VERITEK

Gas Distributor Audit Report

For

GasNet
Connecting communities

GasNet Limited

Prepared by: Tara Gannon – Veritek Ltd
Date of Audit: 29 September 2020
Date Audit Report Complete: 27 November 2020

Executive Summary

This Performance Audit was conducted at the request of the Gas Industry Company (GIC) in accordance with Rule 88 of the Gas (Switching Arrangements) Rules 2008 in effect from 14 September 2015.

The purpose of this audit is to assess the systems, processes, and performance of **GasNet Ltd (GasNet)** in terms of compliance with these rules. The audit was conducted in accordance with terms of reference prepared by GIC.

The summary of report findings in the table below shows that GasNet's control environment is "effective" for 12 of the areas evaluated, "adequate" for decommissioning and "not adequate" for load shedding categories. Breach allegations are made in relation to these and are summarised below.

- Four new ICPs had some information populated late.
- 27 ICPs were confirmed to have incorrect load shedding categories recorded, and a further three ICPs are under investigation. Five were corrected during the audit, and GasNet is working with the affected retailers to confirm the correct load shedding categories for the remaining exceptions.
- 24 ICPs with more than one meter at the address had duplicate addresses recorded. 22 were made unique during the audit, and the other two ICPs are under investigation with the retailer.
- Five updates to decommissioned status were not made as soon as practicable.
- Four pricing updates were not made a soon as practicable. The changes only affected the maximum hourly quantity field and there was no impact.

GasNet is currently reviewing their new connection and decommissioning process, and intends to improve the timeliness of registry updates in future. I have recommended some further validation for load shedding and decommissioning, which would help to improve the control environment in these areas.

- Check load shedding categories for reasonableness at least quarterly and follow up any exceptions with the retailers.
- Check ICPs at INACT GPM status as part of the fortnightly validation to determine whether an application for decommissioning has been received, and a decommission is underway.

The matters raised are shown in the tables below.

Summary of Report Findings

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
General obligations	2	Effective	Compliant	
New connections	3	Effective	Not compliant	One new ICP was created late, and three new ICPs had some information populated late.
Network pressure	4.1	Effective	Compliant	
ICP altitude	4.2	Effective	Compliant	
Gas gate	4.3	Effective	Compliant	
Load shedding category	4.4	Not adequate	Not compliant	15 non domestic ICPs consuming at least 275 GJ are in load shedding category 6 but are expected to be in load shedding category 4. Eight non domestic ICPs consuming less than 250 GJ per annum are in load shedding category 4 but are expected to be in load shedding category 6. Four non domestic ICPs consuming less than 250 GJ per annum are in load shedding category DOM but are expected to be in load shedding category 6, and were corrected during the audit.

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
				A further three ICPs with DOM load shedding categories are under investigation to confirm their correct load shedding category, which is expected not to be domestic.
Maximum hourly quantity	4.5	Effective	Compliant	This field is not used to determine network charges and is not required to be populated
Physical address	4.6	Effective	Not compliant	24 ICPs with more than one meter at their address had duplicate addresses recorded 22 were updated to be unique during the audit, and the other two ICPs with a duplicated address are under investigation with the retailer.
Decommissioned status	4.7	Adequate	Not compliant	The updates to decommissioned status for five ICPs were not made as soon as practicable and were processed 51 to 111 business days after the decommissioning date.
Connection statuses	4.8	Effective	Compliant	
Registry validation and correction	4.9	Effective	Not compliant	Pricing corrections for ICPs 0000019216GN7C9, 0000014118GND71, 0000019283GN561 and 0000027427GN39E were not made as soon as practicable. The late updates only affected the maximum hourly quantity field and had no impact.

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
Creation and decommissioning of gas gates	5	No examples of changes	No examples of changes	
Management of network price category codes	6	Effective	Compliant	
Management of loss factor codes	7	Effective	Compliant	
Disclosure on application	8	Effective	Compliant	

Persons Involved in This Audit

Auditor:

Tara Gannon
Veritek Limited

GasNet personnel assisting in this audit were.

Name	Title
David Newell	Finance and Administration Manager
Fiona McMillan	Administration Assistant
Jim Coe	General Manager

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1. Pre-Audit and Operational Infrastructure Information

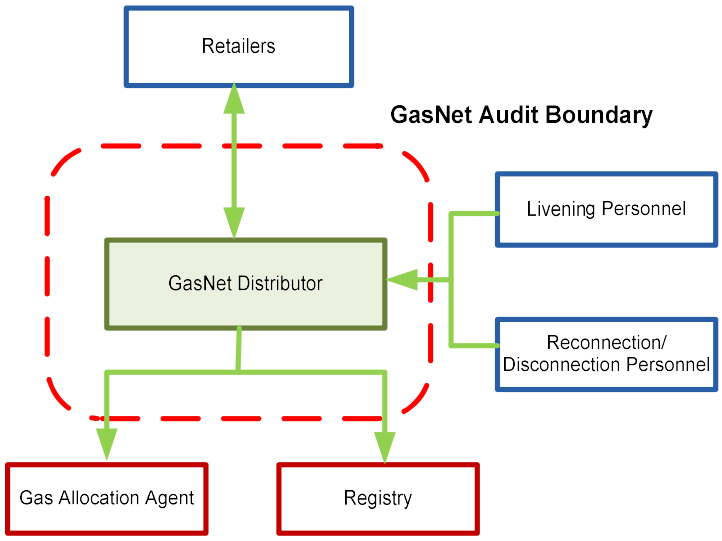
1.1 Scope of Audit

The purpose of this audit is to assess the systems, processes and performance of GasNet in terms of compliance with these rules.

The audit was conducted in accordance with terms of reference prepared by GIC.

The audit was carried out on 29 and 30 July 2020 at GasNet's office in Whanganui.

The scope of the audit includes the distributor responsibilities only, as shown in the diagram below.



1.2 Audit Approach

As mentioned in **section 1.1** the purpose of this audit is to assess the performance of GasNet 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 GasNet has in place to achieve compliance, and where it has been considered appropriate sampling has been undertaken to determine compliance.

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

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

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

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

1.3 General Compliance

GIC confirmed there are no previous breach allegations for GasNet in relation to the scope of this audit.

1.4 Provision of Information to the Auditor (Rule 91)

In conducting this audit, the auditor may request any information from GasNet, and any registry participant or operator.

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

Information was not required from any other participant in relation to this audit.

1.5 Breach allegations

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

Breach Allegation	Rules	Section in this report
One new ICP was created late, and three new ICPs had some information populated late.	GSAR 51.2 and 51.3	3
15 non domestic ICPs consuming at least 275 GJ are in load shedding category 6 but are expected to be in load shedding category 4. Eight non domestic ICPs consuming less than 250 GJ per annum are in load shedding category 4 but are expected to be in load shedding category 6. Four non domestic ICPs consuming less than 250 GJ per annum are in load shedding category DOM but are expected to be in load shedding category 6, and were corrected during the audit. A further three ICPs with DOM load shedding categories are under investigation to confirm their correct load shedding category, which is expected not to be domestic.	GSAR 58.1	4.4
24 ICPs with more than one meter at their address had duplicate addresses recorded 22 were updated to be unique during the audit, and the other two ICPs with a duplicated address are under investigation with the retailer.	GSAR 58.1	4.6

Breach Allegation	Rules	Section in this report
The updates to decommissioned status for ICPs 0000024292GN885, 0000013761GN41B, 0000014118GND71, 0000027427GN39E and 0000019216GN7C9 were not made as soon as practicable and were processed 51 to 111 business days after the decommissioning date. Rule 58.1 also requires GasNet to use reasonable endeavours to maintain current and accurate information in the registry.	GSAR 58.1 and 61.1	4.7
Pricing corrections for ICPs 0000019216GN7C9, 0000014118GND71, 0000019283GN561 and 0000027427GN39E were not made as soon as practicable. The late updates only affected the maximum hourly quantity field and had no impact.	GSAR 61.1	4.9

Three alleged breaches were recorded in relation to the 2018 distributor audit, and the outcomes are recorded in the table below.

Breach Allegation	Breach No.	Rule	Section in this report	Outcome
One late change to Ready.	2018-048	53.1	3.2	The Market Administrator did not raise any material issues.
13 load shedding category discrepancies.	2018-049	58.1	4.4	The Market Administrator did not raise any material issues.
Not all registry updates made as soon as practicable.	2018-050	61.1	4.9	The Market Administrator did not raise any material issues.

1.6 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 92 of the 2015 Amendment Version of the Gas (Switching Arrangements) 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 response was received.

Party	Response	Comments provided	Attached as appendix
GasNet	Yes	Yes	No

No changes were made to the report. GasNet's comments are included in each section where non-conformance or recommendations are recorded.

1.7 Gas Gate and ICP Data

GasNet owns and manages the Gas network in the Whanganui region.

No gas gates have been created or decommissioned during the audit period. The table below lists the relevant Gas Gates:

Gas Gate	Description
FLH21901	Flockhouse
LAB20201	Lake Alice
MTN23801	Marton
WAG21501	Whanganui
WTT20301	Waitotara

1.8 ICP data

A registry list file was reviewed, and a summary of this data by "ICP status" is as follows:

ICP Status	Number of ICPs (Aug 2020)	Number of ICPs (Sep 2017)
New	617	665
Ready	350	378
Active Contracted (ACTC)	9,805	9,676
Active Vacant (ACTV)	301	256
Inactive Transitional (INACT)	2,112	2,002
Inactive Permanent (INACP)	4	3
Decommissioned (DECR)	933	849

2. General obligations

2.1 Participant registration information (Rules 7 and 10)

All registry participants must supply registration information to the registry operator. Registration information consists of:

- the name of the registry participant, and
- the registry participant's telephone number, physical address, facsimile number, email address, and postal address, and
- identification as to which class, or classes, of registry participant (retailer, distributor or meter owner) that the registry participant belongs.

Registration information must be given in the form and manner required by the registry operator as approved by the industry body. Every person who is a registry participant at the commencement date must supply the registration information within 20 business days of the commencement date. A person who becomes a registry participant after the commencement date must supply the registration information within 20 business days of becoming a registry participant.

GasNet's participant registration information was confirmed to be valid. Compliance is confirmed.

2.2 Obligation to act reasonably (Rule 34)

Every registry participant must act reasonably in relation to its dealings with the registry and, in doing so, must use its reasonable endeavours to co-operate with other registry participants.

Processes for managing queries and complaints about Registry information were reviewed. No examples of GasNet acting unreasonably were found. Compliance is confirmed.

2.3 Obligation to use registry software competently (Rule 35)

Each registry participant must ensure that any software for the registry is used in a proper manner by competent employees or by persons under the supervision of those employees.

No registry participant may request, permit, or authorise anyone other than the registry operator to provide support services in respect of any software for the registry.

Each registry participant must appoint a nominated manager to be responsible for all that registry participant's communications with the registry.

No examples of GasNet using Registry software incompetently were found. Access to modify Registry information is restricted and staff are appropriately trained. GasNet only uses Jade for Registry support services. Compliance is confirmed.

3. New connections

3.1 ICP creation (Rules 5.2, 43.1 and 43.2)

ICP format

ICPs should be created as a unique 15-character identifier assigned to each ICP, having the format yyyyyyyyyyxxccc, where:

yyyyyyyyyy	is the gas connection number specified by the distributor and unique to that connection in the distributor's records
xx	is an alphabetic combination, determined by the industry body, for use by the distributor when creating the ICP identifier
ccc	is an alphanumeric check-sum generated by an algorithm specified by the industry body

ICP numbers are automatically generated by MIDaS and all ICP numbers on the registry list had a compliant format.

ICP requirements

ICPs must be assigned for each consumer installation connected to GasNet's distribution system. The ICP must represent a single point of connection, which:

- may be isolated from the distribution system or transmission system without affecting any other consumer installation,
- has a single loss factor and a single network price category, and
- has its gas volume measured directly by a single set of metering equipment complying with NZS 5259:2015, or measured indirectly by a method approved by the industry body.

To determine compliance with each of these requirements, I reviewed processes and checked all ICPs on the registry list generated on 13/08/2020. Compliance is confirmed.

Requirement	Commentary
Isolation of ICPs	GasNet does not allow ICPs to be connected downstream of other ICPs. Any applications that required this would be rejected. 24 ICPs with more than one meter at their address had duplicate addresses recorded on the registry list. GasNet confirmed that all were separate connections, and the duplicate addresses are discussed further in **section 4.6.**
Single loss factor and network price category	Each ICP which was not decommissioned had one loss factor and one price category assigned on the registry list.
Metering installed	All meters installed on GasNet's network are owned by GasNet. As part of the new connection process a site visit is performed to determine the connection requirements, and single set of compliant metering is selected based on this information. A checklist is followed for all new applications to ensure that all steps of the process are completed, and metering in installed.

Requirement	Commentary
	The registry list generated on 13/08/2020 recorded five ICPs that had connection statuses indicating that a GMS was present, but the GMS was recorded as removed on the registry. Two were timing differences and the retailer later updated their status to show the GMS was removed. GasNet confirmed that the metering was removed for the other three ICPs and the retailer had recorded an incorrect status. The affected retailers were advised and asked to correct their statuses.

3.2 ICP assignment (Rule 51.1, 51.2, 51.3, 53.1 and 53.4)

Distributors must assign an ICP within three business days of receiving a request for an ICP from a retailer, or advise the retailer why they are unable to assign an ICP.

Once confirmation is received that the consumer installation is connected, the following information must be updated on the registry within two business days:

- ICP identifier,
- ICP creation date,
- responsible distributor code, and
- physical address of the consumer installation.

All remaining distributor ICP parameters (apart from ICP and connection status) must be entered on the registry within two business days of confirming those values.

The distributor may change the ICP status to new at any time before the retailer changes the ICP status.

Applications for new connections are submitted to GasNet by customers or retailers. GasNet conducts a site visit to confirm the network and GMS requirements. A quote is generated which sets out these specifications. Once the quote is accepted and returned to GasNet the acceptance is logged in FieldGO, and the ICP is created in MIDaS at "NEW" status based on the details set out in the quote and application. Information is checked for reasonableness and accuracy on entry, and any discrepancies are queried with GasNet's engineering team and/or the retailer. The ICP is transferred from MIDaS to the registry on the evening of its creation date.

Once the retailer has also provided their acceptance, FieldGO and MIDaS are updated and the expected retailer details are transferred from MIDaS to the registry, moving the ICP status to READY-GIR.

At this stage, the installation work is scheduled and completed by GasNet's technicians and contractors. Fieldwork is managed using the FieldGo system. GasNet's technicians use hand held devices to record job details, and contractors keep paper records. Completion paperwork is returned and once all items on the engineering team's checklist are complete, the ICP's information pack is returned to the administration team who check all the details against MIDaS. Any ICP details which differ from the original quote information will be updated, and these corrections can result in backdated registry updates.

204 new ICPs were created between 14/08/2018 and 13/08/2020. There were no TOU new connections, one AG4 connection and the remainder were in AG6. I checked the timeliness of registry updates for new connections, by checking a sample of 20 ICPs including one AG4 ICP and 19 AG6 ICPs.

Rule	Commentary
51.2 The distributor must create an ICP or advise of the reasons if an ICP cannot be created with three business days of receiving a request.	GasNet considers that the request has been received once the customer approves the quote for new connection. I believe this is reasonable because until the quote is accepted, the connection may not proceed. I checked 20 of the 204 new ICPs and found 19 were created within three business days of quote acceptance. The quote for ICP 0000032315GN420 was accepted on 14/02/2019 but the ICP was not created until 20/02/19. The reasons for the delay were not provided to the retailer or customer within three business days.
51.3 The distributor must update the ICP, creation date, distributor, and address on the registry within two business days of receiving confirmation the ICP is connected.	I checked 20 of the 204 new ICPs and found the required information was populated on the registry prior to connection.
53.1 The distributor must update the registry parameters within two business days of identifying the parameters, so that the registry can change the ICP status to READY-GIR status	GasNet considers that the registry parameters are confirmed as part of the quote acceptance. I checked 20 of the 204 new ICPs and found 19 ICPs had the required information populated within two business days of quote acceptance. The quote for ICP 0000032315GN420 was accepted on 14/02/2019 but the ICP was not created and the required details were not populated until 20/02/19. I checked all six updates to READY-GIR status made more than two business days after the event date, to determine whether they were updated within two business days of identifying the correct parameters. • Three ICPs were updated within two business days of identifying the parameters, including one ICP where there was a change of expected retailer. • Three ICPs were updated more than two business days after identifying the parameters. ICPs 0000013342GN98F and 0000014432GN7B0 had existing risers and had been created at "NEW" status, and population of the expected retailer was up to nine business days late. The process for these ICPs differs from most new connections because the ICP is already created. ICP 0000032414GN767 was a standard new connection and there was a delay between the proposed trader being confirmed and updated in MIDaS and on the registry.

Non Conformance	Description	Audited party comment
Regarding: Rule 51.2 and 51.3 **Control Rating**: Adequate	The quote for ICP 0000032315GN420 was accepted on 14/02/2019 but the ICP was not created and the required details were not populated until 20/02/19. ICPs 0000013342GN98F, 0000014432GN7B0 and 0000032414GN767 had proposed trader information updated more than two business days after the attributes were confirmed.	Response: Agreed Comments: • GasNet suffered an emergency due to a water ingress issue, this error happened during that period. • GasNet staff will try to make sure the registry information is updated in accordance with the rules.

4. Registry information management (Rule 58.1 and 58.2)

The distributor must use its reasonable endeavours to maintain current and accurate information in the registry in relation to the ICPs and the ICP parameters for which it has responsibility.

When changes are made to MIDaS data which is also held on the registry, a registry update is automatically generated that evening. Where another participant requires an urgent change to registry data, the update may be manually processed on the registry. All distributor registry updates are created with an event date of the date the file is generated except the status and tariff fields, which have dates associated with them. Event dates can be manually adjusted if necessary.

Acknowledgement files received from the registry are saved and manually reviewed, to identify acknowledgements where action is required.

Notification files from the registry are received using FileZilla and imported into MIDaS. Reversals are not automatically processed; the administration team manually reviews the notification files and processes any reversals.

Fortnightly, data recorded in MIDaS is validated against a current registry list, and any discrepancies are checked and corrected as necessary. A checklist is maintained for each validation performed and the task is scheduled in a calendar. The fortnightly validation excludes:

- addresses, which are separately checked approximately annually as described in **section 4.6,**
- the expected retailer, which is not held in MIDaS; this field is matched to the retailer recorded in MIDaS, and
- the installation details field.

The validation focusses on ensuring the values in MIDaS and the registry are consistent with each other, supported by some consistency and reasonableness checks between fields and against

expected values. I viewed recent reconciliations and found there were very few discrepancies, and action had been taken to investigate and resolve them. For loading shedding categories and statuses, further validation would help to ensure that exceptions are identified and resolved more quickly.

Individual fields are discussed in the sections below.

4.1 Network pressure

Network pressure is linked to the gas gate in MIDaS, and users can only select network pressures which are valid for the gas gate that the ICP is connected to. Network pressure is confirmed as part of new connection process.

Fortnightly, network pressures recorded in MIDaS are validated against a registry list. Any exceptions identified are investigated and resolved.

I checked the accuracy of network pressure on the registry on 13/08/2020 by identifying streets where less than 60% of the ACTC or ACTV ICPs on a particular street had one pressure and the remaining ICPs had a different pressure. This analysis identified 327 ICPs with possible discrepancies. All were located on streets with two different network pressures available, and the correct pressures were applied.

4.2 ICP altitude

It is a distributor responsibility to populate the registry with correct altitude information to support compliance with NZS 5259. NZS 5259 Amendment No1 contains the following points, which affect the way altitude information should be managed:

1. The maximum permissible error is ± 1.0% where the meter pressure is below 100kPa and ±0.5% where the meter pressure is greater than 100kPa.
2. The following note is also included “To minimise uncertainty due to altitude factor the aim should be to determine the altitude to within 10m where practicable.”

Altitude is determined as part of the new connections process. A site visit is completed to determine the meter location, and the altitude for that location is confirmed using IntraMaps. A snip from IntraMaps is printed and filed with the ICP information, confirming the altitude.

Fortnightly, altitudes recorded in MIDaS are validated against a registry list. Any exceptions identified are investigated and resolved.

I assessed the accuracy of the altitudes recorded on the registry on 13/08/2020 against Google Earth altitudes for a sample of ICPs. The Google Earth data is based on the “Shuttle Radar Topography Mission” (SRTM) results and a number of recent studies indicate an accuracy of ± 10m for altitude. Point 2 above recommends altitude figures are determined to within ± 10m where practicable. To allow for these margins, I have checked that the registry altitude is within ± 20m of the Google Earth altitude.

A sample of 64 ICP altitudes were checked:

- I created pivot tables and charts to analyse altitudes for all ACTC and ACTV ICPs at each gas gate, and checked an extreme case sample of 14 ICPs with the highest and lowest altitudes, and
- a random sample of a further 50 ACTC and ACTV ICP altitudes were checked.

No ICPs had a difference of more than ± 17m or would cause an altitude factor difference of more than ± 0.2%. All were within the thresholds set out in NZS 5259.

4.3 Gas gate

Gas gates are determined as part of the new connection process.

Fortnightly gas gates recorded in MIDaS are validated against a registry list, and a consistency check between the gas gate and address town, and gas gate and network pressure is completed. Any exceptions identified are investigated and resolved.

I assessed gas gate accuracy on the registry list for 13/08/2020 by:

- identifying streets where less than 60% of the ACTC or ACTV ICPs on a particular street had one gas gate and the remaining ICPs had a different gas gate, and
- comparing the address town to the gas gate for ACTC and ACTV ICPs.

No anomalies were identified.

4.4 Load shedding category

The load shedding category identifies the position of the ICP's consumer installation in the hierarchy for emergency curtailment of gas. Load shedding categories and codes are determined and published by the industry body from time to time and are consistent with the curtailment bands under Schedule 3 of the Gas Governance (Critical Contingency Management) Regulations 2008.

The categories are shown below.

Category Code	Consumption in Gigajoules (GJ) or Terajoules (TJ)	Load Shedding Category (ie Curtailment Band) Description
0	N/A	Any consumer installation, to the extent that gas is used for injection into gas storage
1	More than 15 TJ per day	Any consumer installation supplied directly from the transmission system and that has an alternative fuel capability
2	More than 15 TJ per day	Any consumer installation supplied directly from the transmission system and that does not have an alternative fuel capability
3	More than 10 TJ per annum and up to 15 TJ per day	Large industrial or commercial consumer installation
4	More than 250 GJ per annum and up to 10 TJ per annum	Medium-sized industrial or commercial consumer installation
5	More than 2 TJ per annum	Any consumer installation (whether or not in bands 0 to 4), to the extent that an essential services designation applies to the installation
6	250 GJ or less per annum	Small commercial consumer installation
7	Any	Any consumer installation (whether or not in any of curtailment bands 0 to 4), to the extent that a critical care designation applies to the consumer installation
DOM	Any	Domestic consumers

Load shedding categories are determined on application for new connections. If a load shedding category is not provided, new connections are assumed to be domestic unless other application information contradicts this, in which case the load shedding category is confirmed with the retailer. Load shedding categories for existing ICPs are changed on request from the retailer, and critical care, essential services provider, electricity supply, and critical processing designations must also be approved by the Gas Industry Company before being applied.

Fortnightly, load shedding categories recorded in MIDaS are validated against a registry list. Any exceptions identified are investigated and resolved. Approximately every two years ANZSIC codes and load shedding categories are compared to identify any inconsistencies, and exceptions are followed up with the retailers. The last check was completed in July 2020. Incorrect load shedding categories can have a significant impact on retailers and end consumers if a critical contingency event occurs, and more regular validation of the load shedding categories applied is recommended.

Recommendation	Audited party comment
Check load shedding categories for reasonableness at least quarterly, and follow up any exceptions with the retailers. The load shedding categories can be validated against the allocation group, price category, and property description/ANZSIC code. If practicable, load shedding categories should also be checked against the estimated annual consumption for the ICP obtained from the GIEP reports submitted by retailers.	Response: Agreed Comments: • GasNet staff will check on a quarterly basis, any alterations will be pasted onto the Retailers for confirmation.

I checked the registry list as at 13/08/2020 for obvious discrepancies between allocation groups, price category codes, property descriptions and load shedding categories. This analysis identified some potential discrepancies, which are summarised in the table below. All discrepancies were investigated and 27 were found to be genuine.

Scenario	Possible exceptions	Confirmed exceptions	Commentary
Load shedding category 6 with allocation group 4	24	15	Four ICPs consume over 250 GJ per annum and the load shedding category is correct. Five ICPs consume between 253 and 275 GJ per annum (250 GJ +10%). Because their consumption is close to the threshold they may fluctuate between load shedding categories. 15 ICPs consume between 279 and 694 GJ per annum and are expected to have load shedding category 4. GasNet has emailed the retailers to confirm the correct load shedding categories for all ICPs consuming more than 253 GJ per annum, and will update them as required.
Load shedding category 4 with allocation group 1	1	-	The ICP consumes less than 10,000 GJ per annum.
Load shedding category 4 with allocation group 6	13	8	Five ICPs consume over 250 GJ per annum and the load shedding category is correct. Eight ICPs consume between 33 and 187 GJ per annum and are expected to have load shedding category 6. The retailers have been emailed for approval to change the load shedding category.
Load shedding category DOM with price category indicating otherwise	5	1	0000013498GN95E was not a domestic ICP and was updated to load shedding category 6 during the audit.
Load shedding category DOM with a property description indicating otherwise	57	3	ICPs 0000016811GN969, 0000025343GN126, and 0000023822GN45D were updated to load shedding category 6 during the audit. ICPs 0000024732GN59F, 0000022666GN059 and 0000031773GN4BE have had their load shedding categories queried with the retailer, but are expected to have load shedding category 6 or 7. The registry will be updated if necessary once the correct load shedding category is confirmed and/or approved.

Non Conformance	Description	Audited party comment
Regarding: Rule 58.1 **Control Rating**: Inadequate	15 non-domestic ICPs consuming at least 275 GJ are in load shedding category 6 but are expected to be in load shedding category 4: 0000019221GNDFB 0000012332GND72 0000019234GNA19 0000021722GN812 0000029838GN221 0000016284GN1CB 0000019588GN4B7 0000026589GN0BE 0000029165GNC7B 0000032183GN04F 0000017275GNC39 0000014693GN9ED 0000031227GN8B9 0000032118GN17C 0000031864GNCD6 Eight non-domestic ICPs consuming less than 250 GJ per annum are in load shedding category 4 but are expected to be in load shedding category 6: 0000031742GNF03 0000031744GNE8C 0000019742GNBCE 0000021442GN4E1 0000031482GNBEF 0000014139GNC61 0000025299GN7F1 0000031723GNCB6 Four non-domestic ICPs consuming less than 250 GJ per annum are in load shedding category DOM but are expected to be in load shedding category 6, and were corrected during the audit: 0000013498GN95E 0000016811GN969 0000025343GN126 0000023822GN45D	Response: Agreed Comments: • GasNet staff will check on a quarterly basis, any alterations will be passed onto the Retailers for confirmation.

Non Conformance	Description	Audited party comment
	A further three ICPs with DOM load shedding categories are under investigation to confirm their correct load shedding category, which is expected not to be domestic.	

4.5 Maximum hourly quantity

The maximum hourly quantity is the maximum quantity of gas, in cubic metres, that the gas-consuming equipment at the consumer installation is capable of drawing per hour. The value is distinct from the capacity of the gas service pipe or metering equipment serving the consumer installation. This field is mandatory only where MHQ is used to determine the distributor's network charges and it may be conveyed by means of a 'disclosure on application' code in accordance with rule 50.

The MHQ is not used to determine network charges. There are 392 ICPs with the MHQ populated but this information is not used for any purpose, therefore I did not check it for accuracy. It is only populated based on advice from retailers.

Fortnightly, maximum hourly quantities recorded in MIDaS are validated against a registry list. Any exceptions identified are investigated and resolved.

4.6 Physical address

The physical address is assigned by the distributor to the ICP's consumer installation, so that the ICP can be unambiguously identified with the consumer installation, in the registry.

Addresses are determined as part of the new connection process. Before creating an ICP MIDaS is checked to determine whether there are any existing ICPs at the address requested to prevent duplicates, and addresses are validated to ensure that they are complete and accurate.

Occasionally retailers and/or end consumers submit requests for address information to be updated, and GasNet's updates addresses as requested once they have verified that the requested address is correct using NZ Post and maps.

Address fields recorded in MIDaS are validated against a registry list approximately annually, and any exceptions identified are investigated and resolved.

I checked the registry list as at 13/08/2020 for incomplete and duplicated addresses for ACTC and ACTV ICPs.

- All addresses were readily locatable and included a Physical Address Number, Physical Address Street and Physical Address Number Town.
- 24 ICPs with more than one meter at their address had duplicate addresses recorded. 22 addresses were updated during the audit with additional location information added to the property name field to make each address unique. ICP 0000011995GN04D and

0000026121GN6B4 are still recorded with the same address, but 0000026121GN6B4 is believed to be next door. The correct address is being confirmed with the retailer.

Non Conformance	Description	Audited party comment
Regarding: Rule 58.1 **Control Rating**: Effective	24 ICPs with more than one meter at their address had duplicate addresses recorded 22 were updated to be unique during the audit, and the other two ICPs with a duplicated address are under investigation with the retailer.	Response: Agreed Comments: • This has now been rectified with the Retailer

4.7 Decommissioned status (Rules 59.11 and 59.12)

Decommissioned status may only be assigned where:

- the ICP is removed from future switching and reconciliation processes, and
- any associated consumer installation is no longer connected to the distribution system.

The decommissioned ICP status may only be changed to inactive-permanent.

Retailers and customers may submit applications for decommissioning to GasNet. GasNet provides a quote, and once this is accepted the physical decommissioning is scheduled and completed. When completion paperwork is returned, it remains with the Engineering team until all work associated with the decommissioning is complete, including any resurfacing required (which could be completed well after the physical decommissioning). Once all tasks are complete the information pack is passed to the administration team who update FieldGO and MIDaS, and the status update is sent from MIDaS to the registry that evening. GasNet is aware that the current process sometimes results in late status updates to decommissioned status, and a process review is underway.

I checked all updates to decommissioned status between 14/08/2018 and 13/08/2020 on the event detail report. 64 ICPs were decommissioned during the audit period and on average the registry was updated 26 business days after the event date. 19 ICPs were updated to decommissioned status more than 30 business days after the event date, and 14 of those were delayed by the retailer's late update to ready for decommissioning status. The other five updates were late because there were delays in the decommissioning paperwork being received by the Administration team.

The registry is required to be updated "as soon as practicable". I have recorded compliance for the 14 late updates delayed by the retailer's status update. The updates to decommissioned status for ICPs 0000024292GN885, 0000013761GN41B, 0000014118GND71, 0000027427GN39E and 0000019216GN7C9 were not made as soon as practicable and were processed 51 to 111 business days after the decommissioning date because there was a delay in the paperwork being received by the administration team.

A sample of five status updates to decommissioned were checked, and confirmed to be processed correctly.

Non Conformance	Description	Audited party comment
Regarding: Rule 58.1 and 61.1 **Control Rating**: Adequate	The updates to decommissioned status for ICPs 0000024292GN885, 0000013761GN41B, 0000014118GND71, 0000027427GN39E and 0000019216GN7C9 were not made as soon as practicable and were processed 51 to 111 business days after the decommissioning date. Rule 58.1 also requires GasNet to use reasonable endeavours to maintain current and accurate information in the registry.	Response: Agreed Comments: • GasNet staff will revise it's systems to try and prevent this from happening so that decommissioning are processed sooner.

Fortnightly, statuses recorded in MIDaS are validated against a registry list. Any exceptions identified are investigated and resolved.

There are no consistency checks to identify ICPs which are at INACTP-GPM (gas permanent disconnection ready for decommissioning) status, where no application for decommissioning has been received and decommissioning is not in progress. The registry list as at 13/08/2020 recorded three ICPs with INACTP-GPM status:

- 0000025251GN20A is in the process of being decommissioned, and
- no applications for decommissioning have been received for 0000012158GNA14 or 0000014798GNE3D and GasNet believes that an incorrect status may have been applied by the retailer; the statuses have been queried with the retailer, and GasNet will take action as required once a response is received.

I recommend that ICPs at INACTP GPM status should be checked as part of GasNet's fortnightly validation.

Recommendation	Audited party comment
Check ICPs at INACT GPM status as part of the fortnightly validation to determine whether an application for decommissioning has been received, and a decommission is underway. If no application has been received, query the status with the retailer and arrange for them to correct the status or submit an application for decommissioning as necessary.	Response: Agreed Comments: • Will check with Retailers if we believe status held in Registry to be incorrect.

4.8 Connection statuses (Rule 60)

The distributor must ensure the correct status change date is recorded in the registry. The statuses and status dates were correct for the sample of ICPs checked.

INACTP-GPM (gas permanent disconnection ready for decommissioning)

The registry list as at 13/08/20 recorded three ICPs at INACP-GPM. One was in the process of being decommissioned. No applications for decommissioning have been received for 0000012158GNA14 or 0000014798GNE3D and GasNet believes that an incorrect status may have been applied by the retailer. The statuses have been queried with the retailer, and GasNet will take action as required once a response is received.

ICPs at this status where no application for decommissioning has been received are not monitored, and a recommendation is made in relation to this in **section 4.7**.

NEW-NEW (pre-activation service has not yet been installed)

There are 617 ICPs at the NEW status. 614 of these were created in 2008, one in 2011 and two in 2016. GasNet confirmed that none of the ICPs are connected; risers are present but there is no metering and the expected retailer is unknown. NEW status is correctly applied for these ICPs.

READY-GIR status (gas ready to flow)

There are 350 ICPs at READY status:

Expected Retailer	Count of ICPs with Ready status	Earliest ICP creation date	Latest ICP creation date
CTCT	2	26/02/2020	16/07/2020
EDNZ	336	1/07/2008	13/07/2009
GENG	7	1/07/2008	29/07/2020
GEOL	1	12/08/2020	12/08/2020
MEEN	2	24/07/2020	11/08/2020
PUNZ	2	1/07/2008	31/07/2020
Grand Total	350		

GasNet confirmed that none of the ICPs are connected; risers are present and there is no metering but an expected retailer is populated. Historically GasNet sometimes populated EDNZ as the expected retailer where the expected retailer is unknown.

Many of these have EDNZ as the expected retailer, so as with the New ICPs, GasNet is unable to check with the recorded retailer whether the ICPs are still required. GasNet could query the ICPs with Trustpower, who took responsibility for EDNZ's ICPs when EDNZ ceased trading.

The recently created ICPs at the ready status are actively managed and six were changed to active status between the date of the analysis and the date of the on-site audit.

4.9 Registry validation and correction (Rules 61.1 and 62)

If the distributor becomes aware that registry information is incorrect or requires updating, the responsible distributor must update or correct the registry as soon as practicable.

The distributor registry report should be reviewed, and any corrections required should be entered on the registry by 4pm on the 15th business day of the month.

GasNet carries out a fortnightly validation to identify and resolve discrepancies identified, using reports it has generated as the same time as the MIDaS report to eliminate timing differences. The validation focusses on ensuring the values in MIDaS and the registry are consistent with each other, supported by some consistency and reasonableness checks between fields and against expected values. For loading shedding categories and statuses, further validation would help to ensure that exceptions are identified and resolved more quickly, and this is discussed further in **sections 4.4** and **4.7**.

The timeliness and accuracy of status events is discussed in **section 4.8**, and the timeliness and accuracy of updates relating to new connections are discussed in **section 3**. I evaluated the timeliness and accuracy of event updates between 14/08/2018 and 13/08/2020 not relating to new connections or status in this section. For the purpose of assessing whether updates are as soon as practicable, I have focussed on updates over 30 business days and reviewed the individual circumstances for a sample of individual updates.

Update type	Commentary
Address	There were 38 address updates for ICPs created before 14/11/2018. One update was 61 business days after the event date, and no other updates were more than 30 business days after the event date. I checked the five latest updates and found they were address corrections following requests for address changes being received from retailers, and the addresses were updated within two business days of receiving the request. Compliance is confirmed. The address details were populated correctly.
Network	There were 312 network updates for ICPs created before 14/11/2018. No updates were more than 30 business days after the event date. I checked the five latest updates and found all were updated on the job completion date, or the date the change was requested by the retailer. Compliance is confirmed. The network details were populated correctly.
Pricing	There were 154 network updates for ICPs created before 14/11/2018. 87 updates were made within seven business days of the event date, 88 within 30 business days, 125 within 100 business days, 131 within 200 business days, and all within 252 business days. I checked the five latest updates in 2020, the five latest updates in 2019, and the five latest updates without an MHQ populated to determine whether the updates were genuinely late. For the latest updates in 2019 and 2020 the only change was the maximum hourly quantity, which is sometimes populated by GasNet but is not used for any pricing purpose. All network fields are sent to the registry each time an update is processed. If there is no change to the event attributes for the event type, no update will be processed for that event and GasNet will receive an acknowledgement confirming this. For these updates, the MHQ had been blank on the registry, but populated in MIDaS and the change resulted in an update being processed effective from the start of the pricing

Update type	Commentary
	year. Because there was no change to the pricing information used by GasNet or the retailer I have not considered these to be "changes" to registry information. The five latest updates not relating to maximum hourly quantity were price category code changes. One was a meter upgrade, updated on the registry on the date paperwork confirming the upgrade was received. Four were pricing corrections for inactive unmetered ICPs from DOA to a valid pricing category, and the changes were backdated to the beginning of the pricing year (the pricing effective date in MIDaS). Three of the updates were made as part of ICP decommissioning. These updates were not made as soon as practicable. The pricing details populated were based on the expected values if the ICP had been active and metered.

Non Conformance	Description	Audited party comment
Regarding: Rule 61.1 **Control Rating**: Adequate	Pricing corrections for ICPs 0000019216GN7C9, 0000014118GND71, 0000019283GN561 and 0000027427GN39E were not made as soon as practicable. The late updates only affected the maximum hourly quantity field and had no impact.	Response: Agreed Comments: • When the MHQ is changed the file uploaded to the registry will be updated to the correct pricing date.

5. Creation and decommissioning of a gas gate (Rule 45.1 and 45.2)

If a distributor intends to create or decommission a gas gate, the distributor must, at least 20 business days before the creation or decommissioning takes effect, give notice of that gas gate creation or decommissioning. The notice must contain the gas gate codes, the creation or decommissioning date, the parent gas gate if applicable and the ICP identifiers affected.

No gas gates were created or decommissioned during the audit period, and GasNet are aware of the notification requirements.

6. Management of network price category codes (Rule 46)

Each distributor must determine, publish, and maintain a schedule of its network price categories and the respective network price category codes and, except where the distributor requires disclosure on application in accordance with rule 50, the charges associated with each of those codes.

GasNet's network price codes were last updated effective 1 October 2016, and are published on the registry.

Information on the rates for standard network price category codes G12, G50, G180 and G450 is maintained and published on GasNet's website. Information on non-standard network price category codes is disclosed on application and is discussed in **section 8**.

7. Management of loss factor codes

7.1 Distributors to determine loss factor codes (Rule 47.1 and 47.2)

Each distributor must publish and maintain a schedule of all the loss factors (if any) which apply to gas gates on the distributor's distribution system; and maintain the respective codes for those loss factors.

All ICPs which are not decommissioned have loss factor code NA (not applicable) applied. The loss factor codes were examined on the Gas Registry. No loss factor codes have been changed, added, or removed since NA was last updated in 2009.

7.2 The addition or deletion of loss factor codes (Rule 48)

If a distributor intends to add or delete any loss factor codes, the distributor must give at least 20 business days' notice to the registry operator, the allocation agent, and all retailers that will be affected by the change.

GasNet are aware of the notification requirements. The loss factor codes were examined on the Gas Registry. No loss factor codes have been changed, added, or removed since NA was last updated in 2009.

8. Disclosure on application (Rule 50)

Disclosure on application may only be used where the participant does not have a reasonably practicable alternative method of protecting its commercial interest in that information, and to the extent necessary to reasonably protect that interest.

Requests for disclosure on application must be responded to within one business day, to confirm whether the information will be provided. The information must be provided within a further business day.

There were six examples of information disclosed on application relating to the prices associated with special network pricing categories. In all cases the information was disclosed on the day it was requested.

Recommendations

As a result of this performance audit I recommend GasNet:

- check load shedding categories for reasonableness at least quarterly, and follow up any exceptions with the retailers, and
- check ICPs at INACT GPM status as part of the fortnightly validation to determine whether an application for decommissioning has been received, and a decommission is underway.

Appendix 1 – Control Rating Definitions

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

Appendix 2 – Additional GasNet Comments

All comments are recorded in the non conformance and recommendation boxes. No additional comments were provided.