labels are correct.

The accuracy of the content of CS files was confirmed by checking a further five transfer CS files. Three files were correct. 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. This is recorded as non-compliance below and in **sections 4.16, 6.7** and **12.7**.

GENH

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

Count of switch move CS files	Estimated daily kWh	Findings
Negative	-	
Zero	4	As these are reconciled half hourly, hence a zero is recorded.
More than 200 kWh	-	

I checked all switch move CS files and confirm compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 11 of schedule 11.3 From: 01-Jul-21 To: 13-Jan-22	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. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak as the volume of errors found in the ICPs sample was high indicating that the logic in Gentrack needs to be reviewed to improve accuracy. The audit risk rating is low as 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	Oct 22 TBC	Investigating

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

GENE

GENE issued 218 RR files for switch moves. 212 were accepted and six were rejected. For the sample of five acceptances and five rejections checked there was a genuine reason for GENE's RRs. They were supported by at least two validated readings for all but two RR files. ICPs 0147623847LC8C6 and 1000516809PCE61 were supported by only one actual read and a customer read. This is recorded as non-compliance below. The reads recorded in Gentrack reflected the outcome of the RR process.

The switch breach history report recorded four late RR files. These were sent late due to COVID-19 delays in getting reads.

GEOL

GEOL issued 90 RR files for switch moves. 73 were accepted and 17 were rejected. For the sample of five acceptances and five rejections checked there was a genuine reason for GEOL's RRs, they were supported by at least two validated readings.

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

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 1,204 AC files for switch moves. 893 were accepted and 221 were rejected. A sample of five AC rejections and five acceptances were checked. All were correct.

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

GEOL

GEOL issued 471 AC files for switch moves, 385 were accepted and 86 were rejected. A sample of five AC rejections and five acceptances were checked. All were rejected for valid reasons and Gentrack reflected the correct outcome of the RR process.

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.

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.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.11 With: Clause 12 of schedule 11.3 From: 16-Nov-21 To: 22-Dec-21	**GENE** RRs sent for ICPs 0147623847LC8C6 and 1000516809PCE61 were not supported by two validated reads. Four RR 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 rated as strong as they will mitigate risk to an acceptable level. The audit risk rating is low as the small number of late files will have only a minor effect 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		

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

Code reference

Clause 14 Schedule 11.3

Code related audit information

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

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

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

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

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

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

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

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

> *14(4)(a) – the proposed event date is in the same month as the date on which the gaining trader advised the registry manager; or*
>
> *14(4)(b) – the proposed event date is no more than 90 days before the date on which the gaining trader advises the registry manager, and this date is agreed between the losing and gaining traders.*

Audit observation

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

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

Audit commentary

The switch breach history report did not record any HH switch breaches.

GENH

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

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

ICP	Event date	Update date	Metering category
0001130018PSF65	17/11/2021	17/11/2021	2
0000048586WE5F2	15/09/2021	29/09/2021	2
0000900356NVDE6	9/12/2021	23/12/2021	2
0000014441HB869	20/07/2021	14/12/2021	2

Three of these have been upgraded to category three but at the time of the switch category 2 meters were recorded on the registry. Technically these should have been switched using a transfer request. This is recorded as non-compliance below. ICP 0001130018PSF65 has since been switched in with category 3 metering and is compliant.

I checked five NT files and all were sent within three days of the pre-conditions.

Review of the event detail report found 47 switch move NTs for GENH. I matched the NTs to the meter category recorded on the registry list and found none had a metering category of three or above.

One PT breach was recorded for 0000014441HB869 because the NT proposed transfer date was before the arrival date of the NT, in a month earlier than the arrival date. The switch was completed effective from 20 July 2021, the NT proposed event date. This was backdated more than 90 days as the MEP had upgraded the site with category three metering unbeknown to GENE, so the ICP had to be backdated to switch to GENH.

GENE

I checked the metering category for the 5,329 transfer switch ICPs and 14,818 switch move ICPs where this information was available on the registry list report and found none had metering categories of three or above.

GENE issued one HH NT file for a category two meter. This was issued in error and the switch was withdrawn.

GEOL

I checked the metering category for 3,537 transfer switch ICPs and 6,822 switch move ICPs where this information was available on the registry list report and found none had metering categories of three or above.

No HH switches were issued by GEOL.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.12 With: Clause 14 Schedule 11.3 From: 01-Jul-21 To: 13-Jan-22	HH switch NT files sent for three ineligible ICPs. One PT breach indicating a backdated switch. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are 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 within Gentrack	Oct 22	Investigating
The Switching processes will also be reviewed as part of our billing platform change	TBC	
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 a sample of ANs were reviewed to determine whether the codes had been correctly applied.

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

Audit commentary

GENH

165 HH ANs were issued by GENH. All had the AA (acknowledge and accept) response code correctly applied. No HH AN breaches were recorded on the switch breach report.

GENE

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

GEOL

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

Audit outcome

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

CS content was as expected for all HH CS files.

The switch breach history report did not record any HH CS breaches.

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. The switch breach report is used to manage timeliness.

GENE

GENE issued 3,302 NW files. 3,099 were accepted and 203 were rejected. The content of a sample of 13 NWs including 11 rejections was checked, and in two cases the withdrawal reasons provided by GENE were not correct. The DF code was used but the CE code would have been more accurate.

The switch breach history report recorded:

- eight SR breaches where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; in all cases there was a lot of investigation involved to identify the best course of action, and
- 53 NA breaches where the NW was issued more than two calendar months after the switch completion date; I checked the latest 20 and found that in most cases, the customer contact was late, or the incorrect property was identified late.

GEOL

GEOL issued 1,263 NW files. 1,168 were accepted and 95 were rejected. The content of a sample of 13 NWs was checked including seven rejections, and in two cases the withdrawal reasons provided by GEOL were not correct. The DF code was used but the CE code would have been more accurate.

The switch breach history report recorded:

- five SR breaches where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal; in all cases there was a lot of investigation involved to identify the best course of action, and
- 26 NA breaches where the NW was issued more than two calendar months after the switch completion date; I checked the latest 15 and found that in most cases, the customer contact was late, or the incorrect property was identified late.

GENH

GENH issued 35 NW files. 34 were accepted and one was rejected. The content of a sample of nine NWs was checked including two (or all) for each response code and the rejected withdrawal request. In one case the withdrawal reasons provided by GENH were not correct. The DF code was used but the CO code would have been more accurate.

The switch breach history report recorded:

- one SR breach where the NW arrival date was more than ten business days after the initial NW for the same trader requesting the withdrawal, the first withdrawal was rejected, and the switch completed, then the subsequent withdrawal was accepted but as this was after the switch completion the two-month rule applies and the withdrawal request was sent within two months so compliance is confirmed, and
- one NA breach where the NW was issued more than two calendar months after the switch completion date; this was an internal switch and had to be backdated to the correct date hence it was backdated more than two months.

As detailed in **section 4.17**, ICP 0252363000LC104 was withdrawn as the incorrect property had been withdrawn but this was sent as a customer cancellation in error. This is recorded as non-compliance below.

AW

GENE

428 (12.48%) of the 3,430 AWs issued by GENE were rejections. I reviewed a sample of 14 rejections by GENE (including at least two 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

165 (11.32%) of the 1,458 AWs issued by GEOL were rejections. I reviewed a sample of 14 rejections by GEOL (including at least two 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 (26.32%) of the 19 AWs issued by GENH were rejections. I reviewed all rejections, and confirmed they was rejected based the information available at the time the response was issued.

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: 01-Jul-21 To: 13-Jan-22	**GENE** Three incorrect NW codes of a sample of 14 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. 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 recorded as strong as these are managed on a case by case with good control. The errors found were minor. 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	Oct 22	Investigating
The Switching processes will also be reviewed as part of our billing platform change	TBC	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TBC		

4.16. Metering information (Clause 21 Schedule 11.3)

Code reference

Clause 21 Schedule 11.3

Code related audit information

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

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

Audit observation

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

Audit commentary

The reads applied in switching files were examined in **section 4.3** for standard switches, **section 4.10** for switch moves, and **sections 4.4** and **4.11** for read changes. The meter readings used in the switching process are validated meter readings or permanent estimates and were confirmed to be as accurate as possible with the exception of:

GENE

- two of a possible 18 transfer switches sent with the incorrect read type of E, and
- four of five ICPs with incorrect last read labelled as actual but should have been sent as estimates.

GEOL

- ICP 0001524972WEA51 transfer switch was sent with a read type of actual but should have been an estimate due to this being an internal switch from GEOL to GENE, and
- two switch move ICPs (0007145138RNDEC and 0110006949EL610) 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.

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.16 With: Clause 216 of schedule 11.3 From: 01-Jul-21 To: 13-Jan-22	**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. 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 rated as moderate as the controls will mitigate risk most of the time but there is room for errors to occur. The audit risk rating is low as these are expected to be corrected through the RR process in most cases.

Actions taken to resolve the issue	Completion date	Remedial action status
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	Oct 22 TBC	Investigating
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.

GENE

415 withdrawals were issued with a CX reason code within 180 days of switch completion or before switch completion where GENE was the losing trader. 30 of the NWs were rejected. I checked sample of 15 rejections and listened to five phone calls and found:

- ten were withdrawn as the customer contacted Genesis and requested to stay,
- two were withdrawn as they had never requested to switch,
- two were sent due to human error,
- ICP 0419882030LC5AB was cancelling their account for a property they were moving to as they had chosen to go to another trader. The agent asked was there any particular reason for not staying with Genesis and then went onto try to retain the customer. This is recorded as non-compliance.

GEOL

70 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 the ten NWs which were rejected and found and listened to five phone calls and found:

- eight were withdrawn as the customer contacted Genesis and requested to stay,
- ICP 0002270479MLE8F was part of a double withdrawal. GEOL couldn't supply the customer, so they were called and requested to select another trader, and
- ICP 0252363000LC104 was withdrawn as the incorrect property had been withdrawn but this was sent as a customer cancellation in error. This is recorded as non-compliance in **section 4.15**.

GENH

One withdrawal was issued with a CX reason code within 180 days of switch completion where GENH was the losing trader and was confirmed to be complaint.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.17 With: Clause 11.15AA to 11.15AC From: 23-Sep-21 To: 13-Jan-22	**GENE** One of 15 ICPs checked where agent attempted to retain the customer. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong and will mitigate risk to an acceptable level. The audit risk rating is low there was only one incident identified where win back activity was evident.

Actions taken to resolve the issue	Completion date	Remedial action status
We have strong controls in place to ensure we follow the rules regarding Win-Back rules. Although no direct offer was made for the customer to stay, they were asked why they were not taking Genesis with them. This call has been sent through the employee's team leader and they will be reminded of the rules and requirements regarding this The call has been passed on to the relevant team leaders for feedback / training to be provided to the CSR	Apr 2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

5. MAINTENANCE OF UNMETERED LOAD

5.1. Maintaining shared unmetered load (Clause 11.14)

Code reference

Clause 11.14

Code related audit information

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

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

Audit observation

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

Audit commentary

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

GENE

The AC020 report recorded six ICPs with shared unmetered load where the daily unmetered kWh differed from the recalculation based on the distributor information by more than ± 0.1 kWh. Two had distributor unmetered load details that were not in the format expected by the report, which resulted in a calculation error. The remaining four were found to the have incorrect value recorded due to human error and have now been corrected. This is recorded as non-compliance.

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

GEOL

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

GENH

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: Clause 11.14 From: 01-Jul-21 To: 13-Jan-22	**GENE** Four ICPs with the incorrect shared unmetered load value. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate, and I recommend in **section 3.7** an additional validation that will move controls to strong. The audit risk rating is assessed to be low as the impact on reconciliation will be very minor.

Actions taken to resolve the issue	Completion date	Remedial action status
We will continue to monitor our compliance via the AC020 report and seek to complete RCA for noncompliance and gain actionable insights to increase compliance. We will investigate the items on the AC020 report and arrange for them to be cleared.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

Clause 10.14 (2)(b)

Code related audit information

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

Audit observation

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

Audit commentary

GENE

Review of the AC020 report found 135 ICPs had unmetered load of over 3000 kWh per annum recorded.

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

- four were DUML ICPs, and
- 18 had approved load types.

112 of the ICPs had loads over 6000 kWh per annum. Of those 105 were DUML ICPs. The other seven ICPs were checked:

ICP	Annual kWh	Previous audit comment	2021 comment	2022 Comment
0000081066CPA8F	9,745.5	GENE have been advised that the NZTA has employed a streetlighting contractor to assist in identifying all NZTA Manawatu lighting assets. Genesis has made direct contact with the head office of NZTA to speak with the persons who manage these streetlighting assets, but to no avail. Genesis continues to work on getting asset information pertaining to the Rural State Highway's. The Urban State Highway lighting seems to be under CTCT ownership.	Genesis has been advised that they have now won back Manawatu NZTA assets for the region, Genesis note that this ICP has not been included in the data set provided and will be raising this with Kara Atkinson 30/07/2021. Genesis currently has no customers assigned to these ICP's and will be urgently seeking NZTA to accept responsibility in order for historical billing/settlements to occur.	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.

ICP	Annual kWh	Previous audit comment	2021 comment	2022 Comment
0000562361UN29B	25,316.4	Genesis have requested the information from the distributor who has populated the distributor unmetered load field, to ascertain what the populated load is, to be able to establish its validity.	Genesis will be discussing this connection with POCO 3/08/2021- POCO initiated this discussion.	This is still under investigation.
0088051701WM2E0	8,460.7	These lights relate to harbour lights. The site is vacant. GENE are investigating to determine whether a customer can be found for these lights or get them disconnected.	Customer has not been able to be found, decommissioning may be the next steps once any safety concerns have been revised.	This is still under investigation.
1001243372UN366	52,268	This is a bucket ICP for Nulite signs on the North Shore. The customer has not provided a database. GENE are working with Mercury who also has lights with this customer to resolve these.	Nulite have provided a database where Genesis has established that due to the lamp types it will potentially always be greater than threshold. The signs are maintenance free and unsure whether an LED lamp is available for replacement. Discussions will need to be had as to whether the cost to serve DUML is warranted and whether an exemption is required to remove these assets from the DUML requirements. Failing that it would be in the customers best interest to have one trader manage their energy usage for these signs.	This is still under investigation.
0000455891UN0A2	39,091.5	This is a bucket ICP for Nulite signs on West Auckland. The customer has not provided a database. GENE are working with Mercury who also has lights with	As above.	This is still under investigation.

ICP	Annual kWh	Previous audit comment	2021 comment	2022 Comment
		this customer to resolve these.		
0000179860TR9B6	16,545.45	Wellington International Airport Limited. Genesis account manager is currently in the process of enquiries. Genesis and the customer need to ascertain whether these lights still exist and or whether they have already been upgraded or not and recommend any potential solution.	Genesis has not been able to ascertain whether these assets are still current due to airport upgrades.	This is still under investigation.
0005000772HBA61	7,643.1	Big Save Furniture employed an electrician to reduce the number of lights and replace the remaining with LED's. The electrician has to date failed to reply to emails and phone calls to provide the appropriate information for the work carried out.	As per previous comments, the customer has had an electrician do the work, but the electrician has not provided the customer or Genesis confirmation as to what was installed.	This is still under investigation.

GEOL

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

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

GENH

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.2 With: Clause 10.14 (2)(b) From: 01-Aug-18 To: 13-Jan-22	**GENE** Seven ICPs with unmetered load over 6,000 kWh per annum. Potential impact: Medium Actual impact: Unknown 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 there has been little progress made in relation to these ICPs during the audit period due to resource constraints. 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
We will continue to monitor our compliance via the AC020 report and seek to complete RCA for noncompliance and gain actionable insights to increase compliance. We will investigate the items on the AC020 report and arrange for them to be cleared.	Ongoing	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: 13-Jan-22	**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: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as weak as there has been little progress made in relation to these ICPs during the audit period due to resource constraints. 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
We will continue to monitor our compliance via the AC020 report and seek to complete RCA for noncompliance and gain actionable insights to increase compliance. We will investigate the items on the AC020 report and arrange for them to be cleared. We will also review the end-to-end process for Unmetered ICPs and look for process / compliance improvements	Ongoing Nov 22	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 40 DUML databases. Most of these were audited by Veritek during the audit period.

All DUML is supplied using the GENE participant code.

Audit commentary

As reported in the last audit. The Electricity Authority issued a memo on 18 June 2019 confirming that the code requirement to calculate the correct monthly load must:

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

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. The use of a database snapshot to derive submission is recorded as non-compliance below.

I have included the submission variance in the last column of the main DUML table on the next page. Additionally, I have included in the table below the submission related issues where the variance is greater than 50,000 kWh per annum:

Database	Main issues	Potential kWh impact (per annum)
NZTA Waikato East	Audit is overdue by 12 months and database accuracy is poor. The issue raised in the last audit that NZTA lights were being submitted by both NZTA and Matamata Piako DC has been resolved as MPDC have removed the NZTA lights from their database.	Over submission of 286,620 kWh
BOP East NZTA- last audit in 2018	No database extract has been provided so Genesis is using historic registry figures that appeared to be out of alignment from the database extract provided at the time of the last audit. There have been a number of staff changes at NZTA and Genesis have been unable to locate a database to get this audit completed.	Over submission of 157,655 kWh

Database	Main issues	Potential kWh impact (per annum)
Hastings DC	The database accuracy has improved since the last audit, but a variance was found between the light volumes provided in the monthly report to Genesis and that recorded in the database extract. Next audit is due 01/09/22.	Under submission of 99,527 kWh
Napier CC	The database accuracy is poor with weak controls. Next audit is due 01/06/22.	Over submission of 98,800 kWh
Lower North Island NZTA	This is the first audit of this NZTA database, and the accuracy was found to be very poor.	Over/under submission of 220,000 kWh
Nelson CC	This was due to corrections to the database being outside of the 14-month revision cycle. The database accuracy was within the allowable limit.	Over submission of 50,165 kWh

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

		Compliance Achieved (Yes/No)									Database indicative kWh +=over -=under Variance PA
Database	DUML Audit completed 16A.26 Last or next audit date recorded below	Deriving submission information 11(1) of schedule 15.3	ICP identifier 11(2)(a) of schedule 15.3	Location of items of load 11(2)(b) of schedule 15.3	Description of load 11(2)(c)&(d) of schedule 15.3	All load recorded in database 11(2A) of schedule 15.3	Tracking of load changes 11(3) of schedule 15.3	Audit trail 11(4) of schedule 15.3	Database accuracy 15.2 and 15.37B(b)	Volume information accuracy 15.2 and 15.37B(c)	
NZTA Wairarapa	1/06/2021 overdue	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	minor
Stratford DC	1/07/2022	No	Yes	Yes	No	No	Yes	Yes	No	No	+49,635
NZTA West Waikato	11/03/2021 overdue	No	No	No	No	No	Yes	No	No	No	+20,499
NZTA East Waikato	11/03/2021 overdue	No	No	No	No	No	Yes	No	No	No	+286,620
Waimate DC	31/03/2023	No	Yes	Yes	No	Yes	Yes	Yes	No	No	Very minor
Whangarei DC	1/10/2022	No	Yes	Yes	Yes	No	Yes	Yes	No	No	+33,213
Central Hawkes Bay DC	27/05/2022	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Hastings DC	1/09/2022	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-99,527
NZTA Northland	1/10/2022	No	Yes	Yes	No	No	Yes	Yes	No	No	+20,929
Wairoa DC	1/06/2022	No	No	Yes	Yes	Yes	Yes	Yes	No	No	+25,200

		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	1/11/2023	No	Yes	Yes	Yes	No	Yes	Yes	No	No	+3,800
Kaipara DC	1/04/2022	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	+13,055
Sth Taranaki DC	14/06/2022	No	No	Yes	No	No	Yes	Yes	Yes	No	-8,700
Mackenzie DC	21/04/2022	No	No	Yes	Yes	No	Yes	Yes	No	No	-8,900
Kawerau DC	1/06/2022	No	No	Yes	No	No	Yes	Yes	No	No	+5,800
Opotiki DC	17/02/2022	No	Yes	Yes	No	No	Yes	Yes	No	No	+1,400
Whakatane DC	17/10/2021	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-32,291
BOP East NZTA	25/05/2018 overdue	No	Yes	Yes	No	No	No	Yes	No	No	157,655
Marlborough Lines	1/10/2022	No	Yes	Yes	Yes	No	No	No	Yes	No	-31,968
Far North DC	1/09/2022	No	Yes	Yes	No	Yes	Yes	Yes	No	No	+4,651
Kaiangaroa Forest Village Lights	Under review	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	+22,980
Napier CC	1/06/2022	No	No	Yes	Yes	No	Yes	Yes	No	No	+98,800

		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)	
Otorohonga DC	1/06/2022	No	Yes	No	Yes	No	Yes	Yes	No	No	Minor
Alandale Retirement Village	28/07/2024	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Te Kauwhata Retirement Trust Board	1/12/2022	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	very minor
Wellington CC	19/10/2022	No	No	No	No	No	Yes	Yes	No	No	1
Tararua DC	1/06/2022	No	Yes	Yes	No	No	Yes	Yes	No	No	-39,100
Porirua NZTA	31/01/2022 Overdue	No	Yes	Yes	No	Yes	Yes	Yes	No	No	+23,900
Tasman DC	12/04/2022	No	Yes	No	Yes	Yes	Yes	Yes	No	No	-1,215
Nelson CC	26/05/2022	No	No	Yes	No	No	Yes	Yes	No	No	+50,165
Timaru DC	1/06/2023	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Very minor
Waitaki DC	1/05/2022	No	Yes	Yes	No	Yes	Yes	Yes	No	No	4,903
Queenstown Lakes DC	1/03/2022 Overdue	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-18,600

		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)	
Southland DC	1/03/2022 Overdue	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Very minor
NZTA Hawkes Bay - Rural	1/03/2022 Overdue	No	Yes	Yes	Yes	No	Yes	Yes	No	No	-1,646
Gisborne DC	1/09/2023	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Very minor
Lower North Island NZTA	New – Under review	No	Yes	Yes	No	No	Yes	Yes	No	No	+/- 220,000
Manawatu DC	1/03/2022	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	-9,881
Upper Hutt CC	1/10/2022	No	Yes	No	Yes	No	Yes	Yes	No	No	+9,900
Hutt CC	8/12/2021 Overdue	No	Yes	No	Yes	No	Yes	Yes	No	No	+9,901

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.4 With: Clause 11 Schedule 15.3 From: 01-Jul-21 To: 28-Feb-22	**GENE** Inaccurate submission information for several databases. Nine database audits not completed. Potential impact: High Actual impact: High Audit history: Multiple times Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as weak as due to resource constraints the issues raised are not always able to be progressed. Genesis is aware of this, and additional resource is being sought. 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 established the role of DUML Data and Stakeholder lead in September 2021, due to the transition over from the reconciliation team and the handover of duties they have only recently started to focus on the role. The focus over the next 12 months will be liaising with DUML customers and working towards improving the compliance / accuracy of data	Jan 2023	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

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

Distributed Generation

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 G will trigger a profile update in Derive. An exception will be generated if profiles are different in Derive and Gentrack, and profiles will be checked and corrected to be consistent in Derive, Gentrack, and the registry. On an ad hoc basis, the reconciliation team runs a query to identify any ICPs which have had EG registers removed, so that profiles can be corrected.

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

Description	Recommendation	Audited party comment	Remedial action
Installation of compliant metering for generating ICPs	For any ICP where generation is present, either: 3. ensure that compliant metering is installed, and monitor and follow up any jobs to be completed or approved, or 4. advise the reconciliation team that compliant metering has not been installed, so that a notification of gifting can be provided to the reconciliation manager.	We will review the DG processes and where I is not possible to install compliant metering will look to add these to the gifting register	Identified

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

I recommend that the practice of moving these ICPs from HHR to RPS PV1 profile be reviewed as this creates a lot of work for little return.

Description	Recommendation	Audited party comment	Remedial action
Management of profiles for ICPs with distributed generation	Review the practice of moving ICPs with distributed generation from the HHR profile to RPS PV1.	We will review the current processes	Investigating

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. Due to the current resource constraint in this area these are not always able to be reviewed. Genesis is addressing this.

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 5,830 active ICPs with generation indicated by the distributor. The AC020, event detail, registry list and meter installation details reports were reviewed to determine compliance:

Generation recorded by the distributor and an I flow register with no generation compatible profile	Review of the AC020 report confirmed that there were 31 ICPs with generation recorded by the distributor and an I flow register where GENE did not record a generation compatible profile, an increase from 15 in the previous audit due to the resource constraint. PV1 is automatically applied for any registers with a flow direction of G in Derive, and staff manually adjust profiles to EG1 where generation is not solar. I recommend above that this practice is reviewed. I confirmed that 13 ICPs had the correct profile applied for submission, and the registry profile was corrected though the profile validation process prior to the audit. One ICP (1000022129BP4B2) is still showing with only RPS as a profile code even though there is an EG register present on the meter with the settlement indicator correctly populated.

	The remaining 17 were recent switch gains where submission data used for comparison was not available, but a check of the latest registry data shows the profile has been updated for 12 of these ICPs to now include PV1. For the remaining five ICPs the registry confirms suitable EG register is present with a correctly populated settlement indicator The six ICPs with the incorrect profile recorded on the registry are recorded as non-compliance in **section 2.1**.
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 134 ICPs where generation was recorded by the distributor, but there was no I flow register or profile compatible with distributed generation recorded. I checked a typical case sample of 20 ICPs and found: • one EG metering now installed, • nine either have solar panels visible using Google maps or an entry in the high-risk database confirming solar is installed but no contact made with customer to upgrade metering, • one confirmed battery installation where contact has been made and customer refused the cost associated with the meter upgrade, • five have no record in the high-risk database and no solar panels are visible in google maps indicting no DG is present as yet, • two where contact has been made with the customer, but meter changes have not yet been scheduled, • one ICP where the customer is not engaging with Genesis to allow access for a meter change, • one ICP where the service request has been stuck in allocating status since December 2020. The 14 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 nine ICPs identified in the 2021 audit which were believed to be generating which did not have compliant metering installed or notification of gifting provided. All nine are still with GENE and no progress has been made getting I flow registers installed. This is recorded as non-compliance below and in **section 2.1**.
Generation profile recorded but no generation details recorded by the distributor	61 ICPs had profiles indicating generation was present, but no generation was recorded by the distributor. 60 of those had settled I flow registers present and a review of eight of these ICPs identifies six as having non-zero volumes being measured by the meter for the I flow register. ICP 1001156573UNA50 did not have a settled I flow register present. The profile codes for this ICP have now been corrected. 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 100 ICPs where the distributor had recorded a generation fuel type of other and GENE applied PV1, and ICP 0000020776CE0EF where the distributor had recorded a generation fuel type of fresh water and GENE applied PV1. All were checked and confirmed that 94 were likely to have solar based on the information available. ICP 0000100891UN925 is on the Vector network. Vector has identified that many of the installations on their network have batteries installed that do inject into the network and they have since updated the fuel type to other to indicate this. I recommend that Genesis check this and any other installations gained on the Vector network to confirm the correct profile.

Description	Recommendation	Audited party comment	Remedial action
Distributed generation profile	Check with Vector for confirmation of fuel type "other" to confirm if the sites have batteries that will inject to the network. If present the profile type should be changed to "EG".	We will check this with Vector	Identified

GEOL

Review of the registry list identified 251 active ICPs with generation indicated by the distributor. The AC020, event detail, registry list and meter installation details reports were reviewed to determine compliance:

Generation recorded by the distributor and an I flow register with no generation compatible profile	Review of the AC020 report confirmed that there were three ICPs with generation recorded by the distributor and an I flow register where GEOL did not record a generation compatible profile, an increase from one in the last audit. Two were recent switch gains. The three ICPs had the correct profile applied for submission, and the registry profile was corrected though the profile validation as part of the BAU processes in place.
Generation recorded by the distributor with no I flow register or generation compatible profile	Review of the registry list and meter installation details report identified 27 ICPs where generation was recorded by the distributor, but there was no I flow register or profile compatible with distributed generation recorded. • 17 have had no contact made with the customer to confirm if distributed generation is present or not, • eight were timing differences the metering and profile details were updated after the registry list was run or EG metering has now been installed, • ICP 0443650578LC51B is a battery only site on the Vector network, as recommended above, this ICP should be checked with Vector to confirm if it is one of the battery sites that can inject to the network, and • ICP 0000164522TP44E has no solar panels present; the distributor added these details in 2017 but the MEP confirmed there are none in 2019, and it appears that their record on the registry is incorrect.
Generation profile recorded but no generation details recorded by the distributor	18 ICPs had profiles indicating generation was present, but no generation was recorded by the distributor. All of the affected ICPs had generation registers installed. Eight of those had non-zero volumes recorded on their I flow meters in December 2021 and were confirmed to be generating. The other ten ICPs have I flow registers present, with zero consumption recorded.
Generation profiles inconsistent with the distributor fuel type	I checked for consistency between the distributor generation details and the profiles applied and identified seven ICPs with fuel type other indicated and PV1 profiles applied. All were confirmed to have solar generation and profiles were correctly applied.

GENH

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

- four have both X and I flows recorded in the Sept 2021 HHRAGGS file confirming I flow register is present; the metering record on the registry appears to be incorrect,
- ICP 0000130740WEA40 (Raglan School) has both a solar array and a wind turbine visible on Google streetview and no I flow register recorded in the HHRAGGS file; I flow metering needs to be installed or the ICP needs to be added to the gift register,
- ICP 0006679030RNFE2 has no I flow register recorded in the HHRAGGS file, and
- notification of gifting has been provided for ICPs 0007139792RN05D and 0427052565LCF1B.

Description	Recommendation	Audited party comment	Remedial action
Confirm whether GENH ICPs are generating	Confirm whether the following ICP is generating: • 0006679030RNFE2 (switched in with B installation type 01/01/20). If this is generating arrange for compliant metering to be installed or notification of gifting to be provided to the reconciliation manager.	This ICP is under investigation. There is generation on site, and we will liaise with customer regarding the cost to change the meter. If they do not wish to proceed, we will add the ICP to the gifting register	Investigating

I re-checked all other ICPs which were indicated to have generation without generation metering installed in the 2021 audit and found that they had switched out and/or had generation metering installed.

Bridged meters

Genesis has improved reporting of bridged meters during the audit period. Bridged meters are now 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. The metering team receives daily reports from this automated query and notify the respective MEPs by raising service requests.

This reporting identifies approximately 25 ICPs per month. Whilst the process to identify these examples is sound, 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-Jul-21 To: 13-Jan-22	**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. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as weak as there is room for improvement for both 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
The Distributed Generation processes will be reviewed with a view to improvising the end-to-end process.	Dec 2022	Investigating
Bridged Meter Reporting – We have implemented an automated Bridged Meter report that is worked by the metering team and W/O booked to ensure meters are unbridged	Ongoing	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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	19/08/2023
GENE	RANGIPO	RPO2201GENEGG	GENE	GG	11/11/2023
GENE	TEKAPO A	TKA0111GENEGG	GENE	GG	26/11/2023
GENE	TEKAPO B	TKB2201GENEGG	GENE	GG	23/01/2023
GENE	TOKAANU	TKU0331GENEGD	GENE	GD	15/04/2022
GENE	TOKAANU	TKU2201GENEGG	GENE	GG	1/09/2023
GENE	TUAI	TUI1101GENEGG	GENE	GG	9/02/2024

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

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

Certification expiry dates were updated from 11 July 2021 to 19 August 2023 for HLY2201GENEGG during the audit period. I observed that the latest certification date was 13 May 2021 and the NSP table was updated by Genesis on 13 August 2021 some 92 days later and well outside the 10 days as specified by the code.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.2 With: Clause 10.26(7) From: 01-Jul-21 To: 31-Jan-22	One late certification update made to the RM. 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 for the updating of GIPs meter recertifications. The audit risk rating is low as the meters were certified at all times and there was no impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
The Genesis team responsible for this have been advised of this noncompliance and are aware of the requirements, the NSP in questions was a cross over from them being made aware of the requirement based on the previous audit	Aug 2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

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

Code related audit information

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

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

Audit observation

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

Audit commentary

GENE

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

GEOL

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

GENH

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

Audit outcome

Compliant

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

Code reference

Clause 10.43(2) and (3)

Code related audit information

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

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

Audit observation

Processes relating to defective metering were examined. A sample of defective meters were reviewed, to determine whether the MEP was advised, and if appropriate action was taken.

Audit commentary

Defective meters are typically identified through the meter reading validation process, or from information provided by the meter reader, agent, the MEP, or the customer. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect and a consumption correction is expected to be processed if necessary.

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

GENE

I reviewed 18 examples of potential defective meters, including ten bridged meters and eight stopped meters. In all cases, the MEP was advised within the allowable timeframe.

GEOL

I reviewed 15 examples of potential defective meters, including eight stopped meters and seven bridged meters. In all 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 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, this is covered as part of their audits.

Clock synchronisation event information from some AMI MEPs (NGCM, IHUB & 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. 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 independently reviewed.

GENH

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

Generation

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

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

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.5 With: Clause 2 Schedule 15.2 From: 01-Jul-21 To: 31-Jan-22	Time Sync reports not reviewed for all AMI MEPs. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate as where AMI MEPs provide email notification of time sync issues these are actioned.

Actions taken to resolve the issue	Completion date	Remedial action status
We will review this and look to put process in place with all AMI MEPs regarding time sync reports and other metering event reports	July 2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

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

Audit commentary

Wells readings

Wells' data collection processes were reviewed as part of their agent audit and found to be compliant. I checked a sample of readings provided by Wells for five ICPs each for GENE and GEOL and confirmed that they are loaded into Gentrack as actual readings and are validated as part of the billing process.

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

Description	Recommendation	Audited party comment	Remedial action
Review of Wells meter condition information	Ensure that memos are created for all meter condition issues provided by Wells. Develop processes to review and take action on these meter condition issues, which could affect meter accuracy.	We are currently reviewing the process of acting on meter reader / contractor notes when received.	Investigating

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

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

Meter condition issue	GENE	GEOL
Different meter register present	One identified via billing validation and investigated and resolved. Other examples were confirmed as paperwork timing issues from meter changes.	Examples identified were confirmed as paperwork timing issues from meter changes.

Meter condition issue	GENE	GEOL
Seals are not present and intact	Site visit requests generated.	Notified by network as seals broken post outage to measure and confirm voltages at metering points downstream of fault post resolution. Site visit requests generated, and re-seal completed.
Signs of tampering or damage	Site visit requests generated and where access allows issues are rectified including volume corrections where tampering is confirmed.	Site visit requests generated and where access allows issues are rectified. Examples provided required no further action as they related to faulty tamper switch and also post house fire where property was disconnected at the pillar – previous meter read history confirmed no historic tamper.
Dials discrepancy	Investigations confirmed as being undertaken including site visits to confirm correct number of dials.	No investigation undertaken discrepancy remains.
Meter digit discrepancy	Example identified via CS file failure – Gentrack made to align with registry and switch completed.	Registry mismatch report still show exceptions as outstanding – no investigation undertaken.
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. No phase failures were reported by Wells during audit period.	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	BAU AMI meter deployment identified issue – letters sent to consumers regarding issues. No case was generated to track issue for follow up.	BAU AMI meter deployment identified issue – letters sent to consumers regarding issues. As GEOL does not use salesforce there is no mechanism to create a case and track this as a task – follow up now underway triggered by RP audit process.

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.	We will investigate this recommendation	Investigating

I followed up meter condition issues identified in the previous audit which had not been resolved:

Code	Meter condition event	Event Source	ICP	Findings
GENE	Seals are not present and intact	Wells	0000015610HB783	Meter replaced in November 2021.
GENE	Signs of tampering or damage	Wells	0000928331TUF63	Meter replaced in July 2021, but no volume correction applied for bridged period.

Code	Meter condition event	Event Source	ICP	Findings
GEOL	Seals are not present and intact	Wells	0000038461NT3F6	Meter not resealed. Site switched out.
GEOL	Signs of tampering or damage	Wells	0000023787UN249	Meter replaced 27/7/2021; volume correction completed to estimate usage during stopped meter period.
GEOL	Phase Failure	Wells	004533633HB523	Meter replaced 13/8/2021, no volume correction completed to estimate usage during stopped meter period.

Wells disconnection readings

During the audit there was some discussion about meter readings obtained during the disconnection process and Genesis asked whether the Wells agent audit included these meter readings. It was confirmed that the Wells agent audit did not include disconnection readings, therefore it is unknown whether compliance is achieved. Specifically, it's not known if the following checks are conducted:

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.

Genesis advised that disconnection readings are only provided for approx. 50% of ICPs where disconnection occurs.

I contacted Wells to advise my intention to expand the scope of their agent audit to include disconnection readings, however they have chosen not to have this process audited. I therefore recommend Genesis takes the following actions:

1) Strengthen the contract with Wells to require metering readings to be obtained during disconnection.
2) Strengthen the contract with Wells to require their disconnection reading process to be audited during their meter reading agent audit.
3) In the short term, require Wells to provide evidence that appropriate processes are in place to ensure meter readings are obtained, processes include the checks for seals present, signs of tampering or damage and electrically unsafe situations and appropriate training is provided.

Recommendation	Description	Audited party comment	Remedial action
Disconnection readings	1) Strengthen the contract with Wells to require metering readings to be obtained during disconnection. 2) Strengthen the contract with Wells to require their disconnection reading process to be audited during their meter reading agent audit. 3) In the short term, require Wells to provide evidence that appropriate processes are in place to ensure meter readings are obtained, processes include the checks for seals present, signs of tampering or damage and electrically unsafe situations and appropriate training is provided.	We will work with Wells regarding the disconnection process and the need for reads to be provided for all disconnections We will also liaise with them regarding adding this process to the audit	Investigating

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

Description	Recommendation	Audited party comment	Remedial action
Validation of customer, web and photo readings	Update processes to ensure that customer, web, and photo readings must be validated against at least two actual validated readings from another source.	We will review this process, however due to access issues this is not always possible	Investigating

GENE

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

GEOL

I checked eight examples of customer, photo and web and found three had been appropriately validated via the standard billing validation process. Five 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-Jul-21 To: 31-Jan-22	**GENE** No consistent action taken to address the ICP with signs of tampering or damage. No follow up where service requests are turned 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. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as weak as the management of meter events remains patchy resulting in potential defective metering not being corrected in a timely manner. The impact is assessed to be low, as the volume of events is small in relation to the number of ICPs.

Actions taken to resolve the issue	Completion date	Remedial action status
We have recently created a Contractor notes report to pick up items that need further investigation i.e., tamper, broken seals etc. We are also reviewing our meter reader notes process to highlight any items that require further action.	Feb 2022 Oct 2022	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:

- two of a possible 18 transfer switches sent with the incorrect read type of E, and
- four of five ICPs with incorrect last read labelled as actual but should have been sent as estimates

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. There are two examples detailed in the GEOL section below in relation to this.

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 five examples of this process. For three, actual validated meter readings were correctly applied for the transition date, however for two examples either an estimated read or no reading at all 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:

- ICP 0001524972WEA51 transfer switch was sent with a read type of actual but should have estimates due to this being an internal switch from GEOL to GENE, and
- two switch move ICPs (0007145138RNDEC and 0110006949EL610) 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.

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 three examples of this process. For two, actual validated meter readings were correctly applied for the transition date, however for one example 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 this exception to the process was due to human error.

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-Jul-21 To: 13-Jan-22	**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. 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 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	Oct 2022 TBC	Investigating
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 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 has only recently been returned to the previous process. 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 for approval. Genesis have paused using this report as it was not identifying all unread AMI ICPs and covered only the AMS AMI meters. They are using internal reporting to identify potentially faulty AMI metered sites and have increased the number of people working these from one to a team of four people. The report is be filtered to identify unread AMI meters, so that fault jobs can be raised and ICPs moved to manual meter reading routes in the meantime.

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.

A process has been put in place to identify WASN meters when these switch in. These are checked to see if an AMS meter is on site and if so, an MEP switch is processed, and the AMS meter is read. If there is no AMS meter, then these are assigned to a manual read round. It was evident from the examination of the sample of the ICPs not read within 12 months that not all of these sites are being worked, but Genesis is now working through the backlog.

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 our current processes and look to implement this recommendation	Investigating

Account managed customer read attainment process

As reported in the last audit, read attainment for account managed customers is managed by the business sales support team, who review unread account managed ICPs and liaise with the customer to resolve any issues preventing reads from being obtained. As found in the last audit, the account managed ICPs did not meet the best endeavours requirements for one ICP, as while the billing team let them know that of sites that are not being read, it appears no action is being taken to address this. I have repeated the last audit's recommendation to maintain visibility of this.

Description	Recommendation	Audited party comment	Remedial action
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.	We will review this recommendation	Investigating

ICPs unread during the period of supply

A report of 901 ICPs not read during the period of supply was provided for ICPs with an end date between 1 April and 31 October 2021. Of these, 799 (88.7%) were supplied for 60 days or less. I checked an extreme case sample of the ten ICPs with the longest periods of supply:

- seven ICPs were disconnected prior to 2015 or earlier and there have been no reads gained since disconnection; meter reading attempts were made, but the ICPs were vacant which prevented access to the meters, and
- three ICPs were not read during the period of supply and best endeavours was not proven; this is recorded as non-compliance.

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 585 ICPs not read during the period of supply was provided for ICPs with an end date between 1 April and 31 October 2021. Of these, 532 (90.9%) were supplied for 60 days or less. I checked an extreme case sample of the ten ICPs with the longest periods of supply:

- three ICPs were disconnected prior to 2015 or earlier and there have been no reads gained since disconnection, meter reading attempts were made, but the ICPs were vacant which prevented access to the meters,
- one ICP was disconnected May 2019 and prior to this the customer phoned in reads regularly due to a non-communicating AMI meter,
- one ICP has now had a read during the period of supply due to a new customer set up for this ICP, and
- no action was taken to get five ICPs read during the period of supply (one of these the customer is regularly phoning in/enter reads via web portal); this is recorded as non-compliance.

GENH

GENH does not deal with NHH readings.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.8 With: Clause 7(1) and (2) Schedule 15.2 From: 01-Jul-21 To: 31-Jan-22	**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. 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 and will mitigate risk most of the time but there is room for improvement. 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
No Access Cycle – In March 2022 our automated no access cycle was turned back on (was turned off due to Covid) This ensure that we communicate with customers via different methods if we are unable to obtain a reading. In December 2022 we initiated an RP Audit response team, this team of 6 have been working through our no access list focusing on those customers who we have not read for 12 months and attempting to resolve the issues causing this	Feb 22 Dec 21	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 March to September 2021 were provided. I reviewed the sample of reports to ensure they met the report requirements and were submitted on time.

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

Audit commentary

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

GENE provides the meter reading frequency reports to the Market Administrator for GENE and GEOL. Report submissions for March to September 2021 were reviewed for GENE and GEOL, which confirmed that the reports were submitted on time and contained the required information.

GENE

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 12 months	NSPs <100% read	ICPs unread for 12 months	Overall percentage read
Mar-21	259	118	587	97.68%
Apr-21	256	118	550	97.78%
May-21	258	118	539	97.81%
Jun-21	256	124	542	97.80%
Jul-21	253	122	542	97.78%
Aug-21	253	124	550	97.72%
Sep-21	249	120	537	97.78%

The total percentages read are similar to the results found in the 2019-2021 audits.

I reviewed a diverse sample of 14 ICPs not read in the 12 months ending September 2021, 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 nine ICPs, the best endeavours requirement was met, or exceptional circumstances existed,
- two ICPs were resolved via account manager escalation but one further account managed ICP is still unresolved, and
- two ICPs are with metering team to resolve (one ICP the meter readers advised the property is demolished and one ICP is a vacant BTS).

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
Mar-21	162	35	115	98.37%
Apr-21	161	34	113	98.36%
May-21	161	35	110	98.37%
Jun-21	161	38	119	98.27%
Jul-21	156	42	123	98.19%
Aug-21	159	40	116	98.19%
Sep-21	156	41	92	98.64%

The total percentages read are similar to the results found in the 2019-2021 audits.

I reviewed a diverse sample of ten ICPs not read in the 12 months ending September 2021, 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 six ICPs, the best endeavours requirement was met, or exceptional circumstances existed,
- two ICPs (0006255067WABA5 & 0000772875HB004) are currently on an annual read sequence meaning the number of attempts to obtain a reading is insufficient to meet best endeavours,
- one ICP is reported with a blank screen preventing a read from being obtained and the meter replacement is outstanding, and
- one ICP with a view obscured no read code where the customer has engaged an electrician to relocate meter is also outstanding.

Description	Recommendation	Audited party comment	Remedial action
Review annual read sequence and confirm suitability of each ICP within this list to remain on list.	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.	This list is being reviewed and where appropriate customer moved back onto standard sequences. Some will need to remain due to location	Identified

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-Jul-21 To: 31-Jan-22	**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 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
No Access Cycle – In March 2022 our automated no access cycle was turned back on (was turned off due to Covid) This ensure that we communicate with customers via different methods if we are unable to obtain a reading. In December 2022 we initiated an RP Audit response team, this team of 6 have been working through our no access list focusing on those customers who we have not read for 12 months and attempting to resolve the issues causing this Customer on annual read sequences is currently being reviewed, we only currently have 67 ICPs on this and some are due to location 'boat needed to access meter' and others are due to historic customer issues.	Feb 22 Dec 21 June 2022	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 March to September 2021 were provided.

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

Audit commentary

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

GENE

The monthly meter reading reports provided were reviewed.

Month	Total NSPs where ICPs were supplied > 4 months	NSPs <90% read	Total ICPs unread for 4 months	Overall percentage read
Mar-21	265	44	1,712	94.21%
Apr-21	263	46	1,733	94.07%
May-21	264	45	1,711	94.08%
Jun-21	264	44	1,682	94.18%
Jul-21	263	43	1,696	94.11%
Aug-21	262	61	2,075	92.78%
Sep-21	258	61	2,135	92.62%

The percentages read are slightly lower than the results found in the 2021 audit.

I reviewed a diverse sample of 15 ICPs connected to NSPs where compliance was not achieved in September 2021 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. 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
Mar-21	164	33	435	94.52%
Apr-21	162	30	456	94.19%
May-21	163	35	459	94.05%
Jun-21	163	27	446	94.27%
Jul-21	158	33	462	94.01%
Aug-21	161	40	507	93.05%
Sep-21	157	44	557	92.79%

I reviewed a diverse sample of ten ICPs connected to NSPs where compliance was not achieved in September 2021 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. 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.

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-Jul-21 To: 31-Jan-22	**GENE** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the15 ICPs sampled. **GEOL** Exception circumstances did not apply, and the best endeavours requirement was not met for any of the ten ICPs sampled. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are moderate and will mitigate risk most of the time but there is room for improvement. The impact is low, because overall read attainment rates are reasonably high.

Actions taken to resolve the issue	Completion date	Remedial action status
No Access Cycle – In March 2022 our automated no access cycle was turned back on (was turned off due to Covid) This ensure that we communicate with customers via different methods if we are unable to obtain a reading. In December 2022 we initiated an RP Audit response team, this team of 6 have been working through our no access list focusing on those customers who we have not read for 12 months and attempting to resolve the issues causing this Account Managed Customer process will be reviewed, and we will investigate the possibility of including them in our No Access cycle. We will also investigate how we can improve the read % attainment for those NSP that we are under 90%	Feb 2022 Dec 2022 Oct 2022	Investigating
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 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 AMS' agent audit.

Genesis' clock synchronisation process for generation meters was reviewed.

Audit commentary

GENE, GEOL and GENH

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

Generation

The clock synchronisation process for generation meters is discussed in **section 6.5**.

Audit outcome

Compliant

7.2. Storage of raw meter data (Clause 18 Schedule 15.2)

Code reference

Clause 18 Schedule 15.2

Code related audit information

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

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

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

Audit observation

Processes to archive and store raw meter data were reviewed during the agent and MEP audits. I checked that meter readings cannot be modified without an audit trail and viewed archived meter reading data.

Audit commentary

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

GENE and GEOL

Review of audit trails in **section 2.4** confirmed that reads cannot be modified without an audit trail being created. Access to modify readings is restricted through log on privileges.

All meter reading data is archived and retained for over 48 months. GENE and GEOL meter read data from 2014 was sighted during the audit.

GENH

AMS demonstrated compliance with this clause as part of their agent audit.

Generation

Generation data is stored indefinitely and can only be accessed by a small number of approved people with access rights. I viewed data from 2017 to confirm it is retained.

Audit outcome

Compliant

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

Code reference

Clause 21(5) Schedule 15.2

Code related audit information

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

Audit observation

Processes to record non-metering information were discussed.

Audit commentary

GENE

EMS collects unmetered data in relation to streetlights as GENE's agent, and this information is appropriately archived. Compliance is confirmed in EMS' agent audit report.

I confirmed that GENE retains data logger and DUML database information indefinitely and viewed DUML database information from 2016.

GEOL, GENH, and Generation

No non-metering information is collected.

Audit outcome

Compliant

8. CREATING AND MANAGING (INCLUDING VALIDATING, ESTIMATING, STORING, CORRECTING AND ARCHIVING) VOLUME INFORMATION

8.1. Correction of NHH meter readings (Clause 19(1) Schedule 15.2)

Code reference

Clause 19(1) Schedule 15.2

Code related audit information

If a reconciliation participant detects errors while validating non-half hour meter readings, the reconciliation participant must:

19(1)(a) - confirm the original meter reading by carrying out another meter reading

19(1)(b) - replace the original meter reading the second meter reading (even if the second meter reading is at a different date)

19(1A) if a reconciliation participant detects errors while validating non half hour meter readings, but the reconciliation participant cannot confirm the original meter reading or replace it with a meter reading from another interrogation, the reconciliation participant must:

- *substitute the original meter reading with an estimated reading that is marked as an estimate; and*
- *subsequently replace the estimated reading in accordance with clause 4(2).*

Audit observation

Processes for the correction of NHH meter readings were reviewed. Corrections to volumes where meter readings match the value recorded by the meter, such as where a multiplier is incorrect, a meter is defective or bridged, or inactive consumption is identified were reviewed in **section 2.1**.

Audit commentary

Where errors are detected during the 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 spread by invalidating previous readings where necessary. In the event that the reconciliation team is not notified, the readings will still automatically flow from Gentrack to Derive each evening.

Transposed meters are corrected by removing and reinstalling the registers correctly in Gentrack or swapping the readings to the correct registers. An example of this was observed for ICP 0000043037UNDA1.

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 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 high-level process was reviewed as part of this audit and will be evaluated in more detail in the next audit.

Audit outcome

Compliant

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

Code reference

Clause 19(2) Schedule 15.2

Code related audit information

If a reconciliation participant detects errors while validating half hour meter readings, the reconciliation participant must correct the meter readings as follows:

19(2)(a) - if the relevant metering installation has a check meter or data storage device, substitute the original meter reading with data from the check meter or data storage device; or

19(2)(b) - if the relevant metering installation does not have a check meter or data storage device, substitute the original meter reading with data from another period provided:

(i) The total of all substituted intervals matches the total consumption recorded on a meter, if available; and

(ii) The reconciliation participant considers the pattern of consumption to be materially similar to the period in error.

Audit observation

Processes for correction of HHR meter readings were reviewed:

- Genesis completes its own HHR corrections for GENE and GEOL using MSD,
- AMS completes HHR corrections on behalf of GENH as an agent; compliance was assessed as part of their agent audit report, 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 results 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 seven multiplier corrections and found that the meters were all category 1 or 2 and were changed to NHH submission type to process the correction.

I checked a bridged meter correction (ICP 0000007209UNED0) and found that the ICP was notified to the reconciliation team, but it was not transitioned to the NHH to process the correction nor was the affected interval data corrected.

I also reviewed an AMI meter change for an HHR settled ICP (0005193958RN6F2) and identified that the HHR data from the old meter stopped at midnight prior to the meter change and there was a gap in HHR data until the new meter was installed at 3 pm the next day. This period was gap filled with zero kWh values as the new meter was logging prior to installation and this data was not trimmed by the AMI MEP. No correction for the missing part day data was performed using the received removed meter read in the meter exchange paperwork.

I also observed that the data for the new meter for the day of installation had been received and loaded twice in MSD as the usual sum check validation was unable to be undertaken as the system did not have an install (start) read loaded.

There were no corrections for meters with category 3 or higher during the audit period.

GENH

Where errors are detected during validation of half-hour metering information, and check metering data is not available, then data from a period with a quantity and profile like that expected is to be used. This function is carried out by AMS on behalf of GENH, and compliance is confirmed in their audit report.

Generation

Estimates and corrections occur rarely for generation data. I checked one correction where power outages had occurred. The correction was provided by a Genesis engineer. An appropriate audit trail is kept, and the trading periods are recorded as estimates. Only the “copy” channel can be edited not the “main” channel.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.2 With: Clause 19(2) Schedule 15.2 From: 01-Jul-21 To: 31-Jan-22	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. 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 HHR 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 from other teams where the phrases within the emails makes it challenging to determine the correct remedial course of action. 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 is medium.

Actions taken to resolve the issue	Completion date	Remedial action status
We will investigate improving the process / timeliness of moving non-communicating AMI meters back to NHH for submissions	Aug 2022	Investigating
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 AMS and Wells' audits.

Audit commentary

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

GENE and GEOL

I reviewed audit trails and supporting calculations for HHR and NHH data corrections and noted that they were compliant with the requirements of this clause for the sample of corrections checked.

GENH

The AMS report confirms compliance.

Generation

Stark contains a compliant audit trail, and all users have individual logins. Generation raw meter data is not edited. Only the copy channel can be edited.

Audit outcome

Compliant

9. ESTIMATING AND VALIDATING VOLUME INFORMATION

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

Code reference

Clause 3(3) Schedule 15.2

Code related audit information

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

Audit observation

A sample of reads and volumes were traced from the source files to Genesis' systems in **section 2.3**.

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

Correct identification of estimated reads, and review of the estimation process was completed in **sections 8.1, 8.2** and **9.4**.

Audit commentary

GENE

Readings are clearly identified as required by this clause. Some readings were incorrectly classified:

- two of a possible 18 transfer switches sent with the incorrect read type of E, and
- four of five ICPs with incorrect last read labelled as actual but should have been sent as estimates.

GEOL

Readings are clearly identified as required by this clause. Some readings were incorrectly classified:

- ICP 0001524972WEA51 transfer switch was sent with a read type of actual but should have been an estimate due to this being an internal switch from GEOL to GENE, and
- two switch move ICPs (0007145138RNDEC and 0110006949EL610) 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.

GENH

AMS' audit report confirms compliance with this clause.

Generation

In the rare event that generation data is estimated or corrected, there is an appropriate audit trail, and the data is correctly identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.1 With: Clause 3(3) Schedule 15.2 From: 01-Jul-21 To: 13-Jan-22	**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. 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 assessed to be moderate, and the impact is assessed to be low. Most readings were correctly classified. The audit risk rating is assessed to be low as the volume of errors was small overall.

Actions taken to resolve the issue	Completion date	Remedial action status
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	Oct 22 TBC	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

Code reference

Clause 3(4) Schedule 15.2

Code related audit information

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

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 3(5) Schedule 15.2

Code related audit information

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

Audit observation

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

NHH data is collected by AMS and Wells, and HHR data is collected by AMS. Generation data was checked during the audit.

Audit commentary

The MEPs and agents retain the raw, unrounded data. Compliance with this clause has been demonstrated by Genesis' agents and the MEPs as part of their own audits.

GENE and GEOL

AMS and EMS' agent reports record compliance.

AMI data is truncated on import into Gentrack and Derive.

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

GENH

AMS's audit report confirms compliance for GENH.

Generation data

A sample of generation data was checked during the audit and found 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 from 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: 02-Jul-21 To: 31-Jan-22	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 Gentrack and Derive. The impact is assessed to be low. Only NHH settled AMI readings provided with decimal places are affected, and the overall kWh difference is expected to be small.

Actions taken to resolve the issue	Completion date	Remedial action status
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	Investigating
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 provides null values where actual HHR data is not available, and estimates are automatically created in MSD based on the available interval consumption and midnight read data. Intellihub does 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 the same interval, and day of the week for the previous four weeks (and next four weeks if this information is available).
- Where midnight readings are not available, MSD estimates based on the average consumption for the interval, day and week for the previous four weeks (and next four weeks if this information is available).
- Where midnight readings are not available and there is insufficient history to estimate average consumption, 0.5 kWh per trading period (24 kWh per day) is applied.

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

Where a 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

I recommend 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. 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.	As per previous comment we will review this process and look to improve the process / timeliness of moving non communicating AMI meter to NHH settlement	Investigating

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.

I checked two examples of generation estimates and found the reasonable endeavours requirements were met.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.4 With: Clause 15 Schedule 15.2 From: 01-Jul-21 To: 31-Jan-22	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 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
We will review this process and look to improve the process / timeliness of moving non communicating AMI meter to NHH settlement	Dec 2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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. If data becomes corrupt, including dates and times, Gentrack will not allow the file to be uploaded and an investigation will then occur.
2. MRI (import) validations are completed when the readings are uploaded, and check that the reads are provided for the correct registers and are consistent with the number of dials recorded. Any issues found through this process are investigated and corrected.
3. IBP (invoice request maintenance) validations occur once the readings have been uploaded and check the readings against set criteria. Any readings which fail validation generate exceptions, which are emailed to a shared mailbox and added as a queue item, which is investigated and either validated or not validated. Reads that are validated are available for billing and reconciliation and reads that are not validated are not.

The validations are grouped into categories and prioritised as critical (e.g., import of read files, and mass production of invoices), same day, or 48-hour. Validations within the groups are classified into easy (e.g., short day invoice), moderate (e.g., credit consumption on a read-to-read period, out of cycle reads) or difficult (e.g., high first invoice, high invoice) based on the amount of time and effort expected to investigate and resolve the exception.

Each user's work queue is activated for all exception types they have been trained for. Exceptions are assigned one by one based on the priority order, as a user disconnects from a queue item, they will be assigned the next highest priority queue item that they are trained to complete. If a validation cannot be completed because further work is required, it can be requeued and will reappear after 48 hours.

As reported in the last audit, 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 the meter read database. Switch loss estimate reads for vacant ICPs are retrieved from the respective CS files. Month end midnight reads are provided from the AMI meter read database 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 two 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, and
- **Trend Validation** – looks for changes in meter/register consumption patterns outside defined thresholds - if there is a current consumer at the ICP then the thresholds at a tariff (population of similar ICPs) level is applied, if the ICP does not have a current consumer then any meter register where the daily average calculated between the current read and the previous actual read exceeds a daily average of 30 kWh per day is placed on hold.

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.

These validations were not reviewed in detail as part of this audit and will be evaluated in more detail in the next audit

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.

Description	Recommendation	Audited party comment	Remedial action
NHH metering information data validation	Review the low and high negative consumption validation process to help to promptly identify and resolve home generation issues.	We will investigate this as part of our review of the DG processes	Investigating

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.

It is recommended 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 will likely look to include this as part of out billing platform change rather than updating current Gentrack validations	Investigating

Vacant consumption

A vacant disconnection process is followed for vacant ICPs, and I confirmed that consumption is submitted for vacant ICPs where an 'Occupier' is moved in within Gentrack in **section 12.2**.

A system defect was identified as part of the audit where an ICP switches between Genesis participant codes (GENE to GEOL). The automated process to create and move in an occupier account does not occur therefore the associated consumption is not included in NHH submission.

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.

An occupier query is run fortnightly which shows the account balance of each occupier account. The accounts with the highest balances are investigated, mainly to determine who is responsible for the charges and to arrange disconnection if necessary.

Zero consumption

The last audit recorded the process where a daily report was run in Gentrack to identify meters with zero consumption for more than six months. The report was filtered to remove ICPs where zero consumption was expected, and a work queue item was loaded into the interaction client for the remaining meters with task type "RA.Stopped.Meters". This process is now being worked on by the Revenue Assurance 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 as yet not all stopped/faulty meters have corrections applied. The non-compliance is recorded below.

As for the other billing validations, each user's work queue is activated for all exception types they have been trained for. Not all queue items are attended to each day.

The reconciliation team have continued to identify meters with zero consumption and flag these to the billing team to action but due to the resource constraints these are not always being actioned. These checks are completed during periods with lower workloads when submissions are not due.

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

As detailed in **section 6.4**, bridged meters are not always consistently investigated and corrected in a timely manner. Where service requests get turned down for access issues, another service request will not always be generated with updated access instructions. Some salesforce cases lapse without being completed. GEOL does not use salesforce case management to track these exceptions so rely on emails to track these

With no single complete register of ICPs with bridged meters/zero consumption these is a risk that not all exceptions identified will be resolved in a timely manner and consumption corrections fully applied.

Description	Recommendation	Audited party comment	Remedial action
Develop a central register of all potential bridged/stopped meters.	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.	As per previous comment	Investigating

Disconnected ICPs with consumption

This process has been reviewed and the reporting improved since the last audit as the previous report being worked was found be reporting a lot of false positives. All disconnected ICPs with consumption detected between two validated actual reads are 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 provided by either the AMI provider as part of a remote disconnection or a field service provider as part of a physical disconnection. Currently 51% of disconnections performed require an estimate read to be used as part of the disconnection process. It is recommended to work with the respective disconnection service providers to improve the disconnection read attainment to enable more accurate reporting on inactive consumption.

Description	Recommendation	Audited party comment	Remedial action
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.	We will raise this with Wells and look to improve the disconnection read attainment	Investigating

By not using the disconnection read in the inactive consumption report means not all inactive consumption is being identified and reported or included in submission.

Description	Recommendation	Audited party comment	Remedial action
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.	We will review the current report and look to implement this recommendation	Identified

At the time of the audit there were 89 ICPs to be investigated where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 248,000 kWh. These are being worked through but due to resource constraints this is taking longer than desired.

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.

Derive and MSD validations

Readings are checked on import into Derive. Any reads which are high, low, or have potential errors are put on hold and must be released by the reconciliation team. Further consumption validation occurs within MSD, as described in **section 12.3.**

GENH

GENH does not deal with NHH data.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.5 With: Clause 16 Schedule 15.2 From: 01-Jul-21 To: 31-Jan-22	**GENE** and **GEOL** Not all vacant consumption is being captured. Not all inactive consumption is being captured. Potential impact: Medium Actual impact: Unknown Audit history: None Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are recorded as moderate overall. Expected validations are being managed including now for zero consumption. However, the current level of reporting is not identifying all potential exceptions for investigation (Inactive and vacant consumption) and not all zero consumption corrections are being applied. The impact is assessed to be medium but is unknown as to how much consumption is occurring due to zero consumption not being managed.

Actions taken to resolve the issue	Completion date	Remedial action status
Vacant / Inactive consumption is now been actively worked and the report improved to remove unnecessary noise, based on some recommendation from this audit we will be looking to tweak this further to ensure it is effective We will work with our meter readers around improving the % of disconnection reads	Oct 2022	Identified
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.

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 some examples of these emails received by GENE and GEOL from MEPs, including tamper alarms, voltage spikes and reverse rotation and found that appropriate action had been taken in each case.

AMS (NGCM, ARCS, SMCO), Intellihub (MTRX, IHUB) and Influx (FCLM) provide meter event logs which are received by GENE and GEOL but are not routinely 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 7.9 million intervals out of a total number of intervals submitted of 758.9 million intervals (1.04% of all intervals estimated). The volume associated with these estimations was 2.9 GWh out of 205.9 GWh of overall HHR submission volume (1.43%).

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.

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	Investigating

GENH

AMS's audit report confirms compliance with these clauses. In situations where data fails validation, and a logical reason cannot be found the issue is referred to the account manager for further investigation into possible site-specific reasons for the anomaly. A final option is for a site visit if the anomaly cannot be reasonably explained.

Generation

Interrogation occurs nightly for generation metering so there is little risk that data will be overwritten.

Each validity check for generation half-hour metering information includes the following:

- checks for missing data,
- checks for invalid dates and times (data will not be collected if dates or times are invalid),
- checks of unexpected zero values,
- comparison with expected or previous flow patterns (a comparison is made against the previous month),
- comparisons with the readings reported by meter and data logger registers where these are available, and
- a review of the Stark meter and data logger event list - any event that could have affected the integrity of metering is investigated by Genesis' engineers.

The GEMDP collection system is also used to collect data from all loggers and this data is compared to the "HHR vols" data each month. The two sets of data were compared during the audit and no issues were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 9.6 With: Clause 17 Schedule 15.2 From: 01-Jul-21 To: 31-Jan-22	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
Audit risk rating	**Rationale for audit risk rating**
Low	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.

Actions taken to resolve the issue	Completion date	Remedial action status
We will review our current processes in relation to meter event and work with all our AMI MEPs to improve the reporting and ensure the required items are being investigated	Nov 2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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

There have not been any breach allegations in relation to this clause during the audit period.

The GENE trading team are responsible for creating trading notifications for GENE, GEOL, and GENH on the reconciliation portal. The trading team becomes aware that trading notifications are needed by:

- the Reconciliation Manager providing notification of a change to an existing NSP,
- the GENE reconciliation team advising that they have set up a new NSP or added injection flow to an existing NSP, or
- checking a report from Gentrack against their open trading notifications, which are recorded in Market Submissions Database (MSD).

Notifications are only created where Genesis begins or ceases trading for all ICPs on an NSP, not where they begin or cease trading using a profile other than HHR, RPS, UML, EG1, or PV1 at an NSP. This is because there is no facility to enter a profile into a trading notification on the reconciliation manager portal.

Genesis has recently 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

Compliant

11.2. Calculation of ICP days (Clause 15.6)

Code reference

Clause 15.6

Code related audit information

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

> *15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

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

Audit observation

GENE prepares AV110 ICP days submissions for GENE and GEOL, and AMS prepares the submissions for GENH.

The process for the calculation of ICP days was examined by checking NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct. I reviewed variances for 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 2021 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.

The following table shows the ICP days difference between GENE files and the RM return file (GR100) for all available revisions for 22 months, and small differences were found. Negative percentage figures indicate that the GENE ICP days figures are higher than those contained on the registry.

Month	Ri	R1	R3	R7	R14
Jan 2020	0.00%	0.00%	0.00%	0.05%	0.00%
Feb 2020	0.00%	0.00%	0.00%	0.04%	0.00%
Mar 2020	0.01%	0.00%	0.02%	0.04%	0.00%
Apr 2020	0.00%	0.00%	0.00%	0.04%	0.00%
May 2020	0.01%	0.00%	0.00%	0.04%	0.00%
Jun 2020	-0.05%	0.06%	0.04%	0.04%	0.00%
Jul 2020	-0.03%	0.00%	0.04%	0.00%	-
Sep 2020	0.14%	0.04%	0.08%	0.03%	-
Oct 2020	0.11%	0.15%	0.07%	0.00%	-
Nov 2020	0.11%	0.13%	0.07%	0.00%	-
Dec 2020	-	0.12%	-0.04%	0.00%	-
Jan 2021	0.27%	0.00%	0.09%	0.00%	-
Feb 2021	-0.19%	-0.02%	0.01%	0.00%	-
Mar 2021	0.24%	0.14%	0.00%	0.00%	-
Apr 2021	0.00%	0.01%	0.00%	0.00%	
May 2021	0.00%	0.00%	0.00%	0.00%	-
Jun 2021	0.01%	0.00%	0.00%		
Jul 2021	0.00%	-0.01%	0.00%		
Aug 2021	0.00%	0.00%	0.00%		
Sep 2021	0.00%	0.00%	0.00%		
Oct 2021	0.01%	0.00%			

Month	Ri	R1	R3	R7	R14
Nov 2021	0.02%	0.00%			

I reviewed a sample of ten NSP level ICP days differences remaining at revision 7 and found six related to backdated registry events and backdated switches, four related to NHH UML belonging to GENH being included in GENE NHH submission as Genesis's HHR agent is not able to submit NHH UML volumes. Late status and trader updates are discussed in **sections 3.3** and **3.5**, and backdated switches are discussed in **section 4.**

GENE's processes for upgrades and downgrades achieve accuracy for consumption information. The ICP days calculations are correct for upgrades and downgrades because they align with the consumption information.

GEOL

The process for the calculation of ICP days was examined by checking 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.

Month	Ri	R1	R3	R7	R14
Jan 2020	0.02%	0.01%	0.00%	0.00%	0.00%
Feb 2020	0.03%	0.01%	0.00%	0.00%	0.00%
Mar 2020	0.01%	0.01%	0.00%	0.00%	0.00%
Apr 2020	0.00%	0.00%	0.00%	0.00%	0.00%
May 2020	0.01%	0.00%	0.00%	0.00%	0.00%
Jun 2020	0.02%	0.01%	0.00%	0.00%	0.00%
Jul 2020	0.00%	0.00%	0.00%	0.00%	-
Aug 2020	0.02%	0.02%	0.00%	0.00%	-
Sep 2020	0.01%	0.01%	0.01%	-	-
Oct 2020	0.03%	0.00%	0.00%	0.00%	-
Nov 2020	-	0.02%	0.00%	0.00%	-

Month	Ri	R1	R3	R7	R14
Dec 2020	0.02%	0.00%	0.01%	0.00%	-
Jan 2021	0.01%	0.01%	-	0.00%	-
Feb 2021	0.02%	0.00%	0.01%	0.00%	-
Mar 2021	0.00%	-	-0.01%	0.00%	-
Apr 2021	0.03%	0.01%	0.00%	0.00%	
May 2021	0.02%	-0.01%	0.00%	0.00%	
Jun 2021	0.00%	0.01%	0.00%		
Jul 2021	0.02%	0.00%	0.00%		
Aug 2021	0.01%	0.01%	0.00%		
Sep 2021	0.00%	0.00%	0.00%		
Oct 2021	0.00%	0.01%			
Nov 2021	0.00%	0.00%			

I reviewed a sample of ten NSP level ICP days differences remaining at revision 7 for January 2021 onwards. Seven related to backdated switch activity, one was a status mismatch between Gentrack and the registry which has now been corrected, one relates to the historic issue of not reporting an ICP if the tenure is only one day (now resolved) and one is still under investigation. Late status and trader updates are discussed in **sections 3.3** and **3.5**, and backdated switches are discussed in **section 4.**

GEOL's processes for upgrades and downgrades achieve accuracy for consumption information. The ICP days calculations are correct for upgrades and downgrades because they align with the consumption information.

GENH

Compliance is recorded in AMS' audit report.

The process for the calculation of ICP days was examined by checking 100 NSPs with a small number of ICPs on the November 2021 report. The ICP days calculation was confirmed to be correct.

The following table shows the ICP days difference between GENH files and the RM return file (GR100) for all available revisions for 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 2020	0.25%	0.15%	0.04%	0.05%	0.00%
Feb 2020	0.04%	0.11%	0.07%	0.04%	0.00%
Mar 2020	0.19%	0.10%	0.02%	0.04%	0.00%
Apr 2020	0.31%	0.13%	0.00%	0.04%	0.00%
May 2020	0.01%	0.00%	0.00%	0.04%	0.00%
Jun 2020	-0.05%	0.06%	0.04%	0.04%	0.04%
Jul 2020	-0.03%	0.00%	0.04%	0.00%	-
Aug 2020	0.14%	0.04%	0.08%	0.03%	-
Sep 2020	0.11%	0.15%	0.07%	-	-
Oct 2020	0.11%	0.13%	0.07%	-0.01%	-
Nov 2020	-	0.12%	-0.04%	0.00%	-
Dec 2020	0.27%	0.00%	0.09%	0.00%	-
Jan 2021	-0.19%	-0.02%	-	-0.03%	-
Feb 2021	0.24%	0.14%	0.03%	0.00%	-
Mar 2021	0.06%	-	0.00%	0.00%	-
Apr 2021	-0.20%	-0.16%	0.00%	0.00%	
May 2021	-0.17%	0.04%	0.00%	0.00%	
Jun 2021	0.05%	0.01%	0.05%		
Jul 2021	-0.02%	0.02%	0.00%		
Aug 2021	-0.01%	0.00%	-0.03%		
Sep 2021	0.13%	0.07%	-0.10%		

Month	Ri	R1	R3	R7	R14
Oct 2021	0.11%	-0.01%			
Nov 2021	0.14%	-0.07%			

I reviewed all nine NSP level ICP days differences remaining at revision 7 for January 2021 onwards, and found they were timing differences caused by backdated switches. Backdated switches are discussed in **section 4.**

Audit outcome

Compliant

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

Code reference

Clause 15.7

Code related audit information

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

> *15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*
>
> *15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

Audit observation

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

GR130 reports for November 2019 to March 2021 were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

Genesis monitors differences between billed and submitted volumes at an aggregate level using their dashboard.

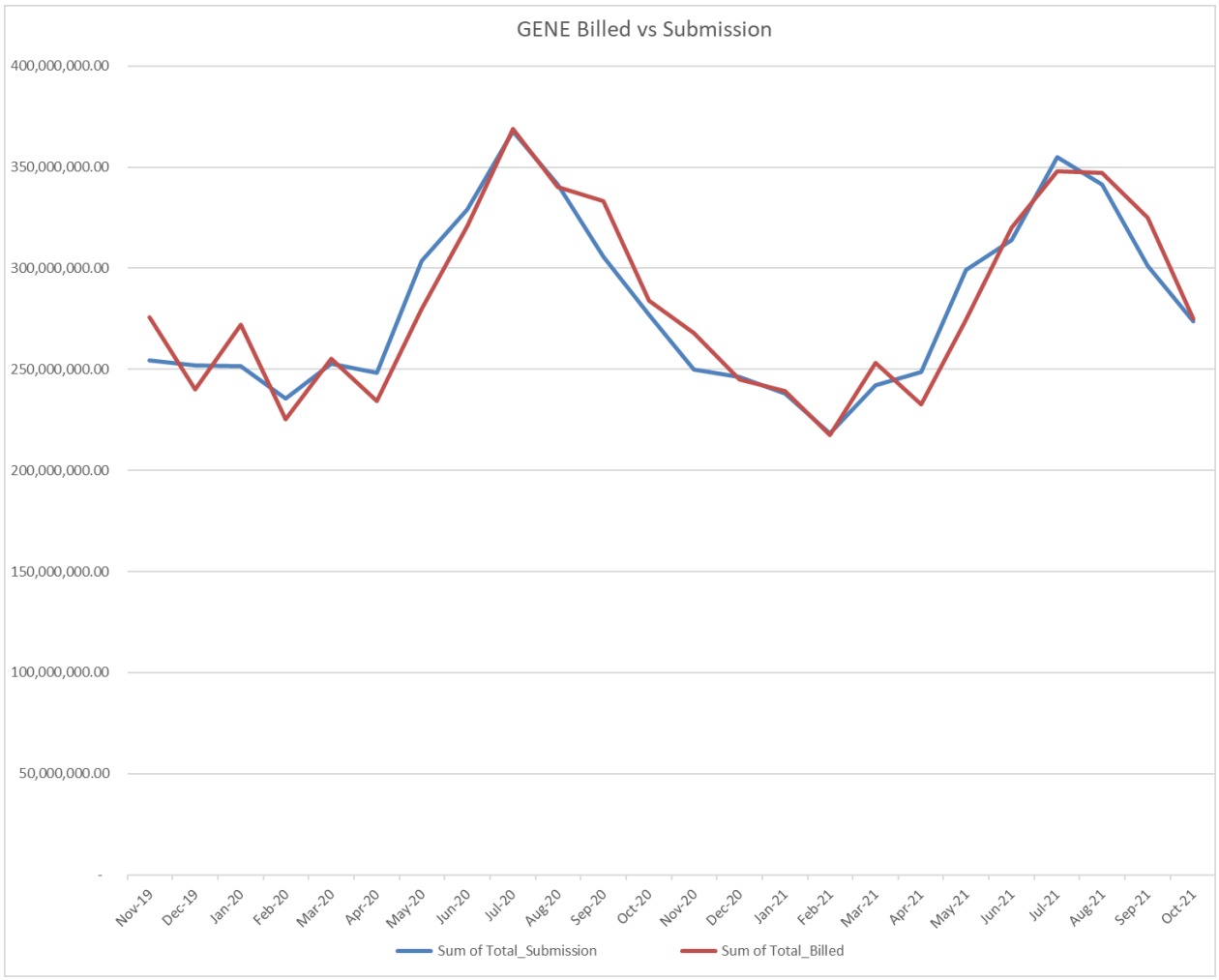
Audit commentary

GENE

The process for the calculation of "as billed" volumes was examined by checking November 2021 AV120 submissions for five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

GENE's as billed submissions are complicated by some streetlights which are submitted as NHH and billed as HHR. I walked through GENE's process to create "as billed" reports and found that these ICPs were identified and handled correctly when creating the "as billed" submissions.

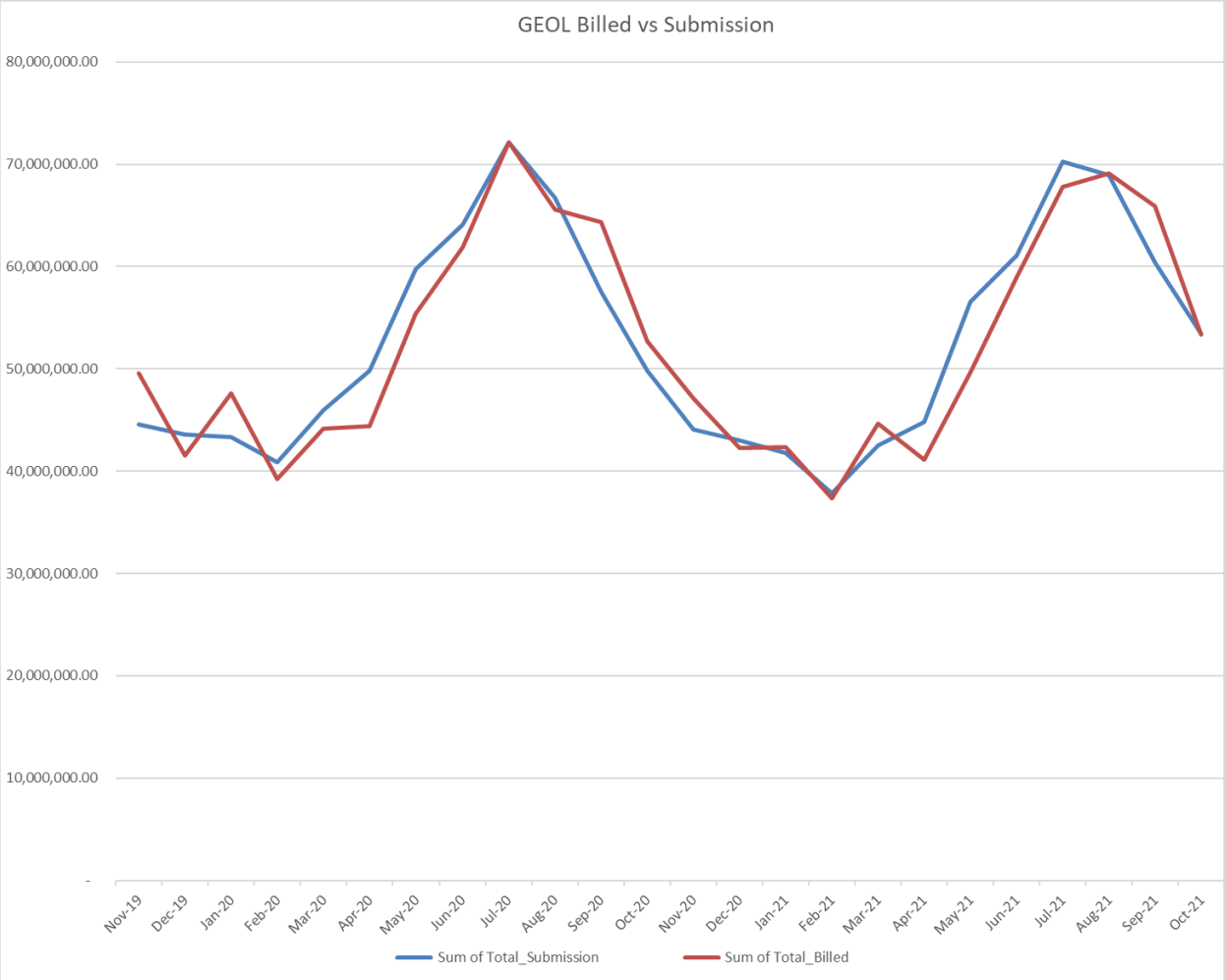
I checked the difference between submission and electricity supplied information for November 2019 to October 2021, and the results are shown below. The difference between billed and submitted data for the year ended October 2021 is 1.2% (billed higher than submitted) and the two years ended October 2021 is 0.8% (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 November 2021 AV120 submissions for five NSPs with a small number of ICPs against invoice information. The AV120 billed consumption calculation was confirmed to be correct for the NSPs checked.

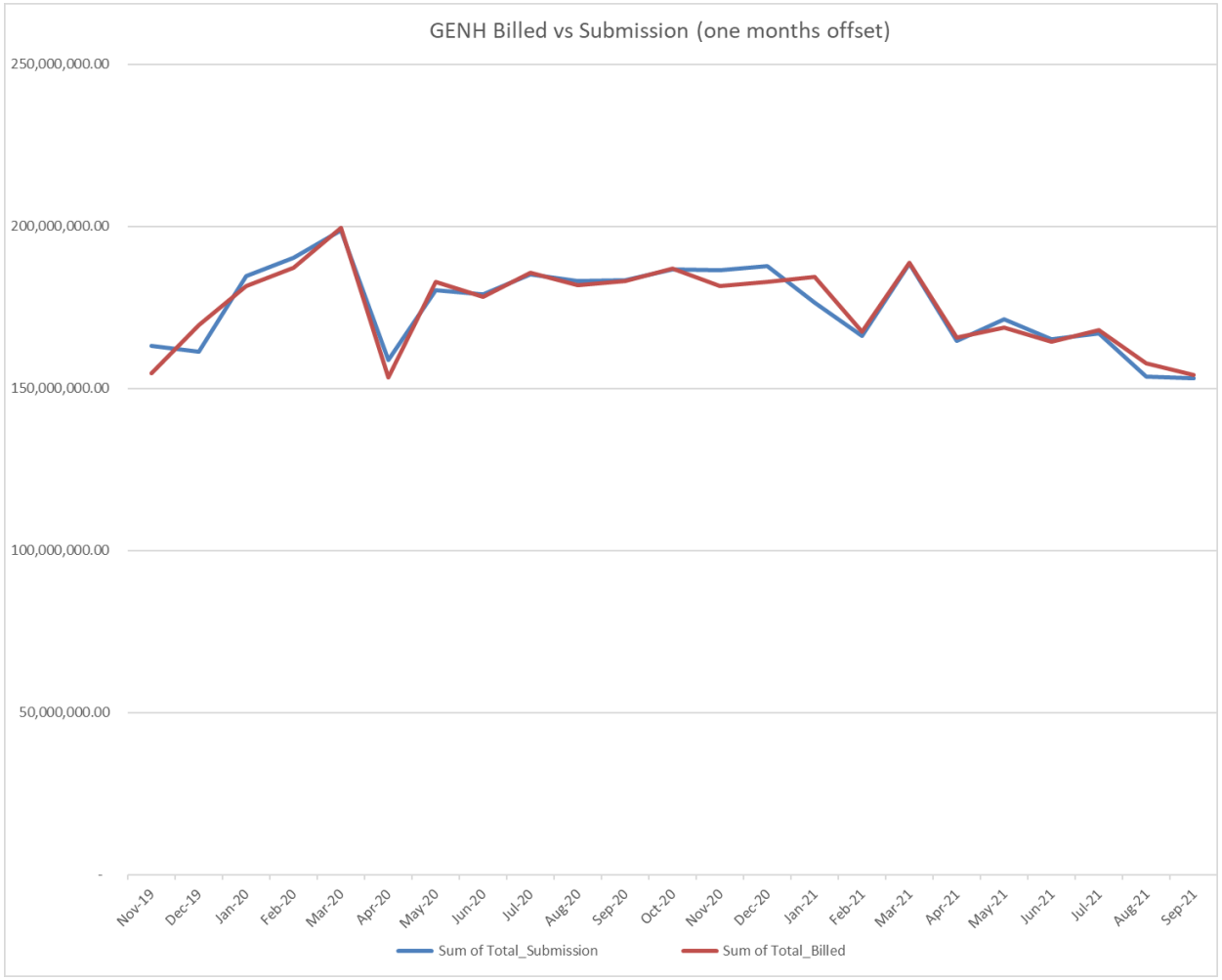
I checked the difference between submission and electricity supplied information for November 2019 to October 2021, and the results are shown below. The difference between billed and submitted data for the year ended October 2021 is 0.1% (billed higher than submitted) and the two years ended October 2021 is 0.0% (billed higher 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 November 2021 AV120 submissions for some 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 2021, and the results are shown below. The difference between billed and submitted data for the year ended October 2021 is 2.0% (billed higher than submitted) and the two years ended October 2021 is 0.3% (billed higher 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 whether the process for the calculation and aggregation of HHR data was correct, by:

- matching HHR aggregates information with the HHR volumes data, and
- tracing volumes for two HHR settled ICPs from DRDS to MSD and the HHR aggregates submissions.

The GR090 ICP Missing files were examined for all revisions for June 2020 to October 2021, 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 eight submissions for GEOL and seven submissions for GENE. In all cases there were small rounding differences of less than ± 152 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 June 2020 to October 2021. I checked the 30 ICPs missing from the most revisions for GENE, and the 20 ICPs missing from the most revisions for GEOL. ICPs were missing because of:

- backdated profile and submission type changes,
- backdated NSP changes,
- inactive ICPs which were submitted with zero volumes, and
- 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, and no corresponding manual entries are added to the HHRAGGS or ICPDAYS file; the consequence of this is a small amount if ICP Days scaling is applied to GENE HHR volumes by the RM.

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 all cases there were small rounding differences of less than ± 107 kWh and ± 0.000%. I completed a detailed reconciliation for September 2021 revision 3 and confirmed that there were small rounding differences at NSP level.

The process or calculation of volumes was checked by comparing raw meter data from MV090 against aggregates information as part of AMS' audit.

The GR090 ICP Missing files were examined for all revisions for June 2020 to October 2021. ICPs were missing because of:

- backdated NSP changes,
- backdated status changes,
- backdated switches and switch withdrawals, and
- inactive ICPs which were submitted with zero volumes.

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-July-21 To: 31-Jan-22	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 Derive, no corresponding entries are added to the HHRAGGS or ICPDAYS file.

Actions taken to resolve the issue	Completion date	Remedial action status
We will review this process and arrange for the above ICPs to be added to the HHRAGGS or ICPDAYS file	June 2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 were reviewed as part of their audit and found to be compliant. The correct number of trading periods were recorded for all data reviewed.

GENH

The AMS report confirms compliance.

Generation

Daylight saving is appropriately dealt with for generation metering. The correct number of trading periods were recorded for all data reviewed.

Audit outcome

Compliant

12.2. Creation of submission information (Clause 15.4)

Code reference

Clause 15.4

Code related audit information

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

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

Audit observation

Processes to ensure that HHR, NHH and generation submissions are accurate were reviewed. A list of breaches was obtained from the Electricity Authority.

Audit commentary

GENE and GEOL

HHR submissions are created using MSD and are discussed in **section 11.4**. NHH submissions are produced using Derive and validated prior to submission as discussed in **section 12.3**. Further information on calculation of historic estimate is recorded in **section 12.11**, and the aggregation of the AV080 report was found to be compliant in **section 12.3**.

A diverse sample of NHH ICPs were checked to confirm submissions were correct.

Distributed generation

I reviewed a sample of GENE and GEOL ICPs with injection/export registers and confirmed that generation consumption is correctly submitted.

Instances where a customer has installed generation but not provided an application are difficult to identify. I recommend in **section 6.1**, that Genesis monitors ICPs where the installation type is B, where Genesis is unaware that generation is installed. These should all be investigated.

I rechecked the two ICPs (0000011546HR322 and 0000029648HRF96) identified in the 2021 audit which did not have compliant metering installed or notification of gifting provided and found they had switched out.

I rechecked the five ICPs identified in the 2020 audit which were believed to be generating which did not have compliant metering installed or notification of gifting provided. Three had switched out in late 2020 or early 2021 before I flow metering was installed. ICP 0005617142WE037 Genesis still have been unable to make contact with the customer to arrange access, the last attempt was Oct 2021. ICP 0000047031TR076, the customer has refused a meter change to install DG metering and the distributor considers the safety risk as being low so will not consider a safety disconnection. There are no notes regarding discussing the option of gifting any exported volumes.

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 manually.

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. Disconnection reads are not always obtained (49% attainment) so where an estimate disconnection read is applied Derive treats this as a validated actual read. 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.**

I re-checked exceptions which were still present when the 2021 audit report was finalised and found they had been resolved or the revision 14 submission was completed before they were resolved.

HHR volumes for day of disconnection

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.

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 in some cases. Additionally, the Derive system can only store the results to zero decimal places meaning the output of this calculation in non-compliant. Gentrack records the unmetered load as a fixture, and dummy meter readings are created and loaded into Derive for submission.

Backdated switches older than 14 months

Both GENE and GEOL perform backdated switch gains that go back more than 14 months. Once these ICPs are set up in Gentrack there is no mechanism to adjust volumes that fall outside the 14-month revision window into the last 14-month revision to ensure all volume is accounted for.

Reconciled elsewhere ICPs

GENE ICPs 0000360106TUA6A and 0048241402PCD13 have reconciled elsewhere status.

- ICP 0000360106TUA6A is a DOC site and is not supplied through the grid and no volumes are required to be submitted.
- ICP 0048241402PCD13 is confirmed to be Powerco base power ICP. Power is not supplied through the grid and no volumes are required to be submitted.

Corrections

A sample of corrections were reviewed to ensure that they flowed through to revision submissions in **sections 2.1** and **8.1**.

I reviewed eight examples of stopped or faulty meters for GEOL and found five corrections were processed but ICPs 2622040000CH59B, 0000250576UN49D and 2622008000CH30E have had meters replaced but corrections were not conducted.

I reviewed eight examples of potentially stopped or faulty meters for GENE and found three corrections were processed and five ICPs did not have defects following investigation.

I reviewed four multiplier corrections for GENE and one for GEOL and confirmed that the corrected data flowed through to revision submissions for three of the GENE ICPs and the single GEOL ICP. One GENE ICP is still to be corrected (single phase meter in three phase supply) as Genesis are working with the customer to get the metering fully compliant as part of the correction process.

GENE provided a sample of ten bridged meters. ICPs 0000041746TR223 and 0000167824TRA38 have not yet been unbridged (ICP 0000041746TR223 was bridged on 21 December 2021 and ICP 0000167824TRA38 was bridged on 2 July 2021). Five of the remaining eight ICPs did not have corrections conducted.

I reviewed a sample of seven bridged meters for GEOL. Four were bridged control devices, not bridged meters. One ICP was unbridged, but the correction was not conducted. One ICP is still bridged and it's unclear if the last ICP is unbridged or not.

The exceptions identified in the 2020 and 2021 audit were re-checked and found that ICP 0000015153HB6E4, which was gained from GEOL to GENE, had a blank screen so was estimated from 8 June 2020 to 1 December 2020. The gain read was higher than the removal read but rather than issue an RR to correct this the volume was estimated to the removal date resulting in over submission of 22,434 kWh.

I checked 50 ICPs from the previous audit where meters had been bridged. I found the following:

- 10 ICPs were not unbridged; four have now switched out,
- six ICPs have been corrected, and
- 34 ICPs were unbridged but corrections were not conducted.

GENH

HHR submissions are prepared by AMS as GENH's agent, as discussed in **section 11.4**.

Unmetered load

GENH supplies four active ICPs with unmetered load. These have been set up in Derive and are being submitted. Because AMS does not handle unmetered load, Genesis submits all GENH unmetered load as part of their GENE NHH submission as GENH's agent. It is not possible to include the volumes in GENH's submission because the RM's database replaces previous submissions for the aggregation factor combination and month, and if two submissions are provided by GENH for the same combination and period one will overwrite the other. Therefore, the submissions for these ICPs are against an incorrect participant code. This is recorded as a technical non-compliance below and **section 12.9**.

Reconciled elsewhere ICPs

ICPs 1001158205LC354 and 1001158207LC3D1 have "inactive - reconciled elsewhere" status and are excluded from submissions. The status has been confirmed as correct for both ICPs.

Generation

Generation submissions are discussed in **section 12.6**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.2 With: Clause 15.4	**GENE** and **GEOL** Two ICPs with distributed generation reported in the 2021 audit, 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. 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.
From: 01-July-21 To: 31-Jan-22	**GENH** Unmetered load volumes submitted incorrectly under the GENE participant code. Potential impact: Medium 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 processing of corrections and bridged/stopped meters has room for improvement. The impact is assessed to be medium due to: • the number of historic bridged/stopped meters identified but no correction performed in all 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
The majority our submissions volume is based on actual consumption data, so we believe the impact of this noncompliance is low.	Ongoing	Investigating
Distributed Generation processes will be reviewed with a view to improvising the end-to-end process.	Nov 2022	
The submission correction process around bridged / stopped meters, vacant consumption and faulty meters will be reviewed, and back-office functions audited to ensure the Market Settlements team are being advised of these.	Dec 2022	

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

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 four NSPs with a small number of ICPs each for GENE and GEOL. Compliance is confirmed.

Changes to ICP level data are transferred from Gentrack to the registry. Derive imports ICP level data directly from the registry each night, including data maintained by other parties such as NSP information. The process compares event data for the past 14 months and updates Derive.

Metering and reading data is transferred from Gentrack to MSD and Derive, and end of month readings are transferred from GDW.DRDS to Derive. Derive validates reading data. Any reading which fails validation is placed "on hold" and will not be used by the reconciliation process unless is it is reviewed and passed. Derive's validations include checks for incomplete data, mismatched data, replacement data, data outside GENE or GEOL's period of ownership, and data that falls outside expected values (high or low compared to the previous submission, or over 10,000 kWh). Queries are used to obtain additional information on exceptions, and they can be passed in bulk so that outliers can be focused on. It is also possible to manually pass or fail exceptions individually.

The 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 is also reviewed in MSD prior to submission. I walked through the validation process which includes checks against expected values and the previous 14 months of consumption for the ICP. The reconciliation team uses queries to prioritise the ICPs that have failed validations, focussing on the largest differences (more than ±150%) first and then working through smaller discrepancies.

GENH

HHR submissions are prepared by AMS as GENH's agent, as discussed in **section 11.4**.

Generation

Generation submissions are discussed in **section 12.6**.

Audit outcome

Compliant

12.4. Grid owner volumes information (Clause 15.9)

Code reference

Clause 15.9

Code related audit information

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

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

Audit observation

The registry list and NSP table were reviewed.

Audit commentary

Genesis is not a grid owner; compliance was not assessed.

Audit outcome

Not applicable

12.5. Provision of NSP submission information (Clause 15.10)

Code reference

Clause 15.10

Code related audit information

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

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

Audit observation

The registry lists and NSP table were reviewed.

Audit commentary

Genesis does not own any local or embedded networks; compliance was not assessed.

Audit outcome

Not applicable

12.6. Grid connected generation (Clause 15.11)

Code reference

Clause 15.11

Code related audit information

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

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

Audit observation

Genesis is a generator, and I examined the process for preparation of submission information.

Audit commentary

I matched the raw data retrieved using Stark to submissions for two NSPs and confirmed that the submissions were correct.

Audit outcome

Compliant

12.7. Accuracy of submission information (Clause 15.12)

Code reference

Clause 15.12

Code related audit information

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

Audit observation

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **sections 2.1, 8.1** and **8.2**.

Audit commentary

Review of alleged breaches confirmed there were no late revision submissions.

GENE 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	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 or the replaced meter prior to the fault. This process was used for those ICPs where corrections were conducted. I reviewed eight examples of stopped or faulty meters for GEOL and found five corrections were processed but ICPs 2622040000CH59B, 0000250576UN49D and 2622008000CH30E have had meters replaced but corrections were not conducted. I reviewed eight examples of potentially stopped or faulty meters for GENE and found three corrections were processed and five ICPs did not have defects following investigation.	No
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.	No

		I reviewed four multiplier corrections for GENE and one for GEOL and confirmed that the corrected data flowed through to revision submissions for three of the GENE ICPs and the single GEOL ICP. One GENE ICP is still to be corrected (single phase meter in three phase supply) as Genesis are working with the customer to get the metering fully compliant as part of the correction process.	
Bridged meters	2.1,2.17, 6.4	Bridged meters are now typically identified through key word exception reports across completed service request reconnection paperwork returned from the contractor or stopped meter cases identified from the zero-consumption reporting. This new reporting is capturing between 20 and 30 bridged meters per month. Zero-consumption monitoring is now being performed as additional resource has been allocated to this process since the last audit. The previous audit discussed the internal audit of the bridged meter processes. This identified that process improvements were required to prevent bridging, promptly un-bridge where bridging has occurred, and ensure that bridged consumption is consistently identified and corrected where it does occur. As only some of that audit's recommendations have been implemented there are still bridged meters that are not being unbridged (in particular where the initial service request is turned down and no new service request is raised with revised access instructions), so a correction is not processed in all instances, or in a timely manner. **GENE** GENE provided a sample of ten bridged meters. ICPs 0000041746TR223 and 0000167824TRA38 have not yet been unbridged (ICP 0000041746TR223 was bridged on 21/12/21 and ICP 0000167824TRA38 was bridged on 02/07/21). Five of the remaining eight ICPs did not have corrections conducted. **GEOL** I reviewed a sample of seven bridged meters. Four were bridged control devices, not bridged meters. One ICP was unbridged, but the correction was not conducted. One ICP is still bridged and it's unclear if the last ICP is unbridged or not.	No
Consumption while inactive	2.1	**ICPs with inactive consumption** Review of historic estimate examples found that where part of a read-to-read period was inactive, the SASV inactive days were excluded from both the numerator and denominator when calculating the historic estimate, forcing all consumption to be reported within the active portion of the read-to-read period. Where an entire read-to-read period has inactive status, the numerator and denominator will be zero and no historic estimate will be reported. The status must be returned to active to allow consumption during inactive periods to be correctly reported. **GENE and GEOL** At the time of the audit there were 89 ICPs to be investigated where consumption identified is greater than 1 kWh with a volume of inactive consumption of over 248,000 kWh. These are being worked	No

		through but due to resource constraints this is taking longer than desired. GENE provided a report with 89 ICPs with inactive consumption, totalling 248,000 kWh. I reviewed the 36 ICPs with the highest positive/negative values of disconnected consumption, and found: • eleven where exceptions have not yet been investigated or corrections processed resulting in 238,420 kWh of inactive consumption that has not been submitted, • 18 were confirmed not to be consuming as the reads were either from the wrong meter or were misreads, • two were back dated switch losses so consumption has been accounted for, and • one was corrected to ensure all volume was accounted for.	
Unmetered load corrections	2.1, 3.7, 12.2	Gentrack records the unmetered load as a fixture, and dummy meter readings are created and loaded into Derive for submission. I reviewed three unmetered load corrections for GENE and found they had been processed correctly into Derive. However, Derive rounds the resultant calculation of monthly unmetered volume to zero decimal places making the effort to monitor and capture accurate UML information somewhat redundant.	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
Backdated switches older than 14 months performed	12.2	GENE and GEOL performs backdated switches that are older than 14 months. These are not being identified to ensure all volumes are accounted for in available wash ups within the 4-month revision window.	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
Defective meters	2.1	I rechecked the previous audit issue relating to ICP 0000015153HB6E4 which was gained from GEOL to GENE. It had a blank screen so was estimated from 8 June 2020 to 1 December 2020. The gain read was higher than the removal read but rather than issue an RR to correct this the volume was estimated to the removal date resulting in over submission of 22,434 kWh. This is recorded as non-compliance.	Not corrected

NHH bridged meter corrections	**2.1**	I checked 50 ICPs from the previous audit where meters had been bridged. I found the following: • 10 ICPs were not unbridged, four have now switched out, • six ICPs have been corrected, and • 34 ICPs were unbridged but corrections were not conducted.	44 ICPs not corrected
NHH inactive consumption corrections	**2.1**	I rechecked the 2021 audit findings and found issues had been corrected or have now passed the 14-month window apart from ICP 0000036153UN7C6 which switched away using the disconnection reads rather than the final read resulting in 4,819 kWh being pushed to the gaining trader and submitted for the wrong period.	One issue remaining
Reporting of distributed generation volumes	6.1, 12.2, 12.7	I rechecked the two ICPs identified in the 2021 audit which did not have compliant metering installed or notification of gifting provided and found they had switched out. I rechecked the five ICPs identified in the 2020 audit which were believed to be generating which did not have compliant metering installed or notification of gifting provided. Three had switched out in late 2020 or early 2021 before I flow metering was installed. ICPs 0005617142WE037 and 0000047031TR076 still don't have import/export metering installed due to customer related issues.	Two issues remaining

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
NHH inactive consumption corrections	2.1	ICP 0000918556TUA73 switched out on the disconnected read. An RR was sent to Genesis to correct this but was incorrectly rejected by Genesis. This resulted in 20,820 kWh being pushed and subsequently submitted for the incorrect period by the gaining trader.	Not corrected

GENH

All read and volume issues were resolved as soon as practicable.

All unmetered load is being submitted but as noted in **section 12.2**, these volumes are being submitted as GENE NHH submission which results in the ICPs being submitted against the incorrect participant code. This is as a technical non-compliance in **sections 12.2** and **12.9**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.7 With: Clause 15.12 From: 1/7/21 To: 22-Jan-22	**GENE** and **GEOL** Some submission data was inaccurate and was not corrected at the next available opportunity. Potential impact: High Actual impact: High Audit history: Twice Controls: Moderate Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as moderate overall as they are sufficient to ensure that most submission information is correct, but there is some room for improvement to the read and billing validation processes which identify and correct errors. The impact is assessed to be high based on the proportion of corrections not carried against the sample checked.

Actions taken to resolve the issue	Completion date	Remedial action status
The majority our submissions volume is based on actual consumption data, so we believe the impact of this noncompliance is low. Distributed Generation processes will be reviewed with a view to improvising the end-to-end process. The submission correction process around bridged / stopped meters, vacant consumption and faulty meters will be reviewed, and back-office functions audited to ensure the Market Settlements team are being advised of these.	Oct 2022	Investigating
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
May 2020	668,614.29
Jun 2020	628,663.58
Jul 2020	696,252.88
Grand Total	1,993,530.75

GEOL

AV080 submissions were reviewed to identify the quantity of forward estimate remaining at revision 14:

Month	Forward estimate at revision 14
May 2020	91,015.69
Jun 2020	89,110.52
Jul 2020	108,737.38
Grand Total	288,863.59

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. Some UML FE was also identified indicating the manual process to replace the estimated virtual meter reads with actuals is not performed consistently and also identified some instances where the last estimate read from the CS file had not been retrieved and loaded into Derive via the manual process.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.8 With: Clause 4 Schedule 15.2 From: May 20 to Jul 20 r14	**GENE** and **GEOL** Some estimates were not replaced with permanent estimates by revision 14. Potential impact: Medium Actual impact: Unknown Audit history: Multiple times Controls: Moderate Breach risk rating: 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 medium.

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**	
As above		

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 rounding performed in 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 rounding performed in 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 submitted against the GENE participant code as discussed in **section 12.2**.
- No loss or compensation arrangements are required.
- Aggregation of the AV090 and AV140 reports is discussed in **section 11.4**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.9 With: Clause 2 of schedule 15.3 From: 01-Jul-21 To: 31-Jan-22	**GENH** Unmetered load volumes submitted incorrectly under the GENE participant code. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as this a technical non-compliance and the only way Genesis can submit these volumes is as NHHVOLS. However, no NHHVOLS file is submitted for GENH. 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 will also review the end-to-end process for Unmetered ICPs and look for process / compliance improvements	Jan 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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.

GENH

GENH does not provide AV080 submissions.

Audit outcome

Compliant

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. The PV1 shape values are not loaded into Derive and Derive therefore performs a flat HE calculation wherever the relevant shape values are not available. PV1 daily shape values are identical for each day meaning a flat HE calculation is the correct outcome, however the failure to explicitly load the PV1/EG1 daily shape values for the calculation of HE means that if the Authority where to adjust these shape values to reflect seasonality, then Genesis would become non-compliant.

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.	Not provided – example not found
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
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.	Fail – Unmetered load is rounded to zero decimal places prior to aggregation. UML is reported as FE not HE.

Test	Scenario	Test Expectation	Outcome
K	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Fail – Unmetered load is rounded to zero decimal places prior to aggregation. UML is reported as FE not HE.
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.	Fail - Reads with a customer type are classified as actuals.
N	ICP with a photo read during the month	Photo reads are not used to calculate historic estimate.	Fail - Photo read used in HE calculation.
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.

While the process used by Genesis to validate customer provided/photo reads does not comply with the explicit requirements of the code a review of these reads has confirmed these reads are sufficiently more accurate than the alternative system generated estimated for the same period.

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-Jul-21 To: 31-Jan-22	**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 & EG1 daily seasonal shapes not used for HE calculation. Potential impact: Low Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as strong as they mitigate risk to an acceptable level. Customer and photo reads where used are not validated using two previous actual validated reads but have undergone reasonable checks as part of billing validations. Derive correctly calculates the UML volume however as Derive is a tool based around receiving meter reads and calculating consumption based on these meter reads it stores the consumption to zero decimal places.

Actions taken to resolve the issue	Completion date	Remedial action status
We will also review the end-to-end process for Unmetered ICPs and look for process / compliance improvements	Jan 2023	Identified
We will also review the process in relation to photo reads to see if improvements are possible	Dec 2022	
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	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TBC		

12.12. Forward estimate process (Clause 6 Schedule 15.3)

Code reference

Clause 6 Schedule 15.3

Code related audit information

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

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

Audit observation

The process to create forward estimates was reviewed.

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

Audit commentary

The forward estimate method is described below.

- Forward default estimate (FDE) of 25 kWh per day per meter register applies where there are less than two actual readings available.
- Forward standard estimate (FSE) applies where there are at least two actual readings available. FSE is calculated as the average daily consumption for each meter register, based on the actual reads available.

The FSE or FDE is multiplied by the number of days to be estimated. Without any adjustments for seasonality, the forward estimated volumes for shoulder months leading into winter are likely to be low and leading into summer are likely to be high.

GENE

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. The table below shows the number of balancing areas where this target was not met.

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Apr 2020	0	1	3	5	239
May 2020	0	1	1	1	239
Jun 2020	1	4	4	4	245
Jul 2020	0	2	2	2	249
Aug 2020	0	0	0	0	252
Sep 2020	0	1	0	-	253

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Oct 2020	1	2	2	-	248
Nov 2020	0	0	0	-	252
Dec 2020	0	0	0	-	254
Jan 2021	0	0	0	-	248
Feb 2021	0	0	0	-	252
Mar 2021	0	0	0	-	255
Apr 2021	0	0	-	-	260
May 2021	0	0	-	-	263
Jun 2021	0	0	-	-	236
Jul 2021	1	2	-	-	241
Aug 2021	0	-	-	-	246
Sep 2021	0	-	-	-	247

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Apr 2020	-0.20%	4.64%	6.62%	7.21%
May 2020	0.29%	-2.82%	-2.31%	-2.65%
Jun 2020	-1.05%	-5.80%	-6.18%	-6.42%
Jul 2020	-1.50%	-5.03%	-6.43%	-6.85%
Aug 2020	-0.75%	0.13%	-0.81%	-1.08%
Sep 2020	0.94%	3.88%	2.18%	-
Oct 2020	2.09%	5.32%	5.82%	-

Month	Revision 1	Revision 3	Revision 7	Revision 14
Nov 2020	1.79%	5.08%	5.51%	-
Dec 2020	1.12%	3.03%	3.86%	-
Jan 2021	0.62%	2.54%	3.78%	-
Feb 2021	0.38%	0.91%	1.05%	-
Mar 2021	-0.27%	0.22%	0.62%	-
Apr 2021	-0.82%	-1.40%	-	-
May 2021	-1.26%	-3.79%	-	-
Jun 2021	-2.40%	-4.27%	-	-
Jul 2021	-0.49%	-2.48%	-	-
Aug 2021	-0.33%	-	-	-
Sep 2021	0.46%	-	-	-

I reviewed all balancing areas with variation between revisions of more than ± 15% and ± 100,000 kWh which occurred after October 2020. Differences up to October 2020 were reviewed in the previous audit.

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,
- misreads which were detected after the initial submission, and
- user error relating to HIN0331 resulting in a large volume of FE being submitted for one ICP.

Non-compliance is recorded where the differences related to forward estimate being too high or low.

GEOL

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. The table below shows the number of balancing areas where this target was not met.

Month	Revision 1	Revision 3	Revision 7	Revision 14	Total Balancing Areas
Apr 2020	0	0	0	0	112
May 2020	0	0	1	1	113
Jun 2020	0	0	1	1	117
Jul 2020	0	0	1	1	116
Aug 2020	0	0	0	0	115
Sep 2020	0	1	0	-	115
Oct 2020	0	1	2	-	110
Nov 2020	0	0	0	-	112
Dec 2020	0	0	0	-	114
Jan 2021	0	0	0	-	110
Feb 2021	0	0	0	-	112
Mar 2021	0	0	0	-	113
Apr 2021	0	0	-	-	116
May 2021	0	0	-	-	121
Jun 2021	0	0	-	-	107
Jul 2021	0	0	-	-	110
Aug 2021	0	-	-	-	114
Sep 2021	0	-	-	-	114

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

Month	Revision 1	Revision 3	Revision 7	Revision 14
Apr 2020	-0.49%	-2.04%	-1.18%	-0.78%
May 2020	-1.43%	-8.98%	-9.15%	-9.28%
Jun 2020	-2.47%	-9.50%	-9.96%	-10.17%
Jul 2020	-2.61%	-6.98%	-8.71%	-8.82%
Aug 2020	-0.66%	0.94%	-0.38%	-0.30%
Sep 2020	1.02%	6.72%	5.22%	-
Oct 2020	3.62%	10.44%	12.99%	-
Nov 2020	2.43%	9.07%	10.52%	-
Dec 2020	1.81%	4.72%	6.33%	-
Jan 2021	1.21%	3.97%	5.56%	-
Feb 2021	1.34%	2.66%	3.29%	-
Mar 2021	0.43%	0.78%	1.54%	-
Apr 2021	-0.45%	-1.35%	-	-
May 2021	-1.43%	-5.96%	-	-
Jun 2021	-3.28%	-6.12%	-	-
Jul 2021	-1.84%	-4.87%	-	-
Aug 2021	-0.49%	-	-	-
Sep 2021	0.76%	-	-	-

There were no balancing areas with variation between revisions of more than ± 15% and ± 100,000 kWh after October 2020. Differences up to October 2020 were reviewed in the previous audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 12.12 With: Clause 6 Schedule 15.3 From: 01-Jul-21 To: 31-Jan-22	**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 the same daily average to each meter register regardless of the number of meter registers installed or customer type and does not take into account seasonality. Initial data is replaced with revised data and washed up. A small number of submissions had differences over the threshold.

Actions taken to resolve the issue	Completion date	Remedial action status
We review the FE process on the back of the 2021 audit. This will be picked up as part of our billing platform change and is unlikely to be changed prior to this	TBC	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above		

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 14 ICPs with profile changes for GENE, and five 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 14 GENE and five 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-Jul-21 To: 31-Jan-22	**GENE** and **GEOL** Validated meter reading or a permanent estimate not always applied where a profile change occurs. 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
We will review our processes for when a profile change occurs	Aug 2022	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
TBC		

13. SUBMISSION FORMAT AND TIMING

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

Code reference

Clause 8 Schedule 15.3

Code related audit information

For each category 3 of higher metering installation, a reconciliation participant must provide half hour submission information to the reconciliation manager.

For each category 1 or category 2 metering installation, a reconciliation participant must provide to the reconciliation manager:

- *Half hour submission information; or*
- *Non half hour submission information; or*
- *A combination of half hour submission information and non-half hour submission information*

However, a reconciliation participant may instead use a profile if:

- *The reconciliation participant is using a profile approved in accordance with clause Schedule 15.5; and*
- *The approved profile allows the reconciliation participant to provide half hour submission information from a non-half hour metering installation; and*
- *The reconciliation participant provides submission information that complies with the requirements set out in the approved profile.*

Half hour submission information provided to the reconciliation manager must be aggregated to the following levels:

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *trading period*

The non-half hour submission information that a reconciliation participant submits must be aggregated to the following levels:

- *NSP code*
- *reconciliation type*
- *profile*
- *loss category code*
- *flow direction*
- *dedicated NSP*
- *consumption period or day*

Audit observation

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

Aggregation of NHH volumes is discussed in **section 12.3**, aggregation of HHR volumes is discussed in **section 11.4** and NSP volumes are discussed in **section 12.6**.

Audit commentary

GENE and GEOL

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

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

GENH

GENH submissions are completed by AMS as GENH's agent. Compliance is recorded in AMS' audit report.

Generation

Generation submission information is compliant.

Audit outcome

Compliant

13.2. Reporting resolution (Clause 9 Schedule 15.3)

Code reference

Clause 9 Schedule 15.3

Code related audit information

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

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

If the digit to the right of the second decimal place is less than five, the second digit is unchanged.

Audit observation

I reviewed the rounding of data on the AV090, AV140 and AV080 reports as part of the aggregation checks.

Audit commentary

GENE and GEOL

Review of 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.

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
May 2020	-	-	127	324
Jun 2020	-	-	129	329
Jul 2020	-	-	132	334
Dec 2020	-	325	-	339
Jan 2021	-	321	-	335
Feb 2021	-	325	-	338
Apr 2021	321	-	-	346
May 2021	325	-	-	347
Jun 2021	278	-	-	320

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
May 2020	-	-	99.00%
Jun 2020	-	-	99.17%
Jul 2020	-	-	99.21%
Dec 2020	-	97.68%	-
Jan 2021	-	97.56%	-
Feb 2021	-	97.54%	-
Apr 2021	94.64%	-	-
May 2021	95.10%	-	-

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Jun 2021	90.83%	-	-

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
May 2020	-	-	131	197
Jun 2020	-	-	135	198
Jul 2020	-	-	128	197
Dec 2020	-	191	-	195
Jan 2021	-	186	-	191
Feb 2021	-	187	-	193
Apr 2021	189	-	-	197
May 2021	196	-	-	203
Jun 2021	178	-	-	190

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
May 2020	-	-	99.32%
Jun 2020	-	-	99.42%
Jul 2020	-	-	99.40%
Dec 2020	-	97.76%	-
Jan 2021	-	97.63%	-

Month	Revision 3 80% Target	Revision 7 90% Target	Revision 14 100% Target
Feb 2021	-	97.78%	-
Apr 2021	94.61%	-	-
May 2021	95.50%	-	-
Jun 2021	91.79%	-	-

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 13.3 With: Clause 10 of Schedule 15.3 From: 01-Jul-21 To: 31-Jan-22	**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 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**	
As above		

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:

Genesis have made good progress in lifting the profile of compliance in the wider business. The improvements from this have yet to flow through in this audit but this is evident in some areas such as the timeliness for new connections for GEOL has gone from 5% in the last audit to 60% in this audit. With the relaunch of the GEOL brand as Frank the activity for this code has increased. Genesis have re-established a dedicated Frank team and this has improved focus and performance.

The reconciliation team are providing discrepancy reporting to the new connections teams but due to resource constraints these are not always able to be reviewed which is resulting in late updates to active and the incorrect first active date in some instances.

There has been an improvement in the timeliness of registry updates for new connections.

Management of vacant consumption has been an area of focus during the audit period. This has resulted in some long backdates. The backlog has now been worked through and this is being embedded in as a BAU activity, so going forward the average time to update should shorten and reconciliation accuracy will improve.

The switching area has improved during the audit period with only a few late files reported on the switch breach report. Most of the errors found in this area were due to human error. The practice of sending the last billed read as an estimated read rather than the last actual read is pushing vacant consumption to the gaining trader. Genesis is working to be able to provide the last actual read.

There are nine distributed unmetered load databases still to be audited and six of the databases have errors greater than 50,000 kWh per annum. Due to resource constraints in this area, there has been slow progress to get the issues addressed. Genesis are aware of this and additional resource is being trained to enable the dedicated resource to focus on this area.

Reading and Reconciliation:

As mentioned above, there have been improvements in validation reporting, but the lack of resource to resolve issues has a flow on affect to the accuracy of billing and settlement. The identification of bridged meters has improved, but there are a large number of bridged meters where the bridge is still in place, or the bridge has been removed but correction has not occurred.

Consumption on inactive ICPs requires improvement to ensure investigations are complete and that corrections are made where consumption is genuine.

A number of recommendations are made regarding improvements to controls, which, if adopted, are expected to lead to improved compliance.

It was identified that disconnection readings are only collected for approximately 50% of ICPs where manual disconnections occur. It was also identified that the meter reading processes of disconnection/reconnection contractors have not been subject to audit. Wells is the main contractor for Genesis and they have chosen not to have the scope of their audit expanded. I have therefore recommended several steps for Genesis to take to ensure Wells can demonstrate compliance and to ensure future audits of Wells have an expanded scope. I recommend the expanded scope includes confirmation that Wells is approved by all relevant distributors to disconnect at the network fuse rather than at the meter, which can lead to unauthorised reconnection without the knowledge of Genesis.

The audit raises 51 non-compliances and makes 29 recommendations. The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and recommends an audit frequency of three months. I have considered this in conjunction with Genesis' comments and recommend that the next audit be completed in the first quarter of 2023. This should provide sufficient time to see the improvements from the process improvements that Genesis have put in place.

PARTICIPANT RESPONSE

Over the last 9 months we have had many changes with the compliance team, this has included several roles being established in line with our response to the last audit. This has ensured an increased focus on compliance and has driven improvements. below is a summary of the improvements that have been made since our last audit.

No Access - No Access Cycle – In March 2022 our automated no access cycle was turned back on (was turned off due to Covid) This ensure that we communicate with customers via different methods if we are unable to obtain a reading.

In December 2022 we put in place an RP Audit response team, this team of 6 have been working through our no access list focusing on those customers who we have not read for 12 months and attempting to resolve the issues causing this.

Bridged Meters - We have implemented a report that picks up any meters that have potentially been bridged and these are worked daily. We also advise the MEP of these separate to the W/O being raised. We have also initiated a daily report to pick up sites that have zero consumption which is an additional control to pick up meters that may have been bridged previously. When a meter is unbridged the missing consumption is calculated, and the information sent to our Market Settlements team to ensure the submissions are corrected.

Stopped Meters - A new automated daily zero consumption report has now been implemented and is worked by the metering team. The RP Audit response team mentioned above have been working through the backlog and arranging for meters to be replaced where applicable, they then liaise with our Market Settlements team to ensure that submissions volumes are corrected.

Defective meters -We have implemented a report that picks up any contractor notes that require attention i.e., tamper / broken seal etc. This has strengthened the controls, but we will be looking at further improving these over the coming months.

Vacant / Inactive Consumption - A new report has been created to pick up any inactive and vacant sites that are consuming energy. When these are worked the ICP is made active from the date that consumption restarted. Based on this audit we will be looking at potential improvement to the report / process.

Compliance Reporting – The AC020 report is run each month and monthly meeting are in place with all internal stakeholders to discuss performance. Noncompliance's are investigated to provide root cause analysis and actionable insights that we can use to increase compliance. A monthly compliance dashboard has also been created and is reported up to our CCO.

Although we are happy with the improvement that has been made over the last 9 months, we also appreciate that we are still very much on this journey and there is room for further improvement. Over the coming 12 months we will continue the focus on this and below are some of areas we will be focusing on.

Unmetered ICPs – We will be conducting an end-to-end review of our unmetered process and looking for improvements.

Distributed Unmetered Load - The Data and Stakeholder lead will focus on working with our DUML customers around gaining accurate data, completing audits on time, and improving their compliance.

Distributed Generation - We will be conducting an end-to-end review of our Distributed Generation process. This will include identifying ICPs that have DG and the installation of compliant metering / adding them to the gifting register.

AC020 Report – We will continue to use this to monitor compliance. We will use this to correct any issues and use the insights we gain through this to drive compliance improvements.

Project Rubiks - Our digital transformation team are currently working on the delivery of a new sales, service, and billing platform. There will be a focus on ensuring that this helps to improve the noncompliance's that are a result of current system limitations.