



Changes to Gas Governance Arrangements

RECOMMENDATION TO THE MINISTER FOR ENERGY

November 2024



Gas Industry Co.



Executive Summary

This paper provides a recommendation to the Minister for Energy to make changes to the Gas (Downstream Reconciliation) Rules 2008 ('the Reconciliation Rules') and the Gas (Switching Arrangements) Rules 2008 ('the Switching Rules'). The changes seek to ensure that the Reconciliation Rules and Switching Rules (together 'the Rules') will remain fit for purpose as technology, gas supply and commercial arrangements evolve in the downstream gas market.

There are three key drivers of the proposals in this recommendation:

- The rollout of advanced gas metering infrastructure (AGMI) to mass market gas customers;
- The need to formalise D+1, an industry-developed process that allocates gas volumes to retailers on shared networks, the day after gas has flowed; and
- The introduction of renewable gases to downstream networks.

Each of these market-led initiatives require changes to the ways that the Rules operate in order to provide certainty to stakeholders, fully realise the benefits of the developments and ensure that no regulatory barriers exist.

We also take the opportunity to recommend minor and technical changes to the Rules that will improve their operation.

We provide this recommendation pursuant to sections 43F, 43G, and 43Q of the Gas Act. We confirm that the requirements of section 43N of the Gas Act have been met for this recommendation, including via the publication of the Statement of Proposal on Changes to Gas Governance Arrangements in December 2023. There are no safety issues or concerns in any of the proposals in this recommendation.

Many of the proposals in this recommendation have been discussed for several years with stakeholders via industry working groups and Gas Industry Co consultation documents. Submissions on the Statement of Proposal were broadly supportive of the amendments to the Rules. The table below gives a brief high-level summary of the proposals.

| AGMI | D+1 | Renewable Gases | Other |
|---|--|---|--|
| New ICP parameter in gas registry | Add D+1 allocation stage and allocation methodology | Define distribution injection points | Improve registry maintenance deadlines |
| Changes to allocation groups & UFG allocation | Require daily submissions for daily-reconciled consumers | Require gas composition calculation for networks with distribution injection points | Provide a stronger link to NZS 5259 |
| Amendments to allocation methodology | Require 7-day submissions | Modify allocation methodology for networks with distribution injection points | Standardise temperature correction |
| | Telemetry threshold for large consumers (>20TJ) | | Other minor & technical changes |



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1. Introduction

1.1 Purpose and Scope

This paper provides a recommendation to the Minister for Energy to make changes to the Gas (Downstream Reconciliation) Rules 2008 ('the Reconciliation Rules') and the Gas (Switching Arrangements) Rules 2008 ('the Switching Rules'). The changes seek to ensure that the Reconciliation Rules and Switching Rules (together 'the Rules') will remain fit for purpose as technology, gas supply and commercial arrangements evolve in the downstream gas market.

There are three key drivers of the proposals in this recommendation:

- The rollout of advanced gas metering infrastructure (AGMI) to mass market gas customers;
- The need to formalise D+1, an industry-developed process that allocates gas volumes to retailers on shared networks, the day after gas has flowed; and
- The introduction of renewable gases to downstream networks.

Each of these market-led initiatives require changes to the ways that the Rules operate in order to provide certainty to stakeholders, fully realise the benefits of the changes and ensure that no regulatory barriers exist.

We also take the opportunity to recommend minor and technical changes to the Rules that will improve their operation.

1.2 Outline

Section 2 sets out background to the Rules and the proposals. The regulatory requirements and process for making this recommendation are addressed in Section 3. Sections 4 to 7 summarise the changes to the Rules arising from each of the underlying topics: AGMI (Section 4), D+1 (Section 5), renewable gases (Section 6) and other miscellaneous changes (Section 7).



2. Background

2.1 The Rules

The Switching Rules and the Reconciliation Rules both commenced in 2008, replacing an industry code with an enforceable set of uniform processes that govern switching and reconciliation arrangements for the reticulated gas market. Since the Rules were established, the gas market has enjoyed a period of stability, competition and widespread compliance, with positive outcomes such as decreased switching timeframes, and lower unaccounted-for-gas (UFG) levels than previously experienced.

2.1.1 The Switching Rules

The Switching Rules establish the Gas Registry, an authoritative database of information related to installation control points (ICPs), which are the points of connection between consumer installations and the reticulated gas network. ICP parameters in the Gas Registry are maintained by retailers, meter owners and distributors. The Gas Registry also provides the functionality for customer switching to take place between retailers.

The Switching Rules create the role of the Registry Operator, a service provider appointed by Gas Industry Co to create, operate and maintain the Gas Registry.

2.1.2 The Reconciliation Rules

The Reconciliation Rules are chiefly concerned with reconciling volumes of gas entering downstream distribution networks with volumes consumed by end users, and appropriately attributing those volumes, plus any unaccounted-for-gas (UFG), to retailers. The Reconciliation Rules establish the role of the Allocation Agent, a service provider appointed by Gas Industry Co, to perform allocations of daily gas quantities to retailers.

2.2 Developments triggering rule changes

2.2.1 Advanced Gas Metering Infrastructure (AGMI)

Legacy gas meters record consumption on a continuous basis and this data is obtained by a physical meter read, typically every 1-2 months for domestic consumers. In contrast, advanced gas meters record half-hourly consumption and this data can be delivered to a retailer (and on to the customer) remotely on a daily basis.

The benefits of AGMI for the consumer include:

- more accurate customer billing;
- richer consumption data to inform and improve consumer decision making on energy consumption and switching; and
- less frequent meter reader visits.

Benefits also accrue to the retailer, such as:

- avoided physical meter reading costs;

- cash-flow and customer service benefits of fewer estimated bills;
- increased accuracy of wholesale gas purchases/nominations and avoidance of balancing charges due to more timely and accurate information on customer demand; and
- lower UFG, if AGMI is widely adopted.

AGMI has been discussed in the industry for many years. Based on the experience of the rollout of smart metering in electricity, industry participants were keen to meet and discuss areas where a common approach would be beneficial to any future gas rollout. Between 2017 and 2019, Gas Industry Co facilitated a working group to draft minimum standards for AGMI based on the equivalent in the electricity industry.

In 2019, Genesis announced a partnership with Vector (now Bluecurrent) to roll out AGMI to its domestic customers. Gas Industry Co commenced discussions with stakeholders on the likely opportunities, issues and changes required for AGMI, culminating in a consultation paper in 2021, which sought to catalogue and prioritise these issues.

After industry feedback was considered, a working group was established to discuss and resolve the priority issues identified in the paper. The group supported non-regulatory solutions for some matters but agreed that regulatory changes would likely be required for issues such as registry amendments and the use of AGMI data in downstream reconciliation and D+1. We consulted on these decisions in mid-2023 before including the rule change proposals in the Statement of Proposal on Changes to Gas Governance Arrangements (SOP), released in December 2023.

2.2.2 D+1

D+1 provides allocations of downstream gas quantities to retailers the day after gas has flowed, which gives those retailers timely information to manage wholesale and transmission arrangements and also allows the gas transmission system owner (Firstgas) to perform its own daily commercial processes.

D+1 has been operating as a pilot arrangement for nine years. It was established in 2015, as part of an industry-developed solution to accommodate changes in the balancing arrangements on the gas transmission pipelines.

The pilot was not intended as a long-term solution, but the review and evolution of D+1 was delayed by the industry's collective efforts on developing a new gas transmission access code (GTAC). With the decision by Firstgas to abandon GTAC implementation in 2021, attention returned to evaluating the D+1 pilot.

After several years' experience, stakeholder views of the pilot were that, while there was room for improvement in terms of accuracy and reliability, D+1 had become an industry critical system and, as such, should be made permanent. Gas Industry Co therefore began working on investigating amendments to the Reconciliation Rules to codify aspects of D+1.

In December 2022, Gas Industry Co published the D+1 Options Paper presenting regulatory and non-regulatory options for transitioning from the pilot to an enduring set of D+1 arrangements.

The options above focused on the downstream elements of D+1 – the process currently managed by Gas Industry Co – that provides daily allocations to retailers at shared gas gates. We do not anticipate having to use regulatory powers under the Gas Act to address the parts of D+1 that are managed by Firstgas and governed by the Gas Transmission Code (GTC). We do, however, support the industry progressing these aspects of D+1 from a pilot agreement to an enduring set of arrangements.

In their responses to the D+1 Options Paper, stakeholders supported a regulatory solution for formalising D+1, by way of amending the Reconciliation Rules. This approach was included in the previously mentioned SOP.

2.2.3 Renewable Gases

Climate change and emissions reduction targets are motivating the New Zealand gas industry to consider alternative, renewable sources of gas that might reduce or replace our reliance on fossil gas. Examples include the Ecogas/First Renewables biogas project in Reporoa, Firstgas's planned hydrogen blending trial in Te Horo and Powerco's renewable natural gas initiatives in the Manawatu. These projects all anticipate injecting renewable gases into pipelines outside of Taranaki, the current source of all reticulated natural gas, which means a paradigm shift for the operational, commercial and regulatory arrangements for the industry.

Gas Industry Co is involved in a variety of workstreams on renewable gases, for example the Standards review of NZS 5442:2008 Specification for Reticulated Natural Gas and investigations into a green gas certification scheme. The recommendations in this paper are much narrower in scope, that is, they seek to remove barriers or otherwise adapt systems and processes within the remit of the Rules, to accommodate the injection of renewable gases into downstream networks.

In contrast to the AGMI and D+1 proposals, the changes relating to renewable gases have not been the subject of several years' engagement with stakeholders. Hence, while submitters on the SOP were generally supportive of Gas Industry Co's proposals, they acknowledged that more work and more engagement was required on some of the issues raised. However, given the number of projects looking into renewable gas injection in the near term, and the time it takes to amend the Rules and associated systems, our approach is to address some key concerns in this recommendation, to ensure that downstream arrangements remain fit-for-purpose.

2.2.4 Other Proposals

As well as tracking the industry's ongoing compliance with the Switching Rules and Reconciliation Rules, Gas Industry Co monitors the performance of the Rules themselves. The Rules were last amended in 2015. Since then we have collated numerous potential changes that could improve the operation of the arrangements.

The changes have arisen from observations and experiences with the audit programme and compliance arrangements, as well as discussions with industry participants, service providers and auditors. These issues were too minor to be processed individually, but the current recommendation provides an opportunity to address these changes.



3. Process to amend the Rules

3.1 Power to make rules and regulations

The Switching Rules and Reconciliation Rules were made pursuant to sections 43F, 43G, 43Q and 43S of the Gas Act. Specifically, the Reconciliation Rules relied on the empowering provision in 43F to make regulations for the purpose of:

- (2)(a) providing for the establishment and operation of wholesale markets for gas, including for —
 - (i) protocols and standards for reconciling and balancing gas:
 - (ii) clearing, settling, and reconciling market transactions:
 - (iii) the provision and disclosure of data and other market information:
 - (iv) minimum prudential standards of market participation:
 - (v) minimum standards of market conduct:
 - (vi) [Repealed]

The Switching Rules relied on the empowering provision in 43G to make regulations for the purpose of:

- (2)(c) providing for arrangements to enable consumers to switch gas retailers:

In both cases, Gas Industry Co recommended that the Minister make gas governance rules instead of gas governance regulations, as provided for in section 43Q.

Gas Industry Co assessment

The empowering provisions noted above remain unchanged since the recommendations for the Switching Rules and the Reconciliation Rules were made in 2007 and 2008 respectively. Amendments to the Rules were recommended (and approved) in 2009, 2012 and 2014 under the same provisions. We consider that the recommendations in this paper also fall within the same provisions and that the Minister is empowered to make the changes to the Rules.

3.2 Objectives when recommending rules and regulations

Section 43ZN of the Gas Act sets out principal and other objectives for Gas Industry Co when recommending gas governance regulations under section 43F:

- (a) the principal objective is to ensure that gas is delivered to existing and new customers in a safe, efficient, and reliable manner; and
- (b) the other objectives are—
 - (i) the facilitation and promotion of the ongoing supply of gas to meet New Zealand's energy needs, by providing access to essential infrastructure and competitive market arrangements:
 - (ii) barriers to competition in the gas industry are minimised:
 - (iii) incentives for investment in gas processing facilities, transmission, and distribution are maintained or enhanced:
 - (iv) delivered gas costs and prices are subject to sustained downward pressure:

(v) risks relating to security of supply, including transport arrangements, are properly and efficiently managed by all parties:

(vi) consistency with the Government's gas safety regime is maintained.

The 2008 Government Policy Statement on Gas Governance (GPS) provides further direction to Gas Industry Co in making recommendations for regulatory and non-regulatory arrangements, including a qualification to the principal objective contained in 43ZN(a):

To ensure that gas is delivered to existing and new customers in a safe, efficient, fair, reliable and environmentally sustainable manner.

The GPS also expects Gas Industry Co to pursue outcomes specifically relating to switching and reconciliation, namely:

Effective and efficient customer switching arrangements that minimise barriers to customer switching

Accurate, efficient and timely arrangements for the allocation and reconciliation of downstream gas quantities

An efficient market structure for the provision of gas metering, pipeline and energy services

Gas Industry Co assessment

The promulgation of the Switching Rules and Reconciliation Rules in 2008 indicated that our recommendations for those arrangements met the objectives of the Gas Act and GPS. The positive track record of the last 16 years operating under this regulatory environment – healthy levels of competition, lower UFG, good industry compliance, growing gas connections, participants efficiently entering and exiting the market – demonstrates that the arrangements have continued to serve the principal objective.

A detailed assessment of the Rules against the Gas Act and GPS objectives was carried out in the original recommendations, we do not consider that the proposals in this recommendation alter this assessment. The recommended changes to the Rules remain consistent with, and further supplement, the objectives and outcomes set out in the Gas Act and GPS.

The context of this recommendation is to adjust the Rules due to market developments. It is regulatory best practice to make sure that regulatory arrangements remain fit for purpose as markets change. The counterfactual would be to leave the Rules unchanged which would not meet the principal objective on the basis that the regulatory arrangements would fall behind commercial realities therefore becoming unfair, inefficient and unreliable.

3.3 Process for recommending rules and regulations

Section 43Q provides that sections 43L and 43N of the Gas Act apply for the rule making process. Gas Industry Co is required to complete the following steps before giving a recommendation to the Minister:

- Seek to identify all reasonably practicable options for achieving the regulatory objective;
- Assess the options by considering the costs and benefits of each option and the extent to which the objective would be promoted or achieved by each option;
- Ensure that the regulatory objective is unlikely to be satisfactorily achieved by any reasonably practicable means other than the making of regulation;
- Prepare a statement of proposal containing a statement of the proposal, the reasons for the proposal and an assessment of the reasonably practicable options;

- Consult with persons that it considers to be representative of the interests of persons likely to be substantially affected; and
- Consider submissions on the statement of proposal.

Gas Industry Co assessment

The policy processes undertaken in 2007 and 2008 determined regulatory objectives for the customer switching and downstream reconciliation arrangements, identified options to address the regulatory objectives, assessed and consulted on those options, and concluded that gas governance rules were the best option to achieve the regulatory objectives.

The regulatory objectives for the Rules are:

| Reconciliation Rules | Switching Rules |
|--|--|
| <ul style="list-style-type: none"> • ensure the protocols and standards for reconciling and balancing downstream gas, and providing and disclosing of data and information, are efficient, fair, and reliable; • standardise data exchange protocols across the industry and ensure the correct data is communicated to all affected parties in a timely manner; • provide for consistent, transparent, and enforceable processes; • facilitate retail competition and ensure barriers to competition are minimised; • establish more transparency of the full costs of balancing and reconciling gas; and • provide for more accurate identification and fairer allocation of the amount of unaccounted for gas | <ul style="list-style-type: none"> • achieve timely and accurate switching of customers between retailers by facilitating the timely exchange of accurate and up-to-date information between customers, retailers, distributors, and meter owners |

We consider that the regulatory objectives remain fit for purpose for the Rules. Further, we consider that the recommended rule changes in this paper will better achieve these regulatory objectives than the status quo.

The table below summarises our approach to meeting the requirements of Section 43N of the Gas Act, given that the preferred option to meet the regulatory objectives has already been determined.

| Gas Act requirement | Response |
|---|---|
| Identify reasonably practicable options (s43N(1)(a)) | <p>Prior consultations and working group discussions on each workstream (AGMI, D+1 and renewable gases) identified various issues that arise as a result of the market developments as well as options to address those issues.</p> <p>Our approach was then to separate out the issues that can only be addressed via amendments to the Rules (because they require changes to existing rule-based processes) and combine these into a single SOP. The other issues, for example guidelines for access to AGMI data, or facilitating Firstgas to move to 7-day D+1, are being progressed separately.</p> |

| Gas Act requirement | Response |
|---|---|
| | Because of that initial filtering in the SOP, the only reasonably practicable option for the proposals in this recommendation is to make amendments to the Rules. |
| Assess costs and benefits of options (s43N(1)(b)) | A cost-benefit analysis was prepared by Sapere for the proposals in the SOP. The analysis considered the proposals as a package and concluded that “[...] the costs of the associated rule changes and modifications included in this SOP are minor and the benefits are evident. For these reasons we suggest that there is a net benefit associated with the combined initiatives of this SOP”. |
| Objective is unlikely to be met by other means (s43N(1)(c)) | As discussed above, due to the filtering out of issues that may be addressed via non-regulatory means, and because the remaining proposals rely on amendments to existing regulatory arrangements, we do not consider that the regulatory objectives can be met by other means. |
| Prepare a Statement of Proposal and consult with representative interests (s43N(1)(d) & s43L(1)) | <p>The SOP was released in December 2023 and was widely distributed to Gas Industry Co stakeholders. Six submissions were received, with representation from retailers, meter owners and pipeline owners.</p> <p>The submissions on the SOP built on extensive existing stakeholder feedback received on previous consultations, and through working groups, over the last several years. A list of consulted stakeholders is provided in Appendix A.</p> |
| Consider submissions (s43L(1)) | Submissions on the SOP have been considered and Gas Industry Co’s responses are captured in the following sections of this paper that present the detailed recommendations under each workstream. |



4. Recommended changes: AGMI

4.1 New gas registry fields

The AGMI rollout involves changes to both physical metering and information exchange between parties. The AGMI working group and AGMI Consultation Paper considered what additional information should be captured in the gas registry, which is the database of record for gas connection (ICP) parameters. Participants shared the view that, due to the costs involved in establishing, populating, and maintaining registry fields, changes should only be made where there is a clear benefit to the information being captured centrally.

In the AGMI Consultation Paper we noted the working group's preference that the registry should separately identify:

- the capability of the metering installed at a consumer installation; and
- the method that the responsible retailer uses to reconcile each ICP's consumption.

The latter is already captured in the registry by the Allocation Group and Profile Code fields. In the SOP, we therefore proposed adding just two new meter owner fields to the gas registry: Meter Type and AGMI Communicating Flag (Y/N). The latter is to account for situations where AGMI is installed but, for technical reasons, consumption cannot be reliably downloaded. Stakeholders have noted that this parameter exists in the electricity registry and is useful for billing and reconciliation matters.

Stakeholder feedback & recommendation

Submitters supported the principal that additional parameters should only be added to the gas registry if they provide a clear benefit. The addition of the Communicating Flag was well supported. Meter owners commented that the Meter Type parameter would be difficult to populate and questioned the value of holding the information in the registry. One submitter suggested adding ANZSIC code to the registry to support sectoral analysis of gas connections/demand during the gas transition.

Gas Industry Co agrees with the feedback regarding the proposed fields and considers that the only new parameter which was widely supported is the AGMI Communicating Flag. We agree that the ANZSIC code is useful but do not consider that it needs to be populated in the registry as it already exists in retailer systems. In recent analysis for the Gas Transition Plan, Gas Industry Co requested this information and it was readily supplied.

4.2 Changes to allocation groups & UFG allocation

Consumers are assigned to allocation groups based on their annual consumption and metering configuration; the allocation group defines what information must be provided to the allocation agent each month and how unaccounted-for-gas (UFG) is allocated to the retailer for those consumption volumes.

Submitters on the AGMI Consultation Paper supported the proposal to put AGMI-metered consumers in a separate allocation group to standard consumers. The intent was to clarify that specific obligations would apply to these consumers, for example, metering interrogation and submission requirements, and also that AGMI-metered consumers would get preferential UFG treatment, akin to large industrial (TOU) gas consumers.

The current rollout of AGMI is targeted at the domestic market, as the metering solution only serves consumers using up to 10 standard cubic meters per hour. However, we propose covering off the potential rollout of AGMI to SMEs in the future, by earmarking a separate allocation group for these larger volume consumers (using between 250GJ per annum and 10TJ per annum), again with a preferential UFG treatment.

Some retailers may end up with AGMI-metered customers through the switching process or due to business-as-usual meter maintenance, upgrades, and replacements. We consider that it should be the retailer's choice whether to provide a daily-reconciled service to its customers, so we will not require retailers to assign consumers to the AGMI allocation groups unless they intend to use the 'advanced' functionality of the meter. We propose that Gas Industry Co determines criteria for when a consumer should be assigned to one of the modified allocation groups.

Stakeholder feedback & recommendation

Submitters supported (or had no comment on) the proposal for separate allocation groups for daily-reconciled AGMI consumers and preferential UFG treatment for those allocation groups, recognising the improved data quality and reliability of AGMI. Submitters also supported Gas Industry Co producing guidance or criteria for assigning ICPs to these allocation groups.

Our recommendation is to proceed with the proposed changes set out in the SOP.

4.3 Amendments to allocation methodology

There are two different allocation methodologies set out in the Reconciliation Rules: the standard global methodology and the global 1-month (G1M) UFG methodology. Allocated gas gates with over 80% TOU volumes (that is, gas gates which are dominated by large industrial loads such as dairy factories) use the G1M methodology and all other allocated gas gates (most town and city networks) use the standard methodology.

Under the standard methodology, TOU ICPs get a fixed annual UFG (AUFG) factor which is gas-gate specific and applies for 12 months. Non-TOU ICPs get a monthly UFG (MUFG) factor which is more volatile than the AUFG factor as it includes all short-term deviations between injection volumes and retailer-submitted consumption volumes.

Consistent with giving AGMI allocation groups preferential treatment for UFG allocation, we also proposed that AGMI allocation group volumes should be factored into the determination of G1M gas gates. We argued that where daily-metered and daily-reconciled consumption dominates a gas gate then any UFG apparent at that gas gate will most likely be caused by this group and so they should bear a reasonable share of that UFG.

Stakeholder feedback & recommendation

Submitters supported (or had no comment on) this proposal. No additional comments were provided. Gas Industry Co's recommendation is to proceed with the change to determination of G1M gas gates.



5. Recommended changes: D+1

The proposals for D+1 fall into two categories: the first is codifying the existing D+1 processes (for example, file submissions, estimating missing data, the D+1 allocation methodology and reporting requirements); the second category is proposals to improve the accuracy and efficiency of the D+1 process. Both sets of proposals were supported in the D+1 Options Paper and in the SOP.

5.1 D+1 allocation stage

The provisions for performing D+1 allocations will be similar to the existing provisions for the initial, interim, and final allocations. At a basic level this requires obligations on:

- allocation participants to provide trading information such as contract IDs to the allocation agent;
- retailers, the transmission system owner, and distribution injection parties to supply consumption and injection information by specific deadlines each day;
- the allocation agent to perform the D+1 allocation at certain times each day;
- the allocation agent to follow the approved allocation methodology and apply estimation/corrections where necessary; and
- the allocation agent to publish/distribute the results of D+1 allocations.

We intend to maintain the existing schedule of two D+1 allocation runs per day: the morning (unvalidated) run shortly after 11am and the afternoon (validated) run shortly after 2pm. We propose specifying that the allocation agent must perform the morning and afternoon runs at times to be determined by Gas Industry Co. This allows the flexibility to adjust run times in the future without having to progress a rule change.

Stakeholder feedback & recommendation

Submitters strongly supported the introduction of D+1 to the Reconciliation Rules. Our recommendation is to proceed as per the proposals in the SOP.

5.2 D+1 allocation methodology

The D+1 allocation methodology is already defined in the D+1 Business Rules and D+1 Functional Specification. An appropriate outline of this methodology will be added to the Reconciliation Rules. Consistent with the other proposals in the SOP, amendments will be made to the D+1 allocation methodology to incorporate AGMI data and renewable gas injection into the allocation process.

Stakeholder feedback & recommendation

Submitters supported the proposals. Comments included that the methodology should be specified at a level that is sufficiently detailed to hold the allocation agent to account for operating a robust and accurate model but should still allow for accuracy and efficiency improvements without the need for rule changes.

Gas Industry Co agrees with this need to balance prescriptiveness with flexibility. We suggest that a high-level approach in the Reconciliation Rules could be balanced with a more prescriptive approach specified in the allocation agent service provider agreement, which is more easily amended, in order to ensure that the allocation agent is still accountable and that the services can be subject to continual improvement.

Our recommendation is to proceed with adding the D+1 allocation methodology into the Reconciliation Rules.

5.3 Daily submissions for daily-reconciled consumers

The D+1 system relies on access to as much daily consumption data as possible to provide accurate allocation results. Any consumers without daily data have their consumption estimated using regression models, either individually (for TOU consumers) or aggregated at a network level (for non-TOU consumers).

We propose that all ICPs that are reconciled daily (that is, their consumption is recorded and downloaded on a daily basis), must have their consumption submitted to the D+1 system each day. This includes AGMI customers with communicating meters (assigned to the modified allocation groups outlined in section 4).

Stakeholder feedback & recommendation

Submitters supported the proposals for providing daily data for D+1 and Gas Industry Co recommends proceeding with this amendment to the Reconciliation Rules.

5.4 7-day submissions

As indicated in the SOP, Gas Industry Co favours a move to 7-day D+1. It is consistent with both the physical flows and commercial arrangements for gas, which each require 7-day management. Retailers that submitted on the D+1 Options Paper also strongly supported moving to a 7-day operation. This has been the general consensus over the years of the D+1 pilot, echoed in Daily Allocation Working Group (DAWG) meetings and industry workshops.

The D+1 system, which is largely automated, already runs 7 days per week. Bluecurrent, which provides TOU customer data to the D+1 system also supplies files 7 days per week as does Firstgas for injection data. But at weekends and on public holidays the injection data and TOU customer data is unvalidated. The incremental change for an official 7-day D+1 system will be ensuring that the D+1 system receives validated inputs on non-business days as well as business days.

The requirement to perform validation on non-business days will translate to additional cost/resourcing for some participants, notably Firstgas, Bluecurrent and the allocation agent, but we consider this can be mitigated to a certain extent by:

- Increased automation of validation steps in D+1 processes;
- Agreement with industry on materiality thresholds for when missing/unvalidated data may be estimated (some exception handling processes already exist for this purpose in the D+1 system); and
- Agreed rules/criteria and processes for declaring when D+1 won't be available on a day.

Stakeholder feedback & recommendation

The majority of submitters strongly supported a move to 7-day D+1, which is consistent with previous feedback from stakeholders. Submitters commented that there need to be appropriate expectations on provision of data on non-business days. One submitter emphasised that a 7-day operation will incur additional costs and so should only proceed if there are clear and explicit benefits to justify the costs.

Gas Industry Co's recommendation is to proceed with a move to 7-day D+1, while recognising that 100% reliability of telemetry and other physical data is not realistic so some degree of estimation must be tolerated. The Reconciliation Rules already provide for estimated data in certain circumstances and the D+1 model has parameters for either estimating data or aborting if specific tolerances are exceeded. We are confident that the industry can work together on service levels that strike the right balance between accuracy and reliability at a reasonable cost.

We also consider that the benefits to the industry of moving to a 7-day operation exceed the incremental costs of resourcing for parties to supply 7-day data.

5.5 Telemetry threshold for large consumers

The current Reconciliation Rules require that any gas consumer that uses over 10TJ per annum must have a time-of-use (TOU) meter installed to log daily consumption. Examples of TOU consumers are industrial users such as dairy factories, food processing facilities and manufacturers, and other large users such as hospitals, shopping malls and prisons. Some TOU consumers have telemetry devices, allowing for remote download of daily consumption each day, while others have to be manually interrogated. Currently, installation of telemetry is optional.

The TOU consumers with telemetry have actual volumes used in D+1 allocations but those without telemetry are estimated by the D+1 system. Because gas gate allocations are a zero-sum game, having actual data for the largest consumers has a material impact on the accuracy of everyone's D+1 allocations. The proposal to introduce a telemetry threshold (an obligation to install telemetry for TOU consumers with consumption over a certain volume), has been discussed since the DAWG first began meeting in 2015. Submitters and DAWG members broadly support the proposal to introduce a threshold.

The trade-off for the increase in accuracy is the cost borne by the retailer (and potentially passed on to the customer) for the installation and ongoing maintenance of a telemetry device. However, as noted in the D+1 Options Paper, the general trend in the TOU market (without any regulatory intervention) has been a substantial increase in penetration of telemetry over non-telemetry meters.

Previous analysis of the optimum volume threshold indicated that 20TJ per annum provided a good balance between capturing a large volume of gas consumption (to provide a boost to D+1 accuracy) while limiting the magnitude of the cost on stakeholders. Based on the most recent 12 months of consumption data, a 20TJ threshold would require installation of telemetry on 50 TOU consumers. This would capture an additional 1.8PJ out of the 3.1PJ of annual TOU load that is currently estimated by D+1.

Stakeholder feedback & recommendation

Submitters all supported this proposal. Some noted that an implementation timeframe of 12-18 months may be required. Gas Industry Co agrees and recommends proceeding with the proposal, with a suitable implementation window, given the costs and timeframes involved in installing new metering.



6. Recommended changes: Renewable Gas

6.1 Distribution injection points

It will be necessary to create a new definition to identify the point where renewable gas is injected into a network. In the SOP, we refer to this as a distribution injection point. This point will differ from the existing definitions of gas gate (where gas enters a distribution system from the transmission system) and ICP (where gas leaves the distribution system to supply a consumer installation) but will share some of the characteristics of each.

We propose that it should be the distribution network owner's responsibility to populate information about the distribution injection point in the registry and also to notify the allocation agent, the registry operator, and Gas Industry Co of any proposed new distribution injection points (as they currently do for new gas gates).

Given the existing obligations on the distribution network owner under the Switching Rules, the Gas (Safety & Measurement) Regulations 2010, and the gas specification standard (NZS 5442:2008), we do not consider that the extra obligations will be onerous.

Stakeholder feedback & recommendation

Submitters supported the introduction to the Rules of definitions and obligations to identify points of injection for renewable gases. Gas Industry Co recommends proceeding with this amendment.

6.2 Gas composition for networks with distribution injection points

Gas composition data, including calorific value, is integral to the conversion of metered gas volumes to energy. At present, all gas flowing into distribution networks has entered the transmission system in Taranaki and gas composition data for the various gas types is published by Firstgas in OATIS, as required by the Gas Transmission Code (GTC).

If gas enters the *transmission* system outside of Taranaki, then the obligations in the GTC still apply and Firstgas must create a gas type that represents the composition of the gas downstream of that point. This is what has happened for the injection of biomethane at Reporoa.

Conversely, for gas injected into a *distribution* system, Firstgas would have no obligation to publish gas composition information on OATIS. There are no current arrangements to make gas composition data available to retailers. Yet there is a requirement on retailers to accurately measure and report their customers' energy consumption.

We consider it will be necessary to determine responsibilities and a process so that gas composition data for networks with blended gas is easily accessible to retailers in the same way that the current gas types are. Several options exist to achieve this, and we sought stakeholders feedback on the most efficient and effective approach.

Stakeholder feedback & recommendation

Submitters agreed that the impact on gas composition on networks with renewable gas injection is one of the key issues that needs to be resolved in order for downstream reconciliation arrangements to continue to operate effectively. Support for a centralised and unified solution was strong. Submitters

suggested that either the allocation agent or Gas Industry Co would be the most appropriate party to perform the role. We recommend that Gas Industry Co is given discretion in the Rules to determine which party performs this role, once the function is better understood.

6.3 Contract IDs for distribution injection points

With the presumed premium attached to renewable gas over fossil gas it will be necessary to carefully identify volumes injected at distribution injection points and reconcile those against any certificates or claims made by retailers or consumers around the use of renewable gas. While Gas Industry Co may not necessarily be the party that performs the reconciliation or certification function, we propose an obligation on the injecting party to notify the allocation agent of contract information for trading partners (similar to the contract IDs used to identify TSAs on the transmission system), so that these details can be tagged in allocation results and title tracking can occur.

Stakeholder feedback & recommendation

While there was some support for this proposal, submitters commented that it needed further discussion as it is unclear at this stage how the reconciliation of green gas trading will operate. Gas Industry Co agrees that this proposal does not have the same importance as others, as it can likely be managed by non-regulatory means. We do not recommend making this amendment to the Reconciliation Rules.

6.4 Modify allocation methodology for networks with distribution injection points

The SOP highlighted the issue that distribution injection points will complicate the downstream reconciliation process because gas will enter networks at multiple points and must be reconciled. Currently all allocations occur at a single point because the gas consumed on the network equates to the gas injected from the transmission system. With multiple injection points, in order for commercial processes to operate effectively, it will be necessary to determine each retailer's share of the total consumption on the network *and* each retailer's share of the gas injected from the transmission system. We propose adjusting the allocation methodology to take into account multiple injection points to a network.

Stakeholder feedback & recommendation

Stakeholders acknowledged that this issue needs to be resolved. We recommend making appropriate amendments to account for distribution injection points.



7. Recommended changes: Other

7.1 Registry maintenance deadlines

Over several rounds of Switching Rules audits, auditors have noted that while most rules that guide ICP maintenance have specific deadlines – which allow effective controls to be put in place by participants and for compliance to be easily tested – other rules, specifically rule 58.1 and rule 61.1, are more difficult to quantify as the requirement is ‘reasonable endeavours’ or ‘as soon as practicable’. The risk with this approach is that different participants apply different standards and different auditors measure compliance in different ways.

We propose amending the wording of these rules to reduce ambiguity and allow for a more consistent approach across participants and auditors.

We also see benefit in introducing a tolerance provision or two-tier rule, to recognise that exceptional circumstances can sometimes cause a low number of delayed updates. For example, a timeliness requirement could be stated as “90% of updates must be entered into the registry within five business days and 100% within 20 business days”.

Stakeholder feedback & recommendation

Stakeholders supported the proposal and we recommend proceeding with this amendment.

7.2 Stronger link to NZS 5259: 2015

Worksafe administers the Gas (Safety & Measurement) Regulations 2010 which require compliance with NZS 5259:2015; these regulations include audit provisions and offence provisions to ensure compliance, but our understanding is that there is no regular pattern of industry-wide audits undertaken by Worksafe. The main way that participants have compliance monitored is by the regular performance audits under the Reconciliation Rules.

Auditors pay close attention to retailers’ processes for converting meter reads to energy as errors in this process can create UFG. Over the last fifteen years there have been significant improvements in the quality of information in the gas registry and in participants’ billing systems. For example, reliable values for ICP altitude, network pressure, meter pressure, reading digits and average temperatures have all contributed to increased accuracy of energy conversion.

Recent findings from audits demonstrate good overall compliance with NZS 5259:2015 but it has been noted that they only test specific parts of the standard (that relate to obligations under the Reconciliation Rules themselves) and that the provisions do not go wider than ICPs. We propose amending the Reconciliation Rules to require that all allocation participants comply with NZS 5259:2015 (for consistency) and that any party providing information that is used for measurement/conversion complies with NZS 5259:2015.

Stakeholder feedback & recommendation

Stakeholders supported the proposal and we recommend proceeding with this amendment.

7.3 Temperature correction

Auditors identified that temperature correction practices for mass market customers differed between retailers. Some methodologies did not always conform with the accuracy requirements of NZS 5259:2015. Auditors recommended that, to encourage consistent treatment by all parties, Gas Industry Co should publish a central set of temperature data for all gas gates that can be used by retailers.

An appropriate set of temperate data (30-year average ground temperature at 30cm depth, for each month of the year and each allocated gas gate) was sourced from NIWA and published on the GIC website in 2019. Auditors have since confirmed that the majority of retailers use this data for temperature correction.

To ensure consistency, and as previously flagged to the industry, we will make the use of this dataset compulsory, unless a retailer can demonstrate that an alternative source maintains compliance with the requirements of NZS5259:2015.

Stakeholder feedback & recommendation

Stakeholders supported the proposal and we recommend proceeding with this amendment.

7.4 Other minor & technical changes

The minor and technical changes are proposed to correct errors, improve consistency within the rules, and make operational tweaks to improve efficiency. All of the minor and technical changes are considered non-contentious. A summary of the changes is provided in Appendix B.

Stakeholder feedback & recommendation

Stakeholders supported the minor and technical changes and we recommend proceeding with these amendments.



8. Recommendations

Gas Industry Company Limited ("Gas Industry Co") approved as the industry body by Order in Council under section 43ZL of the Gas Act 1992 ("the Act") **recommends** to the Minister for Energy that:

- i. the Gas (Switching Arrangements) Rules 2008 be amended pursuant to section 43G, 43Q and 43S of the Gas Act 1992, and in accordance with sections 43J to 43P of that Act; and
- ii. the Gas (Downstream Reconciliation) Rules 2008 be amended pursuant to section 43F, 43Q and 43S of the Gas Act 1992, and in accordance with sections 43J to 43P of that Act.



Appendix A – List of consulted stakeholders

Submitters on SOP (2024)

- Bluecurrent
- Clarus
- Greymouth Gas
- Nova
- Powerco
- Vector

Submitters on AGMI Consultation paper (2023)

- Bluecurrent
- Genesis
- Greymouth Gas
- Nova
- Vector

Submitters on D+1 Options Paper (2023)

- Firstgas
- Greymouth Gas
- Nova
- Papakura Power
- Vector

Members of AGMI working group

- Contact
- Firstgas
- GasNet
- Genesis
- Intellihub
- Mercury
- Nova
- Powerco
- Pulse
- Vector

Members of Daily Allocation working group (DAWG)

- Contact
- EMS
- Firstgas
- Genesis
- Mercury
- Nova
- Vector



Appendix B – Minor & technical changes

| Rule(s) | Subject | Brief description |
|--------------------------------------|-----------------------------------|---|
| Rule 46A (DR) | Accuracy, estimation, corrections | Window to correct an AUFG factor should match special allocation i.e. 12 months after a final allocation. |
| Rule 44 (DR) | Accuracy, estimation, corrections | Provision for non-responses to UFG queries. |
| Rule 65 (DR) | Audits | Clarify the industry body is able to direct audits in relation to individual participants' performance in relation to specific rules rather than a full audit of processes. |
| Rule 25/26 (DR) | File formats | Ensure the industry body is able to give notice of file formats for additional categories of information and the allocation agent has the necessary information to carry out role. |
| Rule 46 (DR) | Gas gates | Clarify the process for determining annual AUFG factor and G1M status for a new or amended gas gate. |
| Rule 47, 48 & Part A Schedule 1 (SW) | ICP maintenance | Amend so that distributors are no longer required to maintain "Loss Factor Codes" relating to expected losses at a gas gate. The Codes were used historically for network billing purposes but now serve no purpose under the Switching Rules or Reconciliation Rules |
| Rule 30/41 (DR) | Metering interrogation | Provide for monthly-read for non TOU gate meters (eg Matangi and Pauatahanui 2). |
| Various (DR) | Minor drafting | Amend references to "consult with allocation participants" to "consult with allocation participants and the allocation agent" as in 25.1.1. |
| Rule 5.2 (DR & SW) | Minor drafting | Amend definition of "business day" to add Matariki as an exception. |
| Rule 72.2 (SW) | Minor drafting | Amend to provide appropriately for the situation where a breach occurs due to a customer request for a switch date being earlier than the actual agreed switch date. |
| Rule 75.1 (SW) | Minor drafting | Clarify that a switch "may" only be withdrawn in the limited the circumstances specified Rule 75.1 |

| Rule(s) | Subject | Brief description |
|------------------------------|----------------|--|
| Rule 72 (SW) | Minor drafting | Include a requirement that the information in a gas transfer notice is accurate. |
| Rule 76.2 (SW) | Minor drafting | Include a requirement that the information in a gas switching withdrawal notice is accurate. |
| Rule 61.1 (SW) | Minor drafting | Amend to clarify that the requirement to correct or update registry information also applies when the relevant participant should reasonably have become aware that the information is incorrect or requires updating. |
| Rule 25.3 (SW) and 16.3 (DR) | Minor drafting | Clarify that notification of estimated market fees shouldn't include 'amount payable'. |
| Rule 91.3 (SW) and 69.3 (DR) | Minor drafting | Include a requirement that the registry participant provides the information to the auditor in a timely manner. |
| Rule 72.1.3 (SW) | Minor drafting | Require estimated annual consumption to be reasonable. |

About Gas Industry Co

Gas Industry Co is the gas industry body and co-regulator under the Gas Act. Its role is to:

- Develop arrangements, including regulations where appropriate, which improve:
 - the operation of gas markets;
 - access to infrastructure; and
 - consumer outcomes;
- Develop these arrangements with the principal objective to ensure that gas is delivered to existing and new customers in a safe, efficient, reliable, fair and environmentally sustainable manner; and
- Oversee compliance with, and review such arrangements.

Gas Industry Co is required to have regard to the Government's policy objectives for the gas sector, and to report on the achievement of those objectives and on the state of the New Zealand gas industry.

ENQUIRIES:
info@gasindustry.co.nz

