# Gas Downstream Reconciliation Performance Audit Draft Report

For

## Greymouth Gas New Zealand Limited

Prepared by Steve Woods – Veritek Ltd

Date of Audit: 18/05/11

Date Audit Report Complete: 28/07/11

# Executive Summary

This Performance Audit was conducted at the request of the Gas Industry Company Limited (GIC) in accordance with Rule 65 of the Gas (Downstream Reconciliation) Rules 2008 (the Rules).

The purpose of this audit is to assess the systems, processes and performance of Greymouth Gas New Zealand Limited (GGNZ) 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, V2.0" which was published by the GIC in October 2010.

In accordance with rule 72.2, this report excludes some confidential information that was obtained in the conduct of the audit. This information is contained in Section 3.2 and its publication could identify one of GGNZ's customers. The relevant information is included in the version of the report provided to GIC.

The summary of report findings in the table below shows that GGNZ's control environment is "effective" for seven of the areas evaluated, "adequate" for seven and "not applicable" for three.

Ten of the seventeen areas evaluated were found to be compliant or not applicable. Four breach allegations are made in relation to the remaining areas. They are summarised as follows:

- The absence of meter pressure correction and the use of incorrect temperature information have led to the submission of incorrect consumption information to the allocation agent for GGNZ's six non-TOU ICPs.
- Estimated TOU consumption information has been provided on a number of occasions from April 2009 to April 2011. GGNZ's processes achieve compliance with the requirement to provide its "best estimate of consumption information"; however, the existence of estimated information is considered a matter of non-compliance.
- Despite GGNZ's high level of accuracy, their practice of reading non-TOU meters on the first business day of the following month is technically not compliant with rule 30.2.2.
- The non-TOU as-billed data has not been included in the GAS070 file as required by rule 52.

At the November 2009 Retailer's Forum the issue of "consistency of application of gas billing factors" was discussed. It was agreed that this forum would draft a guideline to assist with addressing this issue. Contact Energy produced a draft guideline and I recommend that this draft guideline be further developed into a "Guideline note" to assist participants with compliance with the rules, and to ensure the consistent application of the relevant factors.

## Summary of Report Findings

| Issue | Section | Control Rating (Refer to Appendix 1 for definitions) | Compliance Rating | Comments |
|---|---|---|---|---|
| ICP set up information | 2.1 | Adequate | Compliant | Altitude correction is not conducted for every ICP.<br>I recommend that GGNZ adopts an altitude correction process and uses the distributors' altitude figures and not those at the gas gates. |
| Metering set up information | 2.2 | Adequate | Not compliant | GGNZ does not apply a correction for meter pressure for any of their six non-TOU ICPs. |
| Billing factors | 2.3 | Adequate | Not compliant | The use of incorrect temperature information has led to the submission of incorrect consumption information to the allocation agent for six non-TOU ICPs. |
| Archiving of reading data | 3.1 | Effective | Compliant | I recommend that meter-reading files are zipped and password protected as a minimum to ensure its security and integrity. |
| Meter interrogation requirements | 3.2 | Adequate | Compliant | I recommend that GGNZ changes the registry records and ensures ICPs are assigned to the correct allocation groups. |
| Meter reading requirements | 3.3 | Effective | Not compliant | Despite GGNZ's high level of accuracy, their practice of reading non-TOU meters on the first business day of the following month is technically not compliant. |

| | | | | |
|---|---|---|---|---|
| Non TOU validation | 3.4 | Effective | Compliant | The manual validation process applied appears robust. |
| Non TOU error correction | 3.5 | N/A | N/A | Error correction processes have not been required and were therefore not examined. |
| TOU validation | 3.6 | Effective | Compliant | Event log and alarm log reporting is not reviewed as part of the TOU validation process. I recommend that this is included as a validation step. |
| Energy consumption calculation | 4 | Adequate | Not compliant | GGNZ does not correct for meter pressure, altitude or temperature for non-TOU ICPs. An altitude correction factor of 1 is applied for some TOU ICPs. |
| TOU estimation and correction | 5.1 | Effective | Not compliant | GGNZ's processes achieve compliance with the requirement to provide its "best estimate of consumption information".<br><br>The existence of any estimated TOU consumption information is considered a matter of non-compliance. This issue is addressed on a monthly basis and breach allegations are in existence in all cases. |
| Provision of retailer consumption information | 5.2 | Adequate | Not compliant | The process for preparing consumption information files is compliant; however, GGNZ does not correct for meter pressure, altitude or temperature for non-TOU ICPs. This has resulted in the submission of incorrect consumption information to the allocation agent. Also an altitude correction factor of 1 is applied for some TOU ICPs.<br><br>Despite GGNZ's high level of accuracy, their practice of reading non-TOU meters on the first business day of the following month is technically not compliant. |

| | | | | |
|---|---|---|---|---|
| Initial submission accuracy | 5.3 | Effective | Compliant | All submission information is derived from actual meter readings. |
| Forward estimates | 5.4 | N/A | N/A | All submission information is derived from actual meter readings. |
| Historic estimates | 5.5 | N/A | N/A | All submission information is derived from actual meter readings. |
| Proportion of HE | 5.6 | Effective | Compliant | All consumption information submitted to the allocation agent is based on actual meter readings and is con sidered “HE”. The GAS0 40 files therefore contain 100% HE. |
| Billed vs consumption comparison | 5.7 | Adequate | Not compliant | The non-TOU as-billed data has not been included in the GAS070 file as required by rule 52. |

# Persons Involved in This Audit

Auditor:

Steve Woods
**Veritek Limited**

GGNZ personnel assisting in this audit were.

| Name | Title |
|---|---|
| Lara Walker | Energy Sales Executive |
| Chris Boxall | Commercial Manager |

Service providers assisting with processes within the audit scope.

| Company | Processes |
|---|---|
| Wells Instrument & Electrical Services Ltd | Gathering and storing non-TOU raw meter data |
| Advanced Metering Services Limited (AMS) | TOU downloads and energy consumption calculation |

# Contents

# 1. Pre-Audit and Operational Infrastructure Information

## 1.1 Scope of Audit

This Performance Audit was conducted at the request of the GIC in accordance with Rule 65 of the Gas (Downstream Reconciliation) Rules 2008. Rule 65 is inserted below:

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, -

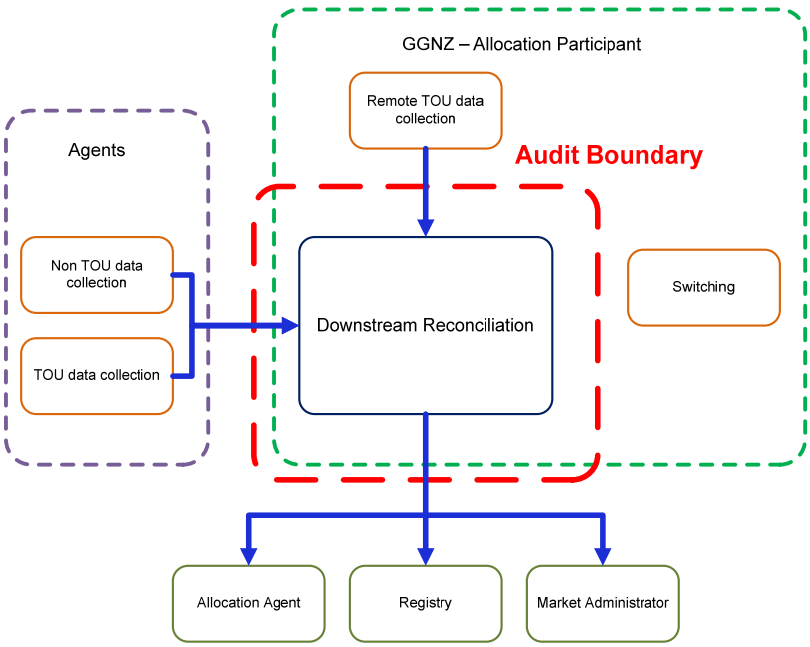
65.2.1 The performance of the allocation agent or that allocation participant in terms of compliance with these rules; and

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, V2.0" which was published by the GIC in October 2010.

The audit was carried out on May 18th 2011 at GGNZ's Queen Street office in Auckland.

The scope of the audit includes "downstream reconciliation" only, as shown in the diagram below. Switching, metering ownership and data collection functions are not within the audit scope.



## 1.2 Audit Approach

As mentioned in Section 1.1 the purpose of this audit is to assess the performance of GGNZ in terms of compliance with the Rules, and the systems and processes that have been put in place to enable compliance with the rules.

This audit has examined the effectiveness of the controls GGNZ has in place to achieve compliance, and where it has been considered appropriate sampling has been undertaken to determine compliance.

Where sampling has occurred, this has been conducted using the Auditing Standard 506 (AS-506) which was published by the Institute of Chartered Accountants of New Zealand. I have used my professional judgement to determine the audit method and to select sample sizes, with an objective of ensuring that the results are statistically significant.[1]

Where calculations are performed by GGNZ's systems, the algorithm has been checked by using one or two examples as a "sample". Multiple examples are not required because they will not introduce any different variables.

Where compliance is reliant on manual processes, manual data entry for example, the sample size has been increased to a magnitude that, in my judgement, ensures the result has statistical significance.

Where errors have been found or processes found not to be compliant the materiality of the error or non-compliance has been evaluated.

[1] In statistics, a result is considered statistically significant if it is unlikely to have occurred by chance. (Wikipedia)

## 1.3 General Compliance

This is GGNZ's first performance audit under rule 65; therefore, there is not a previous audit report for review.

An event audit was conducted in 2009 for the Greater Auckland and Tawa A gas gates. This audit did not discover any compliance issues in relation to GGNZ.

GGNZ has 16 alleged breaches recorded by the Market Administrator since October 2008. They are summarised in the table below. There is one alleged breach of the switching rules, which is not within the scope of this audit. The other 16 breach allegations are all related to the provision of estimated TOU data.

| Nature of Breach | Rule | Quantity | Section in this Report |
|---|---|---|---|
| Switching Breaches | | 1 | Not within audit scope |
| Submission of estimated TOU data | 31.1, 32.1 & 33.1 | 16 | 5.1 |

As noted in the Summary of Report Findings, this audit has found some areas of non-compliance. The following breach allegations are made in relation to these matters.

| Breach Allegation | Rule | Section in this report |
|---|---|---|
| The absence of meter pressure correction and the use of incorrect temperature information have led to the submission of incorrect consumption information for non-TOU ICPs to the allocation agent. | 26.2.1, & 28.2 | 2.2, 2.3.1, 4 & 5.2 |
| Estimated TOU consumption information has been provided on a number of occasions from April 2009 to April 2011. GGNZ's processes achieve compliance with the requirement to provide its "best estimate of consumption information"; however, the existence of estimated information is considered a matter of non-compliance. This issue is addressed on a monthly basis. | 30.3 | 5.1 |
| Despite GGNZ's high level of accuracy, their practice of reading non-TOU meters on the first business day of the following month is technically not compliant with rule 30.2.2. | 30.2.2 | 3.3, 5.2 & 5.5 |
| The non-TOU as-billed data has not been included in the GAS070 file as required by rule 52. | 52 | 5.7 |

## 1.4 Provision of Information to the Auditor (Rule 69)

In conducting this audit, the auditor may request any information from GGNZ, the allocation agent and any allocation participant.

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

Information was requested from metering equipment owners and was provided within the requested timeframe or a subsequent agreed timeframe by all parties. I consider that all parties have complied with the requirements of this rule.

## 1.5 Draft Audit Report Comments

A draft audit report was provided to the industry body (GIC), the allocation agent, and allocation participants that I considered had an interest in the report. In accordance with rule 70.3 of the Gas (Downstream Reconciliation) Rules 2008, those parties were given an opportunity to comment on the draft audit report and indicate whether they would like their comments attached as an appendix to the final audit report. The following parties responded.

| Party | Response | Comments provided | Attached as appendix |
|---|---|---|---|
| AMS | Yes | No | N/A |
| GGNZ | Yes | Yes | No |
| GIC | Yes | Yes | Yes |

The comments received were considered in accordance with rule 71.1, prior to preparing the final audit report. As a result, I have determined that most of the previously redacted information is not commercially sensitive and I have therefore included it in this report.

## 1.6 Transmission Methodology and Audit Trails (Rule 28.4.1)

A complete audit trail was viewed for all data gathering, validation and processing functions. This rule requires that "The consumption information supplied to the allocation agent in accordance with rules 29 to 40 is transferred in such a manner that it cannot be altered without leaving a detailed audit trail..." Compliance is confirmed with this rule in relation to consumption information supplied to the allocation agent. TOU and non-TOU data collection agents send monthly "text" files as email attachments. This method is not considered secure and I recommend these files be zipped with password protection to ensure their security during transmission. .

# 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 5259:2004, for metering equipment installed at each consumer installation, for which the retailer is the responsible retailer.

At the November 2009 Retailer's Forum the issue of "consistency of application of gas billing factors" was discussed. It was agreed that this forum would draft a guideline to assist with addressing this issue. Contact Energy produced a draft guideline and I recommend that this draft guideline be further developed into a "Guideline note" to assist participants with compliance with the rules, and to ensure the consistent application of the relevant factors.

Compliance with this rule has been examined in relation to the set-up of ICP, metering and billing information.

## 2.1 ICP Set Up Information

### 2.1.1 New Connections Process

GGNZ has not dealt with any new connections. All of their ICPs have been gained through the switching process. Relevant registry information is collected manually as part of the switching process and entered into their database.

GGNZ is currently establishing a registry notification file management process to identify changes to ICP information.

### 2.1.2 Altitude Information

GGNZ does not apply a correction for altitude for any non-TOU ICPs. There are two TOU ICPs where absolute pressure sensors are present as part of the GMS, and therefore altitude correction is not required. For five TOU ICPs where AMS conducts data collection and the energy consumption calculation, the altitude at each gas gate is used for ICPs connected to that gate. For the remaining TOU ICPs, GGNZ applies a correction factor of 1 for altitude.

NZS 5259: 2004 requires the following in relation to setting of factors:

> *1.2.3.4 Setting of factors*
>
> *Corrections for temperature, pressure, altitude and compressibility shall be applied where non-application of these corrections would otherwise result in errors in volume arising from these effects which are greater than allowed in table 3.*

NZS 5259:2004 Amendment No1, which was published in November 2009, contains two changes, which affect the way that altitude information should be managed. These changes are reflected in table 3 mentioned above.

1. The maximum permissible error has been reduced from ± 1.5% to ± 1.0% where the meter pressure is below 100kPa and ± 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."

Altitude figures that are within approximately 90m of the actual altitude will ensure an accuracy of ± 1.0%. Altitude figures that are within approximately 45m of the actual altitude will ensure an accuracy of ± 0.5%.

Despite the fact that altitude correction is not conducted for some ICPs or it is a factor of 1 and that the altitude at the gate is used for five ICPs, I found that point 1 above had been met for all ICPs.

I found that point 2 above had not been met for ten ICPs.

Although compliance has been achieved in relation altitude correction, this has only occurred because all non-TOU ICPs are located at altitudes less than 90m and all TOU ICPs are located at altitudes less than 45m (for ICPs where no correction occurs) or within 45m of the relevant gas gate altitude (for the five ICPs where gas gate altitude is used). Without an altitude correction process, GGNZ could inadvertently switch in ICPs located at altitudes outside the allowable thresholds.

I recommend that GGNZ adopts an altitude correction process and uses the distributors' altitude figures and not those at the gas gates.

I compared the distributors' figures to "google earth" data and found that they were within a tolerance of ± 20m.

The "google earth" data is based on the "Shuttle Radar Topography Mission" (SRTM) results and a number of recent studies indicate an accuracy of ± 10m for altitude. An evaluation against this data is considered an appropriate test for "reasonableness".

## 2.2 Metering Set-up Information

GGNZ does not apply a correction for meter pressure for any of their six non-TOU ICPs.

I checked the meter pressure and meter dials recorded by the meter owner and verified the accuracy of this data by checking meter dockets or other records. Three ICPs have a meter pressure of 2.5 kPa and the other three have a meter pressure of 1.5kPa.

The absence of a correction factor for meter pressure has resulted in an error of minus 2.44% for those ICPs with a meter pressure of 2.5kPa and minus 1.48% for those ICPs with a meter pressure of 1.5kPa. NZS 5259: 2004, table 3 contains a permissible error of ± 1.5%. The absence of meter pressure correction has led to the submission of incorrect consumption information to the allocation agent. This is alleged as a breach of rules 26.2.1 & 28.2 in conjunction with the issue outlined in section 2.3.1.

## 2.3 Billing Factors

### 2.3.1 Temperature Information

For ICPs where the actual temperature is not measured NZS 5259: 2004 states that temperature may be estimated and four methodologies are provided. These are listed below in order of decreasing preference.

(a) Temperature records of the station under flowing conditions. Historical records can be used if similarity is preserved.
(b) Records of actual gas temperature in similar installations over similar periods at similar locations may serve to estimate the value of gas temperature in the installation.
(c) For compact installations directly connected to short risers and well shaded from direct sunlight, where the temperature of the gas is in the vicinity of ground temperature, the temperature may be estimated from the average ground temperature at 300mm depth. NOTE – Reliable and relevant climatic temperature data may be used as a basis for estimating average 300mm ground temperatures. This may include published data. For installations with seasonal use only, the data for the relevant season or seasons should be used.
(d) For installations where the inlet pipes are exposed to ambient air conditions the temperature may be estimated from the mean temperature obtained at reliable and relevant weather recording stations. For installations with seasonal use only, the data for the relevant season or season should be used. The installation should be shielded from direct sunlight.

GGNZ does not correct for changes in temperature for any non-TOU ICPs. A factor of 1.00 is used, which assumes a temperature of 15ºc. As soon as the actual temperature changes by approximately ± 4.5ºc the permissible error of ± 1.5%, as noted in table 3 of NZS 5259: 2004, will be exceeded.

The use of incorrect temperature information has led to the submission of incorrect consumption information to the allocation agent. This, together with the non-TOU meter pressure issue, is alleged as a breach of rules 26.2.1 & 28.2.

### 2.3.2 Calorific Values

Gas composition data is sourced from the Open Access Transmission Information System (OATIS) and is manually copied and pasted into GGNZ's spreadsheet based system. The accuracy of this information was confirmed by comparing an OATIS file with the records contained in GGNZ's system for May 2011.

At the end of each month, the data for the entire month is downloaded from OATIS and compared to the contents of GGNZ's system. This step is to confirm the accuracy of the data that is copied and pasted on a daily basis.

# 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 GGNZ has securely archived data for the entire period for all non-TOU ICPs.

Some data provided by GGNZ's meter reading contractor was checked and it was found that the readings matched the data in GGNZ's system. This proves the end-to-end process. This data is transmitted as text via email. I recommended that these files are zipped and password protected as a minimum to ensure its security and integrity.

## 3.2 Retailer to Ensure Certain Metering Interrogation Requirements are Met (Rule 29)

This rule requires that for consumer installations where the actual or expected consumption is greater than 10TJ, a TOU meter will be installed and the installation will be assigned to allocation group 1 or 2. For consumer installations where the actual or expected consumption is between 250GJ and 10TJ a non-TOU meter may be installed and the installation will be assigned to allocation group 3 or 4.

A check of annual consumption for all ICPs identified two allocation group 4 ICPs that can be changed to allocation group 6. One ICP has an annual consumption of 240GJ and the other had shown consumption above 250GJ [redacted]. The normal consumption will be less than

250GJ. All of GGNZ's TOU ICPs have telemetry and should be assigned to allocation group 1. Four ICPs are recorded on the registry as allocation group 2. For submission purposes, all TOU consumption information is provided to the allocation agent as allocation group 2.

The anomalies mentioned above are not considered rule breaches, however I recommend that GGNZ changes the registry records and ensures ICPs are assigned to the correct allocation groups.

## 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.

Meter reading occurs on the first business day of the following month for all non-TOU ICPs. Although this practice ensures compliance with the meter reading requirements, rule 30.2.1 states that a register reading obtained during any day will be deemed to have been obtained at 2400 on that day. This means that consumption information provided to the allocation agent will be offset by one day, if the first day of the following month is a business day and by more than one day if the first day of the following month is a weekend or a statutory holiday. Further comment is made in Section 5.2.

GGNZ provided copies of GAS080 reports, which show that the reading percentage, for both the rolling 4-month and 12-month targets, was 100% for all months from June 2010 to May 2011.

GGNZ achieved compliance with Rule 40.2, which is the requirement to report the number and percentage of validated register readings obtained in accordance with rules 29.4.3 and 29.5.

## 3.4 Non TOU Validation

Meter readings are collected manually and provided in an email to GGNZ. They are not subject to the localised validation available within handheld data input devices. Validation is a manual process where the GJ per ICP is checked against historic average data. This level of validation is considered appropriate for the low number of ICPs GGNZ deals with. In the rare event that a reading appears too high or too low it is validated through a customer reading or a check reading.

## 3.5 Non TOU Error Correction

GGNZ has not identified any non-TOU errors and therefore correction has not been made to any data.

## 3.6 TOU Validation

Most TOU data is collected using "Masterlink" software. Data for five ICPs is collected by AMS, who also conduct the energy conversion calculation.

TOU data is manually compared to daily customer forecasts and previous consumption. The pressure data in Masterlink is checked to assist with the identification of any metering issues.

Event log and alarm log reporting is not reviewed as part of the validation process. It is recommended that this is included as a validation step.

# 4. Energy Consumption Calculation (Rule 28.2)

GGNZ's non-TOU volume to energy calculation only includes correction for calorific value, not for pressure, temperature or altitude. As mentioned in Section 2.3.2 the correct calorific values are used. As mentioned in Sections 2.2 and 2.3.1, correction for pressure and temperature is a requirement in order to comply with NZS 5259: 2004. Breach allegations are made in these sections. GGNZ's TOU volume to energy calculation is compliant.

Although compliance has been achieved in relation to altitude correction, this has only occurred because all ICPs are located at altitudes less than the allowable thresholds. Without an altitude correction process, GGNZ could inadvertently switch in ICPs located at altitudes outside the allowable thresholds.

In Section 2.1.2, I recommend that GGNZ adopts an altitude correction process.

GGNZ uses the NX 19 formula to correct for compressibility. To evaluate the calculation a spreadsheet was used which replicates the NX19 formula. The relevant information for two ICPs was entered into the spreadsheet and the resulting factor (Fz) was confirmed to be correct.

The small sample size for this comparison is considered appropriate because the calculation being evaluated is conducted entirely within GGNZ's system, with no manual intervention. Therefore, the only opportunity for error is if incorrect factors are present within the system.

# 5. Estimation and Submission Information

## 5.1 TOU Estimation and Correction (Rule 30.3)

This rule requires that retailers must provide the best estimate of consumption information to the allocation agent in situations where actual data is not available.

In these situations, GGNZ uses a range of techniques to estimate data depending on the situation. These techniques may include one or more of the following sources of information:

- Forecast data
- Check metering data
- Historic consumption information
- Uncorrected volume where available

Three estimation examples were examined and in all cases, an appropriate process was used. The data was correctly identified as estimated and an appropriate journal was available that showed the details of the estimation technique.

GGNZ's processes achieve compliance with the requirement to provide its "best estimate of consumption information".

The existence of any estimated TOU consumption information is considered a matter of non-compliance. This issue is addressed on a monthly basis and a number of breach allegations have been made as recorded in Section 1.3.

## 5.2 Provision of Retailer Consumption Information (Rules 30 to 33)

GGNZ's compliance with rules 30 to 33 was examined by a "walk through" of their processes and controls to confirm compliance.

GAS040 files for March and April 2011 were examined and compared to the data in GGNZ's system at ICP level. The totals matched, which confirms compliance. This also proves that GGNZ's consumption information provided to the allocation agent is calculated at ICP level and then aggregated.

As mentioned in Sections 2.2 & 2.3.1 the absence of meter pressure and temperature correction for non-TOU ICPs has led to the submission of some incorrect consumption information to the allocation agent. Breach allegations are made in these sections.

As mentioned in Section 3.3, meter reading occurs on the first business day of the following month for all non-TOU ICPs. Rule 30.2.1 states that a register reading obtained during any day will be deemed to have been obtained at 2400 on that day. This means that consumption information provided to the

allocation agent will be offset by one day, if the first day of the following month is a business day and by more than one day if the first day of the following month is a weekend or a statutory holiday. GGNZ's monthly meter reading practice is designed to eliminate the need for forward and historic estimates and results in a high level of accuracy; however rule 30.2.2 requires that: "Monthly consumption information provided to the allocation agent must commence at 2400 hours on the last day of the previous month and end at 2400 hours on the last day of the month to which the consumption information relates." This means that despite GGNZ's high level of accuracy, their meter reading practice is technically not compliant with rule 30.2.2. Conducting meter reading on the last day of each month will achieve compliance with these rules.

## 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 error is 15% up until September 2009 and 12.5% from October 2009.

GGNZ switched in their first allocation group 4 and 6 ICPs in July 2009. Their initial and final submissions for the months examined (July to December 2009) were identical.

## 5.4 Forward Estimates (Rules 34 & 36)

GGNZ's reads all non-TOU meters monthly and does not have a forward estimate process.

## 5.5 Historic Estimates (Rules 34 & 35)

GGNZ reads all non-TOU meters monthly and does not have a historic estimate process. As noted in Section 5.2, the meter reading process results in consumption information being offset by at least one day. GGNZ's process for preparing consumption information does not correct this offset and therefore does not achieve compliance with rule 34.1.1, which is the requirement to create historic estimates.

## 5.6 Proportion of Historic Estimates (Rule 40.1)

All consumption information submitted to the allocation agent is based on actual meter readings and is considered "HE". The GAS040 files therefore contain 100% HE.

## 5.7 Billed vs Consumption Comparison (Rule 52)

The GAS070 (provision of aggregate monthly as-billed data) files were examined for the months May 2010 to April 2011. The totals in these files were the same as the TOU submission totals and the TOU invoice totals. The non-TOU as-billed data has not been included in the GAS070 file as required by this rule.

The content of the files was "proved" for TOU information by checking the bills in GGNZ's system for all ICPs for all gas gates for a particular month.

# 6. Recommendations

As a result of this performance audit the following recommendations are made in relation to GGNZ:

- Data collection agents send monthly "text" files as email attachments. This method is not considered secure and I recommend that these files be zipped with password protection to ensure their security during transmission.
- I recommend that GGNZ adopts an altitude correction process and uses the distributors' altitude figures and not those at the gas gates.
- Some ICPs are assigned to incorrect allocation groups. This has not affected meter reading frequency, however I recommend that GGNZ changes the registry records and ensures ICPs are assigned to the correct allocation groups.
- Event log and alarm log reporting is not reviewed as part of the TOU validation process. I recommend that this is included as a validation step.

A general recommendation is made in relation to billing factors. At the November 2009 Retailer's Forum the issue of "consistency of application of gas billing factors" was discussed. It was agreed that this forum would draft a guideline to assist with addressing this issue. Contact Energy produced a draft guideline and I recommend that this draft guideline be further developed into a "Guideline note" to assist participants with compliance with the rules, and to ensure the consistent application of the relevant factors.

# Appendix 1: Control Rating Definitions

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

# Appendix 2: GIC Comments

GAS INDUSTRY COMPANY LIMITED
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20 July 2011

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**Greymouth Gas performance audit**

Dear Steve

This letter is a formal response to the draft audit report of Greymouth Gas, which you released for comment by interested parties on 6 July 2011.

Gas Industry Co is concerned by the redactions that appear in the version of the report that was circulated to interested parties. This is a situation where it may be appropriate for the auditor to consider using his discretion to decline to withhold the information that has been identified as confidential from the audit report (r72).

As you are aware, the allocation process specified by the Rules depends crucially on the complete and accurate reporting of consumption data by retailers. This is a major reason why the auditing provisions exist: they provide allocation participants with the confidence that other participants are complying with the Rules and that there is a level playing field for all. Redacting information in an audit report detracts from an otherwise transparent audit process. It must therefore be done only in cases where there is genuinely commercially sensitive information; that is, information that would prejudice the commercial position of the owner or holder of the information if it were released.

While we acknowledge that rule 69 of the Gas (Downstream Reconciliation) Rules 2008 allows parties to identify information they consider to be commercially sensitive, the auditor has the final say in what is included in his audit report.

There are a number of redactions in the draft audit report that Gas Industry Co considers are unlikely to involve genuinely commercially sensitive information, including the following:

- Meter reading companies used (p. 6)

- New connections process (p. 14)
- Source of calorific values and processing in Greymouth's system (p. 17)
- Type of software used for data collection (p. 19)
- Formula used for compressibility (p. 19)

Gas Industry Co is aware that no other parties have sought to have this or any other information withheld, and we would expect to see some consistency in the treatment of information across audit reports.

Gas Industry Co expects that, if redactions appear in the final audit report, each case be annotated with the reason provided by Greymouth Gas as to why it considers the information to be commercially sensitive; that is, how its commercial position would be prejudiced if the information were to be released.

The performance audit of Greymouth Gas comes at the end of a programme of performance audits of all gas retailers. There has been a high degree of cooperation by retailers during the audit process, and, given this, Gas Industry Co considers that it would be a retrograde step to begin withholding audit report information without compelling reasons to do so.

Gas Industry Co requests that this letter be included in the final audit report.

Yours sincerely

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