

# Gas Downstream Reconciliation Performance Audit Final Report

For

# **Contact Energy Limited**

Prepared by: Tara Gannon Date of Audit: September – December 2023 Date Audit Report Complete: 15 January 2024

### **Executive Summary**

This Performance Audit was conducted at the request of the Gas Industry Company (GIC) in accordance with Rule 65 of the Gas (Downstream Reconciliation) Rules 2008 effective from 14 September 2015.

The purpose of this audit is to assess the systems, processes, and performance of Contact Energy Limited (Contact) 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: the commissioning and carrying out of performance audits and event audits, V3.0" which was published by GIC in June 2013.

The summary of report findings in the table below shows that Contact's control environment is effective for ten of the areas evaluated and acceptable for three areas. Two areas related to TOU data which is not used by Contact. Processes for ICP and metering set up information, meter interrogation requirements and non-TOU error correction need some improvement. This is primarily due to:

- discrepancies between the registry and SAP not being resolved promptly, leading to incorrect application of conversion factors and incorrect submission data for some ICPs,
- not consistently achieving monthly meter readings for allocation group 4 (AG4) ICPs, and
- not identifying all ICPs with consumption during inactive periods and processing corrections to ensure that the inactive consumption is reported.

Eight breach allegations have been made relating to:

- incorrect ICP and meter set up information,
- incorrect allocation groups and meter reading frequencies,
- corrections for inactive consumption which have not been processed,
- incorrect gas conversion for ICPs with correctors, and
- initial GAS040 submissions which were not within ±10% or < 200 GJ of the final submission.

Contact was aware of most of these issues prior to the audit, and has been proactively working on process improvements, including some which were implemented during the audit.

Contact is developing an electricity and gas exception management tool, which will review and compare SAP master data, SAP settlement data, and registry list master data to identify discrepancies between SAP and the registry, and inconsistencies where data is expected to be consistent. This reporting is currently under development and testing.

I have made six recommendations to improve future compliance, mostly relating to investigating issues found during the audit relating to specific ICPs, to hopefully prevent recurrence. The recommendations are listed in **section 6** and the relevant report sections.

Non-conformance and recommendations relating to ICP and meter information, including the timeliness of updates are made in the **2023 gas switching and registry audit report.** 

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	e Comments	
Transmission methodology and audit trails	1.5	Effective	Compliant		
ICP set up information	2.1	Needs improvement	Not compliant	The majority of ICP information checked in this section was accurate, but there were some errors in altitudes. 68 out of 68 ICPs sampled from a population of 9,000 ICPs with a different altitude recorded in SAP and the registry had an incorrect altitude recorded in SAP. 67 out of 68 were corrected during the audit and ICP 0000796051QTD51 should have an altitude of 84 but remains at 46. Eight of the errors resulted in altitude factors which were over the maximum permissible error in NZS 5259. Four of a sample of 170 ICPs checked had an incorrect altitude recorded in SAP, but the altitude was consistent with the registry value. One of the differences was over the maximum permissible error in NZS 5259. One out of 21 ICPs with zero altitude had an incorrect altitude recorded in SAP, but the altitude was consistent with the registry value. The difference was within the maximum permissible error in NZS 5259.	
Metering set up information	2.2	Needs improvement	Not compliant	There were some errors in metering set up information, but most did not have an impact on submission.	

# Summary of Report Findings

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
				Eight out of 16 ICPs with meter pressure differences had an incorrect meter pressure recorded in SAP and were corrected during the audit. Four of the differences were over the maximum permissible error in NZS 5259. Five pressure corrections had differences over the maximum permissible error in NZS 5259 and should have been corrected from the effective date rather than the next billed date.
Billing factors	2.3	Acceptable	Not compliant	Some incorrect billing factors were applied due to incorrect gas gates being recorded. 28 ICPs had incorrect gas gates in SAP, resulting in submission against and incorrect gas gate, and the temperature and compressibility factors being calculated using temperature data for the wrong area. 21 of the ICPs were connected to the same notional delivery point and had their gas gates corrected in SAP during the audit. They may have temperature factors applied which are outside the maximum permissible errors in NZS 5259. The other seven ICPs have SAP and registry gas gates that do not have the same notional delivery point and will be corrected in the back end of the database from the correct effective date by the SAP team. They may have temperature factors applied which are outside the maximum permissible errors in NZS 5259. Application of seasonal adjusted shape values for a different gas gate could result in read-to-read consumption being allocated to incorrect periods. Controls are assessed to be acceptable now that Contact has confirmed they will correct all gas gate discrepancies, instead of only those with a different notional delivery point.

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments	
Archiving of reading data	3.1	Effective	Compliant		
Meter interrogation requirements	3.2	Needs improvement	Not compliant 20 of a sample of 20 ICPs from a population of 119 ICPs with allocat discrepancies between SAP and the registry had an incorrect allocat recorded in SAP, leading to the volumes being reported against an in allocation group. This has no impact on the consumption allocation revised submission information will be washed up with the correct a groups.		
				54 ICPs in AG4 had a bi-monthly meter reading frequency assigned. I confirmed some were timing differences but six ICPs are still to have their read frequency corrected.	
				187 (19.8%) of AG4 ICPs did not have an actual reading in September or October 2023.	
				The impact is expected to be minor. 99.5% of AG4 ICPs had received an actual reading within the last 12 months and corrected submission data will be provided through the revision process provided that actual readings are received. The separate AG4 review completed in 2023 showed that the difference between actual and estimated data is likely to be immaterial.	
				The process could be improved by more closely monitoring meter reading frequencies for ICPs.	
Meter reading requirements	3.3	Acceptable	Not compliant	Some ICPs were not scheduled to be read frequently enough to support compliance with rule 29.4.3, including nine AG6 gas ICPs were invalidly moved to an electricity AMI read frequency when they are read manually and were corrected during the audit. All of the affected ICPs had readings within the last year apart from ICP 0004214007NG14D which had a last actual reading on 3 January 2020. ICP 0004214007NG14D was not continuously supplied for	

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
				the previous 12 months. It was supplied from 26/09/2017 to 16/01/2020, and from 06/05/2023 onwards.
Non-TOU validation	3.4	Effective	Compliant	
Non-TOU error correction	error correction 3.5 Needs improvement Not compliant		Not compliant	Eight out of 16 ICPs with meter pressure differences had an incorrect meter pressure recorded in SAP and were corrected during the audit. Four of the differences were over the maximum permissible error in NZS 5259.
				Five pressure corrections had differences over the maximum permissible error in NZS 5259 and should have been corrected from the effective date rather than the next billed date.
				55 ICPs with genuine inactive consumption were identified by Contact as part of this audit's information request.
				Most were corrected during the audit by either updating the status to active or correcting meter readings. There are seven ICPs which still require correction:
				1000611541PGB21 5.105 GJ between 3 June 2023 until 15 August 2023.
				1000573411PG781 3.172 GJ between 30 June 2023 and September 2023.
				0000518501QTF61 0.742 GJ between 9 August 2023 and September 2023.
				0000563561QT5C8 2.826 GJ between 7 June 2023 and September 2023.
				1002092089QT0B1 4,813 GJ between 31 May 2023 and September 2023.
				An over estimated customer final read made it appear that ICP 0002378313QTD02 had inactive consumption of 11 kWh. Contact intends to issue a read renegotiation to correct this.

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments	
TOU validation	3.6	Not applicable – all ICPs are settled as non-TOU			
Energy consumption calculation	4	Acceptable	Not compliant	Not compliantTOU metered ICPs 0000953421QTD8B and 1001133052QTBC8 have had incorrect submission volumes provided to the allocation agent.Controls are effective for non-TOU metered ICPs which make up almost all the ICPs supplied. Controls are not adequate for TOU metered ICPs, but Contact intends to investigate the issues and provide revised submission dat I have assessed the controls as adequate overall and the impact as minor because revised submission data will be washed up.	
TOU estimation and correction	5.1	Not applicable – all ICPs are settled as non-TOU			
Provision of retailer consumption information	5.2	Effective	Compliant		
Initial submission accuracy	5.3	Effective	Not compliant	Contact did not meet the requirement for initial submissions to be within ±10% or < 200 GJ of the final submission each gas gate 349 times for submission periods between November 2018 and June 2022. Controls are in place to reduce the quantity of forward estimate and detect inaccurate forward estimates. Meter read attainment processes help to ensure that reads are obtained. Submission information is reviewed before being provided to the allocation agent to identify inaccurate forward estimate.	

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
Forward estimates	5.4	Effective	Compliant	The forward estimate process is compliant. Three ICPs unexpectedly had forward estimate calculated when validated readings were available and I recommend they are investigated.
Historic estimates	5.5	Effective	Compliant	
Proportion of HE	5.6	Effective	Compliant	
Billed vs consumption comparison	5.7	Effective	Compliant	
Gas Trading Notifications	5.8	Effective	Compliant	

## Persons Involved in This Audit

Auditor:

Tara Gannon

#### Provera

Contact personnel assisting in this audit were:

Name	Title
Aaron Wall	Portfolio Analyst
Aiden McGillicuddy	Automation Specialist
Azmin Hamin	Field connections team - Gas help desk
Caitlin Molenaar	Wellbeing Team Member
Darcey Hewitt	Operations Team Member
Darren Law	Contractor lead
Guannan (Grace) Sun	Billing team
lan Woodley	Operations Team Member
lan Woodley	Field connections team - Gas help desk
KP Chiew	Senior Portfolio Analyst
Liam Payne	Operations Team Member
Maryanne Anderson	OSX new connections team leader
Matthew Drew	Operations team member Kotahi Matou
Melany Curley	Billing team leader
Nagham Anayi	External Customer Solutions Specialist
Narinder Kumar	Manager, Portfolio Operations

Name	Title
Nathan Joyce	Network Operations Analyst
Paul Robson	Operations Team Member

#### Service providers assisting with processes within the audit scope:

Company	Processes
MRS	Meter reading

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### 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 Gas (Downstream Reconciliation) Rules 2008 effective from 14 September 2015. 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, V3.0" which was published by GIC in June 2013.

The audit was completed remotely using Microsoft Teams between 21 November 2023 and 27 November 2023.

The scope of the audit includes "downstream reconciliation" only. 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 Contact 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 Contact 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.<sup>1</sup>

Where calculations are performed by Contact'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.

<sup>&</sup>lt;sup>1</sup> In statistics, a result is considered statistically significant if it is unlikely to have occurred by chance. (Wikipedia)

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

### **1.3 General Compliance**

### 1.3.1 Summary of Previous Audit

The previous audit was completed in 2020 by Veritek Limited.

The table below shows the issues found during the audit and whether they have been resolved.

Breach Allegation	Rule	Section in this report	Resolution
Breach notice 2021-006 For ICP 1002055361QTBCC the altitude used to calculate the altitude factor matches the registry but does not match the actual altitude of the ICP. The difference resulted in the altitude factor applied being outside of the maximum permissible error under NZS 5259:2015.	GDRR 28.2	2.1.2	Awaiting decision from the market administrator. Further non-conformance was found during this audit.
Breach notice 2021-007 30 ICPs had pressure discrepancies which resulted in differences outside the maximum permissible errors allowed in NZS 5259:2015.	GDRR 28.2	2.2	Awaiting decision from the market administrator. Further non-conformance was found during this audit.
Breach notice 2021-008 From 20 August 2019 until 26 July 2020 gas composition data in SAP was estimated based on the last value recorded, when actual data was available, resulting in some calorific values outside the maximum permissible error allowed under NZS 5259:2015. Correct gas composition data has been loaded into SAP, and revised volumes will be washed up. Additional controls over the process have been implemented.	GDRR 28.2	2.3.2	Awaiting decision from the market administrator. No further non-conformance was found during this audit.
Breach notice 2021-009 ICPs 0000953421QTD8B (1 July 2008 onwards), 1001133052QTBC8 (1 July 2008 onwards), 0000298891QTFA0 (21 November 2017 to 30 September 2020), and 0000322631QT591 (5 April 2017 to 21 May 2020) have TOU metering and consume more	GDRR 29.2	3.2	The Market Administrator did not raise any material issues. ICPs 0000953421QTD8B and 1001133052QTBC8 are still supplied. The Gas Industry Company acknowledges that the allocation group rules for ICPs with TOU flag set to Y and consumption of less than

Breach Allegation	Rule	Section in this report	Resolution
than 250 GJ pa but have allocation group 4 assigned.			10,000 GJ per annum are unclear. Rule 29.2.1 states that if TOU metering is installed the ICP should be in AG1 or AG2 and rule 29.3 states that ICPs in AG5 or AG6 may have TOU metering. These rules are being revisited by the Gas Industry as part of a statement of proposal. I have recorded compliance for this audit because rules 29.2.1 and 29.3 are inconsistent, and Contact is compliant with rule 29.3.
Breach notice 2021-010 239 allocation group 4 ICPs did not have actual meter readings recorded in the previous month as of July 2020.	GDRR 29.4.2	3.2	Awaiting decision from the market administrator. Further non-conformance was found during this audit.
Breach notice 2021-011 Exceptional circumstances not demonstrated for one ICP not read in the 12 months ending July 2020.	GDRR 29.4.3	3.3	The Market Administrator did not raise any material issues. No further non-conformance was found during this audit.
Breach notice 2021-012 The meter reading attainment requirements were not consistently met between July 2019 and November 2019.	GDRR 29.5	3.3	The Market Administrator did not raise any material issues. No further non-conformance was found during this audit for the sample checked.
Breach notice 2021-013 The correction for inactive consumption for ICP 0000060471QT952 excluded consumption between 28 May 2020 and 29 June 2020, and a further correction is to be completed.	GDRR 26.2	3.5	The Market Administrator did not raise any material issues. Further non-conformance was found during this audit.
Breach notice 2021-014 The initial submission accuracy did not meet the required accuracy percentage for some gas gates for the period May 2017 to May 2019.	GDRR 37.2	5.3	The Market Administrator did not raise any material issues. Further non-conformance was found during this audit.

The table below shows the recommendations made during the previous audit and whether they have been adopted.

Section	Recommendation	Status
2.2	Identify any ICPs where register content codes, the TOU metering flag and metering details are inconsistent, to confirm which values are correct. Any ICPs which genuinely have TOU metering should be settled as TOU.	Not adopted. ICPs 0000953421QTD8B and 1001133052QTBC8 are still supplied. The Gas Industry Company acknowledges that the allocation group rules for ICPs with TOU flag set to Y and consumption of less than 10,000 GJ per annum are unclear. Rule 29.2.1 states that if TOU metering is installed the ICP should be in AG1 or AG2 and rule 29.3 states that ICPs in AG5 or AG6 may have TOU metering. These rules are being revisited by the Gas Industry as part of a statement of proposal. I have recorded compliance for this audit because rules 29.2.1 and 29.3 are inconsistent, and Contact is compliant with rule 29.3.
2.3.1	Ensure that inputs into the gas conversion process are correct:	
	Continue with work to investigate the bypassing of billing locks for inputs into the gas conversion process for reconciliation data including gas gate, altitudes, and pressures, to allow conversion factors to be applied for the correct date range.	Not adopted.
	Review processes to ensure the correct gas gate is assigned for backdated changes to gas gate information during Contact's period of supply for ICPs which have switched out or been decommissioned, and ICPs which have previously been supplied which switch back in.	Adopted.
3.2	Update ICP allocation groups as soon as practicable, instead of waiting for the meter reading schedule to be updated.	Adopted.
3.4	I recommend that the Bot read validation processes are reviewed, and corrective action is taken if the processes are not consistently operating as intended. Issues have already been identified by Contact for the following validation processes: treatment of returned control readings, which	Adopted. The robot validation processes have been refined and improved since the 2020 audit. Control/check readings are reviewed by a user and no examples of robots incorrectly classifying readings or releasing readings were identified during the audit.
	have been released by Bots although they are required to always be reviewed by a user,	
	treatment of inactive consumption, including misclassification of actual readings, and	
	release of readings where disconnection or reconnection is in progress.	
3.5	Improve monitoring of field services jobs, to ensure that field service visit results are	Adopted. Field services jobs are monitored and followed up at least weekly.

Section	Recommendation	Status
	promptly received and reviewed, and corrective action can be taken if necessary.	
3.5	Improve the timeliness of identification and correction of meter pressure discrepancies.	Adopted. Contact completes monthly validation of pressure discrepancies and endeavours to make corrections promptly.
3.5	Develop a procedure to manage creeping meters. As part of this process Contact should check paperwork to confirm that the ICP was successfully disconnected and set a threshold for maximum expected consumption for meter creep. If the consumption is above the threshold, I recommend investigating to determine whether the ICP has been reconnected and taking corrective action as required.	Not adopted. A formal limit for creeping meters has not been documented, but the Gas Help Desk staff investigating these issues are experienced.
4	Consider displaying a breakdown of conversion factors for each read-to-read period in SAP's front end, including temperature factor (and temperature applied), compressibility factor, pressure factor (and pressure applied) and altitude factor (and altitude applied), and calorific value.	Adopted.

## 1.3.2 Breach Allegations

Contact has 11 alleged downstream reconciliation breaches recorded by the Market Administrator since September 2020. A summary of the breaches is shown in the table below.

Breach notice number	Breach month	Underlying breaches	Rule allegedly breached	Details	Outcome
2021-006	Feb-21	1	28.2	Raised following previous audit: For ICP 1002055361QTBCC the altitude used to calculate the altitude factor matches the registry but does not match the actual altitude of the ICP. The difference resulted in the altitude factor applied being outside of the maximum permissible error under NZS 5259:2015.	Awaiting decision by Market Administrator
2021-007	Feb-21	30	28.2	<u>Raised following previous audit</u> : 30 ICPs had pressure discrepancies which resulted in differences outside the maximum permissible errors allowed in NZS 5259:2015.	Awaiting decision by Market Administrator
2021-008	Feb-21	1	28.2	Raised following previous audit: From 20/08/19 until 26/07/20 gas composition data in SAP was estimated based on the last	Awaiting decision by

Breach notice number	Breach month	Underlying breaches	Rule allegedly breached	Details	Outcome
				value recorded, when actual data was available, resulting in some calorific values outside the maximum permissible error allowed under NZS 5259:2015.	Market Administrator
				Correct gas composition data has been loaded into SAP, and revised volumes will be washed up. Additional controls over the process have been implemented.	
2021-009	Feb-21	4	29.2	Raised following previous audit: ICPs 0000953421QTD8B (01/07/08 onwards), 1001133052QTBC8 (01/07/08 onwards), 0000298891QTFA0 (21/11/17 - 30/09/20), and 0000322631QT591 (05/04/17 - 21/05/20) have TOU metering and consume more than 250 GJ pa but have allocation group 4 assigned.	Not material
2021-010	Feb-21	239	29.4.2	Raised following previous audit: 39 allocation group 4 ICPs did not have actual meter readings recorded in the previous month as of July 2020.	Awaiting decision by Market Administrator
2021-011	Feb-21	1	29.4.3	Raised following previous audit: Exceptional circumstances not demonstrated for one ICP not read in the 12 months ending July 2020.	Not material
2021-012	Feb-21	1	29.5	<u>Raised following previous audit</u> : The meter reading attainment requirements were not consistently met between July 2019 and November 2019.	Not material
2021-013	Feb-21	1	26.2	Raised following previous audit: The correction for inactive consumption for ICP 0000060471QT952 excluded consumption between 28/05/20 and 29/06/20, and a further correction is to be completed.	Not material
2021-014	Feb-21	971	37.2	Raised following previous audit: The initial submission accuracy did not meet the required accuracy percentage for some gas gates for the period May 2017 to May 2019.	Not material
2021-050	Jun-21	17	26.2.1, 26.2.2, 26.2.3	For a number of consumption periods between September 2018 and September 2020 Contact provided incorrect information to the Allocation Agent for ICP 0000953421QTD8B (gas gate RAM15201).	Awaiting decision by Market Administrator

Breach notice number	Breach month	Underlying breaches	Rule allegedly breached	Details	Outcome
2023-006	Mar-23	200	29.4.2	Not all Allocation Group 4 ICPs have been read each month.	Awaiting decision by Market Administrator

As noted in the Summary of Report Findings, this audit recorded non-conformance in eight sections leading to eight breach allegations, as shown in the table below.

Breach Allegation	Rule	Section in this report
68 out of 68 ICPs sampled from a population of 9,000 ICPs with a different altitude recorded in SAP and the registry had an incorrect altitude recorded in SAP. 67 out of 68 were corrected during the audit and ICP 0000796051QTD51 should have an altitude of 84 but remains at 46. Eight of the errors resulted in altitude factors which were over the maximum permissible error in NZS 5259.	28.2	2.1.2
Four of a sample of 170 ICPs checked had an incorrect altitude recorded in SAP, but the altitude was consistent with the registry value. One of the differences was over the maximum permissible error in NZS 5259.		
One out of 21 ICPs with zero altitude had an incorrect altitude recorded in SAP, but the altitude was consistent with the registry value. The difference was within the maximum permissible error in NZS 5259.		
The impact is moderate because some of the differences were over the maximum permissible errors set out in NZS 5259.		
Eight out of 16 ICPs with meter pressure differences had an incorrect meter pressure recorded in SAP and were corrected during the audit. Four of the differences were over the maximum permissible error in NZS 5259.	28.2	2.2
Five pressure corrections had differences over the maximum permissible error in NZS 5259 and should have been corrected from the effective date rather than the next billed date.		

Breach Allegation	Rule	Section in this report
28 ICPs had incorrect gas gates in SAP, resulting in submission against and incorrect gas gate, and the temperature and compressibility factors being calculated using temperature data for the wrong area.	28.2	2.3.1
21 of the ICPs were connected to the same notional delivery point and had their gas gates corrected in SAP during the audit. They may have temperature factors applied which are outside the maximum permissible errors in NZS 5259.		
The other seven ICPs have SAP and registry gas gates that do not have the same notional delivery point and will be corrected in the back end of the database from the correct effective date by the SAP team. They may have temperature factors applied which are outside the maximum permissible errors in NZS 5259. Application of seasonal adjusted shape values for a different gas gate could result in read-to-read consumption being allocated to incorrect periods.		
Controls are assessed to be acceptable now that Contact has confirmed they will correct all gas gate discrepancies, instead of only those with a different notional delivery point.		
20 of a sample of 20 ICPs from a population of 119 ICPs with allocation group discrepancies between SAP and the registry had an incorrect allocation group recorded in SAP, leading to the volumes being reported against an incorrect allocation group. This has no impact on the consumption allocation itself, and revised submission information will be washed up with the correct allocation groups.	29.4.2	3.2
54 ICPs in AG4 had a bi-monthly meter reading frequency assigned. I confirmed some were timing differences but six ICPs are still to have their read frequency corrected.		
187 (19.8%) of AG4 ICPs did not have an actual reading in September of October 2023.		
The impact is expected to be minor. 99.5% of AG4 ICPs had received an actual reading within the last 12 months and corrected submission data will be provided through the revision process provided that actual readings are received. The separate AG4 review completed in 2023 showed that the difference between actual and estimated data is likely to be immaterial.		
The process could be improved by more closely monitoring meter reading frequencies for ICPs.		
Some ICPs were not scheduled to be read frequently enough to support compliance with rule 29.4.3, including nine AG6 gas ICPs were invalidly moved to an electricity AMI read frequency when they are read manually and were corrected during the audit. All of the affected ICPs had readings within the last year apart from ICP 0004214007NG14D which had a last actual reading on 3 January 2020. ICP 0004214007NG14D was not continuously supplied for the previous 12 months. It was supplied from 26/09/2017 to 16/01/2020, and from 06/05/2023 onwards.	29.4.3	3.3

Breach Allegation	Rule	Section in this report
55 ICPs with genuine inactive consumption were identified by Contact as part of this audit's information request.	26.2	3.5
Most were corrected during the audit by either updating the status to active or correcting meter readings. There are seven ICPs which still require correction:		
1000611541PGB21 5.105 GJ between 3 June 2023 until 15 August 2023.		
1000573411PG781 3.172 GJ between 30 June 2023 and September 2023.		
0000518501QTF61 0.742 GJ between 9 August 2023 and September 2023.		
0000563561QT5C8 2.826 GJ between 7 June 2023 and September 2023.		
1002092089QT0B1 4,813 GJ between 31 May 2023 and September 2023.		
An over estimated customer final read made it appear that ICP 0002378313QTD02 had inactive consumption of 11 kWh. Contact intends to issue a read renegotiation to correct this.		
TOU ICPs 0000953421QTD8B and 1001133052QTBC8 have had incorrect submission volumes provided to the allocation agent.	28.2	4
Controls are effective for non-TOU metered ICPs which make up almost all the ICPs supplied. Controls need improvement for TOU metered ICPs, but Contact intends to investigate the issues and provide revised submission data. I have assessed the controls as acceptable overall and the impact as minor because revised submission data will be washed up.		
Contact did not meet the requirement for initial submissions to be within ±10% or < 200 GJ of the final submission each gas gate 349 times for submission periods between November 2018 and June 2022.	37.2	5.3
Controls are in place to reduce the quantity of forward estimate and detect inaccurate forward estimates. Meter read attainment processes help to ensure that reads are obtained. Submission information is reviewed before being provided to the allocation agent to identify inaccurate forward estimate.		

A breach allegation is also raised for one distributor in relation to an incorrect altitude recorded on the registry:

Breach Allegation	Participant	Rule	Section in this report
1002162590QT0B8 was recorded in the registry with an altitude of 446, but the correct altitude is 46. This resulted in an altitude factor error outside the maximum permissible errors set out in NZS 5259.	UNLG	GDRR 26.5.1 and 26.5.4	2.1.2

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

In conducting this audit, the auditor may request any information from Contact, the industry body and any registry participant. Information was provided by Contact in a timely manner in accordance with 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 2015 Amendment Version 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 responses were received:

Party	Response	Comments provided	Included in report
Contact Energy	Comments on the draft audit report	31/01/2024 by email	Contact Energy's comments have been added to the remedial action and audited party comment sections of the non- compliance and recommendation boxes within this report.
			In addition to the comments in the boxes:
			<ul> <li>References to ICP 0004214007NG14D not receiving an actual read in the previous 12 months have been updated to reflect that the ICP was not continuously supplied for the previous 12 months. It was supplied from 26/09/2017 to 16/01/2020, and from 06/05/2023 onwards.</li> </ul>
			<ul> <li>In the summary of report findings and sections 1.3.2 and 3.5 I corrected the wording from "An over estimated switch out read made it appear that ICP 0002378313QTD02 had inactive consumption of 11 kWh." to "An over estimated customer final read made it appear that ICP 0002378313QTD02 had inactive consumption of 11 kWh."</li> </ul>

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

The audit trail was evaluated 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..."

Files are submitted through the allocation agent portal and then archived through TIBCO and imported into SAP for future reference.

The reconciliation team uses checklists each month to ensure that all reconciliation related tasks are completed, from validation and generation of reconciliation reports, through to receiving and reviewing results provided by the allocation agent.

Three people are trained to complete reconciliation processes and two people are scheduled to take responsibility each month. The Senior Portfolio Analyst and Portfolio Analysts monitor progress using the checklists. I reviewed a sample of completed checklists and confirmed that submissions were made on time, and all tasks were completed.

### 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. I have also considered the Gas (Downstream Reconciliation) Rules 2008 Billing factors guideline note v1.0 (Billing Factors Guideline) published by GIC on 30 November 2015 when examining the set up and maintenance of information.

### 2.1 ICP Set Up Information

### 2.1.1 New Connections Process

#### New connection process

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

The customer or their agent applies to the local gas distributor for a new connection. The distributor requests approval from Contact as the proposed retailer via email or their portal or system.

Contact checks they have received a customer application and/or contacts the customer to obtain confirmation that the new connection is to go ahead, and that Contact will be the retailer, and advises the distributor. Jobs to create the new connection and install a meter are raised, via email or using the distributor and meter owner's portal or system.

Connection paperwork is returned to Contact once the installation is complete and loaded into ORB, and then SAP is updated and the ICP is claimed on the registry with ACTC-GAS status. The ICP and metering details are copied from the registry user interface, pasted into SAP and validated against the paperwork at the same time. If any details are different, they will be queried with the distributor and/or meter owner. Meter readings are entered into SAP from the connection paperwork.

New connections are monitored twice weekly using a report of ICPs at ready status, in ORB and using the distributor portals and systems. There is also weekly reporting on jobs outstanding in ORB.

#### New connection information timeliness

Consumption information will not be provided to the allocation agent unless the ICP has an active status and metering recorded in SAP. Under rule 54, retailers are required to claim the ICP on the registry and move it to an active or inactive status within two business days of entering into an agreement with the customer.

I reviewed the "Maintenance Breach History Report (RET breaches)" report, and checked a sample of the ten latest updates, and a random sample of 20 updates made more than 20 business days after the effective date. 22 of the 30 updates did not occur within two business days of entering into a contract to supply gas to the consumer. This is recorded as non-conformance in **section 2.1.1** of the **2023 gas switching and registry audit report**.

Contact runs twice weekly reports of all ICPs at GIR (ready) status on the registry with Contact as the proposed retailer. The report is reviewed to identify ICPs which have a meter installed on the registry, which are checked to determine whether paperwork has been received so that the ICP can be updated in SAP and claimed on the registry. Any ICPs with missing paperwork are followed up with the meter owner and/or distributor. I checked the "RSREADY" report for September 2023

which contained 272 ICPs at GIR (ready) status, where Contact was the proposed retailer and found they were timing differences, were not connected or Contact had not received an application.

#### 2.1.2 Altitude Information

#### Altitude factor calculation

It is a retailer responsibility to comply with NZS 5259 for the conversion of volume to energy. NZS 5259 states that:

- an altitude factor must be applied unless absolute pressure is measured directly by the meter and is used to calculate the pressure factor, and
- the maximum permissible error for the altitude factor is ±1.0% where the meter pressure is less than or equal to 100kPa, and ±0.5% where the meter pressure is greater than 100kPa.

Contact does not supply any ICPs where the meter records absolute meter pressure, and all ICPs have an altitude factor applied as part of the conversion process.

I manually calculated the altitude factor for a sample of ICPs with different altitudes and meter pressures and compared the results to the altitude factors calculated by SAP. All the altitude factors were within the permissible error limits in NZS 5259, confirming that the altitude factor calculation process is operating correctly.

#### Altitude accuracy

It is a distributor's responsibility to populate the registry with correct altitude information to support the retailer's compliance with NZS 5259.

Altitude is populated in SAP from the distributor's registry information and is manually copied and pasted from the registry for new connections. Current values for altitude are validated against the registry monthly using SAS reports, and a Databricks report is under development.

Where discrepancies are found, the External Customer Solutions Specialist completes a bulk update to master data in SAP, which makes the change effective from the day after the last read date. If there is an open meter read order or an estimated read, an exception is created and the updates for affected ICPs are reprocessed once actual reads are available. This can take three to four months after the first attempt, because reads are scheduled every second month.

Billing locks prevent altitudes from being updated for dates which have already been billed. It is possible to change the altitude from an earlier date by reversing the bills or requesting the SAP team change the data in the background.

I compared each ICP's altitude in SAP to the registry list and found 9,000 ICPs had altitude differences. NZS 5259 recommends that altitude values are determined to within ±10m where practicable, and 372 ICPs had differences over ±10m. Allowing for the SAP and registry altitudes to both have a ±10m margin of error, there were 79 ICPs with altitude differences over ±20m.

Distributor	ICPs with altitude differences	ICPs with altitude differences over ±10m	ICPs with altitude differences over ±20m	ICPs with altitude differences over ±50m	Maximum difference
GNET	4	-	-	-	-5
NGCD	25	10	7	4	-397

Distributor	ICPs with altitude differences	ICPs with altitude differences over ±10m	ICPs with altitude differences over ±20m	ICPs with altitude differences over ±50m	Maximum difference
РОСО	166	41	32	7	-174
UNLG	8,805	321	40	3	-349
Total	9,000	372	79	14	-397

I checked all differences over ±20m for NGCD, and all differences over ±25m for POCO and UNLG. In all cases, Contact had an incorrect altitude recorded in SAP which had not yet been updated through the monthly validation process. For some ICPs the network pressure was entered into the altitude field by mistake. The names of the fields in SAP do not match the registry which sometimes creates confusion; altitude is referred to as "air pressure area" in SAP and network pressure is referred to as "gas pressure area". The incorrect altitudes were corrected during the audit apart from ICP 0000796051QTD51 which should have an altitude of 84 but remains at 46.

The maximum permissible error allowed by NZS 5259 for altitude factors is ±1.0% where meter pressure is less than 100 kPa, and ±0.5% where meter pressure is greater than or equal to 100 kPa. The following differences resulting in altitude factor differences which were over the maximum permissible limits, and I found that the ICPs had been supplied for several years without a correction being processed.

ICP	Network pressure	SAP Altitude	Registry altitude	Meter pressure	Difference	Supplied with registry altitude since
0007001665NG4EC	400	400	3	1.5	-4.60%	1 September 2020
1001298555NG07D	400	400	16	2.75	-4.41%	26 February 2020
0003019978NG91F	400	400	45	1.5	-4.14%	9 March 2021
0000233521QT112	400	400	51	1.5	-4.07%	13 May 2021
1002106797QT3AD	400	409	70	2.75	-3.91%	31 March 2021
0004001386NGC58	400	400	86	2.75	-3.63%	20 December 2019
0001392802QT012	118	181	7	2.5	-2.00%	10 December 2020
1000566630PG357	315	118	7	7	-1.22%	10 March 2021

Altitudes recorded in SAP and the registry are not checked for reasonableness. I checked ICP altitudes for a sample of 170 ACTC and ACTV ICPs with non-zero altitudes on the registry list against Google Earth's altitude for the address. Approximately half the ICPs sampled had the highest and lowest non-zero altitudes, and the other half were selected at random.

Distributor	Total ACTC and ACTV non-TOU ICPs	ICPs checked	Quantity outside 10m	Quantity outside 20m	Quantity outside 90m
UNLG	36,727	60	11	3	1

Distributor	Total ACTC and ACTV non-TOU ICPs	ICPs checked	Quantity outside 10m	Quantity outside 20m	Quantity outside 90m
NGCD	10,399	40	3	1	-
РОСО	23,300	50	2	2	-
GNET	1,249	20	-	-	-
Total	71,675	170	16	6	1

For POCO and GNET all ICPs checked had correct altitudes recorded.

For NGCD one ICP had an incorrect altitude and was corrected in SAP and the registry during the audit. The difference was not over the maximum permissible errors allowed under NZS 5259.

For UNLG three ICPs had incorrect altitudes and were corrected in SAP and the registry during the audit. One difference was over the maximum permissible errors allowed under NZS 5259. An alleged breach is recorded for UNLG in relation to this ICP in **section 1.3.2**.

ІСР	Correct altitude	SAP Altitude	Registry altitude	Meter pressure	Difference
1002162590QT0B8	46	446	446	2.75	-4.60%

I checked ICPs with zero altitudes recorded in SAP and on the registry for accuracy. ICP 1001293545NG530's altitude should have been 45, and the altitude was corrected in the registry and SAP during the audit. The difference was not over the maximum permissible errors allowed under NZS 5259.

Distributor	Total ACTC and ACTV non-TOU ICPs	ICPs with altitude of zero	ICPs checked	Quantity outside 10m	Quantity outside 20m
UNLG	36,727	-	-	-	-
NGCD	10,399	20	20	-	1
РОСО	23,300	1	1	-	-
GNET	1,249	-	-	-	-
Total	71,675	21	21	-	1

A recommendation to improve validation and correction processes for altitude is made in **section 8** of the **2023 gas switching and registry audit report.** 

Altitude information						
Non-compliance	Descrip	tion	ion			
Report section: 2.1.2Audit his YesRule: 28.2Controls Needs improveFrom: 20 December 2019 To: 27 November 2023Controls Needs improve		istory: s: ement	68 out of 68 ICPs sampled from a population of 9,000 ICPs with a different altitude recorded in SAP and the registry had an incorrect altitude recorded in SAP. 67 out of 68 were corrected during the audit and ICP 0000796051QTD51 should have an altitude of 84 but remains at 46. Eight of the errors resulted in altitude factors which were over the maximum permissible error in NZS 5259.			
	Impact: Moderate		Four of a sample of 170 ICPs checked had an incorrect altitude recorded in SAP, but the altitude was consistent with the registry value. One of the differences was over the maximum permissible error in NZS 5259.			
			One out of 21 ICPs with zero altitude had an incorrect altitude recorded in SAP, but the altitude was consistent with the registry value. The difference was within the maximum permissible error in NZS 5259.			
			The impact is moderate because some of the difference were over the maximum permissible errors set out in N2 5259.			
Remedial action rating		Remedial timeframe		Remedial comment		
Completed		28/01/2024		ICP: 0000796051QTD51- correction has been completed.		
In progress		May 2024		Review processes and process documentation for correcting altitude details in SAP to better understand and prevent potential impacts on submission.		
In progress		June 2024		Implement refresher training for individuals involved in the manual configuration of gas meters in SAP. Subsequent to the training, we will introduce a monitoring/spot check mechanism for a duration of 3 months to ensure the training was effective.		
Audited party comment						
The circumstances of the matters outlined in the breach notice.		We have identified knowledge gaps in the updating of altitude de in our system, due to the recent transition of gas meter setup processes to a different team. This change has resulted in the potential for data entry errors to occur.		e gaps in the updating of altitude details ent transition of gas meter setup . This change has resulted in the s to occur.		
Whether or not the participa admits or disputes that it is breach.	ant in	Contact admits to the breach.				

Estimate of the impact of the breaches (where admitted).	Minor
What steps or processes were in place to prevent the breaches?	Within our gas meter configuration processes, we depend on the altitude information within the Gas Registry being the source of truth.
	In addition, we run monthly discrepancy reporting to identify all altitude discrepancies between the Gas Registry and our internal systems (SAP) which may have arisen because of data entry errors.
What steps have been taken to prevent recurrence?	We are exploring the possibility of increasing the frequency of our Altitude discrepancy reporting. Furthermore, we are completing a review of our existing documentation to ensure they align with current operational practices, and upon completion, will setup refresher training sessions for those involved.

### 2.2 Metering Set-up Information

Metering information is determined from the registry and meter paperwork provided by the meter owner. Contact has a set of validation processes and reports to identify and resolve discrepancies, which were demonstrated during the audit. The validation compares SAP data to registry data for all relevant fields. All ICPs are settled as non-TOU and correction processes are discussed in **section 3.5**.

#### Meter pressure

Meter pressure in kPaG is stored against the meter in a static field in SAP. SAP's gas conversion process applies the meter pressure value at the time of billing. Once billed, the pressure value is "locked" for that read-to-read period and cannot be changed, unless the bill is reversed.

When pressure changes coincide with a physical meter change, the new pressure will be loaded on the new meter and correctly applied. Where pressure changes are backdated corrections, or physical changes which do not coincide with the meter change, the process varies depending on whether the correct pressure is higher or lower than what has been recorded in SAP.

If the correct meter pressure is higher than what was recorded in SAP, SAP will be adjusted effective from the day after the last invoice date. The reconciliation team will process an adjustment to the submission records for any earlier periods affected and will ensure that the full correction is captured within the 12-month period.

If the correct meter pressure is lower than what was recorded in SAP, bills will be reversed for all affected customers and the correct pressure will be applied from the pressure change date. If the correction is backdated more than 12 months, the reconciliation team will adjust submission records to ensure that the full correction is captured within the 12-month period.

I compared the meter pressure in SAP to the registry list for each ACTC and ACTV ICP where the meter number had matched, or I could confirm that the meter number difference related to a different prefix or suffix. I found 16 differences:

- six were timing differences and the registry was updated after the list report was run,
- two differences were TOU ICPs without meter pressure recorded on the registry, and
- the other eight ICPs had incorrect meter pressures recorded in SAP, and SAP was updated from the day after the last billed date during the audit; the maximum permissible error

ICP	Registry serial number	SAP meter pressure	Registry meter pressure	Factor difference	Supplied with registry meter pressure since
0000328151QTB23	288172	1.5	2.5	-0.96%	7 September 2015
0000117651QT4B5	19M599902	30	3	25.88%	7 October 2020
1000543207PGB89	R000013207	33.5	35	-1.10%	23 August 2022
0000279561QT662	264080	1.5	2.5	-0.96%	11 June 2023

allowed by NZS 5259 for pressure factors is  $\pm 0.9\%$  and four of the eight differences were over the maximum permissible error.

Eight examples of differences between SAP and the registry were provided and checked, which confirmed that the meter pressure had been corrected in SAP from the day after the last invoice in May 2023. The maximum permissible error allowed by NZS 5259 for pressure factors is  $\pm 0.9\%$ . Five of the eight differences were over the maximum permissible limits and should have been corrected from the effective date instead of May 2023.

ICP	Registry serial number	SAP meter pressure	Registry meter pressure	Factor difference	Supplied with registry meter pressure since
0007001118NG1E8	600584458	1.5	2.75	-1.20%	22 December 2022 until switch out 6 June 2023
0002194661QT3FA	600681089	1.5	2.5	-0.96%	17 March 2023
0003007679NGA74	600649280	2.5	1.5	0.97%	20 September 2022
0000072801QTBA2	10L699178	14	140	-52.21%	27 April 2023 until replaced 3 June 2023
1000543207PGB89	R000013207	3.5	35	-23.11%	28 June 2022

I rechecked previous audit exceptions and confirmed that where the ICPs were active and still supplied by Contact, the pressure is recorded correctly in SAP.

#### Meter numbers

There are no comparisons between SAP and the registry to identify meter serial number differences. Contact relies on its meter readers to identify differences between the meter serial numbers advised by Contact and those on site, and its meter installation, removal and change process to ensure that the correct meters are recorded in SAP.

I compared each ACTC and ACTV ICP's meter number in SAP to the registry list and found 881 differences. 795 were confirmed to be prefix or suffix differences, leaving 86 ICPs believed to have genuine meter number differences. I checked a sample of 25-meter number differences and found:

- 13 ICPs had an incorrect meter number recorded in SAP and were investigated and corrected during the audit,
- ICP 0000044771QT51C is under investigation to confirm which meter is present at the address, after Contact received notification from the meter reader,
- nine ICPs had correct metering details recorded in SAP, and the meter owner's registry data was corrected after the report was run, and

• one TOU ICP that had two different meter numbers had TOU metering, and the meter and corrector number are recorded in SAP.

Non-conformance for the incorrect meter numbers and a recommendation to improve validation and correction processes are made in **section 8** of the **2023 gas switching and registry audit report.** 

#### **Meter digits**

There are no comparisons between SAP and the registry to identify meter digit differences. Contact relies on its meter readers to identify differences between the meter digits advised by Contact and those for meters installed on site, and its meter installation, removal and change process to ensure that the correct number of digits are recorded in SAP.

I compared the meter digits in SAP to the registry list for each ACTC and ACTV ICP where the meter number had matched, or I could confirm that the meter number difference related to a different prefix or suffix. There were 20 genuine differences:

- two differences were for TOU ICPs where the number of digits is not recorded on the registry,
- for 12 ICPs Contact's digits were confirmed by meter photos, and the MEP later updated the registry to reflect the same number of digits as Contact,
- for five ICPs, Contact and their meter readers had not identified the digits discrepancy, and SAP was updated after the report was run, and
- one ICP had a timing difference and SAP was updated after the registry list was run.

Non-conformance for the incorrect meter digits and a recommendation to improve validation and correction processes are made in **section 8** of the **2023 gas switching and registry audit report.** 

#### **Meter multipliers**

There are no comparisons between SAP and the registry to identify meter multiplier differences. All ACTC or ACTV ICPs have a meter multiplier of 1 in SAP. All ICPs on the registry have a meter multiplier of one apart from two ICPs with the TOU flag set to Y on the registry which have a multiplier of zero recorded. A recommendation to validate meter multipliers is made in **section 8** of the **2023 gas switching and registry audit report.** 

#### Meter types and content codes

As well as two gas gate meters (TCC00201 and TRC02003), ICPs 0000953421QTD8B and 1001133052QTBC8 have TOU metering installed. ICPs 0000953421QTD8B and 1001133052QTBC8 are both settled as non-TOU, consume less than 10,000 GJ pa, and are in AG4 (allocation group 4).

The Gas Industry Company acknowledges that the allocation group rules for ICPs with TOU flag set to Y and consumption of less than 10,000 GJ per annum are unclear. Rule 29.2.1 states that if TOU metering is installed the ICP should be in AG1 or AG2, and rule 29.3 states that ICPs in AG5 or AG6 may have TOU metering. These rules are being revisited by the Gas Industry as part of a statement of proposal. I have recorded compliance because rules 29.2.1 and 29.3 are inconsistent, and Contact is compliant with rule 29.3.

- 29.2 For a consumer installation at an allocated gas gate where the rolling 12-month actual or expected consumption is greater than 250 GJ, every retailer that supplies that consumer installation must either:
  - 29.2.1 Ensure a TOU meter is installed and assign that consumer installation to allocation group 1 or 2; or
  - 29.2.2 Ensure a non-TOU meter is installed and assign that consumer installation to allocation group 3 or 4.
- 29.3 For a consumer installation at an allocated gas gate which has not been assigned to allocation groups 1 to 4 under rules 29.1 and 29.2, every retailer that supplies that consumer installation must ensure a TOU meter or non-TOU meter is installed and assign that consumer installation to allocation group 5 or 6.

Metering set up information						
Non-compliance	Descrip	tion				
Report section: 2.2 Rule: 28.2 From: 20 December 2019 To: 27 November 2023	Audit history: No Controls: Needs improvement Impact: Moderate		Eight out of 16 ICPs with meter pressure differences had an incorrect meter pressure recorded in SAP and were corrected during the audit. Four of the differences were over the maximum permissible error in NZS 5259. Five pressure corrections had differences over the maximum permissible error in NZS 5259 and should have been corrected from the effective date rather than the next billed date.			
Remedial action rating	Remedia		l timeframe	Remedial comment		
Remedial action rating In progress In progress		March 2024 May 2024		We will undertake a review of our current meter pressure discrepancy reporting to ensure it remains fit for purpose. Additionally, we will explore the potential for improvements, including incorporating ICPs where the network pressure aligns with or is lower than the meter pressure. Review process and process documentation for correcting meter pressure discrepancies to better understand and prevent submissions impacts, as well as ensure all corrections are being completed from the correct date.		
In progress		June 2024		Introduce refresher training for users manually configuring gas meters in		

		SAP. Subsequently, we will introduce a monitoring/spot check mechanism for a 3-month duration to we have confidence in the effectiveness of the training.		
Audited party comment				
The circumstances of the matters outlined in the breach notice.	We have identified some knowledge gaps in the updating of meter pressure details in our system because of the Gas Meter setup processes recently transitioning to a different team. This has resulted in the potential for data entry errors to arise.			
	During the Audit, we have also identified a small sample of meter pressure discrepancies which were not picked up in our monthly discrepancy reporting.			
Whether or not the participant admits or disputes that it is in breach.	Contact admits to the breach.			
Estimate of the impact of the breaches (where admitted).	Minor			
What steps or processes were in place to prevent the breaches?	Within our gas meter configur Altitude information within th truth.	ration processes, we depend on the ne Gas Registry as being the source of		
	In addition, we run monthly d meter pressure discrepancies internal systems (SAP) which errors.	liscrepancy reporting to identify all between the Gas Registry and our may have arisen because of data entry		
What steps have been taken to prevent recurrence?	We are exploring the possibility of increasing the frequency of our meter pressure discrepancy reporting, as well as taking a deeper dive into the reporting itself to ensure all discrepancies are identified. Additionally, we are completing a review of our existing documentation to ensure they align with current operational practices. Refresher training sessions for those involved will follow.			

#### 2.3 Billing Factors

#### 2.3.1 Temperature Information

SAP calculates the temperature factor using an average ground temperature for ICP's temperature area, and adjusting for the Joule Thomson Effect where the meter pressure is lower than the network pressure. The temperature is reduced by 0.5 degrees per 100 kPa pressure drop between the network pressure and meter pressure.

Temperature area is recorded against the ICP's installation and device in SAP. The gas temperature factor and compressibility factor are calculated using data for the temperature area stored against the device. Review of a sample of gas conversions with different gas gates, network pressures and meter pressures confirmed the temperature factor processes are operating as expected using the device temperature area.

For ICPs where the actual temperature is not measured, NZS 5259 states that temperature may be estimated. At the beginning of this audit period in 2020, Contact was in the process of moving from its own regional ground temperatures to the GIC's published gas gate temperatures from each ICP's next read date. I checked progress with the change and on 7 December 2023, and there were 1,079 ICPs (1.5%) which had the old temperature areas recorded against their devices, and 69,336 (98.5%) had the GIC gas gate temperatures effective from the day after their last read date and 132 have been corrected so far, and the remainder have been unable to be updated yet because there is no recent actual read or the ICP has an open meter read order.

The old regional temperatures were calculated based on a NIWA 30-year average ground temperatures and were last updated in 2016. ICPs were assigned to temperature regions based on region that the gas gate was located within. In some cases, temperature regions were large due to NIWA data not being available for all gas gate areas.

The maximum permissible error for temperature factors is  $\pm 0.7\%$ . Differences in the temperature factor for individual read-to-read periods will vary depending on the ICP's location and the difference between the regional and GIC temperatures for the date range being converted, making them difficult to quantify. Because both the GIC and Contact temperatures are based on historic ground temperature data they are expected to be similar, and I note both may be different to the actual ground temperature at the ICP.

I checked a sample of SAP gas gate gas temperatures against the GIC's published data and confirmed that it was consistent. Recalculation of a sample of gas conversions and confirmed that the temperature factor was calculated using the average GIC temperature value for the conversion period for the sample of ICPs checked.

Recommendation	Audited party comment
Update the ICPs where old temperature regions are applied for gas conversion to use the GIC gas gate temperatures.	There are 1,079 ICPs that were using the older Temperature Region instead of the new Gas Gate Temperatures.
	The likely reason for this is that the original conversion was not completely finished as bill blocks and meter reading orders will prevent the change from being made.
	Another reason is that there is currently no internal exception reporting to find the discrepancies. This will be resolved by the new Exception Reporting tool being built.
	Manual revisions have been carried out and is ongoing.

#### **Network pressure**

Network pressure is determined from the distributor's registry information and is used as an input into the Joule Thomson adjustment. A 0.5-degree temperature reduction is applied for every 100 kPa drop between the network pressure and meter pressure for an ICP.

Current values for network pressure are validated against the registry monthly using SAS reports. A Databricks report is under development. As recorded in the previous audit, there is no validation to identify ICPs where the network pressure is the same as or less than the meter pressure.

Billing locks prevent network pressure from being updated for dates which have already been billed. It is possible to change the network pressure from an earlier date by reversing the bills or requesting the SAP team change the data in the background.

Where discrepancies are found the External Customer Solutions Specialist completes a bulk update to master data in SAP, which makes the change effective from the day after the last read date. If there is an open meter read order, or an estimated read an exception is created and the updates for affected ICPs are reprocessed once actual reads are available. This can take three to four months after the first attempt, because reads are scheduled every second month.

I compared each ACTC and ACTV ICP's network pressure in SAP to the registry list and found 74 ICPs had different network pressures recorded in SAP and the registry. 24 of the differences were over 100 kPa. All were timing differences, and the pressures were corrected prior to the audit.

#### **Network Pressure vs meter pressure**

I compared network and meter pressure using the registry list. There are 24 ICPs where the network pressure and the meter pressure are the same and two of these have the "operating at network pressure" flag set to yes. There are three ICPs with network pressure lower than meter pressure.

As recorded in the last audit, Contact does not validate network pressures for reasonableness or check network pressures which are the same as or less than the meter pressure. A recommendation to validate this is made in in **section 8** of the **2023 gas switching and registry audit report**.

#### Network and gas gate

Network and gas gate information recorded in SAP is populated from the registry, and if gas gate or network details change on the registry they should be automatically updated in SAP.

Current values for gas gates and networks are validated against the registry monthly. Historically, if there was a gas gate difference and the applied and correct gas gates had the same notional delivery point, SAP would not be updated. Following discussion during the audit, the affected ICPs will have their gas gates updated from the day after their last invoice was produced. Billing locks prevent gas gates and networks from being updated for dates which have already been billed. It is possible to change the gas gate or network from an earlier date by reversing the bills or requesting the SAP team change the data in the background.

I compared each ICP's network and gas gate in SAP to the registry list. No network discrepancies were identified. 28 ICPs had a different gas gate recorded in SAP, and the gas gate had last changed on the registry in 2022 or earlier. All the differences appeared as exceptions in Contact's monthly validations but had not been updated in SAP. 21 of the ICPs<sup>2</sup> were connected to the same notional delivery point and had their gas gates corrected in SAP during the audit. The other seven ICPs (listed below) have SAP and registry gas gates with different notional delivery points. They will be corrected in the back end of the database from the correct effective date by the SAP team.

ICP	SAP gas gate	Registry gas gate
1002139909QT196	HEN74101	WTK33901
0000349031QTE2F	WST03610	WTK33901

<sup>&</sup>lt;sup>2</sup> 0003003917NGF90, 1001257535NG25D, 0000314931QTE72, 0000846771QTD2D, 0000680881QT953, 0000973501QT017, 000087451QTD1A, 0000825511QT862, 0001426033QT620, 0000851081QTEB9, 1001273610QT8CF, 0002376651QT2E7, 0000358491QT370, 1000385153QTB21, 0001437160QT2AD, 0000796051QTD51, 0000749281QTF25, 0000732901QTC38, 0000723651QT27E, 0001423279QTB33 and 0000838821QT853.

ICP	SAP gas gate	Registry gas gate
1002112272QTF3C	HEN74101	WTK33901
1002136303QT06D	WTK33901	WST03610
1002113537QTE74	WTK33901	HEN74101
1002145657QT433	WTK33901	HEN74101
1002144105QT21C	WTK33901	HEN74101

The impact of the incorrect gas gates on gas conversion was assessed:

- all of the affected gas gates have gas type X, so there is no impact on gas composition data used in the conversion process,
- the gas gate temperatures vary between 2.01% and 9.71% per month for the affected gates and may to result in temperature factor differences over the maximum permissible error for temperature factors in NZS 5259 of ±0.7%, and
- the gas gates are not part of the same notional gas gate and are likely to have differences in the seasonal adjusted shape values, affecting how read-to-read volumes are allocated between submission periods. The error will vary depending on the dates affected.

Assignment of gas gates				
Non-compliance	Descriptio	on	-	
Report section: 2.3.1 Rule: 28.2	Audit history: No	28 ICPs had incorrect submission against ar temperature and con using temperature da	gas gates in SAP, resulting in nd incorrect gas gate, and the npressibility factors being calculated ata for the wrong area.	
From: 1 August 2015 To: 27 November 2023	Controls: Acceptab Impact: Moderate	le	21 of the ICPs were compoint and had their graudit. They may have outside the maximum The other seven ICPs not have the same not corrected in the back effective date by the factors applied which errors in NZS 5259. Avalues for a different consumption being a Controls are assessed confirmed they will construct the seven seven the seven seven the	onnected to the same notional delivery as gates corrected in SAP during the e temperature factors applied which are n permissible errors in NZS 5259. have SAP and registry gas gates that do otional delivery point and will be end of the database from the correct SAP team. They may have temperature are outside the maximum permissible application of seasonal adjusted shape gas gate could result in read-to-read llocated to incorrect periods. It to be acceptable now that Contact has orrect all gas gate discrepancies, with a different notional delivery point.
Remedial action rating		Remed	ial timeframe	Remedial comment
Completed		29/01/2024		The seven ICPs where SAP and the Registry Gas Gates do not have the

Once corrections are processed, revised submission data will be washed up.

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In progress	April 2024	same notional delivery point have been corrected. We are investigating opportunities to implement enhancements to our existing reporting to ensure a	
		continued improvement to data accuracy between SAP and the registry.	
Audited party comment			
The circumstances of the matters outlined in the breach notice.	We are currently investigating into what shortfalls exist that may have caused some of the Gas Gate discrepancies identified during the audit to not be corrected at the earliest convenience.		
Whether or not the participant admits or disputes that it is in breach.	Contact admits to the breach.		
Estimate of the impact of the breaches (where admitted).	Minor		
What steps or processes were in place to prevent the breaches?	Contact currently run monthly reporting to monitor the Gas Gate applied to each ICP in the registry and SAP. As discrepancies are identified, the cause for the discrepancy is investigated and corrective action is taken.		
What steps have been taken to prevent recurrence?	We are investigating what opportunities we have to implement further enhancements to our existing reporting to improve data accuracy between SAP and the registry.		

# 2.3.2 Calorific Values

Open Access Transmission Information System (OATIS) gas composition data is imported into SAP daily. I checked daily calorific values recorded in SAP against the published values from OATIS for all gas types for a sample of dates and confirmed that they were accurately recorded.

Because OATIS gas conversion information becomes available at 10am the day after consumption, Contact creates forward estimates of the gas composition values, which are replaced when actual values become available.

Monthly, Contact's robot completes a gas audit which compares the gas composition data recorded in SAP for the last 40 days against data it has downloaded directly from OATIS. If any differences are identified, the robot creates an email listing differences between SAP and OATIS, and values missing from SAP and OATIS, which are investigated. I viewed process flowcharts, evidence of the comparison completed by the robot, and notifications where there were differences and confirmed the process is operating as expected.

The previous audit found that gas composition values were temporarily not updated in SAP. This issue has not recurred, and the robot validation process should prevent further issues.

# 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 Contact securely archives data for a period in excess of 30 months.

All non-TOU meters are read manually, and readings are provided by MRS. Contact provided a sample of raw meter reading data files from MRS, and I matched a sample of readings from these files to SAP. The readings matched, which proves the end-to-end process.

# **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 10 TJ pa, a TOU meter will be installed and the ICP will be assigned to AG1 or AG2 depending on whether telemetry is present; daily meter readings are required, and
- between 250 GJ and 10 TJ pa, a non-TOU meter will be installed and the ICP will be assigned to AG4 and read monthly.

Other installations with non-TOU metering not in AG4 should be assigned to AG5 or AG6.

As recorded in **section 2.2**, ICPs 0000953421QTD8B and 1001133052QTBC8 have TOU metering and are settled as non-TOU, consume less than 10 TJ pa, and are in AG4. This is considered to be compliant because rules 29.2.1 and 29.3 are inconsistent, and Contact is compliant with rule 29.3.

#### Assignment of allocation groups

Allocation groups are recorded on the registry and in SAP's time slices. Allocation groups are normally updated on the registry effective from the beginning of a month, and then imported into SAP. Where an allocation group change occurs part way through a read-to-read period, consumption is apportioned using a flat line method based on the number of days. If there are no actual readings for an extended period, a permanent estimate reading will be entered on the change date.

Monthly, a report is generated which validates allocation groups recorded in SAP against the registry. The report is not currently reviewed, and Contact intends to confirm responsibilities for reviewing this and resolving exceptions.

Contact validates ICP allocation groups monthly using a SAP report containing ICPs which have been supplied for at least 100 days and their estimated annual consumption.

- Where an ICP is in AG6 and estimated annual consumption genuinely exceeds 230 GJ, it will be moved to AG4 and a monthly meter reading schedule.
- Where an ICP is in AG4, but consumption falls below 230 GJ, Contact leaves the ICP in AG4 and a monthly meter reading round in case their consumption increases. The rules state that any ICP not assigned to AG1-AG4, should have a meter installed and be assigned to AG5 or AG6, and this is compliant.

Sometimes Contact monitors ICPs for two months before making an update, to ensure that the change is valid. The previous audit recommended that allocation group changes should be made as

soon as possible instead of waiting for the meter reading round to be updated first, and this has been adopted.

Contact provided their most recent review from 24 September 2023, which showed that the analysis had been completed as expected; and lists of ICPs to have their meter reading schedules and allocation groups updated were provided to the relevant teams on 25 September 2023. The registry and SAP were updated to reflect the correct allocation groups on 5 October 2023.

I also validated the registry allocation groups for ACTC and ACTV ICPs on the registry list against the average daily consumption recorded in SAP for the 71,134 ICPs where this information was available, and found the following discrepancies:

Discrepancy	Comment			
AG6 with consumption over 250 GJ	77 ICPs in allocation group 6 have average consumption over 250 GJ and are expected to be in AG4. I found:			
	<ul> <li>b) TCPs were identified in the september 2023 and updated to AG4 and a monthly meter reading schedule in October 2023,</li> </ul>			
	<ul> <li>four ICPs appeared on the September 2023 report but were not selected for update to AG4 and a monthly meter reading schedule until the October 2023 report was reviewed; this was because Contact elected to monitor the ICPs for another month to determine whether the consumption was genuine,</li> </ul>			
	<ul> <li>two ICPs were supplied for less than 100 days, and according to the normal process will have their allocation group and meter route changed if they are still estimated to use over 250 GJ when they are supplied for more than 100 days. and</li> </ul>			
	<ul> <li>four of the ICPs are now vacant; the consumption has decreased since they became vacant, and they can validly remain in AG6.</li> </ul>			
AG4 with consumption under 10,000 GJ	<ul> <li>135 ICPs in allocation group 4 have average consumption under 250 GJ.</li> <li>88 have consumption below 230 GJ and 49 have consumption below 200 GJ. As discussed above Contact leaves any ICPs with decreased consumption in allocation group 4. The rules state that any ICP not assigned to allocation groups 1-4, should have a meter installed and be assigned to AG5 or AG6, and this is compliant.</li> </ul>			

I compared each ACTC and ACTV allocation group in SAP to the registry list. 119 ICPs had allocation group differences, and none were on the list to have their registry allocation group updated following the review on 23 September 2023. I checked a sample of ten recorded as AG6 on the registry and AG4 in SAP, and ten recorded as AG4 in the registry and AG6 in SAP. The registry allocation groups were confirmed to be correct for all 20 ICPs<sup>3</sup> but SAP had missed being updated and was corrected during the audit. It is normally expected that the updates would be processed directly on the registry and then imported into SAP.

Non-conformance for the incorrect allocation groups and a recommendation to improve validation and correction processes are made in **section 8** of the **2023 gas switching and registry audit report** and below.

 <sup>&</sup>lt;sup>3</sup>. 0000015181GND67, 0009000678NGAF5, 1001294203NGD78, 0004008827NG7AC, 0001004427NG472, 0002028643NG909, 1001299398NGF6F, 0004008459NGD66, 0001033759NG4FB, 0001003526NG553, 0001405263QTF02, 0003016770NG460, 1001264970QT4B1, 0002382256QT030, 0000362661QT60C, 0000869341QT679, 1002067919QT4E3, 1002105953QT1A3, 1001135265QTE3D and 1001112837QT117.

#### Assignment of meter reading rounds

All gas ICPs have readings collected manually by MRS. Under rule 29.4.2 all ICPs with consumption between 250 GJ and 10 TJ must have meter readings recorded monthly. These ICPs are expected to be in AG4.

All ICPs with non-TOU meters (including AG4 and AG6) must have a reading recorded at least once every 12 months unless exceptional circumstances prevent interrogation. Compliance with this requirement is discussed in detail in **section 3.3**.

Each ICP has a frequency reading round (representing how often the ICP is scheduled to be read) and meter reading round (representing the round number the ICP is assigned to). AG4 ICPs are expected to be assigned to a monthly reading round, and AG6 ICPs are expected to be assigned to a bimonthly reading round but may be assigned to a round which is read less frequently.

Meter read blocks can be used to prevent reads being attempted for certain ICPs. Contact provided a list of ICPs with meter read blocks in September 2023, and I confirmed that all the ICPs had blocks because they had switched out.

Contact provided a list of ICPs, their allocation groups, and scheduled meter reading frequencies in September 2023. I reviewed this for ACTC and ACTV ICPs and have highlighted the exceptions in the table below.

Read frequency	Count of ACTC and ACTV AG4 ICPs	Count of ACTC and ACTV AG6 ICPs	Comment
Monthly	912	1,578	Compliant.
Bi_monthly	54	69,077	<ul> <li>The 54 AG4 ICPs should all be on monthly read frequency. I checked a sample of 17 of these ICPs and found:</li> <li>ten were timing differences and meter reading frequency was updated to monthly following the September or October 2023 allocation group reviews,</li> <li>four<sup>4</sup> had been identified as requiring a change through the allocation group review, but have not been updated yet,</li> <li>ICP 0001032372NGADB was vacant and 1000555370PG73B was disconnected. Both remained in AG4 with bi-monthly reading. Contact is to investigate to confirm why this occurred, because their policy is to ensure that all ICPs in AG4 are ready monthly.</li> <li>The AG6 ICPs are compliant.</li> </ul>
Tri-monthly	-	1	Compliant.
Half_yearly	-	4	Compliant.

<sup>&</sup>lt;sup>4</sup> 0001010901NG3C1, 1000598796PGE9F, 1001114160QT81C and 1002054401QTA9E

Read frequency	Count of ACTC and ACTV AG4 ICPs	Count of ACTC and ACTV AG6 ICPs	Comment
Dummy round	-	2	This was a timing difference. New ICPs are placed on a dummy meter read frequency until they move through the read assignment workflow. Both the affected ICPs are now on valid meter reading rounds.
Smart meter	-	9	Contact uses a report to identify electricity ICPs with AMI metering and select them to be moved to the smart meter frequency so that AMI readings provided by the MEP will be retrieved for billing and reconciliation. No AMI meter readings are received for gas, and these ICPs should not be selected during this process.
			Eight of the ICPs had received readings within the past 12 months and ICP 0004214007NG14D had a last actual reading on 3 January 2020. ICP 0004214007NG14D was not continuously supplied for the previous 12 months. It was supplied from 26/09/2017 to 16/01/2020, and from 06/05/2023 onwards.
			The report used now excludes gas ICPs and the nine affected ICPs have been moved to valid gas meter reading frequencies and rounds.
Switching sites	-	1	Compliant. The ICP had undergone a withdrawal and Contact did not need to collect readings.
Unmetered	-	1	ICP 0001554991QTA26 was automatically moved to the unmetered round by SAP because no meter was temporarily installed. It was found and corrected by the field services team prior to the audit, and the ICP had a reading within the last year.

Contact has improved its processes to prevent gas AMI meters being invalidly moved to smart meter rounds, and there is good monitoring in place to identify and correct gas ICPs moved to unmetered rounds. Contact intends to monitor ICPs more closely in AG4 which do not have a monthly reading round, to prevent future non-conformance.

#### **Obtaining register readings for AG4 ICPs**

Two ICPs with TOU metering are supplied. Both are settled as non-TOU and are in AG4.

Contact is required to obtain monthly readings for non-TOU ICPs with consumption between 250 and 10,000 GJ p.a. (AG4). I checked compliance with the requirement to obtain readings for AG4 ICPs at least monthly by reviewing a list of last actual read dates for gas ICPs as of 26 September 2023. 761 (80.2%) of the 948 active allocation group 4 ICPs on the list had a last actual read date in August or September 2023. 944 ICPs (99.5%) had actual readings within the previous 12 months. Reads were not able to be obtained for the four ICPs unread for more than one year due to access or safety issues, and in some cases, customer readings were regularly obtained instead. Contact does not treat customer supplied readings as validated readings for consistency with electricity processes, but gas customer readings are considered to be register readings and can be treated as validated readings for reconciliation if they pass the validation process.

**register reading** means the number displayed by a meter register or corrector register at a particular date in time, and that represents the volume of gas recorded by the register over a certain period;

Compliance with the requirement to obtain a reading every 12 months for all non-TOU ICPs and obtain a reading every four months for 90% of non-TOU ICPs is assessed in **section 3.3**.

Meter reading requirements				
Non-compliance	Descripti	on		
Report section: 3.2 Rule: 29.4.2 From: 1 August 2023 To: 27 November 2023	Audit history: Yes Controls: Needs improvement 23 Impact: Minor		20 of a sample of 20 ICP with allocation group dis registry had an incorrect leading to the volumes b allocation group. This h allocation itself, and rev washed up with the corr	s from a population of 119 ICPs screpancies between SAP and the allocation group recorded in SAP, being reported against an incorrect as no impact on the consumption ised submission information will be rect allocation groups.
			54 ICPs in AG4 had a bi-monthly meter reading frequency assigned. I confirmed some were timing differences but six ICPs are still to have their read frequency corrected.	
			187 (19.8%) of AG4 ICPs did not have an actual reading in September or October 2023.	
			The impact is expected to be minor. 99.5% of AG4 ICPs had received an actual reading within the last 12 months and corrected submission data will be provided through the revision process provided that actual readings are received. The separate AG4 review completed in 2023 showed that the difference between actual and estimated data is likely to be immaterial.	
		1	meter reading frequenci	es for ICPs.
Remedial action rating	on rating Remedia		l timeframe	Remedial comment
In progress	Ongoing			Contact intends to monitor meter reading frequencies more closely and ensure that they are correctly assigned.
Audited party comment				
The circumstances of the matters outlined in the breach notice. We have group dis discrepant		e identified minor shortfalls in the correcting of allocation screpancies. As a result, not all allocations group ncies identified were resolved in a timely manner.		
Whether or not the partici admits or disputes that it i breach.	pant s in	Contact admits to the breach.		
Estimate of the impact of t breaches (where admitted	the ).	Minor		

What steps or processes were in place to prevent the breaches?	Contact has various reporting in place to monitor that the correct allocation group is applied in both the registry and SAP. As discrepancies are identified, the cause is investigated, and corrective action is taken.
What steps have been taken to prevent recurrence?	Contact have provided further training to the teams involved in monitoring and correcting allocation groups to ensure all discrepancies are identified and corrected at the earliest convenience.
	We are also in the process of creating additional reporting that removes some of the manual efforts currently involved. This reporting will be more efficient and allow for the allocation groups to be monitored on a more frequent basis.

# 3.3 Meter Reading Requirements (Rules 29.4.3, 29.5 & 40.2)

#### Meter read attainment

All consumer installations with non-TOU meters must have validated register readings recorded at least once every 12 months unless exceptional circumstances prevent such an interrogation. The Rules define exceptional circumstances as circumstances which (in the opinion of the industry body) prevent a retailer from accessing metering equipment despite the best endeavours of the retailer. 90% of consumer installations with non-TOU meters must have a validated reading every four months.

Meter read scheduling is discussed in detail in **section 3.2**, and almost all ICPs are scheduled to be read at least half yearly. I found that nine gas ICPs had been assigned to smart meter reading frequency, and one gas ICP was assigned to an unmetered meter reading frequency, which means no request for meter readings is sent to the meter reader. The ICPs assigned to smart meter frequency were detected and corrected during the audit and the ICP with unmetered frequency was detected by Contact and corrected prior to the audit. Contact has updated their process to move electricity ICPs to smart meter reading frequency to exclude gas ICPs, and I recommend they also investigate why ICP 0001554991QTA26 was moved to an unmetered frequency to prevent future non-conformance. All of the affected ICPs had readings within the last year apart from ICP 0004214007NG14D which had a last actual reading on 3 January 2020. ICP 0004214007NG14D was not continuously supplied for the previous 12 months. It was supplied from 26/09/2017 to 16/01/2020, and from 06/05/2023 onwards.

Recommendation	Audited party comment
Determine why gas ICP 0001554991QTA26 was moved to an unmetered read frequency and take action to prevent this issue occurring for other ICPs.	We gained the ICP to install a gas meter for our customer, the ICP was placed on unmetered round as no meter onsite to read. When the gas meter was installed our workflow process run and reflects a system issue, as placed the ICP back onto the unmetered round in error. The anomaly was identified and corrected. We have an invalid report which picks up anomalies between rounds / ICPs, this includes the scenario of an unmetered rounds. This report identified the

Recommendation	Audited party comment
	error, and it was corrected and placed onto the correct round.

It is expected that all scheduled reads will be attempted, and if a read cannot be obtained a no read code and reason will be provided. Where the meter readers are unable to read a whole route, they apply a forced complete no read code. This is intended to be used where the meters cannot be read due to COVID-19 access or movement restrictions, large scale weather events or natural disasters, or individual meter reader illnesses where this means that a whole route cannot be read.

SAP BPEMs are generated when certain no read reason codes are received, such as "wrong route" which has a MF07 BPEM raised so that the route can be followed up with the meter readers, and "view obscured" which has a MF13 BPEM raised so that a customised letter can be sent to the customer. BPEMs are not generated for some codes including "can't find meter" (where Contact could check the location and provide further information), "gate locked", or "key not provided". The AG4 review recommended that Contact review the no read codes provided by the meter readers to determine whether additional BPEMs should be created, and Contact plans to do this.

MRS also sends Contact weekly lists of ICPs they have been unable to locate, and Contact tries to obtain more information to update the location notes provided to the meter reader. Contact also follows up no read codes indicating keys are missing or unavailable, to confirm that keys are secure.

Contact uses an Automated Meter Reading Compliance (MRC) process, which starts on entry of an estimated read. Review of a sample of ICPs without readings showed that the MRC process is consistently being followed, apart from some instances where permanent estimate readings were not entered because a user had not correctly followed the process to enter a permanent estimate if they could not obtain a high priority read. This is affects forward estimate processes and is discussed further in **section 5.4**. At a high level the process is:

Day	Process step
0	An estimate reading is entered.
130	Letter 1 to the customer which requests resolution of the issue preventing meter reading.
200	Letter 2 to the customer which requests resolution of the issue preventing meter reading.
260	Letter 3 to the customer which requests resolution of the issue preventing meter reading.
270	A high priority read is scheduled with the meter reader and attempted.
320	A BPEM is raised and a user attempts to gain a read or enter a permanent estimate reading.
330	The process re-starts with letter 1.

The MRC process will continue until it is terminated when the customer switches out, the ICP is disconnected, an actual reading is received, or they are added to a meter reader exclusion list. The MRC process continues after customer reads are received, because customer readings are treated as estimates by the MRC process. Contact also continues to attempt to read vacant and disconnected ICPs.

Contact's reconciliation team continues to monitor read attainment though review of the GAS080 report and monitoring of UFG, and issues are followed up with MRS. Contact has been working with MRS to improve read attainment including investigating adding new monthly meter reading rounds. MRS has made changes to their processes and staffing to lift performance, and Contact has requested they target high priority ICPs (including AG4) to minimise the impact of the read attainment issues.

#### Meter read attainment reporting

Each month, retailers must report the number and percentage of validated meter readings obtained in accordance with rules 29.4.3 and 29.5 in the GAS080 report. The GAS080 report is created by SAP. I checked the GAS080 against detailed read attainment information and it appeared correct.

To confirm compliance with the meter reading frequency rules, Contact provided a copy of the GAS080 report for April 2023 to July 2023 and lists of ICPs unread in the previous four months and 12 months as of 31 August 2023 for review. The GAS080 reports are summarised in the table below:

Month ending	Rolling 4 months (target 90%)	12 months (target 100%)
Apr 2023	94.43%	98.7%
May 2023	94.77%	98.73%
Jun 2023	93.79%	98.66%
Jul 2023	92.85%	98.65%

Contact complied with rule 29.5 which requires them to ensure that a validated register reading is obtained at least once every four months for 90% of the consumer installations with non-TOU meters to which the retailer has continuously supplied gas for the previous four months.

Contact did not obtain actual readings for every non-TOU ICP which it supplied for 12 months within the previous 12 months as required by rule 29.4.3. This is compliant as long as exceptional circumstances prevented interrogation. I checked a sample of 20 ICPs unread in the previous 12 months and found the meters were unread because the meter could not be accessed because of locked gates, overgrown vegetation or safety issue such as dogs being onsite. For the sample of 20 ICPs checked, the meter read compliance process was followed and the best endeavours requirement was met.

I checked compliance with the requirement to obtain readings for allocation group 4 customers at least monthly in **section 3.2**.

Meter reading requirements			
Non-compliance	Description		
Report section: 3.3 Rule: 29.4.3	Audit history: Yes Controls: Acceptable	Some ICPs were not scheduled to be read frequently enough to support compliance with rule 29.4.3, including nine AG6 gas ICPs were invalidly moved to an electricity AMI read frequency when they are read manually and were corrected during the audit. All of the affected ICPs	

From: 3 January 2023 To: 30 September 2023	Impact: Minor		had readings within the last year apart from ICP 0004214007NG14D which had a last actual reading on 3 January 2020. ICP 0004214007NG14D was not continuously supplied for the previous 12 months. It was supplied from 26/09/2017 to 16/01/2020, and from 06/05/2023 onwards.		
Remedial action rating		Remedia	l timeframe	Remedial comment	
Completed		September 2023		Contact has improved its processes to prevent gas AMI meters being invalidly moved to smart meter rounds.	
In progress Apr		April 202	4	Review process documentation and undertake refresher training for entering a permanent estimate if a high priority read is unsuccessful.	
In progress		Septemb	er 2024	Review no read codes to determine if additional BPEMs required.	
Audited party comment					
The circumstances of the r outlined in the breach noti	natters ice.	ICP 0004214007NG14D wasn't supplied by CTCT between 17.01.202 and 05.05.2023.		pplied by CTCT between 17.01.2020	
		We currently run a report designed to identify recommunicating meters, which then necessitates manual intervention before changes are processed.			
		When sm identified	When smart gas meters were introduced into SAP the 9 ICPs identified were inadvertently included in this process.		
Whether or not the partici admits or disputes that it i breach.	pant s in	Contact admits to the breach.			
Estimate of the impact of t breaches (where admitted	:he ).	Minor			
What steps or processes w place to prevent the breac	vere in hes?	When Gas Smart Meter were introduced and added to the SAP-ISU asset register, they were set up to mirror the Electricity Smart Meter which included auto allocation to a smart read round. This was incorrect and has now been changed to be automatically assigned to a manual read round.		duced and added to the SAP-ISU mirror the Electricity Smart Meter, a smart read round. This was ed to be automatically assigned to	
What steps have been take prevent recurrence?	en to	Contact has improved its processes to prevent gas AMI meters being invalidly moved to smart meter rounds.			

# 3.4 Non-TOU Validation

Meter reading validation occurs at multiple levels.

#### Meter reader validation

All gas meter readings are provided by MRS. The meter reader's handheld device performs a localised validation to ensure that the reading is within limits compared to the previous consumption period:

High2	High1	Low1	Low2
1.7	1.5	0.5	0.3

When a read falls outside these limits, the handheld device produces an audible and a visual warning. Where the meter reading is negative, zero, or outside the high1 or low1 parameters, the meter reader is prompted to check the reading and re-enter it. If the re-entered reading is negative, zero, or outside the high2 or low2 parameters, the meter reader is prompted to take a photo of the meter before being able to continue with the route. Contact is able to access these meter photos in the MRS portal.

MRS meter readers check the condition of the meters, to identify issues that could affect meter accuracy or safety. If an issue is identified, the appropriate condition code is entered into the handheld device and provided to Contact. The meter condition information is imported into SAP and used to create BPEM (Billing Process Exception Management) events, which are directed to work queues in SAP for investigation and action. I saw evidence that meter condition issues including water/condensation in meter registers and damage was being reported by MRS and fault jobs were appropriately raised with the meter owners.

#### Read import and billing validation

Gas readings provided by MRS are imported directly into SAP. The read import process will identify any file errors or corruption and create an exception for review and resolution. When the reads are successfully imported, they are validated by SAP. BPEMs are created for:

- implausible readings, which include high, low and negative readings, and inactive consumption,
- fixed value deviation, which include readings inconsistent with ICP or meter attributes including consumption on inactive ICPs,
- zero consumption for three months in a row, and
- high and negative bill values, which are compared against an expected bill value range for the ICP; the previous audit recommended refinement of the billed dollar bands to help reduce excessive numbers of exceptions being generated following price changes - Contact adjusts the billing bands for ICPs as necessary.

Contact's robot is programmed to validate some implausible read, negative consumption and zero consumption BPEMs using business rules, which may include requesting a check reading from MRS. The business automation team is responsible for the robot, and refines its programming based on user feedback and monitoring. A recent improvement has been for the robot to retrieve meter photos from the MRS portal and attach them to the BPEM for a user to review.

The previous audit in 2020 found some issues where the robot was approving some invalid reads and changing and inserting reads incorrectly. I did not see any evidence of this during this audit. Reporting is provided to the operations team daily showing exceptions successfully processed by the robot and those unable to be processed, and these are reviewed if potential issues with the robot process are identified.

Any exceptions that cannot be resolved by the robot, and returned check readings are directed to a user for investigation and resolution. The oldest and highest priority exceptions are reviewed first, and BPEMs remain open until they are manually closed on completion. Staff can reset a due date for action so that the BPEM will temporarily not appear in the work queue until the due date.

Each type of exception is assigned to four or five primary users so that they are familiar with the exception type and can cover staff on leave. The Operations Team Leader monitors BPEMs assigned to her team each morning and afternoon and follows up and reassigns work as needed. A weekly report is provided to management of any BPEMs that have not been resolved within ten days, including an investigation into progress made.

While the validation process is generally robust, some improvement is required:

- consumption during an inactive period does not always trigger an implausible read or fixed value deviation BPEM, particularly where inactive consumption occurs for an ICP which switched in with inactive status; inactive consumption exceptions are discussed in more detail in section 3.5,
- sometimes exceptions are not correctly resolved before closing the BPEM; I saw an example
  of an implausible read for installation 3000792400 where the current reading was lower
  than previous readings, where the previous estimated readings should have been corrected,
  however because the affected readings were estimated there is no impact on reconciliation
  submissions, and
- no examples of stopped meters were identified during the audit period, which is unusual given the large number of gas ICPs which Contact supplies; review of exceptions found that the robot will normally approve zero consumption if the meter has recorded zero for an extended period, or there are other meters on site consuming energy (which does not mean that the meter with zero usage is correctly recording zero), so a recommendation to improve the stopped meter process is made in section 3.5.

Recommendation	Audited party comment
Investigate why some gas ICPs with inactive consumption <sup>5</sup> have not had BPEMs generated and improve the process as necessary.	We will take the auditors recommendation into consideration and investigate why some gas ICPs with inactive consumption have not had BPEMs generated.

# 3.5 Non-TOU Error Correction

The process for error correction was examined to ensure that corrected consumption is included in the revision process and provided to the allocation agent.

<sup>&</sup>lt;sup>5</sup> Some examples include 0004001255NG4DE 6 June 2023, 0002116261QT39E 29 July 2023, 1000612351PG56A 8 April 2023, 1000540551PGFEC 19 May 2023, 1000611539PGC68 7 March 2023, 1002167435QTBCC 30 June 2023, 0002157841QTEF4 14 June 2023, 1000611541PGB21 6 March 2023, 1002177671QTA85 5 September 2023, and 1000573411PG781 30 June 2023.

#### Multipliers

All Contact ICPs have a multiplier of one, and no meter multiplier exceptions have occurred during the audit period. If a multiplier correction was required it would be necessary to reverse the invoices for the meter, adjust the multiplier and then rebill.

#### **Stopped or faulty meters**

Potentially stopped or faulty meters may be identified through the NHH validation process, or reported by the customer, meter reader, or meter owner.

BPEMs are generated when an ICP has zero consumption for three months in a row and are usually processed by the robot. Review of these exceptions found that the robot will normally approve zero consumption if the meter has recorded zero for an extended period, or there are other meters on site consuming energy (which does not mean that the meter with zero usage is correctly recording zero).

Until earlier this year, potentially stopped meters were also identified by the revenue assurance team using the stopped meter report. ICPs with meters which appeared to be stopped were checked with the customer to determine whether zero consumption was expected. This report is now under review, and responsibility for monitoring it is to be assigned.

If a potentially stopped or faulty meter is checked with the customer, and the customer confirms that zero consumption is not expected, a job is raised for the meter to be checked and replaced. Open jobs are monitored in ORB, and any service orders that have been open for more than 20 days are followed up with the meter owner. Overdue AMS jobs are followed up several times each week.

Paperwork for faulty meters is usually returned by email to the Gas Help Desk or Kotahi Matou team, who update ORB, and then the change flows through to SAP with the readings recorded on the paperwork. As part of the process the team reviews any notes provided and matches the paperwork to the original service order.

If the meter is confirmed not to be recording energy accurately, it is referred to the customer resolutions team for correction. Consumption during the faulty period is calculated using a template and added to the closing reading from the paperwork. The consumption is estimated based on the daily average before the fault occurred, or after the new meter was installed. The calculated read is entered into SAP as an estimated meter removal reading and used to generate reconciliation submissions.

Contact provided a list of 11 potentially faulty meters; none were stopped or inaccurately recording volumes. All had either condensation in the read panel and could not be easily read or were obscured by dirt and vegetation. None required volume corrections, and Contact could not identify any examples of genuinely stopped or faulty gas meters in the last three years.

I rechecked the two ICPs which had field services jobs open for potential faults at the time of the last audit. Both meters were confirmed to be recording accurately and did not require volume corrections.

Recommendation	Audited party comment
Complete the review of stopped meter reporting and responsibilities and implement the new monitoring process. Given the number of ICPs that Contact supplies, there is a high probability that some meters may not be recording energy accurately and these appear not to be being detected through the current process.	This recommendation is something we've been working on and anticipate having in place by April 2024.

#### Meter pressure corrections

Meter pressure in kPaG is stored against the meter in a static field in SAP. SAP's gas conversion process applies the meter pressure value at the time of billing. Once billed, the pressure value is "locked" for that read-to-read period and cannot be changed unless the bill is reversed.

Meter pressure is corrected for the meter instance. If an existing meter undergoes a pressure change, it is necessary to treat it as a meter replacement on the date of the pressure change so that the correct pressure can be applied.

Eight examples of differences between SAP and the registry were provided and checked, which confirmed that the meter pressure had been corrected in SAP from the day after the last invoice in May 2023. The maximum permissible error allowed by NZS 5259 for pressure factors is  $\pm 0.9\%$ . Five of the eight differences were over the maximum permissible limits.

ICP	Registry serial number	SAP meter pressure	Registry meter pressure	Factor difference	Supplied with registry meter pressure since
0007001118NG1E8	600584458	1.5	2.75	-1.20%	22 December 2022 until switch out 6 June 2023
0002194661QT3FA	600681089	1.5	2.5	-0.96%	17 March 2023
0003007679NGA74	600649280	2.5	1.5	0.97%	20 September 2022
0000072801QTBA2	10L699178	14	140	-52.21%	27 April 2023 until replaced 3 June 2023
1000543207PGB89	R000013207	3.5	35	-23.11%	28 June 2022

I compared the meter pressure in SAP to the registry list for each ACTC and ACTV ICP where the meter number had matched, or I could confirm that the meter number difference related to a different prefix or suffix. I found 16 differences:

- six were timing differences and the registry was updated after the list report was run,
- two differences were for TOU ICPs where the meter pressure is not recorded on the registry, and
- the other eight ICPs had incorrect meter pressures recorded in SAP, and SAP was updated from the day after the last billed date during the audit; the maximum permissible error allowed by NZS 5259 for pressure factors is ±0.9% and four of the eight differences were over the maximum permissible limits.

ICP	Registry serial number	SAP meter pressure	Registry meter pressure	Factor difference	Supplied with registry meter pressure since
0000328151QTB23	288172	1.5	2.5	-0.96%	7 September 2015
0000117651QT4B5	19M599902	30	3	25.88%	7 October 2020
1000543207PGB89	R000013207	33.5	35	-1.10%	23 August 2022
0000279561QT662	264080	1.5	2.5	-0.96%	11 June 2023

I found that meter pressure errors are sometimes not corrected from the correct start date or resolved on a timely basis.

#### Inactive status corrections

GAS040 volumes are generated for any day where the ICP is active. Consumption is calculated as:

х

Validated read-to-read period GJ

Sum of SADSV for the read-to-read period

Sum of SADSV for active days in the reconciliation period during the read-to-read period

This will correctly apportion consumption provided that:

- there is an actual or permanent estimate reading the day before the ICP becomes inactive,
- there is an actual or permanent estimate reading the day the ICP becomes active, or
- there is no consumption between the disconnection read and reconnection read (i.e., the inactive period).

I found that disconnection and reconnection readings entered into ORB and SAP were provided on returned paperwork. Readings are entered on the work completion date, apart from meter removal disconnection readings which are entered with the day before the work completion date so that the replacement meter (if any) can be loaded against the work completion date. Disconnections without meter removals have their disconnection reading entered on the day of disconnection, which is also the day that the status becomes inactive. This will result in some consumption being apportioned to the inactive day and not being reported.

When checking the historic estimate scenarios in **section 5.5** I found two instances where consumption was apportioned to an inactive period and not reported:

- for scenario b, the ICP has inactive consumption after the disconnection on 8 August 2023, but no consumption is reported due to inactive status; this caused under reporting of 2.01 GJ between 9 August 2023 and 5 September 2023.
- for scenario c, the ICP has inactive consumption between 18 April 2023 and 19 April 2023, but no consumption is reported due to inactive status; this caused under reporting of 0.396 GJ.

Contact continues to read inactive ICPs, and inactive consumption is identified through implausible read and fixed value deviation BPEMs. Each BPEM is investigated to determine whether the inactive consumption is genuine, and if a correction to the ICP status or meter readings is required (e.g., if there is a misread). Staff consider whether the inactive consumption may be due to meter creep and refer affected meters to the Gas Help Desk to determine whether they may be able to be removed. Contact usually waits for at least two reads to confirm that there is inactive consumption. Because meters are read every two months it can take over four months to process a correction.

A formal limit for creeping meters has not been documented, but the Gas Help Desk staff investigating these issues are experienced. The previous audit had also noted Contact would investigate a process change to report all inactive consumption, but no action has been taken.

Contact provided a list of 61 ICPs with inactive consumption as of September 2023 totalling 59,642.4 kWh. I found the following scenarios caused inactive consumption:

Scenario	Quantity of ICPs	Comment
Reconnection not booked as a "reconnection" service order	10	Because the job was not listed with a reconnection type, the status was not correctly updated when processed in ORB and SAP. All had their status updated to ACTC-GAS or ACTV-GAS during the audit.
ICP switched in with an inactive status and was	36	From checks of a sample of these ICPs, it appears that BPEMs are not created for this scenario.
not updated to active when the switch was completed.		30 of the ICPs had corrections processed during the audit and six still have inactive status during a period with consumption:
		1000611541PGB21 5.105 GJ between 3 June 2023 until 15 August 2023.
		1000573411PG781 3.172 GJ between 30 June 2023 and September 2023.
		0000518501QTF61 0.742 GJ between 9 August 2023 and September 2023.
		0000563561QT5C8 2.826 GJ between 7 June 2023 and September 2023.
		1002092089QT0B1 4,813 GJ between 31 May 2023 and September 2023.
ICPs which are still disconnected	6	These ICPs were confirmed to be still disconnected but misreads or estimated reads made it appear that there was inactive consumption. The readings were corrected to remove the erroneous consumption.
Genuine consumption during an inactive period	8	The consumption was investigated and confirmed to be genuine and updated to active status. One of the ICPs had a 1-unit difference to the register being between readings and the meter reader reading the higher read, while the lower disconnection read was provided.
		These exceptions did not consistently trigger a BPEM, it depended on whether the consumption occurred around a move out date.
Over-estimated switch out read	1	An over estimated customer final read made it appear that ICP 0002378313QTD02 had inactive consumption of 11 kWh. Contact intends to issue a read renegotiation to correct this.

I did not find any examples of inactive consumption where robots had invalidly changed reads or statuses.

Recommendation	Audited party comment
Investigate why some reconnections <sup>6</sup> are not raised with the correct job type, which means the	We will take the auditor's recommendation into consideration.

<sup>&</sup>lt;sup>6</sup> Including the following ICPs with inactive consumption: 0004225272NG3D4 25/03/2023, 0086780600PGB4B 19/04/2023, 1000560088PG037 13/09/2021, 0004218200NGD00 06/01/2023, 0002104971QT19C 19/04/2023, 0002376679QTDA6

Recommendation	Audited party comment
reconnection is not correctly processed in ORB and SAP and take action to prevent recurrence.	

Non-TOU error correction				
Non-compliance	Description			
Report section: 3.5 Rule: 26.2	Audit history: No Controls: Needs		Eight out of 16 ICPs with incorrect meter pressure corrected during the aud over the maximum perm	meter pressure differences had an e recorded in SAP and were dit. Four of the differences were hissible error in NZS 5259.
From: 31 May 2023 To: 27 November 2023	improver	ment Fiv ma Vinor ne	Five pressure correction maximum permissible en been corrected from the next billed date.	s had differences over the rror in NZS 5259 and should have e effective date rather than the
			55 ICPs with genuine ina by Contact as part of thi	ctive consumption were identified s audit's information request.
			Most were corrected du the status to active or co are seven ICPs which stil	ring the audit by either updating prrecting meter readings. There Il require correction:
			1000611541PGB21 5.10 August 2023.	5 GJ between 3 June 2023 until 15
			1000573411PG781 3.17 September 2023.	2 GJ between 30 June 2023 and
			0000518501QTF61 0.74 September 2023.	2 GJ between 9 August 2023 and
			0000563561QT5C8 2.82 September 2023.	6 GJ between 7 June 2023 and
			1002092089QT0B1 4,81 September 2023.	3 GJ between 31 May 2023 and
			An over estimated custo ICP 0002378313QTD02 H kWh. Contact intends to correct this.	mer final read made it appear that nad inactive consumption of 11 o issue a read renegotiation to
Remedial action rating Remedia		l timeframe	Remedial comment	
In progress	_	Ongoing		Corrected data will be washed up through the revision process once corrections have been processed.
In progress		July 2024	1	Review required to determine if additional BPEMs should be

26/06/2023, 0001539601QT2B6 06/02/2023, 0000273681QT19B 18/01/2023, 0000170911QTF27 24/01/2023 and 0002009859NGF53 22/03/2023.

In progress	May 2024	introduced (ie, switched in ICP with inactive status not updated to active on completion of switch). Looking to review meter pressure mismatch report to ensure the criteria selection is correct and investigate enhancements, alongside the process steps for actioning meter pressure corrections to prevent submissions impacts.
Audited party comment	<u> </u>	<u> </u>
The circumstances of the matters outlined in the breach notice.	We have identified shortfalls in the reports or processes relating to potential stopped meters and inactive but consuming sites. These have adversely affected the completeness and timeliness of data corrections. The reasons for incorrect meter pressures being recorded in SAP is being investigated.	
Whether or not the participant admits or disputes that it is in breach.	Contact admits to the breach.	
Estimate of the impact of the breaches (where admitted).	Minor	
What steps or processes were in place to prevent the breaches?	Contact produces a monthly report to identify meter pressure mismatches between the gas registry and SAP. Each discrepancy identified is investigated and corrected at the earliest convenience.	
What steps have been taken to prevent recurrence?	Once the reasons for the incorrect meter pressures being recorded in SAP has been identified, we will investigate into how we can improve our processes and/or reporting to further decrease the opportunity to arrive in the future.	

# 3.6 TOU Validation

As well as two gas gate meters (TCC00201 and TRC02003), ICPs 0000953421QTD8B and 1001133052QTBC8 have TOU metering installed. ICPs 0000953421QTD8B and 1001133052QTBC8 are both settled as non-TOU, consume less than 10,000 GJ pa, and are in AG4.

The non-TOU validation process applies for these ICPs. Contact does not deal with TOU data and no GAS050 submissions are provided.

# 4. Energy Consumption Calculation (Rule 28.2)

To evaluate energy consumption calculations, a spreadsheet was prepared which converts volume between meter readings to volume at standard conditions and then to energy consumption.

#### Non-TOU Energy Consumption Calculation

SAP converts non-TOU volumes to energy by applying:

- a **temperature factor** using an average ground temperature, adjusted for the Joule Thomson Effect where the meter pressure is lower than the network pressure; the temperature is reduced by 0.5 degrees per 100 kPa pressure drop between the network pressure and meter pressure,
- a pressure factor based on the ICP's meter pressure,
- an altitude factor based on the ICP's altitude and meter pressure,
- a **compressibility factor** based on the ICP's meter pressure, the temperature adjusted for the Joule Thomson Effect, and the gas composition from OATIS where the meter pressure is above 50 kPa; for ICPs below 50 kPa a compressibility factor of one is applied, and any differences between one and the actual compressibility factor are expected to fall within the maximum permissible errors set out in NZS 5259, and
- a calorific value from OATIS.

I manually calculated the conversion factors for a sample of ICPs with different networks, gas gates, gas types, temperatures, altitudes, meter pressures, and network pressures and compared my calculation to the factors and calorific values applied by SAP for the read-to-read period. All differences between my manual calculations and the SAP values were within permissible errors set out in NZS 5259.

#### **TOU Energy Consumption Calculation**

Contact submits all consumption as non-TOU but supplies ICPs 0000953421QTD8B and 1001133052QTBC8 which have TG (temperature and gauge pressure) correctors present. These ICPs have:

- a meter (showing uncorrected volumes on its one register), and
- a corrector (recording temperature and gauge pressure corrected volumes on one register, and uncorrected volumes on another register).

Contact's processes intend to use uncorrected meter readings and apply non-TOU conversion factors. Although use of the corrected volumes recorded by the corrector and a TOU conversion process would result in greater accuracy, NZS 5259 specifies that conversion factors can either be determined from a conversion device or by applying a fixed factor, and Contact's process is compliant.

The key differences between the conversion process for TG corrected reads and uncorrected reads are shown in the table below:

Conversion item	TOU process for TG corrected reads	Non-TOU process for uncorrected reads
Raw volume	Corrected volume from the corrector	Uncorrected volume from the meter or corrector.
Pressure factor	Factor = one: actual pressure is accounted for in the corrected volume.	Calculated: based on the meter pressure at installation.
Temperature factor	Factor = one: actual pressure accounted for in the corrected volume.	Calculated: based on the meter pressure at installation and the average temperature for the gas gate adjusted for the Joule Thomson effect if meter pressure is over 50 kPa.

Conversion item	TOU process for TG corrected reads	Non-TOU process for uncorrected reads
Altitude factor	Calculated	Calculated
Compressibility factor	Calculated	Calculated
Calorific value	Calculated	Calculated

#### 0000953421QTD8B

ICP 0000953421QTD8B has two devices and three meter registers. From the SAP records provided, MRS obtains a monthly reading for each of the three registers.

Submission and billing volumes are reported for corrector 1018160 register 2, which is the temperature and gauge pressure corrected meter register.

Register dat	ta									
Device	Rg	Periodic cons.	N	Not Settle.Relev.	Regist.Code	IntL	DC	Material	Reg.Fact.	11
923165	1	48,234	365	$\checkmark$	DEFAULT		2	RET0079	1.00000	*
1018160	1	48,234	365	$\checkmark$	U		2	RET0079	1.00000	-
1018160	2	887,338	365		TG		2	RET0079	1.00000	
	-		-							_

The readings corrector 1018160 register 2 already account for temperature and gauge pressure. The temperature factor and pressure factor should be one, and all other factors should be applied as usual for any non-TOU ICP.

I checked SAP conversion factor data for May 2023 to July 2023 (when the ICP was consuming) and found both the temperature factor and pressure factor applied were outside the maximum permissible errors set out in NZS 5259. SAP's pressure factor overstated by 394% and the temperature factor varied from read period to read period and was overstated by between 0.7% and 1.56% leading to an estimated over submission of around 540 GJ for the period reviewed.

The ICP switched out on 1 July 2023.

#### 1001133052QTBC8

ICP 1001133052QTBC8 has two devices and three meter registers. From the SAP records provided, MRS obtains a monthly reading for corrector 1018162 register 2 and meter 20500691 register 1.

Following a device change in September 2022, ICP 1001133052QTBC8 was incorrectly set up in SAP with two registers used for billing and settlement; the meter which records uncorrected readings, and the corrector's register 2.

Device	Rg	Periodic cons.	N	Not Settle.Relev.	Regist.Code	IntL	D.,	Material	Reg.Fact.	
1018162	1	0	365	<	U		2	RET0157	1.00000	#
1018162	2	82,745	365		TG		2	RET0157	1.00000	_
20500691	1	48,234	365		υ		2	RET0079	1.00000	

There are several issues:

 The readings corrector 1018162 register 2 already account for temperature and gauge pressure. The temperature factor and pressure factor should be one, and all other factors should be applied as usual for any non-TOU ICP. I checked SAP conversion factor data for corrector 1018162 register 2 for August to October 2023 and found the pressure factor applied was overstated by 297% and was outside the maximum permissible errors set out in NZS 5259. SAP's temperature factor varied from read period to read period but was within the maximum permissible error set out in NZS 5259. The incorrect factors led to an estimated over submission of 111 GJ.

- Inconsistent conversion factors are applied for 1018162 register 2 and 1018162 register 1, including the pressure, temperature, altitude and compressibility factor due to different meter set up.
- 3) Volumes should only be submitted for one of the two registers, with correct conversion factors applied. At this stage Contact believes that 183.897 GJ has been over submitted.

Contact is investigating to determine why the ICP's meters were not set up correctly so that action can be taken to prevent recurrence. A correction will be processed for billing and reconciliation once correct meter readings, attributes and factors are confirmed.

Energy consumption calculations					
Non-compliance	Descriptior	ı			
Report section: 4 Rule: 28.2 From: 1 July 2018 To: 27 November 2023	Audit history: No Controls: Acceptable Impact: Minor		TOU ICPs 0000953421QTD8B and 1001133052QTBC8 have had incorrect submission volumes provided to the allocation agent. Controls are effective for non-TOU metered ICPs which make up almost all the ICPs supplied. Controls need improvement for TOU metered ICPs, but Contact intends to investigate the issues and provide revised submission data. I have assessed the controls as acceptable overall and the impact as minor because revised submission data will be washed up.		
Remedial action rating		Remedial timeframe		Remedial comment	
In progress		New do the SAI with 2 These i been fi volume throug	evices were installed but P setup was incorrect, fields not being ticked. Incorrect setups have now xed and the correct es will be submitted h the washup process.	Once Contact has investigated and confirmed the correct meter attributes and registers, corrected data will be washed up through the revision process once the correct readings, meter attributes and conversion factors are confirmed. Contact advised on 08/01/2024 that an investigation and correction had been created for ICP 1001133052QTBC8. Contact is conducting an investigation into why the ICPs' metering was set up incorrectly to prevent recurrence of this issue.	
Audited party comment					
The circumstances of the matters outlined in the breach notice.			evices were installed but the not being ticked.	e SAP setup were incorrect, with 2	

Whether or not the participant admits or disputes that it is in breach.	Contact admits to the breach.
Estimate of the impact of the breaches (where admitted).	Minor, correct volumes will be submitted through the washup process.
What steps or processes were in place to prevent the breaches?	This is rare scenario as Contact has very few TOU metered ICPs. There has been a loss of knowledge with changes in personnel.
What steps have been taken to prevent recurrence?	The team is now aware of the need to ensure the setup is correct when installing TOU devices.

# 5. Estimation and Submission Information

# 5.1 TOU Estimation and Correction (Rule 30.3)

Contact submits all consumption as non-TOU but supplies ICPs 0000953421QTD8B and 1001133052QTBC8 which have TG (temperature and gauge pressure) correctors present.

Contact does not deal with TOU data and no GAS050 submissions are provided. No TOU corrections have been made.

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

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

#### GAS050 TOU energy submissions

Contact supplies two ICPs which have correctors but does not deal with TOU data and no GAS050 submissions are provided.

#### GAS040 non-TOU energy submissions

GAS040 submission data is reviewed prior to submission each month.

- Any ICPs with consumption over 36 GJ for the month are compared against a list of known high users by late in the submission month. Any exceptions are investigated to determine whether the high consumption is valid (e.g., low estimates have been replaced with actuals) or invalid (e.g., a reading lower than previous had invalidly created a meter rollover). Corrections are processed as necessary.
- Initial, interim, and final submission data is checked at total level against other months and revisions, with differences between revisions calculated to determine whether the current submission appears reasonable. If the current submission data does not look reasonable, Contact investigates using gas gate and ICP level data.
- Initial, interim, and final submission data is checked at gas gate level against the previous month for initial submissions, and previous submission(s) for revisions. If the current submission data does not look reasonable, Contact investigates using ICP level data. Conditional formatting is used to identify consumption which is >+1000 GJ or >+50% compared to the previous submission, and Contact intends to add this for the interim and

final submissions. The previous audit recommended these limits are reduced however this is likely to result in a large number of exceptions which may not all be reviewed. I believe it is better for Contact to focus on validating the largest exceptions as a priority.

- The GAS040 is checked for negative values and any rows where historic estimate is greater than the total estimate.
- Gas gates included in the submission information are checked against SAP's contract start and end dates, and trading notifications are issued where required.
- ICPs with "default settlement units" are checked. Default settlement units are applied where there is missing metering information, but the ICP is active, so SAP produces an estimate. The ICPs are checked and passed to the individual business units for resolution.

Contact is developing a process to validate ICP days against submission data. Currently there is a cursory check of the total number of ICPs for reasonableness. The number of installations is an optional field and is not populated in the GAS040 by Contact.

GAS040 consumption was examined and compared to the data in Contact's system at ICP level for a sample of gas gates and months; the totals matched which confirms compliance. This also proves that Contact's consumption information provided to the allocation agent is calculated at ICP level and then aggregated.

The Portfolio Operations team is currently developing Power BI reporting which will aid validation of submission information, including creating charts comparing each submission to previous revisions, months and years. This reporting will be used in addition to the existing validation checks.

#### Vacant ICPs

When an ICP is vacant but still active (ACTV on the registry), meter reading still occurs and any volume that is recorded is converted into validated consumption and is then included in the allocation process. A sample of active vacant ICPs were reviewed and found to be correctly included in the GAS040 submissions.

### 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.

As part of their pre-submission checks, Contact checks for high consuming ICPs, variances to the previous month and/or previous submission, and ICPs with negative forward estimate, to help to identify potential forward estimate inaccuracies. I reviewed examples of these checks and found large discrepancies were appropriately investigated and resolved.

I reviewed GAR050 reports provided by the allocation agent and found Contact did not meet the requirement for initial submissions to be within  $\pm 10\%$  or < 200 GJ of the final submission each gas gate 349 times for submission periods between November 2018 and June 2022. Previous breaches of this nature have been found to be immaterial.

I reviewed the differences and found that they occurred because of under or over estimation where actual readings were not available at the time the initial submission was produced, and corrections where readings used to calculate historic estimate for the initial submission were found to be misreads. The largest percentage and GJ variations occurred in shoulder months which typically have large GJ differences as gas demand changes with cooler or warmer weather and lock down periods where less actual reads were able to be obtained for initial submissions. There was no evidence that SAP is consistently under or overestimating.

Month	Total Gas Gates	Number Within 10%	% Compliant	Within ±10% or < 200 GJ	% Compliant or immaterial
1 November 2018	84	56	66.67%	84	100.00%
1 December 2018	84	52	61.90%	78	92.86%
1 January 2019	84	44	52.38%	81	96.43%
1 February 2019	84	41	48.81%	80	95.24%
1 March 2019	84	32	38.10%	75	89.29%
1 April 2019	84	29	34.52%	72	85.71%
1 May 2019	84	50	59.52%	83	98.81%
1 June 2019	84	42	50.00%	73	86.90%
1 July 2019	84	42	50.00%	79	94.05%
1 August 2019	84	36	42.86%	76	90.48%
1 September 2019	84	43	51.19%	79	94.05%
1 October 2019	83	45	54.22%	79	95.18%
1 November 2019	83	36	43.37%	72	86.75%
1 December 2019	83	38	45.78%	73	87.95%
1 January 2020	83	47	56.63%	78	93.98%
1 February 2020	83	46	55.42%	78	93.98%
1 March 2020	83	32	38.55%	72	86.75%
1 April 2020	83	18	21.69%	61	73.49%
1 May 2020	83	31	37.35%	75	90.36%
1 June 2020	82	40	48.78%	75	91.46%
1 July 2020	82	40	48.78%	74	90.24%
1 August 2020	81	49	60.49%	77	95.06%
1 September 2020	82	38	46.34%	73	89.02%
1 October 2020	82	32	39.02%	74	90.24%
1 November 2020	82	30	36.59%	69	84.15%
1 December 2020	82	26	31.71%	68	82.93%

Month	Total Gas Gates	Number Within 10%	% Compliant	Within ±10% or < 200 GJ	% Compliant or immaterial
1 January 2021	75	30	40.00%	68	90.67%
1 February 2021	75	40	53.33%	72	96.00%
1 March 2021	75	40	53.33%	72	96.00%
1 April 2021	74	25	33.78%	59	79.73%
1 May 2021	74	13	17.57%	51	68.92%
1 June 2021	75	20	26.67%	54	72.00%
1 July 2021	75	29	38.67%	64	85.33%
1 August 2021	75	29	38.67%	68	90.67%
1 September 2021	75	41	54.67%	69	92.00%
1 October 2021	76	23	30.26%	65	85.53%
1 November 2021	76	24	31.58%	66	86.84%
1 December 2021	76	28	36.84%	69	90.79%
1 January 2022	76	27	35.53%	67	88.16%
1 February 2022	76	35	46.05%	75	98.68%
1 March 2022	76	37	48.68%	73	96.05%
1 April 2022	76	27	35.53%	71	93.42%
1 May 2022	76	37	48.68%	74	97.37%
1 June 2022	76	45	59.21%	74	97.37%
Average	80	36	44.49%	72	90.08%

Month	Initial Submission All Gas Gates (GJ)	Final Submission All Gas Gates (GJ)	Percentage Variation
Nov-2018	216220.503	217188.45	-0.45%
Dec-2018	176366.993	173022.232	1.90%
Jan-2019	156397.623	151499.689	3.13%
Feb-2019	145601.363	149361.767	-2.58%
Mar-2019	191610.867	177766.024	7.23%

Month	Initial Submission All Gas Gates (GJ)	Final Submission All Gas Gates (GJ)	Percentage Variation
Apr-2019	204834.56	224851.104	-9.77%
May-2019	286027.728	285191.45	0.29%
Jun-2019	345147.79	359824.583	-4.25%
Jul-2019	390074.449	369253.964	5.34%
Aug-2019	359898.149	385553.81	-7.13%
Sep-2019	324030.47	319276.96	1.47%
Oct-2019	279868.801	283942.516	-1.46%
Nov-2019	227326.57	210235.662	7.52%
Dec-2019	192385.714	175561.143	8.75%
Jan-2020	171803.448	164251.744	4.40%
Feb-2020	151317.654	153152.054	-1.21%
Mar-2020	191448.887	173959.502	9.14%
Apr-2020	247777.896	163440.837	34.04%
May-2020	271061.872	271895.278	-0.31%
Jun-2020	307978.162	329338.352	-6.94%
Jul-2020	353012.685	381736.019	-8.14%
Aug-2020	339170.579	337769.405	0.41%
Sep-2020	286629.12	303706.216	-5.96%
Oct-2020	251479.352	239511.804	4.76%
Nov-2020	209876.883	201590.549	3.95%
Dec-2020	185980.051	171632.645	7.71%
Jan-2021	159184.444	148685.986	6.60%
Feb-2021	144127.752	142502.799	1.13%
Mar-2021	170987.083	171591.607	-0.35%
Apr-2021	173046.453	195552.869	-13.01%
May-2021	221300.151	282675.345	-27.73%

Month	Initial Submission All Gas Gates (GJ)	Final Submission All Gas Gates (GJ)	Percentage Variation
Jun-2021	271345.293	320414.923	-18.08%
Jul-2021	336864.13	370511.749	-9.99%
Aug-2021	343925.684	334821.275	2.65%
Sep-2021	307165.302	280759.154	8.60%
Oct-2021	265262.843	234600.44	11.56%
Nov-2021	205213.742	182227.967	11.20%
Dec-2021	167371.86	159296.423	4.82%
Jan-2022	149127.939	136973.785	8.15%
Feb-2022	136112.731	135837.483	0.20%
Mar-2022	165304.075	159370.569	3.59%
Apr-2022	195293.888	178121.757	8.79%
Мау-2022	256480.35	256692.013	-0.08%
Jun-2022	308643.595	312323.281	-1.19%
Total	10440085.48	10377473.18	0.60%

Initial submission accuracy					
Non-compliance	Description	Description			
Report section: 5.3 Rule: 37.2 From: July 2018 final submission To: June 2023 final submission	Audit history: Yes Controls: Effective Impact: Minor		Contact did not meet the requirement for initial submissions to be within ±10% or < 200 GJ of the final submission each gas gate 349 times for submission periods between November 2018 and June 2022. Controls are in place to reduce the quantity of forward estimate and detect inaccurate forward estimates. Meter read attainment processes help to ensure that reads are obtained. Submission information is reviewed before being provided to the allocation agent to identify inaccurate forward estimate.		
Remedial action rating		Remedia	l timeframe	Remedial comment	
In progress Co		Commen	nced January 2024	We have Introduced a new read route in Auckland that is specific to AG4 Monthly read attainment – this is a priority service with our meter readers to help	

		improve the monthly reading services. We will also still look at other opportunities to continuously make improvements in the Meter Reading Frequency rates and improve the discrepancy between the Initial and Final submissions by improving the HE percentage in our submissions.
Audited party comment		
The circumstances of the matters outlined in the breach notice.	Low HE percentage in Initial submissions from low meter reading rate.	
Whether or not the participant admits or disputes that it is in breach.	We admit to the breach.	
Estimate of the impact of the breaches (where admitted).	Minor as accuracy is improved with washups.	
What steps or processes were in place to prevent the breaches?	Meter reading rate was being monitored and the meter reading contractor advised as required.	
What steps have been taken to prevent recurrence?	New reporting tools are being developed to aid the the team in monitoring the meter reading rates	

# 5.4 Forward Estimates (Rules 34 & 36)

The Gas Downstream Reconciliation Rules 2008 state that a retailer may determine the method used for calculating a forward estimate at its discretion. Therefore, any process applied will be compliant with the Rules.

Where actual readings are not available to calculate historic estimate, forward estimate is calculated by SAP based on:

- daily average consumption with temperature adjustment from an average at the same time the previous year,
- daily average consumption from the previous read to read period with temperature adjustment, or
- the periodic consumption which is populated with an estimate of the expected consumption such as the annualised consumption estimate received in the incoming GTN.

The temperature adjustment takes into account degree days. If an ICP is vacant or disconnected, daily average consumption of zero is applied for forward estimate. Because gas is normally used for water heating, heating, and/or cooking, a zero estimate is reasonable if the property is vacant.

As part of their pre-submission checks, Contact checks for high consuming ICPs, variances to the previous month, and ICPs with negative forward estimate, and ICPs with default settlement units (where metering details are missing) to help to identify potential forward estimate inaccuracies. I reviewed examples of these checks and found large discrepancies were appropriately investigated

and resolved. These checks along with read validation processes discussed in **section 3.4** help to identify and resolve submission accuracy issues.

Where a reading cannot be obtained within 12 months, permanent estimates are intended to be entered as part of the meter reading compliance process described in **section 3.3**. If a high priority read is requested but not received, a service order is created to change one of the existing estimated readings to a permanent estimate. In some cases, staff close the high priority read service orders before the permanent estimate read service order is created, and permanent estimates may be created late, or not created at all.

I checked the May 2022 final revision and found that allocation group 4 ICPs had 100% historic estimate and 110 AG6 ICPs had a total of 160.250 GJ of forward estimate remaining. I checked a sample of 20 ICPs and found actual reads were not obtained and no permanent estimate was entered because:

four ICPs had no meter reader readings but had validated customer readings; the Rules do
not specify that readings must be taken by a meter reader to be considered a register
reading, and these readings could technically be used to calculate historic estimate (Contact
does not treat customer supplied readings as validated readings for consistency with their
electricity submission processes),

**register reading** means the number displayed by a meter register or corrector register at a particular date in time, and that represents the volume of gas recorded by the register over a certain period;

- 12 ICPs had no readings because the meter reader could not gain access,
- one ICP was on an unmetered meter reading route and was not read, this has since been corrected, and
- ICPs 0000715921QTCC0, 1001249845NG229 and 0001444712QT92A had forward estimate calculated for May 2022's final submission when actual or switch out estimate reads were available and expected to be used to calculate historic estimate; Contact is investigating to determine why these readings were not used to calculate historic estimate.

Recommendation	Audited party comment
Investigate why historic estimate was not calculate for ICPs 0000715921QTCC0, 1001249845NG229 and 0001444712QT92A for the May 2022 final submission.	We will take the recommendation into consideration and investigate this matter further.

# 5.5 Historic Estimates (Rules 34 & 35)

Historic estimate is calculated by SAP using validated actual and permanent estimate readings and seasonal adjusted daily shape values (SADSV) provided by the allocation agent.

The process for managing SADSV was examined. There is an automated process where the allocation agent's web server is polled for new files. The new files overwrite the old files, and if a new file is not available, the most recent file remains. Manual intervention is only required where a file has failed to upload, and a BPEM is created to alert the user to the failure. Typically, failures occur only if a data value in one of the fields is not set up in SAP. The user will enter the data value

in SAP's maintenance tables, and then move the file back to the source folder, so that it will be picked up for import.

The historic estimate process converts the read-to-read CM to energy, and then uses the most recent SADSV to apportion the consumption between the reconciliation periods. This is compliant with the rules and ensures that sum of consumption apportioned to each month matches the total consumption for the read-to-read period.

For each scenario in the table below, a manual calculation was performed using the relevant SADSV, readings and volumes, and compared to SAP's results. This test proved that SAP's calculation was correct, and the correct shape file was used for each scenario that occurred.

Test	Scenario	Test expectation	Result
а	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Correct
b	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Correct
с	ICP's become Inactive then Active within a month.	Consumption is only calculated for the Active portion of the month.	Correct
d	ICP switches in part way through a month on an estimated switch event reading	Consumption is calculated to include the 1st day of responsibility.	Correct
e	ICP switches out part way through a month on an estimated switch event reading.	Consumption is calculated to include the last day of responsibility.	Correct
f	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	Correct
g	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Correct
h	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Correct
i	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Correct
j	ICP has a multiplier or fixed factor (if any)	Consumption is calculated including the multiplier or fixed factor.	No examples available

Where inputs into the calculation process are incorrect, the compliant calculation method may produce an incorrect result. This occurred for two scenarios where inactive consumption was present:

- for scenario b, the ICP has inactive consumption after the disconnection on 8 August 2023, but no consumption is reported due to inactive status; this caused under reporting of 2.01 GJ between 9 August 2023 and 5 September 2023.
- for scenario c, the ICP has inactive consumption between 18 April 2023 and 19 April 2023, but no consumption is reported due to inactive status; this caused under reporting of 0.396 GJ.

Compliance is recorded in this section because the historic estimate process is correct. Nonconformance is recorded in **section 3.5** because inactive consumption was not corrected for.

### 5.6 **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. Six GAS040 initial and revision submission files were examined, and compliance is confirmed.

# 5.7 Billed vs Consumption Comparison (Rule 52)

GAS070 reports are generated using invoice information calculated by SAP. Invoice data is included in the GAS070 if the billing period end date occurs within the period being reported.

The content of the GAS070 files was proved by selecting ten gas gates and checking the invoice data for all ICPs connected to the gas gate against the GAS070 file for August 2023. This confirmed that all the invoices included had invoice dates within August 2023, and invoices with negative consumption and invoice reversals correctly included.

The chart below shows a comparison between rolling annual quantities billed and rolling annual consumption information submitted to the allocation agent for a 39-month period. Although the figures cannot be directly compared, as the submitted data is normalised, they can provide a useful indicator of whether under or over reporting of consumption is occurring.

I reviewed the differences between billed and submission data and found they were attributed to timing, with differences reducing as submission volumes were washed up. No issues were identified.



Comparison between Rolling Annual Submitted Volumes and Gas Supplied

Last Consumption Period Billed	Actual sales (GJ)	Consumption (GJ)	Difference Between Sales and Submitted Consumption (GJ)	Sales/Submission
May-2020	3040191.38	3114512.734	-74321.354	97.6%
Jun-2020	3021185.971	2980823.7	40362.271	101.4%
Jul-2020	3022591.888	2964100.644	58491.244	102.0%
Aug-2020	2998881.75	2942939.494	55942.256	101.9%
Sep-2020	2960810.875	2945389.536	15421.339	100.5%
Oct-2020	2937901.445	2909296.909	28604.536	101.0%
Nov-2020	2936518.35	2920006.664	16511.686	100.6%
Jan-2021	2884702.547	2903874.996	-19172.449	99.3%
Feb-2021	2871714.106	2878800.423	-7086.317	99.8%
Mar-2021	2837052.186	2862957.88	-25905.694	99.1%
Apr-2021	2854245.758	2866572.731	-12326.973	99.6%
May-2021	2846533.144	2814733.581	31799.563	101.1%
Jun-2021	2837106.406	2777823.387	59283.019	102.1%
Jul-2021	2839817.23	2791323.092	48494.138	101.7%
Aug-2021	2875843.248	2839408.686	36434.562	101.3%
Sep-2021	2849811.079	2874911.259	-25100.18	99.1%
Oct-2021	2844705.963	2884795.565	-40089.602	98.6%
Nov-2021	2829429.547	2864440.456	-35010.909	98.8%
Dec-2021	2818909.701	2830197.635	-11287.934	99.6%

Last Consumption Period Billed	Actual sales (GJ)	Consumption (GJ)	Difference Between Sales and Submitted Consumption (GJ)	Sales/Submission
Jan-2022	2803854.301	2809621.713	-5767.412	99.8%
Feb-2022	2809728.849	2795422.067	14306.782	100.5%
Mar-2022	2795997.558	2778586.241	17411.317	100.6%
Apr-2022	2824111.525	2780291.451	43820.074	101.6%
May-2022	2832548.932	2753724.648	78824.284	102.9%
Jun-2022	2803718.186	2733265.323	70452.863	102.6%
Jul-2022	2799191.776	2704647.31	94544.466	103.5%
Aug-2022	2749258.595	2705477.393	43781.202	101.6%
Sep-2022	2758117.241	2699509.346	58607.895	102.2%
Oct-2022	2754197.78	2697674.679	56523.101	102.1%
Nov-2022	2750632.88	2701030.434	49602.446	101.8%
Dec-2022	2751880.813	2686581.783	65299.03	102.4%
Jan-2023	2755063.63	2675576.273	79487.357	103.0%
Feb-2023	2752893.935	2660896.132	91997.803	103.5%
Mar-2023	2743075.893	2652147.749	90928.144	103.4%
Apr-2023	2703712.927	2631762.051	71950.876	102.7%
May-2023	2676312.772	2593042.838	83269.934	103.2%
Jun-2023	2641970.508	2548665.436	93305.072	103.7%
Jul-2023	2605848.761	2518527.406	87321.355	103.5%
Aug-2023	2576289.023	2507701.097	68587.926	102.7%

# 5.8 Gas Trading Notifications (Rule 39)

A retailer must give notice to the Allocation Agent where they commence or cease to supply gas under a supplementary agreement to a transmission services agreement, or amend information required to be provided under the supplementary agreement under rule 39.2.

Gates requiring trading notifications are identified through Contact's pre submission validation process. Gas gates included in the submission information are checked against SAP's contract start and end dates, and trading notifications are issued where required.

# 6. Recommendations

As a result of this audit, I have made six recommendations:

Report section	Recommendation
2.3.1	Update the ICPs where old temperature regions are applied for gas conversion to use the GIC gas gate temperatures.
3.3	Determine why gas ICP 0001554991QTA26 was moved to an unmetered read frequency and take action to prevent this issue occurring for other ICPs.
3.4	Investigate why some gas ICPs with inactive consumption have not had BPEMs generated and improve the process as necessary.
3.5	Complete the review of stopped meter reporting and responsibilities and implement the new monitoring process. Given the number of ICPs that Contact supplies, there is a high probability that some meters may not be recording energy accurately and these appear not to be being detected through the current process.
3.5	Investigate why some reconnections are not raised with the correct job type, which means the reconnection is not correctly processed in ORB and SAP and take action to prevent recurrence.
5.4	Investigate why historic estimate was not calculate for ICPs 0000715921QTCC0, 1001249845NG229 and 0001444712QT92A for the May 2022 final submission.

# **Appendix 1 – Control Rating Definitions**

Rating	Definition
Ineffective	The design of controls <u>overall is ineffective</u> in addressing key causes and/or consequences. Documentation and/or communication of the controls <u>does not exist</u> (e.g. policies,
	procedures, etc.). The controls are <u>not in operation</u> or have not yet been implemented.
	The design of controls <u>only partially</u> addresses key causes and/or consequences.
Needs improvement	Documentation and/or communication of the controls (e.g. policies, procedures, etc.) are <u>incomplete</u> , unclear, or inconsistent.
	The controls are <u>not operating consistently</u> and/or effectively and have not been implemented in full.
	The design of controls is <u>largely adequate and effective</u> in addressing key causes and/or consequences.
Acceptable	The controls (e.g. policies, procedures, etc.) <u>have been formally documented</u> but <u>not</u> <u>proactively communicated</u> to relevant stakeholders.
	The controls are <u>largely operating in a satisfactory manner</u> and are providing some level of assurance.
	The design of controls is <u>adequate and effective</u> in addressing the key causes and/or consequences.
Effective	The controls (e.g. policies, procedures, etc.) have been <u>formally documented and</u> <u>proactively communicated</u> to relevant stakeholders.
	The controls overall, are operating effectively so as to manage the risk.
## **Appendix 2 – Impact Rating Definitions**

Rating	Definition
Insignificant	A <u>small number of issues</u> with registry file timeliness and/or accuracy. <u>Negligible impact</u> on other participants or consumers. <u>Did not prevent</u> the process completing.
	A <u>small number of issues</u> with the accuracy and/or timeliness of files to the Allocation Agent. Corrections <u>were</u> made by the interim allocation.
	A small number of issues not related to registry or allocation information.
Minor	Some issues with registry file timeliness and/or accuracy. Minor impact on other participants or consumers. Did not prevent the process completing.
	Some issues with the accuracy and/or timeliness of files to the Allocation Agent. Corrections were made by the interim allocation.
	A small number of issues not related to registry or allocation information.
Moderate	A <u>moderate number of issues</u> with registry file timeliness and/or accuracy. <u>Moderate</u> <u>impact</u> on other participants or consumers. <u>Did prevent</u> some processes completing.
	<u>A moderate number of issues</u> with the accuracy and/or timeliness of files to the Allocation Agent. Corrections <u>were not</u> made by the interim allocation.
	A moderate number of issues not related to registry or allocation information.
Major	A <u>significant number of issues</u> with registry file timeliness and/or accuracy. <u>Major impact</u> on other participants or consumers. <u>Did prevent</u> some processes completing.
	<u>A significant number of issues</u> with the accuracy and/or timeliness of files to the Allocation Agent. Corrections <u>were not</u> made by the interim allocation.
	A <u>significant number</u> of issues not related to registry or allocation information.

## **Appendix 3 – Remedial Rating Definitions**

Rating	Definition
Completed	The alleged breach and impact have been resolved. Systems and processes are now compliant.
In progress	Steps are being taken to resolve the alleged breach and impact and ensure systems and processes are compliant.
No action	Participant undertakes no action to resolve or address auditor controls or impact assessments for commercial reasons.

## **Appendix 4 – Contact Comments**

Contact Energy's comments have been added to the remedial action and audited party comment sections of the non-compliance and recommendation boxes within this report.