



RECONCILIATION AUDIT VECTOR GAS TRADING LTD

Date of audit: 1 to 4 November 2021

Report completed: 4 March 2022

Under the Gas (Downstream Reconciliation) Rules 2008 the Gas Industry Company commissioned Langford Consulting to undertake a performance audit of Vector Gas Trading Ltd. The purpose of the audit is to assess compliance with the rules and the systems and processes put in place to enable compliance.

Auditor Julie Langford

Executive Summary

This performance audit was conducted at the request of the Gas Industry Company (GIC) in accordance with rule 65 of the 2015 Amendment Version of the Gas (Downstream Reconciliation) Rules 2008 effective from September 2015.

The purpose of this audit is to assess the systems, processes and performance of Vector Gas Trading Ltd (OnGas) in terms of compliance with these rules.

The audit was conducted in accordance with terms of reference prepared by the GIC, and in accordance with the "Guideline note for rules 65 to 75 and 80: the commissioning and carrying out of performance audits and event audits, V3.0" which was published by the GIC in June 2013.

The summary of report findings in the table below shows that the OnGas control environment is "effective" for twelve of the areas evaluated, "adequate" for two areas and "not adequate" for four areas.

Twelve of the eighteen areas evaluated were found to be compliant. Breaches have already been raised by the Allocation Agent with respect to the accuracy of initial submission files (rule 37.2); the accuracy and completeness of information (r26.2.1) and the requirement for information to be accurate/complete/support compliance with NZS5259 (r26.5). The following additional alleged breaches are raised because of this audit:

| Breach Allegation | Rules | Section in this report |
|--|---|------------------------|
| 4 new ICPs were late to be included in the OnGas initial submission files | 28.3 | 2.1.1 |
| 6 ICPs had an allocation group 4 designation in the registry but should have been designated as allocation group 6. | 29.3 | 3.2 |
| Inaccurate GAS080 submitted under r40.2 | 26.2.1 | 3.3 |
| For 1 ICP where the meter stopped and there was no data for a number of weeks, the ICP was estimated as 0 GJ for the period of the stopped meter | 26.2.1 | 3.5 |
| 6 ICPs had an incorrect status of INACT, they should have been INACP. | r58 Gas (Switching Arrangements) Rules 2008 | 5.2 |
| No trading notification could be found for 1 supplementary agreement | r39 | 5.8 |

In addition to recommending that OnGas address the cause of the alleged breaches, the report also makes the following recommendations and observations:

RECOMMENDATION: That OnGas investigate whether any other ICPs need to be set up in their service provider's meter read system and also consider their internal checks for confirming that meter reads have been received for all customers.

OBSERVATION: New ICPs and newly switched in ICPs are often being missed out of initial submission files, which will be adding to the initial v final submission file differences.

RECOMMENDATION: That OnGas initiate a process for notifying the Allocation Agent of new supplementary agreements and keeping a record of those notifications.

Summary of Report Findings

| Issue | Section | Control Rating (Refer to Appendix 1 for definitions) | Compliance Rating | Comments |
|----------------------------------|---------|--|-------------------|--|
| ICP set up information | 2.1 | Not adequate | Not compliant | There didn't seem to be any business pressure to drive early inclusion of new ICPs in submission files. |
| Metering set up information | 2.2 | Effective | Compliant | Alignment between the registry and OnGas systems was found to be good |
| Billing factors | 2.3 | Effective | Compliant | OnGas have updated the temperature table in Flow2E |
| Archiving of reading data | 3.1 | Effective | Compliant | Meter reading data is readily available after 30 months. |
| Meter interrogation requirements | 3.2 | Adequate | Not compliant | Validation occurs, but a few changes from allocation group 4 to group 6 were identified |
| Meter reading targets | 3.3 | Not Adequate | Not compliant | There is an error in the production of the GAS080 report A new TOU site had not been set up in the meter reading system |
| Non-TOU validation | 3.4 | Effective | Compliant | Validation processes are robust. |
| Non-TOU error correction | 3.5 | Adequate | Not Compliant | No estimate of consumption had been done for a stopped meter. |
| TOU validation | 3.6 | Effective | Compliant | Validation processes were reviewed and found to be robust. |
| Energy consumption calculation | 4 | Effective | Compliant | |

| | | | | |
|---|-----|--------------|---------------|--|
| TOU estimation and correction | 5.1 | Effective | Compliant | Examples were reviewed and no issues arose. |
| Provision of retailer consumption information | 5.2 | Effective | Compliant | No issues identified |
| Initial submission accuracy | 5.3 | Not adequate | Not compliant | Analysis from this audit shows the OnGas performance has deteriorated since the last audit. |
| Historic estimates | 5.4 | Effective | Compliant | Compliance was achieved for all relevant scenarios |
| Proportion of HE | 5.5 | Effective | Compliant | The correct proportion of HE is being reported. |
| Forward Estimates | 5.6 | Effective | Compliant | Processes were reviewed and no issues were identified. |
| Billed vs consumption comparison | 5.7 | Effective | Compliant | No issues identified |
| Gas trading notifications | 5.8 | Not Adequate | Not Compliant | No trading notification could be found for a supplementary agreement. This had been an issue in the last audit |

Contents

| | |
|--|-----------|
| Executive Summary | 2 |
| Summary of Report Findings | 4 |
| Contents | 6 |
| 1. Pre-Audit and Operational Infrastructure Information | 8 |
| 1.1 Scope of Audit | 8 |
| 1.2 General Compliance | 8 |
| 1.2.1 Summary of Previous Audit | 8 |
| 1.2.2 Breach Allegations | 10 |
| 1.3 Provision of Information to the Auditor (rule 69) | 10 |
| 1.4 Transmission Methodology and Audit Trails (rule 28.4.1) | 11 |
| 2. Set-up and Maintenance of Information in Systems (rule 28.2) | 11 |
| 2.1 ICP Set Up Information | 11 |
| 2.1.1 New Connections Process | 11 |
| 2.1.2 Altitude Information | 12 |
| 2.2 Metering Set-up Information | 12 |
| 2.3 Billing Factors | 13 |
| 2.3.1 Temperature Information | 13 |
| 2.3.2 Calorific Values | 13 |
| 3. Meter Reading and Validation | 14 |
| 3.1 Archiving of Register Reading Data (rule 28.4.2) | 14 |
| 3.2 Metering Interrogation Requirements (rule 29) | 14 |
| 3.3 Meter Reading Requirements (rules 29.4.3, 29.5 & 40.2) | 14 |
| 3.4 Non-TOU Validation | 15 |
| 3.5 Non-TOU Error Correction | 15 |
| 3.6 TOU Validation | 16 |
| 4. Energy Consumption Calculation (rule 28.2) | 16 |
| 5. Estimation and Submission Information | 17 |
| 5.1 TOU Estimation and Correction (rule 30.3) | 17 |
| 5.2 Provision of Retailer Consumption Information (rules 30 to 33) | 17 |
| 5.3 Initial Submission Accuracy (rule 37.2) | 17 |
| 5.4 Historic Estimates (Rules 34 & 35) | 19 |
| 5.5 Proportion of Historic Estimates (rule 40.1) | 20 |
| 5.6 Forward Estimates (rules 34 & 36) | 20 |
| 5.7 Billed vs Consumption Comparison (rule 52) | 20 |

| | |
|---|-----------|
| 5.8 Gas Trading Notifications (Rule 39) | 21 |
| 6. Conclusion | 21 |
| Appendix 1 – Control Rating Definitions | 23 |
| Appendix 2 – Alleged Breach Detail | 24 |

1. Pre-Audit and Operational Infrastructure Information

1.1 Scope of Audit

This performance audit was conducted at the request of the Gas Industry Company (GIC) in accordance with rule 65 of the 2015 Amendment Version of the Gas (Downstream Reconciliation) Rules 2008 effective from September 2015.

65. Industry body to commission performance audits

65.1 The industry body must arrange at regular intervals performance audits of the allocation agent and allocation participants.

65.2 The purpose of a performance audit under this rule is to assess in relation to the allocation agent or an allocation participant, as the case may be, -

65.2.1 The performance of the allocation agent or that allocation participant in terms of compliance with these rules; and

65.2.2 The systems and processes of the allocation agent or that allocation participant that have been put in place to enable compliance with these rules.

The audit was conducted in accordance with terms of reference prepared by the GIC, and in accordance with the “Guideline note for rules 65 to 75 and 80: the commissioning and carrying out of performance audits and event audits, V3.0” which was published by the GIC in June 2013.

The audit was initially planned for 13 to 16 September 2021, but due to Covid-19 restrictions was deferred until 1 to 4 November 2021. It took place at the OnGas offices in Wellington.

The scope of the audit includes “downstream reconciliation” only. Switching and registry management functions were audited in conjunction with this audit but are included in a separate report.

1.2 General Compliance

1.2.1 Summary of Previous Audit

OnGas was last audited in June 2017 by Langford Consulting. This audit found that the OnGas control environment was “effective” for ten of the areas evaluated, “adequate” for three areas and “not adequate” for five areas.

Ten of the eighteen areas evaluated were found to be compliant. Breaches had already been raised by the Allocation Agent with respect to the accuracy of initial submission files (rule 37.2); the accuracy and completeness of information (r26.2.1) and the provision of billed energy quantities on time (r 52.2.1). The following additional alleged breaches were raised because of the 2017 audit:

| Breach Allegation | Rules |
|---|--------------|
| OnGas was the responsible retailer for four newly connected ICPs but did not include them in their initial submission files because they had not yet signed a contract or sent a bill. | 28.3 |
| OnGas accuracy level falls outside the standard required by NZS5259 when converting volume to energy because of inaccurate temperature factors that have not been recently reviewed | 28.2 |
| Inaccurate GAS080 submitted regarding metering interrogation | 26.2.1 |
| Corrections for revised meter pressures were not back dated for the full 12 months | 26.2.1 |
| Incorrect initial submission files for 22 ICPs were submitted due to issues between Flow2E and Gentrack. | 26.2.1 |
| Incorrect submission files (including final files) were submitted for 7 ICPs due to issues between Flow2E and Gentrack. The final submission data was understated by 628 GJs | 26.2.1 |
| Incorrect 'as billed' files were submitted for 11 ICPs due to issues between Flow2E and the new Gentrack billing system. | 26.2.1 |
| Incorrect 'as billed' files were submitted for 5 ICPs as corrections for incorrect meter pressures didn't flow through. | 26.2.1 |
| No 'as billed' files were submitted for June 2015 across all gas gates. | 52.2.1 |
| No trading notification could be found for a supplementary agreement. Therefore, it was not possible to confirm that it had been sent within the required timeframe or otherwise complied with the requirements. (r 39) | 39 |

In addition to recommending that OnGas address the cause of the alleged breaches, the 2017 report also made the following recommendation:

- That OnGas establish the detail of how Gentrack calculates forward estimates, confirm they are happy with the approach and document this as a part of their process documentation.

1.2.2 Breach Allegations

OnGas had 18 alleged breaches recorded by the Market Administrator since the last audit in 2017, representing 83 underlying breaches. One alleged breach was raised by Langford Consulting, all the others were alleged by the Allocation Agent. They are summarised as follows:

| Nature of Breach | Rule | Quantity |
|--|---------------|----------|
| Initial vs final allocation variances more than the allowable threshold | 37.2 | 14 |
| Required information to be accurate and complete, not misleading, timely | 26.2 | 3 |
| Information must be accurate/complete/support compliance with NZS5259 | 26.5.1/26.5.4 | 1 |

The following additional alleged breaches are raised because of this audit:

| Breach Allegation | Rules | Section in this report |
|--|---|------------------------|
| 4 new ICPs were late to be included in the OnGas initial submission files | 28.3 | 2.1.1 |
| 6 ICPs had an allocation group 4 designation in the registry but should have been designated as allocation group 6. | 29.3 | 3.2 |
| Inaccurate GAS080 submitted under r40.2 | 26.2.1 | 3.3 |
| For 1 ICP where the meter stopped and there was no data for a number of weeks, the ICP was estimated as 0 GJ for the period of the stopped meter | 26.2.1 | 3.5 |
| 6 ICPs had an incorrect status of INACT, they should have been INACP. | r58 Gas (Switching Arrangements) Rules 2008 | 5.2 |
| No trading notification could be found for 1 supplementary agreement | r39 | 5.8 |

1.3 Provision of Information to the Auditor (rule 69)

In conducting this audit, the auditor may request any information from OnGas, the Allocation Agent and any allocation participant.

Information was provided by OnGas in a timely manner in accordance with this rule.

The auditor considers that all parties have complied with the requirements of this rule.

1.4 Transmission Methodology and Audit Trails (rule 28.4.1)

A complete audit trail was viewed for all data gathering, validation and processing functions. Compliance is confirmed with this rule.

Since the last audit OnGas had implemented an additional control on their systems and processes. OnGas use a combination of Flow2E for their energy conversion and Gentrack for billing their customers. Their analyst team uses a series of spreadsheets to monitor and control their processes. Spreadsheets are however prone to human error and can become out of step with other systems if not carefully managed.

OnGas have now implemented an Access database called Apollo with a front-end screen called Artemis. This is used by the analyst team as “a single source of truth” for all data and is used to pull/push data in their suite of spreadsheets, providing a data warehouse analyst tool. This improves controls across the OnGas systems.

2. Set-up and Maintenance of Information in Systems (rule 28.2)

Every retailer must ensure the conversion of measured volume to volume at standard conditions and the conversion of volume at standard conditions to energy complies with NZS 5259:2015, for metering equipment installed at each consumer installation, for which the retailer is the responsible retailer.

Compliance with this rule has been examined in relation to the set-up of ICP, metering and billing information. The “Gas (Downstream Reconciliation) Rules 2008 Billing factors guideline note, V2.0” (Billing Factors Guideline) published by GIC on 30/11/15 was also considered when examining the set up and maintenance of information.

2.1 ICP Set Up Information

2.1.1 New Connections Process

The process was examined for the connection and activation of new ICPs.

The switching and registry management audit that was completed alongside this audit, reports on the analysis of the new connections process with respect to the Gas (Switching Arrangements) Rules 2008 (the switching rules) and this is therefore not repeated here in full.

OnGas was the responsible retailer for 9 ICPs created since the beginning of 2019. These were reviewed for correct inclusion in the submission files and 4 were found not to have been included in the appropriate initial submission files. There didn't seem to be any business pressure to drive early inclusion of new ICPs in submission files.

- **ALLEGED BREACH:** 4 new ICPs were late to be included in the OnGas initial submission files (r28.3)

Further information is supplied in Appendix 2.

2.1.2 Altitude Information

It is a distributor responsibility to populate the registry with correct altitude information to support compliance with NZS 5259:2015, and it is a retailer responsibility to comply with NZS 5259:2015 for the conversion of volume to energy.

NZS 5259 contains the following points, which affect the way altitude information should be managed:

1. The maximum permissible error is $\pm 1.0\%$ where the meter pressure is below 100kPa and $\pm 0.5\%$ where the meter pressure is greater than 100kPa.
2. The following note is also included “To minimise uncertainty due to altitude factor the aim should be to determine the altitude to within 10m where practicable.”
3. The altitude factor can be assumed to be 1 where meters are situated at an elevation less than 50m above sea level.

The “google earth” data is based on the “Shuttle Radar Topography Mission” (SRTM) results and a number of recent studies indicate an accuracy of $\pm 10\text{m}$ for altitude. An evaluation against this data is considered an appropriate test for “reasonableness”. Altitude figures that are within approximately 90m of the actual altitude will ensure an accuracy of $\pm 1.0\%$. Point 2 above recommends altitude figures are determined to within 10m where practicable. An evaluation of altitude data on the registry was conducted to check whether this recommendation had been met. As noted above, the margin of error of the “google earth” data appears to be approximately $\pm 10\text{m}$, therefore, to allow for this margin, the registry data was checked to within 20m of “google earth” data.

A registry list file was reviewed for obvious altitude outliers and a random sample of ICPs was also checked against “google earth” data. No active ICPs were found to have altitudes more than $\pm 20\text{m}$ compared with GoogleEarth.

A further evaluation was conducted of active ICPs where the altitude figure was zero or one in the registry. Three were found but the altitude on Google Earth was at or close to 1m also, so these were accurate.

The altitude for the 9 new connections were reviewed against Google Earth, they were all found to be within the level of accuracy required.

2.2 Metering Set-up Information

The records in the OnGas systems were compared against the information in the registry.

The records for gas gate were compared for both Flow2E and Gentrack against the registry, no differences were found.

Meter pressure, altitude, multiplier and no of dials were checked between Flow2E (where the energy conversion is done) and the registry:

- For altitude 63 ICPs were found to have a difference from the registry, but further review found all the differences to be minor and not sufficient to give rise to inaccurate conversion.
- For meter pressure 8 ICPs were found to have differences, but further review found they were all either inactive or TOU meters with correctors such that the static meter pressure parameter is not used in energy conversion.

No significant issues found.

2.3 Billing Factors

2.3.1 Temperature Information

The GIC now provides a list of temperature data for all allocated gas gates. The data was created by NIWA and provides a 30-year average of ground temperature at 30cm depth. The data is presented in degrees Celsius and there is one number per month for each gas gate.

The purpose of this temperature information is for industry participants to use in their data conversion calculations if they wish. The Gas (Downstream Reconciliation) Rules 2008 require that the data used in the conversion of volume to energy must comply with NZS 5259. Average ground temperature at 30cm depth is provided as an option under NZS 5259.

Currently the use of this information is voluntary however, it is the GIC intent that the rules may be changed to incorporate this dataset the next time the rules are updated, after consultation.

It was confirmed with Vector Data Services during the recent audit of retailers for which they provide services, that this temperature table is now being used in the Flow2E system. This was therefore not repeated as a part of this audit.

2.3.2 Calorific Values

Gas composition data is sourced from the Open Access Transmission Information System (OATIS) and loaded into the Flow2E system by the Data Services team in New Plymouth. This had been validated in a recent audit for retailers where Vector was the data service provider. The process for uploading this data was observed during the New Plymouth on-site visit. Also, a sample check of the gas gate used for particular ICPs was done and the specific Calorific Value, CO₂, N₂, and SG used for energy conversion was conducted. No issues arose

This check was not repeated as a part of this audit. However, the gas composition information used in the sample energy conversion discussed in section 4 was confirmed back to source.

3. Meter Reading and Validation

3.1 Archiving of Register Reading Data (rule 28.4.2)

Retailers are required to keep register reading data for a period of 30 months. Data was examined during the audit and it is confirmed that meter reads are available 30 months after their date of origin.

Sample meter read data was also verified against the data used as the meter read input for the energy calculation to prove the end-to-end process.

3.2 Metering Interrogation Requirements (rule 29)

Rule 29 specifies the type of metering (TOU or non-TOU) that must be installed at a consumer installation, the relevant allocation group that the consumer installation falls within and the interrogation requirements that apply depending on the type of metering and allocation group.

The process for reviewing allocation groups was viewed as a part of the audit. Both the 10TJ and the 250GJ allocation group thresholds are actively monitored. The last 12 months of data is used for the review. Borderline cases are monitored for a couple of months, alongside a conversation with the account manager and a review of seasonal patterns. A recent example of an allocation group change was followed through to ensure the change occurred in all the relevant systems in a timely fashion.

Changing an allocation group to group 4 has no impact as OnGas read all their customers monthly.

A sample of ICPs were reviewed for the accuracy of the allocation group. 6 allocation group 4 ICPs were identified as requiring change down to allocation group 6.

ALLEGED BREACH: 6 ICPs had an allocation group 4 designation in the registry, but should have been designated as allocation group 6. (r29.3)

See Appendix 2 for further detail

3.3 Meter Reading Requirements (rules 29.4.3, 29.5 & 40.2)

All consumer installations with non-TOU meters must have register readings recorded at least once every 12 months unless exceptional circumstances prevent such an interrogation (rule 29.4.3).

OnGas has a policy of reading all ICPs once a month. Prior to the audit they reported to the auditor that they had no examples of any ICPs that hadn't been read in over 12 months. However, this differed from what the submitted GAS080 was saying. OnGas did some further investigation and confirmed that the numbers in the allocation/invoicing system were incorrect for the GAS080. OnGas are arranging for a third party to explain how this happened and to fix the issue. This had been an issue in the last audit report.

ALLEGED BREACH: Inaccurate GAS080 submitted under r40.2 (r26.2.1)

OnGas had recently changed the process for requesting their metering services provider to read the non-TOU OnGas meters. The old process was to send Wells a complete list of ICPs to be read, OnGas maintained this list. The new process is for Wells to maintain the list. OnGas notify Wells of any new ICPs; a switched in/out ICP and any meter that's been removed. The OnGas control for confirming this new process is to reconcile back to the metering services invoice.

The current meter reading policy was to read non-TOU meters monthly, approximately 7 days prior to the month end. The reads are loaded into Apollo, missing reads are estimated using the last read, prior to loading the data into Flow2E. Flow2E feeds back a spreadsheet which is loaded into Gentrack.

The most recent meter read was viewed for a sample of ICPs. No issues arose for the non-TOU sample. However, out of a sample of 4 TOU ICPs, meter reads could not be found for 1 ICP. This ICP did not have telemetry. OnGas investigated this further and believes that the ICP has not been set up in the service provider's meter read system. The ICP became READY in December 2019 and ACTC from July 2020.

As this was a TOU site OnGas had been receiving downloads and submitting consumption, but the absence of the mechanical meter reads meant they were unable to validate the downloads back to a mechanical read.

RECOMMENDATION: That OnGas investigate whether any other ICPs need to be set up in their service provider's meter read system and also consider their internal checks for confirming that meter reads have been received for all customers.

3.4 Non-TOU Validation

OnGas validate the non-TOU data monthly as a part of the invoicing process. There is a multi-layered approach. The data is first validated on receipt, again by the data services team as a part of the Flow2E process, and thirdly when it is supplied by Flow2E, prior to entering it into Gentrack.

The Flow2E processes had been reviewed recently as a part of another audit, so the auditor focused on the first and last validation processes completed by the OnGas team in Wellington.

The initial validation steps include establishing whether the data is actual or estimated, confirming the meter serial number; viewing dates and comparing the volume with the prior month. Only once the team is satisfied by these checks is the data sent on to the Flow2E team.

Once the data is received back the Flow2E calculation is validated against the Artemis calculation and compared against last month's energy.

The most frequent problem identified during validation checks are clocked meters. These are highlighted to the Flow2E team for correction and reviewed again in Wellington once complete.

Only once the data has completed this 3-layered set of validation checks is it loaded into Gentrack and used for billing and submission.

3.5 Non-TOU Error Correction

3 examples of situations where non-TOU ICPs required corrections to be applied in 2020 were found and reviewed while on site.

For 1 ICP where the meter stopped and there was no data for a number of weeks until the meter was replaced, it was found that the ICP was estimated as 0 GJ for the period of the stopped meter. This was done with minimal information from the customer about whether they were using gas or not.

ALLEGED BREACH: Reasonable endeavours were not made to supply the Allocation Agent with accurate and complete information. For 1 ICP where the meter stopped and there was no data for a number of weeks, the ICP was estimated as 0 GJ for the period of the stopped meter (r26.2.1)

OnGas commented that they will ensure future endeavours will estimate more accurately when a non-TOU meter has stopped and also, ensure that the Allocation Agent is updated retrospectively.

Further detail can be found in appendix 2.

3.6 TOU Validation

The proportion of TOU ICPs with telemetry has increased in recent years. Validation of the data is a part of the nomination process so is occurring every day. The data is supplied daily by the Data Services team into Apollo which is used to validate the data and also identify missing data. If data is missing it is redialled and if that fails, the issue is escalated to the meter owner.

TOU without telemetry is now downloaded twice a month (for AMS meters), so there is now a mid-month analysis as well as at the end of the month.

Non-telemetry TOU sites with Powerco meters have the data supplied at the end of the month.

Appropriate validation checks, such as profile, average pressure, minimum pressure and graphing of the HDR file are occurring.

No issues were identified during the review of TOU validation, other than the absence of a mechanical meter read noted in section 3.3.

4. Energy Consumption Calculation (rule 28.2)

The OnGas data is converted to energy in the Flow2E system managed by the Data Services team in New Plymouth. The energy calculation in Flow2E had been verified recently as a part of other audits so was not validated again as a part of this audit. Instead the validation of the energy calculation by Artemis of the Flow2E energy calculation was reviewed.

Artemis was compared against Flow2E and all the components of the calculation were confirmed back to their original sources. This was done for both a TOU and non-TOU ICP. For example, the TOU was validated back to the TOU download, the non-TOU was verified back to the meter read data. Parameters such as altitude were confirmed back to the registry.

5. Estimation and Submission Information

5.1 TOU Estimation and Correction (rule 30.3)

OnGas provided 5 examples of TOU sites where temporary estimation had occurred in 2020 and 5 TOU sites where permanent correction was required. Examples were reviewed on site and appropriate estimation methodologies were confirmed. It was also confirmed that the subsequent interim figures had been revised for the temporary estimates.

5.2 Provision of Retailer Consumption Information (rules 30 to 33)

A sample 'initial' file and also a 'final' submission file for February 2020 was reviewed for accuracy. The data for one submitted gas gate was reviewed against OnGas system data to ensure the OnGas data had been accurately submitted. It was also verified that the aggregate figures were the correct summation of the values for individual ICPs at that gate.

This demonstrates that consumption information provided to the Allocation Agent is calculated at ICP level and then aggregated and matches the data held in OnGas systems.

There is a risk that INACT ICPs may have consumption that might be missed in submission files. The OnGas process is however to not make an ICP INACT until the meter has been removed and if this process is followed no consumption will be missed.

The auditor therefore confirmed the effectiveness of this process by reviewing the OnGas ICPs for INACT status, but without the meter being noted as "REMOVED". This check resulted in 6 ICPs being found noted as INACT that in fact had never become active. It was therefore accurate that they had no consumption to be included in submission files, but the status was incorrect, they should be described as INACP. The status for these should be changed so that the distributor can decommission them.

ALLEGED BREACH: 6 ICPs had an incorrect status of INACT, they should have been INACP. This will be preventing the distributor from decommissioning them. (r58 Gas (Switching Arrangements) Rules 2008).

This reinforces the recommendation made in the corresponding switching rules audit that OnGas should review their INACT ICPs to ensure the accuracy of the status.

5.3 Initial Submission Accuracy (rule 37.2)

Rule 37.2 requires that the accuracy of consumption information, for allocation groups 3 to 6, for initial allocation must be within a certain percentage of error published by the industry body. The published percentage for the months analysed is 10%.

OnGas did not meet this requirement for some gas gates during the 12-month period reviewed. The results are summarised in the table below. In total over this period there were 23 instances of a gate exceeding the +/-10% test and exceeding the 200GJ materiality threshold. This was significantly higher than in the last audit when the same analysis was done for a 12-month period found only 10 instances.

| Month | Total Gas Gates | Number Within +/- 10% | % Compliant | Within +/- 10% or < 200 GJ | % Compliant or immaterial |
|----------------|-----------------|-----------------------|-------------|----------------------------|---------------------------|
| June 2018 | 25 | 20 | 80% | 25 | 100% |
| July 2018 | 26 | 24 | 92% | 26 | 100% |
| August 2018 | 26 | 23 | 88% | 25 | 96% |
| September 2018 | 26 | 21 | 81% | 24 | 92% |
| October 2018 | 26 | 16 | 62% | 23 | 88% |
| November 2018 | 26 | 20 | 77% | 25 | 96% |
| December 2018 | 26 | 9 | 35% | 19 | 73% |
| January 2019 | 22 | 14 | 64% | 18 | 82% |
| February 2019 | 21 | 14 | 67% | 19 | 90% |
| March 2019 | 21 | 12 | 57% | 19 | 90% |
| April 2019 | 20 | 14 | 70% | 19 | 95% |
| May 2019 | 20 | 14 | 70% | 20 | 100% |

The following table shows the difference between consumption information for initial and final submissions at an aggregated level for all gas gates. This demonstrates compliance in 10 out of 12 months. Again, this was worse than during the last audit when the same analysis demonstrated compliance in all 12 months.

| Month | Initial Submission All Gas Gates (GJ) | Final Submission All Gas Gates (GJ) | Percentage Variation |
|----------------|---------------------------------------|-------------------------------------|----------------------|
| June 2018 | 37,772 | 40,148 | 5.9 |
| July 2018 | 43,484 | 43,099 | -0.9 |
| August 2018 | 39,010 | 37,551 | -3.9 |
| September 2018 | 34,602 | 36,193 | 4.4 |
| October 2018 | 34,136 | 32,223 | -5.9 |
| November 2018 | 28,325 | 26,775 | -5.8 |

| | | | |
|---------------|--------|--------|-------|
| December 2018 | 25,253 | 20,154 | -25.3 |
| January 2019 | 17,586 | 15,173 | -15.9 |
| February 2019 | 15,456 | 14,837 | -4.2 |
| March 2019 | 17,425 | 16,498 | -5.6 |
| April 2019 | 19,947 | 20,889 | 4.5 |
| May 2019 | 21,543 | 23,085 | 6.7 |

OBSERVATION: New ICPs and newly switched in ICPs are often being missed out of initial submission files, which will be adding to these differences.

5.4 Historic Estimates (Rules 34 & 35)

To assist with determining compliance of the historic estimate processes, OnGas was supplied with a list of scenarios. OnGas provided an example for each relevant scenario and all examples were found to meet the test expectation.

| HE Scenarios | | | |
|--------------|---|--|-------------|
| Test | Scenario | Test Expectation | Result |
| A | ICP becomes Active part way through a month | Consumption is only calculated for the Active portion of the month. | Compliant |
| B | ICP becomes Inactive part way through a month. | Consumption is only calculated for the Active portion of the month. | Compliant |
| C | ICP's become Inactive then Active within a month. | Consumption is only calculated for the Active portion of the month. | No examples |
| D | ICP switches in part way through a month | Consumption is calculated to include the 1st day of responsibility. | Compliant |
| E | ICP switches out part way through a month | Consumption is calculated to include the last day of responsibility. | Compliant |
| F | ICP switches out then back in within a month | Consumption is calculated for each day of responsibility. | No examples |
| G | Continuous ICP with a read during the month | Consumption is calculated assuming the readings are valid until the end of the day | Compliant |
| H | Continuous ICP without a | Consumption is calculated assuming the readings are | Compliant |

| | | | |
|---|-----------------------|---|-----------|
| | read during the month | valid until the end of the day | |
| I | Rollover Reads | Consumption is calculated correctly in the instance of meter rollovers. | Compliant |

A manual calculation was also performed using the relevant seasonal adjustment shape files to verify OnGas processes.

It was confirmed that OnGas have a process for downloading the current shape file and loading it into Gentrack prior to the interim and final allocations. The auditor saw the log in Gentrack showing these uploads. It could also be seen that Artemis has a check in the process to alert the analyst if the shape file upload has been forgotten.

5.5 Proportion of Historic Estimates (rule 40.1)

This rule requires retailers to report to the Allocation Agent the proportion of historic estimates contained within the consumption information for the previous initial, interim and final allocations. Sample files were examined and no issues arose.

5.6 Forward Estimates (rules 34 & 36)

The rules do not prescribe how forward estimates are to be calculated. OnGas are using Gentrack to calculate the forward estimates and have been doing so since January 2017.

An observation was made during the last audit that OnGas staff were unsure of the detail of how Gentrack calculates forward estimates. It was recommended that OnGas establish the detail of how Gentrack calculates forward estimates, confirm they are happy with the approach and document this as a part of their process documentation. It was however established during this audit that this recommendation had not been implemented.

However, the amount of forward estimating they must do is limited because of their high proportion of TOU customers on telemetry and their policy of reading meters once a month. They have put resource into increasing the number of sites with telemetry. They are also running a spreadsheet validation system of submission files which would pick up inappropriate forward estimates.

A sample reconciliation of one gas gate's initial and final submission data for February 2020 was undertaken to confirm the data submitted was a correct aggregation of all the ICPs at that gas gate. The aggregations were correct.

5.7 Billed vs Consumption Comparison (rule 52)

A sample reconciliation of GAS070 data for September 2021 and billing data at an ICP level in Gentrack was completed to prove that the file included data for all the ICPs at the sample gas gate. No issues arose from this check.

The table below shows a comparison between quantities billed and consumption information submitted to the Allocation Agent for three years.

| Billed vs Consumption | | | | |
|-----------------------|-------------------|-------------------|-----------------|--------------|
| Year ending | Billed GJ | Submission GJ | Difference GJ | % Difference |
| March 2019 | 7,631,937 | 7,786,186 | -154,249 | -1.98% |
| March 2020 | 4,695,848 | 4,690,904 | 4,944 | 0.11% |
| March 2021 | 4,093,954 | 4,069,951 | 24,002 | 0.59% |
| Total | 16,421,739 | 16,547,041 | -125,303 | |

The largest discrepancy was in the year ending March 2019 and the largest difference by gas gate in that year was at RPR30801.

| GAR080 | ALLA | APAR | Billed | Submitted | Diffce | % Diffce |
|--------|------|----------|----------|-----------|---------|-------------|
| Mar-19 | GNGC | RPR30801 | 248346.4 | 295060.2 | 46713.8 | 84.17 |

GNGC were asked to investigate why this discrepancy was so large. They established the difference related to one ICP in December 2018 which had switched out as at 31 December. They had been unable to upload the file GAS070 file with this data included as they no longer had a trading notification for that gate by the time the upload was due. So they resubmitted the GAS070 without that ICP.

5.8 Gas Trading Notifications (Rule 39)

A retailer must give notice to the Allocation Agent when they commence, amend or cease gas supply under a supplementary agreement to a transmission services agreement. They must do this by the third business day of the month following the relevant consumption month of the change.

OnGas had 2 new supplementary agreements to deliver gas to gas gates commencing since the last audit. OnGas were able to show the notification for one of these, but not the second one. This issue had been noted as an alleged breach in the previous audit.

ALLEGED BREACH: No trading notification could be found for the supplementary agreement OnGas had entered into on 1/10/20 to Hastings(r39)

RECOMMENDATION: That OnGas initiate a process for notifying the Allocation Agent of new supplementary agreements and keeping a record of those notifications.

6. Conclusion

The audit found that the OnGas control environment is “effective” for twelve of the areas evaluated, “adequate” for two areas and “not adequate” for four areas.

Twelve of the eighteen areas evaluated were found to be compliant. Breaches have already been raised by the Allocation Agent with respect to the accuracy of initial submission files (rule 37.2); the accuracy and completeness of information (r26.2.1) and the requirement for

information to be accurate/complete/support compliance with NZS5259 (r26.5). Six additional alleged breaches are raised because of this audit.

In addition to recommending that OnGas address the cause of the alleged breaches, the report also makes the following recommendations and observations:

RECOMMENDATION: That OnGas investigate whether any other ICPs need to be set up in their service provider's meter read system and also consider their internal checks for confirming that meter reads have been received for all customers.

OBSERVATION: New ICPs and newly switched in ICPs are often being missed out of initial submission files, which will be adding to the initial v final submission file differences.

RECOMMENDATION: That OnGas initiate a process for notifying the Allocation Agent of new supplementary agreements and keeping a record of those notifications.

Appendix 1 – Control Rating Definitions

| Control Rating | Definition |
|-------------------------------------|--|
| Control environment is not adequate | <p>Operating controls designed to mitigate key risks are not applied, or are ineffective, or do not exist.</p> <p>Controls designed to ensure compliance are not applied, or are ineffective, or do not exist.</p> <p>Efficiency/effectiveness of many key processes requires improvement.</p> |
| Control environment is adequate | <p>Operating controls designed to mitigate key risks are not consistently applied, or are not fully effective.</p> <p>Controls designed to ensure compliance are not consistently applied, or are not fully effective.</p> <p>Efficiency/effectiveness of some key processes requires improvement.</p> |
| Control environment is effective | <p>Isolated exceptions identified when testing the effectiveness of operating controls to mitigate key risks.</p> <p>Isolated exceptions identified when testing the effectiveness of controls to ensure compliance.</p> <p>Isolated exceptions where efficiency/effectiveness of key processes could be enhanced.</p> |

Appendix 2 – Alleged Breach Detail

New ICPs – late inclusion in submission files

1000578640PG62B

READY 27/3/19.

OnGas already held an overarching contract with the owning property company entered into in 2018.

OnGas claimed and entered a status of ACTC 21/5/19 with effective date of 26/3/19

The ICP was not included in the initial submission file until June 2019 with a usage of 0 GJs.

The first FINAL submission file it was included in was March 2019 but with 0GJs for consumption.

1000591079PG859

READY 13/1/21

OnGas entered into a contract for gas on 7/4/21.

It was only claimed and made ACTC on the registry on 21/4/21, prompted by the receipt of a charge from the distributor.

This ICP was not included in an initial submission file until April 2021, with consumption of 0GJs.

The ICP has been included in the interim file for Jan 2021, with consumption of 0GJs

1001298216NG11A

READY on 1/11/19

OnGas entered into a contract for this ICP on 15/8/19

It was claimed by OnGas and made INACT on 12/12/19 with an event date of 1/11/19

It was made active 13/2/20, from 20/1/20 when the meter was installed.

It was first included in an initial submission file for February 2020

The final submission file for January shows consumption of 4.536 GJs

1001298408NGE2A

READY on 29/11/19

OnGas entered into a contract on 31/3/20

The ICP was claimed and made ACTC on 19/6/20

The ICP was first included in an initial submission file for June 2020, using a forward estimate of 0GJs

There was no read done until late July and subsequently the final consumption for June was shown as 273 GJs

Incorrect Allocation Groups

The following ICPs were shown as allocation group 4 but should be allocation group 6:

0009000669NGC1D

0003015608NG8CD

1001257634NGD1B

1001286563QT0ED

0004228892NG944

0000665811QTCE9

Non-TOU error correction

0000230211QTB08 - Meter stopped 30/03 - Meter replaced 07/05 - Estimated during that period at 0GJ