Changes to Gas Governance Arrangements

Statement of Proposal

15 December 2023

Gas Industry Co.

Executive summary

The deployment of smart gas meters, the evolution of the D+1 pilot and the potential injection of renewable gases into downstream networks require changes to the Gas (Downstream Reconciliation) Rules 2008 (Reconciliation Rules) and Gas (Switching Arrangements) Rules 2008 (Switching Rules), so that the gas governance arrangements remain fit for purpose.

This Statement of Proposal provides a coordinated set of changes to the Reconciliation Rules, the Switching Rules and associated industry systems, and invites feedback from stakeholders on the proposed changes. We are seeking to improve the regulatory framework to support the progress of market-led activities across three main areas:

- The rollout of advanced gas metering infrastructure (AGMI)
- D+1 (the allocation of gas volumes on shared networks the day after gas has flowed)
- The potential injection of renewable gases (biomethane or hydrogen blending) into gas distribution systems

We are also taking the opportunity to consult on minor & technical rule changes registered with Gas Industry Co over the last few years and progress some non-regulatory proposals which we consider will improve the operation and efficiency of industry systems (the gas registry, allocation system and D+1 system).

Scope

The Statement of Proposal weaves together a number of workstreams, which were previously being advanced separately. We believe that a coordinated approach to progressing and implementing the changes is the most pragmatic way to proceed as there is significant overlap between the rules and systems that are impacted by each workstream.

Some issues relating to these workstreams have been discussed in industry workshops and working groups but are not being progressed in this Statement of Proposal:

- The AGMI working group is separately dealing with non-regulatory items relating to advanced gas meters, such as producing AGMI guidelines
- The daily allocation working group (DAWG) strongly supports a move to 7-day D+1, but the proposals in this paper are limited to those aspects that fall within the remit of the Reconciliation Rules.

Summary of Proposals

The table below summarises the main proposals in the paper:

Topic	Proposals
Advanced gas metering infrastructure	Introduce new gas registry fields for AGMI Modify allocation groups for AGMI consumers Determine criteria for assigning AGMI ICPs to allocation groups Modify allocation methodology & UFG allocation for AGMI Consider alternative approaches to UFG allocation Modify G1M gas gate criteria to include AGMI consumption Separate the calculation of SADSV and GGRP
D+1	Introduce D+1 allocation stage Introduce D+1 allocation methodology (and modify for AGMI & renewable gas injection) Require daily submissions for daily-reconciled customers (TOU & AGMI) Require 7-day validated submissions Introduce telemetry threshold for the largest TOU consumers Require that customer & trading information is accurate and up to date
Renewable gas injection	Define distribution injection points Require that gas composition is calculated and published for networks with distribution injection points Require contract IDs for traders at distribution injection points Modify allocation methodology for networks with distribution injection points
Minor & technical changes	Clarify ICP maintenance deadlines in gas registry Broaden the scope of NZS 5259 compliance Require use of GIC data for temperature correction Other minor & technical changes
Non-regulatory changes	Allow approved non-industry participants access to an ICP lookup API Improve gas registry security Introduce a D+1 run report Allow use of the GIEP Exchange for GAA submissions/reports

A cost-benefit analysis (CBA) of all proposals is attached as Appendix A. The CBA assesses the proposals as a package and concludes 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.

Next steps

After considering submissions on this Statement of Proposal, the next step will be a Recommendation to the Minister which we hope to complete in the second quarter of 2024

(depending on progress with rule drafting and whether submitters raise any significant issues). While the Recommendation is being considered by the Minister, Gas Industry Co will work with service providers and industry participants on the system changes required to implement the proposals.

Some of the proposals will require a substantial lead time, for example the installation of telemetry devices on large gas users to improve D+1 allocation accuracy and the shift to 7-day D+1, which will require validation of input data on non-business days. An appropriate transition period will be agreed with stakeholders at the rule drafting stage.

Submissions

Submissions should be emailed to consultations@gasindustry.co.nz by **5pm on Friday, 23 February 2024**. Please note that submissions received after that time may not be able to be fully considered.

Submissions may be amended at any time prior to the closing date. All submissions will be published automatically on Gas Industry Co's website after the closing date. Submitters should discuss any intended provision of confidential information with Gas Industry Co prior to submitting the information.

Gas Industry Co is happy to meet with any stakeholder who wishes to discuss the content of the Statement of Proposal in more detail.

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1. Introduction

The deployment of smart gas meters, the evolution of the D+1 pilot and the expected blending of renewable gases with natural gas, require adjustments to the regulatory framework to cater for these initiatives.

The Reconciliation Rules, Switching Rules and associated industry systems are not fit for purpose to support some industry-led initiatives; updates and adjustments are therefore required to avoid creating a regulatory barrier to these developments, all of which are expected to bring benefits to participants and customer alike.

1.1 Purpose

This Statement of Proposal brings together recommendations from separate workstreams (AGMI, D+1 and renewable gases), along with content from rule change registers, which all impact the efficient operation of downstream gas governance arrangements.

The purpose of this paper is to present proposals to stakeholders – many of which have already been discussed with, and are supported by, industry working groups – in order to seek feedback and refine the proposals, before a Recommendation to the Minister is made to amend the rules.

1.2 Structure

Sections 2 and 3 address, respectively, the background to each of the workstreams that motivated the proposed changes, and the legislative framework and requirements for making amendments to the rules.

The subsequent sections outline the proposals in detail, ordered according to the particular process or aspect of the rules that is impacted. Grouping the proposals by impact rather than by workstream is intended to make the overall changes easier to understand.

A summary of the proposals is given in the table below, with highlighting to indicate the specific workstream that has prompted the change. Some issues are included in the paper but no change to the status quo is proposed; this is to record and reflect discussions that have taken place in working groups or individually with industry participants, and to flag these issues for stakeholder feedback along with the proposals that do prompt a change.

Advanced gas metering infrastructure
D+1
Renewable gas injection
Minor & technical changes
Non-regulatory changes

Section	Proposals
1. Introduction	n/a
2. Background	n/a
3. Legislative framework	n/a
4. Capturing and maintaining registry information	Introduce new gas registry fields for AGMI
	Define distribution injection points
	Clarify ICP maintenance deadlines in gas registry
5. Allocation groups, metering interrogation and submission requirements	Modify allocation groups for AGMI consumers
	Determine criteria for assigning AGMI ICPs to allocation groups
	Require daily submissions for daily-reconciled customers
	Require 7-day validated submissions
	Introduce telemetry threshold for the largest TOU consumers
	Require daily metering & reporting of injection volumes
6. Energy conversion	Broaden the scope of NZS 5259 compliance
	Require use of GIC data for temperature correction
	Require that gas composition is calculated and published for networks with distribution injection points
7. Allocation stages	Introduce D+1 allocation stage
8. Allocation methodology and UFG	Consider alternative approaches to UFG allocation
	Modify allocation methodology & UFG allocation for AGMI
	Modify G1M gas gate criteria to include AGMI consumption
	Separate the calculation of SADSV and GGRP
	Introduce D+1 allocation methodology (and modify for AGMI & renewable gas injection)
	Modify allocation methodology for networks with distribution injection points
9. Maintaining contract & customer information	Require that customer & trading information is accurate and up to date
	Require contract IDs for traders at distribution injection points
10. Minor & technical changes	Other minor & technical changes
11. Non-regulatory changes	Allow approved non-industry participants access to an ICP lookup API
	Improve gas registry security
	Introduce a D+1 run report
	Allow use of the GIEP Exchange for GAA submissions/reports

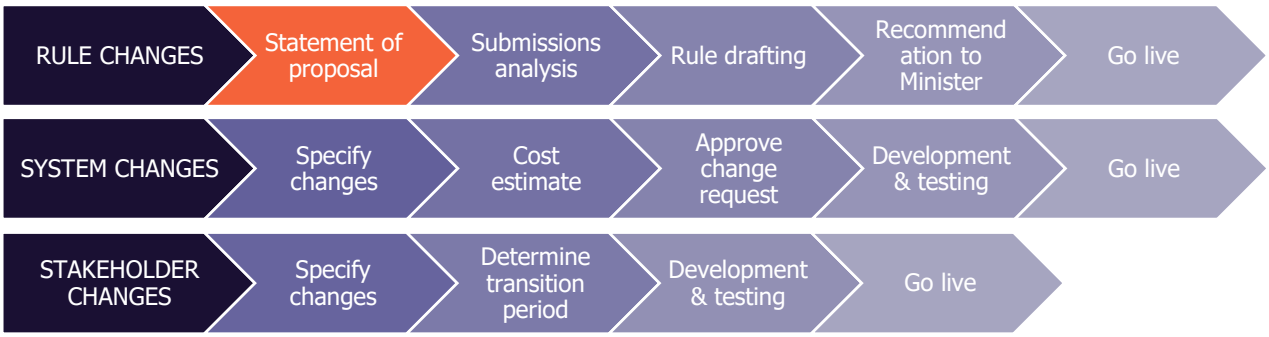
1.3 Implementation approach

We expect to follow the Statement of Proposal with a submissions analysis, then we will refine the details of the proposals and draft changes to the rules. We will seek industry feedback on rule drafting and at the same time document the functional changes required to industry systems and specify the changes required to participant's own systems.

The next step will be the Recommendation to the Minister which we hope to complete in the second quarter of 2024 (depending on progress with rule drafting and whether submitters raise any significant issues). While the Recommendation is being considered by the Minister, Gas Industry Co will continue to work with service providers and industry participants on the system changes required to implement the proposals. A project plan for this part of the process will be developed in due course.

Some of the proposals will require a substantial lead time, for example the installation of telemetry devices on large gas users to improve D+1 allocation accuracy and the shift to 7-day D+1, which will require submission of validated data on non-business days. An appropriate transition period will be agreed with stakeholders at the rule drafting stage.

The diagram below illustrates the process that Gas Industry Co will follow to implement the proposals.



2. Background

This Statement of Proposal draws from three of Gas Industry Co's areas of policy work as well as from our ongoing monitoring of the operation of the gas governance arrangements. The background to each area is provided in this section.

2.1 Advanced Gas Metering (AGMI)

Gas Industry Co published its *Advanced Gas Metering – Issues Assessment*[1] paper in September 2021 following initial informal discussions with several gas market stakeholders. The paper set out a preliminary list of potential issues on the deployment of advanced metering technology into the gas market and an initial assessment of the priority to be afforded to each issue. Submissions to this paper led to the publication of the *Advanced Gas Metering Submissions Review and Recommendations*[2], including an updated assessment of the priority to be afforded to each of the identified issues, and recommendations on how each of these issues should be progressed.

In cooperation with the AGMI working group, Gas Industry Co developed potential solutions to address identified issues and to reset priorities. This work resulted in Gas Industry Co publishing the *Advanced Gas Metering Infrastructure - Consultation Paper*[3] (AGMI Consultation Paper) in mid-2023 in preparation for this Statement of Proposal. The issues outlined in this paper were:

Description	Priority
Minimum data standards and file formats	Type A
Access to, ownership, use and security of customer data	Type A
Streamlined process for customer requests for consumption data (EPR C3)	Type A
Ensure distributors have access to smart meter data on reasonable terms (EPR E3)	Type A
Potential process and registry changes (including switching procedures)	Type A
Downstream Reconciliation Rules	Type A
D+1	Type A

We considered the submissions to the AGMI Consultation Paper and concluded that:

[1] https://www.gasindustry.co.nz/assets/WorkProgrammeDocuments/Advanced-Gas-Metering-Infrastructure-Issues-Assessment.pdf

[2] https://www.gasindustry.co.nz/assets/WorkProgrammeDocuments/Advanced-Gas-Metering_Submissions-Review-and-Recommendations_16.12.2021.pdf

[3] https://www.gasindustry.co.nz/assets/CoverDocument/Advanced-Gas-Metering-Consultation-Paper.pdf

- the priority issues relating to the gas registry, switching, allocation processes and D+1 should be addressed in this Statement of Proposal as they will require rule changes.
- other priority issues, such as minimum data standards and file formats, and access to, ownership, use and security of customer data can be addressed by developing guidelines rather than regulation. Therefore, these issues are not addressed further in this paper, but will progressed separately in 2024.

2.2 D+1

The D+1 pilot has been in operation for eight years. It provides allocations of downstream gas quantities to retailers the day after gas has flowed, allowing Firstgas to perform daily Balancing & Peaking Pool (BPP) calculations, allocate daily cash-outs, and ultimately provide shippers with information to manage their running mismatch positions.

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 GTAC and TACOS. With the decision by Firstgas to abandon GTAC, attention could return 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 to amend the Reconciliation Rules to codify aspects of D+1.

In December 2022, Gas Industry Co published the *D+1 Options Paper*[4] presenting regulatory and non-regulatory options for transitioning from the pilot to an enduring set of D+1 arrangements.

Non-regulatory solutions		Regulatory solutions	
Option 1 Alternative daily information	Option 2 Contractual arrangements	Option 3 Core rule changes	Option 4 Broader rule changes
• Keep daily BPP but discontinue GIC D+1 • FG uses a different process to establish daily allocations eg specified shipper algorithm • Less accurate allocation but easier to operate	• Keep D+1 operating under industry agreements without changing Rules • Tweak agreements to meet requirements of a long-term solution • More flexibility than regulation • D+1 allocations could be managed by GIC or Firstgas	• Amend Rules to add basic obligations eg supplying data, performing allocations • No change to operation of D+1 • Compliance regs would provide enforcement of obligations • Costs recovered through market fees	• Make core rule changes per Option 3 • Make further improvements to D+1: • Introduce a threshold for installing telemetry on TOU • Merge initial and interim allocation • Address 7-day BPP

The options above focused on the downstream elements of D+1 – the process currently managed by Gas Industry Co – that provides daily gas allocations to retailers at shared gas gates. We do not anticipate having to use the regulatory process under the Gas Act to address the parts of D+1 that are 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.

[4] https://www.gasindustry.co.nz/assets/CoverDocument/D+1-Options-Paper.pdf

A substantial amount of feedback on the *D+1 Options Paper* focused on the GTC side of D+1 and Gas Industry Co can facilitate a work programme to work through these issues with the DAWG (or shipper workshops) as was done in 2015 to set up the pilot.

The recommendations in this Statement of Proposal reflect participants' submissions[5] to the *D+1 Options Paper* generally preferring a regulated solution and measures to increase the accuracy and reliability of the system.

2.3 Renewable Gases

Climate change and emissions reduction targets are helping 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/Firstgas biogas project in Reporoa and Firstgas's planned hydrogen blending trial. Both projects anticipate injecting renewable gas into pipelines outside of Taranaki, which means changes to the arrangements for shipping, measuring and reconciling gas must be considered.[6]

Receipt points are not currently identified under the Switching Rules or Reconciliation Rules, because they are outside the scope of those arrangements and are adequately covered by commercial (GTC/MPOC) agreements. The only exceptions are some production stations that have a bi-directional interconnection to the transmission system and thus meet the definition of a direct connect gas gate.

Future producers of renewable gases could potentially interconnect to either the transmission system or a distribution system. Notwithstanding the Reporoa example, we consider that distribution connections are more likely given that:

- A common source of biogas/biomethane production is municipal waste (or wastewater) which means potential sites will typically be near to towns or cities; and
- The higher operating pressures of transmission pipelines make injection of renewable gases less financially viable due to the cost of compression relative to production volumes

No market mechanisms currently exist for injection of gas into a distribution system except via a transmission delivery point. Any new points of supply will need to be part of the downstream reconciliation arrangements and, as points of connection to the distribution system, should be recognised in the gas registry.

We believe the relevant issues for the Switching Rules and Reconciliation Rules are:

- Appropriate new definitions for distribution injection points
- Notification of new interconnections
- Determining roles and responsibilities for distribution injection points and their impact on networks
- Ensuring compliance with existing arrangements (eg NZS 5259:2015, meter interrogation and submission requirements)
- Calculation and publication of gas composition

[5] https://www.gasindustry.co.nz/our-work/work-programmes/downstream-reconciliation/#d-1

[6] Injection of hydrogen or biomethane into the transmission or distribution systems would require several other legislative changes but this paper focusses on the impacts on the Switching Rules and Reconciliation Rules

- Disclosure to the allocation agent of contractual parties
- Allocating gas volumes correctly to allocation participants

2.4 Rule change registers

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

The content of the register has arisen from:

- Learnings from the audit process
- Breach determinations and the compliance process
- Suggestions from, and discussions with, industry participants
- Changes in systems and participant behaviour in the market
- Identification of typos and errors in rule drafting

The changes are largely minor and technical but are included here so that stakeholders can comment on the proposals.

2.5 Other proposals

The final set of proposals in this paper relate to ad hoc system improvements to either the gas registry, allocation system or D+1 system. The proposals do not require rule amendments, since they only impact system specifications, but they are substantial enough that we consider it prudent to seek industry feedback before implementation. The proposals have arisen from discussions with service providers and participants and also from observation of equivalent processes in the electricity market. The proposals are:

- to enable the use of the GIEP Exchange for allocation agent file submission and report publication
- to make security enhancements to the gas registry
- to create an automated D+1 run report, to identify any allocation issues/missing data
- to allow an approved list of non-industry participants to access a gas ICP lookup facility via a gas registry API

3. Legislative framework and requirements

3.1 The Gas Act and GPS

Section 43Q(1) of the Gas Act provides the Minister of Energy and Resources with the power to make rules instead of regulation for all or any of the purposes under section 43(F):

> (2) The purposes are -
>
> *Wholesale gas market*
>
> (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:

Section 43Q(1) of the Gas Act provides the Minister of Energy and Resources with the power to make rules instead of regulation for all or any of the purposes under section 43(G):

(2) The purposes are—

> (a) [Repealed]
>
> *Prepayment meters*
>
> (a) requiring gas retailers to offer prepayment meters to domestic consumers at a reasonable cost, and prescribing conditions on which those meters must be offered, with the objective of ensuring that all domestic consumers who wish to pay for gas in advance have the option to do so at reasonable cost:
>
> *Ability of consumers to choose preferred gas retailer*
>
> (b) providing for arrangements to enable consumers to switch gas retailers:
>
> *Transition arrangements for insolvent gas retailers*
>
> (c) providing a system of transition arrangements for consumers in the event of a gas retailer becoming insolvent, and requiring industry participants to comply with that system, with the objective of protecting consumers or managing the liabilities of other gas retailers:
>
> *Disclosure of information*
>
> (d) providing for the disclosure of information by gas transmitters, distributors, and retailers on tariff and other charges:
>
> *Terms and conditions of access*
>
> (e) providing for terms and conditions of access to gas meters by gas retailers:

Information on customer accounts

(f) providing for information on customer accounts:

Consumer contracts

(b) providing for minimum terms and conditions in contracts between domestic consumers and gas distributors or gas retailers:

…

The Minister's power to make rules under section 43Q of the Gas Act is subject to section 43J of the Act. That section provides that, in relation to the section 43F regulation making powers, the Minister may only recommend regulation if the recommendation gives effect to a recommendation from Gas Industry Co and does not differ from Gas Industry Co's recommendation in any material way.

The Government Policy Statement on Gas Governance 2008 (GPS), at paragraph 9, states that the Government's objective for the entire gas industry is:

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

The above objective incorporates, and expands on, the objectives in section 43ZN of the Gas Act.

3.2 Regulatory Objective

Reconciliation Rules

In 2007, Gas Industry Co determined the regulatory objective for the Reconciliation Rules:

> Such arrangements [Reconciliation Rules] should:
>
> - 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 (together, the "regulatory objective").

Switching Rules

In 2007, Gas Industry Co determined the regulatory objective for the Switching Rules:

> Given the Gas Industry Co's obligations and powers under the Gas Act and the GPS, the objective of the proposed draft rules for new switching arrangements is to 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.

Gas Industry Co considers that the proposals outlined in this Statement of Proposal all seek to further the existing regulatory objectives for the two sets of rules. We therefore do not propose amending the regulatory objectives.

3.3 Process requirements

Section 43Q(3)[7] provides that sections 43L and 43N of the Gas Act apply for the rule making process. Therefore, Gas Industry Co is required to complete the following steps before making a recommendation to the Minister for rules:

- 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;
- Consider submissions on the statement of proposal.

The policy processes undertaken in 2007 met the above requirements and identified that gas governance rules were the best option to achieve the regulatory objectives for the switching arrangements and for the downstream reconciliation arrangements. The proposals in this paper build on the existing arrangements and remain consistent with, or seek to better achieve, the objectives of the original rules.

Taking into account previous work on issue and option identification and our decision to separate out non-regulatory issues to progress separately, we are comfortable that the proposals in this paper are unlikely to be achieved by means other than making amendments to the existing rules.

3.4 Cost-benefit analysis

A qualitative analysis of the cost and benefits of the combined proposals was undertaken by Sapere. This CBA is attached as Appendix A.

The CBA assesses the proposals as a package and concludes 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.**

[7] Section 43Q(3) determines that for rule development the process for regulations (section 43I – section 43P) applies accordingly

4. Capturing and maintaining registry information

Discussion topics: new gas registry fields for AGMI, ICP maintenance deadlines, distribution injection points

4.1 Current ICP parameters and responsibilities

The gas registry contains various parameters for each installation control point (ICP), which are maintained by the three parties responsible for the ICP – the distributor, retailer and meter owner. The list of ICP parameters has remained the same since the registry was established in 2008, except for some additional meter owner fields that were added in 2015. These are highlighted with an asterisk in the table below.

Distributor	Retailer	Meter Owner
• ICP identifier • ICP creation date • Responsible distributor • Network pressure • ICP altitude • Gas gate • ICP type • ICP status • Connection status • Load shedding category • Maximum hourly quantity • Expected retailer • Network price category • Loss factor code • Network price details • Physical address	• Responsible retailer • ICP status • Connection status • Allocation group • Profile • Responsible meter owner	• Meter identifier • Meter location code • Meter pressure* • Register multiplier* • Meter operating at network pressure* • Register reading digits* • Standard meter (Y/N) • Prepay meter (Y/N) • Advanced meter (Y/N)* • TOU meter (Y/N)* • Logger owner • Corrector owner • Telemetry owner • Advanced meter owner* • Metering price category

* indicates the ICP parameter was added to the registry in the 2014-15 Gas Registry Amendments Project

4.2 New ICP parameters for AGMI

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. 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.

Stakeholders largely agreed with Gas Industry Co's view that a change to roles and responsibilities is not required. In particular, the meter owner will continue to be the party responsible for populating and maintaining all GMS information, including any AGMI information.

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

- the capability of the GMS installed at a consumer installation; and
- the method that the responsible retailer uses to reconcile each ICP

Gas Industry Co sees a clear benefit in providing clarity around the functionality of the meter (managed by the meter owner) as distinct from the way that the ICP is reconciled (managed by the retailer). The former is already captured at a basic level by Y/N parameters for Standard, TOU, Prepay, and Advanced Meters; the latter is determined by the Allocation Group and Profile Code parameters. We proposed the addition of a Meter Type parameter, which could take a multitude of values similar to the Register Content Code in the Gas Transfer Notice, if participants want to capture additional detail about the capability of the meter.

Some submitters on the AGMI Consultation Paper suggested that a 'communicating' flag would be beneficial as an additional piece of information. We agree there is benefit in recording this detail in the registry; it is distinct from the AGMI characteristics listed above, it impacts how the ICP can be reconciled, and it would be consistent with the treatment of smart meters in electricity.

PROPOSALS:

- Add two new meter owner fields to the registry (i) Meter Type and (ii) AGMI Communicating (Y/N)

Together with the AGMI working group, Gas Industry Co will develop appropriate specifications and values for these new parameters.

4.3 ICP maintenance deadlines

In order for the gas registry to remain an authoritative database it is essential that the information it contains is accurate and up to date. There are a number of rules in the Switching Rules which require information to be updated in a timely manner. For example:

> 58. **ICP information to be maintained**
>
> 58.1 Each distributor, retailer, and meter owner 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 as set out in Schedule 1.
>
> 61. **Correction of ICP information in registry and registry validation**
>
> 61.1 If, in relation to any information in the registry, a responsible distributor, responsible retailer, or responsible meter owner becomes aware that such information is incorrect or requires updating, the relevant responsible distributor, responsible retailer, or responsible meter owner must, as soon as practicable, enter the correct or updated information in the registry.

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 test 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".

PROPOSALS:

- Amend rules 58.1 and 61.1 to improve clarity and consistency of ICP update timeframes
- Introduce a two-tier framework for assessing compliance with update timeframes

4.4 Distribution injection points

We believe it is important for any new renewable gas injection points to be visible in the registry and for the market to be informed of these connections due to the changes they will entail for downstream reconciliation. Retailers in particular will need to be aware of the source of the gas that is being delivered to their customers (noting that physical supply is distinct from contractual supply, so the retailer may not have a contractual relationship with the party injecting renewable gas).

It is also essential that adequate metering is installed and interrogated regularly and that measurement is compliant with NZS 5259:2015; these issues are covered later in this Statement of Proposal. In order to be captured by our audit regime, the injection points and injecting parties need to be recognised by the Switching Rules and Reconciliation Rules.

Accordingly, we propose an obligation on distributors to give notice of any new injection point and also to populate details of the injection point in the registry. The notice requirement would be similar to rule 45 (excerpt shown below), except that we believe a longer notice period, of at least three months, would be appropriate as the changes required and market impact would be more substantial than for a standard connection from the transmission system.

> **45. Distributors to give notices in relation to gas gates**
>
> 45.1 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 to –
>
> 45.1.1 The industry body; and
>
> 45.1.2 The registry operator, and
>
> 45.1.3 The allocation agent and all retailers that will be affected by the gas gate creation or decommissioning

With regard to the information that should be populated in the registry, it is first necessary to determine exactly what status a distribution injection point should have. As a point of supply to the network, the closest comparison is a gas gate, but the existing gas gate definition in the Rules would require amendment to cover a third-party injection point:

gas gate means the point of connection between –

(a) a transmission system and a distribution system; or

(b) a transmission system and a consumer installation; or

(c) two gas distribution systems; or

(d) a group of gas gates, as determined and published by the industry body, treated as a single gas gate for the purposes of these rules;

Alternatively, a distribution injection point could be considered a special type of ICP where gas is delivered into the network instead of (or as well as) delivered from the network[8]. This would correspond to the electricity registry, where ICPs have an Installation Type parameter, indicating load (L), generation (G) or both (B). But again, the existing definition of ICP in the Rules would require amending:

ICP means the installation control point, being the point at which a consumer installation is deemed to have gas supplied and which represents the consumer installation on the registry;

The most relevant ICP parameters to a distribution injection point would be the distributor fields. In particular the values for ICP Type parameter[9] could be expanded to identify injection points. On the other hand, the majority of the retailer and meter owner fields wouldn't be relevant to an injection point.

We recognise that further work is required to determine the specific information that should be included in the registry for distribution injection points. Gas Industry Co will work with participants and the AGMI working group to establish a list of parameters prior to submitting the Recommendation to the Minister for amendments to the Rules.

PROPOSALS:

- Introduce a new definition for distribution injection points
- Introduce an obligation on distributors to give notice of a new distribution injection point
- Distributor must populate details of the network injection point (specific parameters to be determined)

Q1: Do you support the proposals in this section (summarised below)? Please provide comments and feedback, including whether there are additional changes that Gas Industry Co should consider

- *Add two new meter owner fields to the registry (i) Meter Type and (ii) AGMI Communicating (Y/N)*
- *Amend rules 58.1 and 61.1 to improve clarity and consistency of ICP update timeframes*
- *Introduce a two-tier framework for assessing compliance with update timeframes*
- *Introduce a new definition for distribution injection points*

[8] We think there is a reasonable likelihood that a renewable gas producer, for example a wastewater treatment plant, could have an existing gas network connection and therefore already have an ICP representing the consumer installation.

[9] Current values are: EN for an embedded network connection, GD for a direct connect and GN for a gas gate connected network.

- *Introduce an obligation on distributors to give notice of a new distribution injection point*
- *Distributor must populate details of the network injection point (specific parameters to be determined)*

5. Allocation groups, interrogation and submission requirements

Discussion topics: changes to allocation groups for AGMI, criteria for assigning ICPs to allocation groups, daily submissions for D+1, threshold for installing telemetry, daily metering for distribution injection points, 7-day D+1

5.1 Current allocation groups

Allocation groups are described in two areas of the Reconciliation Rules, rule 6 (definitions) and rule 29 (metering interrogation requirements). Retailers assign ICPs to an allocation group based on the customer's annual consumption and metering configuration. The allocation group indicates how the customer's consumption is profiled or recorded and how UFG is applied. The table below shows the current allocation groups and the number of active ICPs in each.

Allocation Group	Description	No of active ICPs*	UFG allocation
1	Assigned to ICPs that have a TOU meter with telemetry and where gas quantities are recorded daily:	276	AUFG
2	Assigned to ICPs that have a TOU meter without telemetry and where gas quantities are recorded daily:	187	AUFG
3	Assigned to ICPs where the daily gas quantities are determined by application of an approved static deemed profile to monthly gas quantities taken from register readings that are required under rule 29 to be recorded monthly:	0	MUFG
4	Assigned to ICPs where the daily gas quantities are determined by application of the gas gate residual profile to monthly gas quantities taken from register readings that are required under rule 29 to be recorded monthly:	5,532	MUFG
5	Assigned to ICPs where the daily gas quantities are determined by application of an approved dynamic deemed profile to monthly gas quantities taken from register readings that are not required under rule 29 to be recorded monthly:	0	MUFG
6	Assigned to ICPs and where the daily gas quantities are determined by application of the gas gate residual profile to monthly gas quantities taken from register	305,668	MUFG

*ACTC+ACTV ICPs as at 27 September 2023 (Gas Registry)

Allocation groups 3 and 5, which allow for bespoke, retailer-submitted profiles, have never been used. In other words, all current ICPs are either TOU (daily metered) or are profiled using the gas gate residual profile (GGRP).

5.1.1 Issues with current approach

Because ICPs are assigned to allocation groups according to their metering configuration as well as their consumption, this can sometimes cause confusion and unintended consequences. For example, a legacy TOU consumer which has reduced its consumption to below 10TJ per annum but still above 250GJ per annum must be treated as an allocation group 1 or 2 site and have daily readings taken, even if the retailer would prefer to treat the site as allocation group 4. The alternative is that the GMS has to be replaced, which would incur a material cost for no benefit.

There is also some confusion apparent when allocation groups are compared with curtailment bands under the Gas (Critical Contingency Management) Regulations 2008. Curtailment bands 4 and 6 have the same volume thresholds as allocation groups 4 and 6 so there is an expectation that the treatment of ICPs is consistent across both groups. But an ICP in curtailment band 4 may be assigned to any of allocation groups 1 to 4, depending on its metering and profiling.

Consistent with the discussion in section 4 for AGMI ICPs, Gas Industry Co maintains that there should be a distinction between the functionality of the meter and the method chosen by the retailer for reconciling the ICP. While there are minimum interrogation/submission requirements that depend on annual consumption for an ICP (for example an AG4 ICP must have monthly reads), the retailer should have the discretion over whether it chooses a more stringent set of requirements (such as daily reads) in return for a more favourable UFG allocation or a more accurate D+1 allocation.

We will therefore propose some minor amendments to the rules for assigning ICPs to allocation groups, in addition to the changes for AGMI and D+1 discussed below, in order to achieve this purpose.

5.2 Proposals for non-TOU customers

5.2.1 Separate allocation group for AGMI

Submitters on the AGMI Consultation Paper supported the proposal to put AGMI ICPs in a separate allocation group to standard ICPs. The intent was to clarify that specific obligations would apply to these ICPs, for example, metering reading requirements, submission requirements, and how UFG is applied.

In line with the points raised in section 5.1.1, we will take care not to use the type of metering to define the allocation group. For example, a retailer may switch in an AGMI ICP and choose to treat it as an interval-read meter, in which case it would remain in allocation group 6. The physical distinction between advanced meter, standard meter and TOU meter is apparent from the existing meter owner parameters, it need not be determined by the allocation group.

The current AGMI rollout targets domestic and small commercial gas users (with meter capacity up to 10 standard cubic meters per hour), which generally translates to an annual consumption less than 250GJ. One submission noted that an advanced metering solution for larger consumers (greater than 10scmh) will eventually become available, so we intend to account for this in our proposed changes to allocation groups.

5.2.2 Re-purposing allocation groups 3 & 5

Gas Industry Co proposes to retain the existing volume thresholds and meter interrogation requirements for allocation group 4 and 6. As per the Vector Metering submission, we propose using:

- allocation group 3 for daily-reconciled ICPs that would otherwise be assigned to allocation group 4, and
- allocation group 5 for daily-reconciled ICPs that would otherwise be assigned to allocation group 6.

The reason for keeping the groups separate is to maintain the existing policy that a daily-metered ICP that uses more than 250GJ per annum must have ICP-level consumption data submitted to the allocation agent, whereas sites using less than 250GJ per annum can have aggregated daily data submitted.

Allocation group 3 would be used for any current TOU ICPs that use less than 10TJ per annum (the 'top end' of allocation group 4) as well as any future daily-reconciled AGMI ICPs that use more than 250GJ per annum (the 'bottom end' of allocation group 4).

We consider that these proposals make the allocation groups clearer and more intuitive. The stricter volume-based rules also provide a better mapping to curtailment bands:

- an ICP in curtailment band 0 to 3 can only be assigned to allocation groups 1 or 2;
- an ICP in curtailment band 4 can only be assigned to allocation groups 3 or 4; and
- an ICP in curtailment band 6 can only be assigned to allocation groups 5 or 6

The downside of this proposal is that the ability for retailers to use static-deemed profiles and dynamic-deemed profiles would be lost. However, as noted above, these profiles have never been used in the 15 years the Reconciliation Rules have been in effect. If bespoke profiles were needed in the future, the Rules could be revisited again and/or the exemption provisions could be used as a short-term measure.

5.2.3 Criteria for assigning ICPs to allocation groups 3 & 5

We believe it will be necessary to determine, with industry input, guidance or criteria for when daily-reconciled ICPs can be assigned to allocation groups 3 and 5. For example:

- AGMI is consistently communicating
- Validated daily readings (and energy conversion) are accurate and reliable
- Daily data is submitted to the D+1 system each day as well as to the allocation system
- Estimation processes for missing data are reliable and effective

It would be our intention to allow for occasional estimation, as the Reconciliation Rules do now for TOU ICPs, acknowledging that 100% reliability is not likely to be achieved. But if an AGMI ICP is not communicating, has intermittent communication issues, or is being treated by the retailer as non-daily reconciled, then it must remain in either allocation group 4 or 6.

By creating a set of criteria or a guideline, this would ensure retailers have controls in place and would give auditors a means to measure compliance.

PROPOSALS:

- Amend allocation group rules and definitions to provide for daily-reconciled ICPs
- Publish guidance or criteria for assigning daily-reconciled ICPs to allocation groups

5.3 Proposals for TOU customers

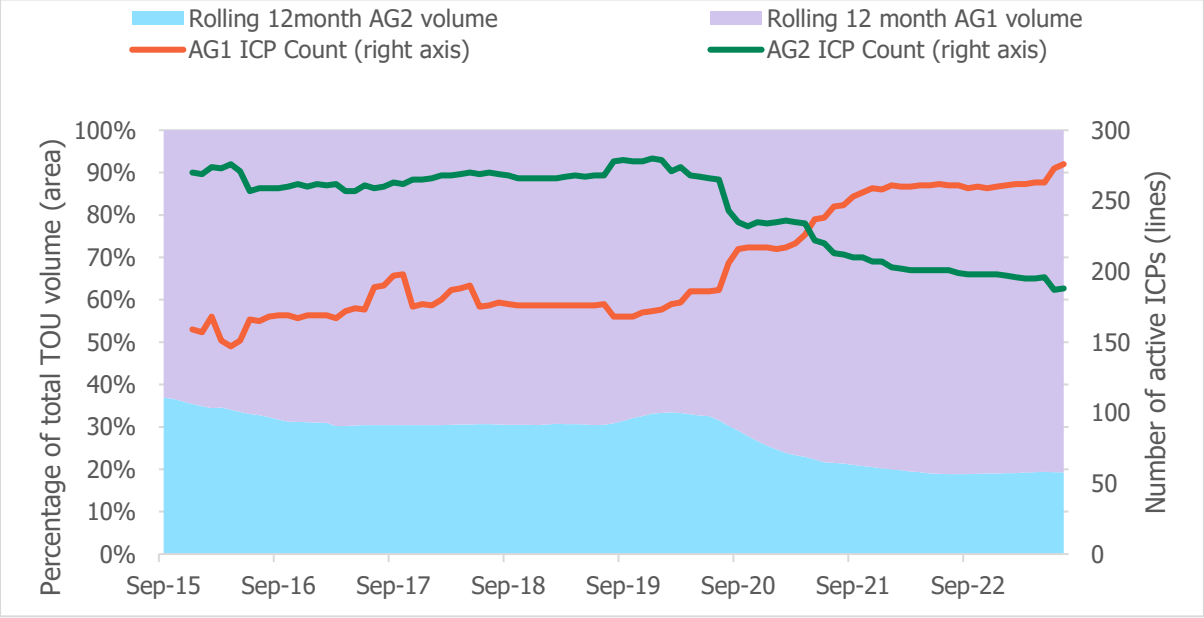
At the other end of the scale to AGMI, the D+1 Options Paper noted that the proposal to introduce a telemetry threshold (an obligation to install telemetry devices on TOU ICPs with consumption over a certain volume), has been discussed since the DAWG first began meeting in 2015. Submitters (and DAWG members) broadly supported introducing a threshold.

The benefit of requiring telemetry on the largest TOU sites, is not only an improvement to the allocations for those ICPs but also a more accurate residual for mass market D+1 allocations.

The trade-off for the increase in accuracy is the cost borne by the retailer (and potentially passed onto 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 C&I market (without any regulatory intervention) has been a substantial increase in penetration of telemetry, indicating that there are significant private benefits to the conversion process.

The chart below shows that over the last several years the size of allocation group 1 has grown (in number and in proportion of total TOU volume) while allocation group 2 has reduced. Allocation group 1 now accounts for around 80% of TOU volumes.

Changes in 12-month rolling volume and ICP count for allocation groups 1 & 2, 2015 to 2023



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 interim consumption data, a 20TJ threshold would require installation of telemetry on 50 AG2 ICPs. This would provide daily data for an additional 1.8PJ of annual load that is currently estimated by D+1.

Distribution of AG2 ICPs by annual consumption volume (June 2022 to May 2023)

Band (per annum consumption)	No of ICPs	Volume in band (GJ)
>100TJ	1	105,284
80-100TJ	1	87,944
60-80TJ	3	197,044
40-60TJ	11	538,443
20-40TJ	34	912,199
18-20TJ	5	95,872
16-18TJ	16	271,638
14-16TJ	12	179,543
12-14TJ	12	153,986
10-12TJ	17	182,527
<10TJ	79	426,686
Total	**191**	**3,151,167**

PROPOSAL:

- Require all consumer installations that have (or are expected to have) annual consumption greater than or equal to 20TJ, to have a TOU meter with telemetry installed and be assigned to allocation group 1.

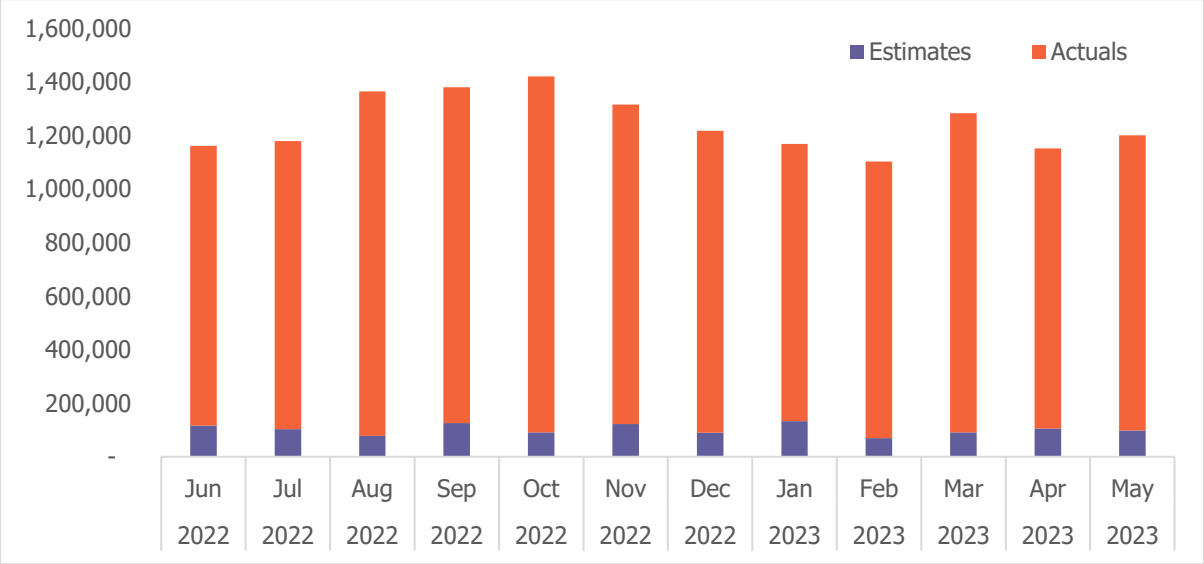
As this proposal creates a substantial impact on the individual customers involved, we intend to establish a transition period for the installation work that strikes a balance between achieving the goal of increasing daily volumes into D+1 and managing the workload at the least cost and inconvenience to customers. We welcome views from stakeholders on what this timeframe should be.

5.4 D+1 submissions for allocation groups 1, 3 & 5

Along with the requirement to install telemetry on large TOU sites, the D+1 Options Paper included a proposal that retailers must supply daily consumption to the D+1 system for all ICPs that have daily downloads. This would improve on the current arrangement where retailers are voluntarily providing daily data.

Submitters supported this proposal, and some expressed surprise that there are allocation group 1 ICPs that don't supply daily data to the D+1 system. The volume of missing daily data for allocation group 1 is illustrated in the chart below.

Actual vs estimated allocation group 1 volumes (GJ) in D+1 allocations (June 2022 to May 2023)



As discussed in section 5.2, the obligation to supply daily data to the D+1 system would also be a condition of assigning daily-reconciled ICPs to allocation groups 3 and 5 (and in doing so getting the benefit of fixed-factor UFG allocation).

PROPOSAL:

- Retailers must provide daily metered energy volumes to the allocation agent each day for all ICPs in allocation groups 1, 3 and 5.

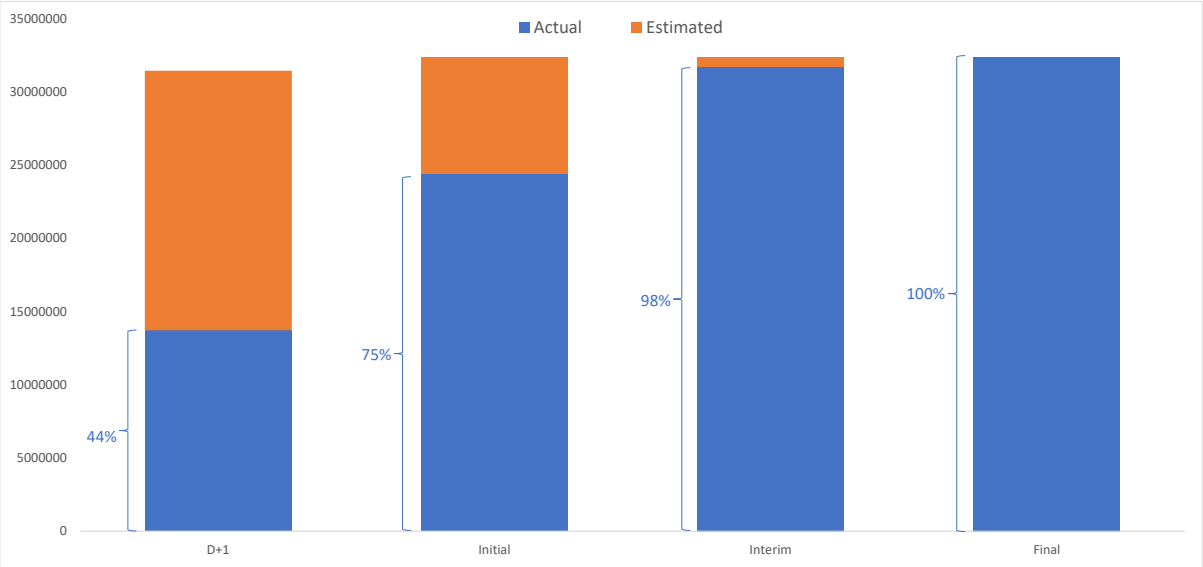
5.4.1 Impact of additional daily data

The potential impact of the additional daily-reconciled consumption data on allocations is modelled in the charts below. The first chart shows the existing 'known' consumption data vs estimated data for each allocation stage (for a 12-month period). The second chart shows the additional daily consumption that is captured due to:

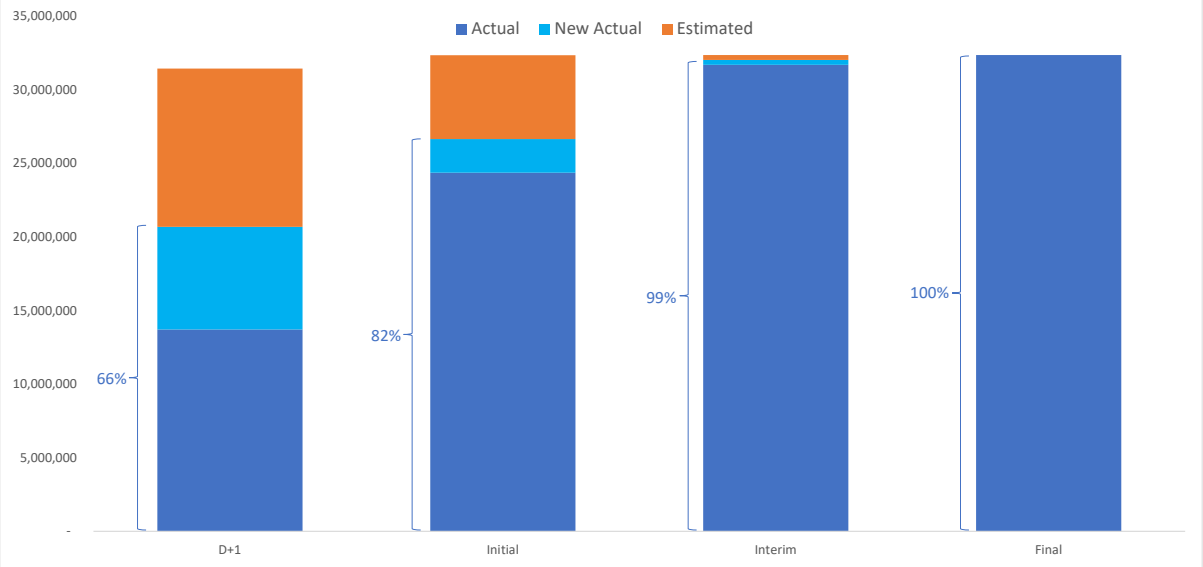
- daily AGMI data (assuming Genesis AG6 volumes only)
- the 20TJ threshold for telemetry, and
- the obligation to submit *all* AG1 volumes to the allocation agent each day

The benefit is clearest for the D+1 allocation, where the amount of known daily data increases from around 44% of network throughput to 66%. The initial allocation also sees an improvement from 75% to 82% of throughput.

Actual vs estimated volumes in allocation stages



Indicative actual vs estimated volumes in allocation stages with new daily requirements



5.4.2 Submission of AGMI data for D+1

When the D+1 pilot was first established, it was agreed that as Vector Metering performed a daily telemetry download service (including energy conversion) to retailers for the majority of allocation group 1 sites, the most efficient and timely way for that data to be submitted to D+1 was in a consolidated file directly from Vector Metering. This process has operated exceptionally well for the duration of the pilot, and we do not propose any changes, but, for consistency with the other provisions in the Reconciliation Rules, the obligation to provide daily data will sit with the retailer, not the meter/telemetry owner. It is understood that Vector Metering is acting as an agent to each retailer in providing TOU data to the D+1 system.

For AGMI ICPs, in the amended allocation groups 3 and 5, Gas Industry Co understands that it is unlikely that the meter owner will be the party performing the conversion of metered volumes to energy. Consistent with legacy meters, it is expected that the retailer will receive meter read data and then apply its own validation and energy conversion processes. We

therefore expect that retailers will be responsible for submitting daily files to the allocation agent for D+1 for allocation groups 3 and 5.

While this will require the development of new file submission arrangements, which will incur some cost for those retailers, we think it likely that the daily validation and conversion process would already be planned if it intends to provide daily consumption data to AGMI customers.

PROPOSAL:

- Determine an appropriate file format for retailers to submit daily AGMI data to the allocation agent.

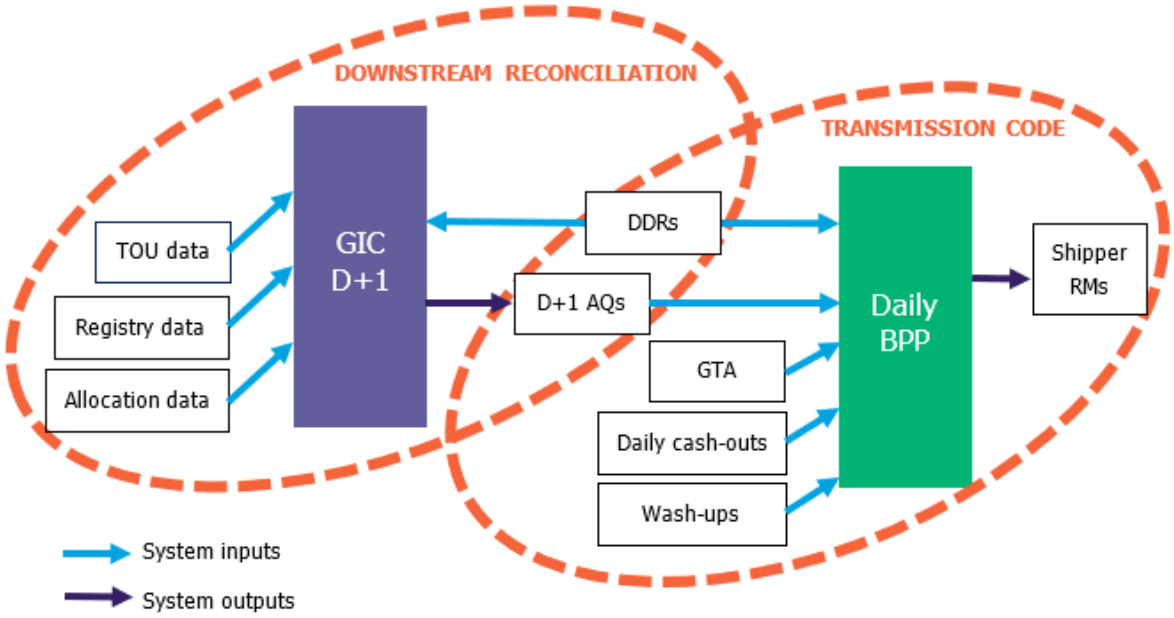
5.5 Summary of changes to allocation group requirements

The diagram below summarises how the proposals in this section 5 will impact the allocation groups, and how the consumption data for ICPs in each allocation group will be treated in the D+1 and allocation systems.

5.6 7-day D+1

As we indicated in the D+1 Options Paper, 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. Shippers that submitted 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 DAWG meetings and industry workshops.

The diagram below, taken from the D+1 Options paper, illustrates the two systems that together constitute D+1. Our proposal is to regulate 7-day operations for the downstream reconciliation elements of D+1. We will also work with Firstgas to ensure progress on the transmission side of D+1, but that is outside of the scope of this Statement of Proposal.



The Gas Industry Co D+1 system, which is largely automated, already runs 7 days per week. Vector Metering, 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 are unvalidated. The step 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.

Taking into account the other proposals in this paper, the D+1 inputs[10] that will be required on a daily basis are:

- Validated allocation group 1, 3 and 5 consumption data
- Validated gas gate injection data
- Validated distribution injection point data

These inputs are explored individually in the subsections below. With each of the inputs we believe it will be necessary to explore with industry what is the appropriate service level or expectation for reliability (and ensure the Reconciliation Rules reflect this).

[10] The other regular inputs to D+1 (registry data and allocation data), are either entirely automated or are provided at less frequent intervals so are not expanded on here but will still be included in the proposed rule changes.

As discussed in section 4.2.3, we do not consider that 100% reliability of data is an achievable standard for every gas gate, every ICP and every day. Such a standard would either impose unreasonable cost or an excessive compliance burden due to frequent breaches[11].

In the D+1 context, the onus is on timely publication of a result, that is accurate enough to be useful in informing upstream commercial decision-making. Tolerance for some degree of estimation is already accepted as a necessary part of achieving this purpose; the wash-up process exists to alleviate some of the harm caused by the initial inaccuracy.

5.6.1 Validated allocation group 1, 3 and 5 consumption data

Assuming that participants have the systems in place to interrogate meters and submit daily consumption, the main obstacle to providing validated data 7-days per week (for both TOU and AGMI) is the availability of gas composition data. This impacts two of the energy conversion factors: compressibility and calorific value. The proposal to require 7-day publication of gas composition data is covered in section 6 (energy conversion).

Due to the way that TOU ICPs are allocated by the system, with each ICP having its own specific regression model, it is possible for D+1 allocations to be published when no TOU customer data has been received at all (that is, all TOU ICPs are estimated). However, we have put a system rule in place that aborts the afternoon allocation run if the TOU data from Vector Metering is completely missing. We welcome submitters' views on whether tolerances should be revisited when validated data becomes commonplace on non-business days.

5.6.2 Validated gas gate injection data

Gas gate injection data published by Firstgas on OATIS is available 7-days per week but is unvalidated on non-business days. As for TOU consumption, the availability of validated gas composition data is also an input to providing validated injection data.

When the D+1 model was first established, the DAWG agreed on certain materiality thresholds for missing gas gate data (a maximum of 1TJ of estimated injection on business days and 5TJ on non-business days). The conditions relating to injection that trigger an aborted run are currently:

- Unable to retrieve new injection data for yesterday
- Injection data received from OATIS and contains > 1000GJ [BD] and >5000GJ [NBD] missing/estimated injection data
- Minimum gas gates received from OATIS = 70
- Missing injection cannot be estimated

We invite submitters views on whether these conditions should be revisited in the context of 7-day validated data or whether further measures should be put in place if these tolerances are breached.

5.6.3 Validated distribution injection point data

It would be inconsistent to mandate 7-day D+1 allocations on downstream networks unless all injections into those networks are adequately reconciled. We propose placing the same

[11] This was the experience with estimated consumption for TOU ICPs before rule amendments took effect in 2013.

obligations on distribution injection parties to provide validated injection data as we will put on the transmission system owner.

PROPOSALS:

- The following D+1 inputs must be provided seven days per week
  - Validated allocation group 1, 3 and 5 consumption data
  - Validated gas gate injection data
  - Validated distribution injection point data

Q2: Do you support the proposals in this section (summarised below)? Please provide comments and feedback, including whether there are additional changes that Gas Industry Co should consider

- *Amend allocation group rules and definitions to provide for daily-reconciled ICPs*
- *Publish guidance or criteria for assigning daily-reconciled ICPs to allocation groups*
- *Require all consumer installations that have (or are expected to have) annual consumption greater than or equal to 20TJ, to have a TOU meter with telemetry installed and be assigned to allocation group 1.*
- *Retailers must provide daily metered energy volumes to the allocation agent each day for all ICPs in allocation groups 1, 3 and 5*
- *Determine an appropriate file format for retailers to submit daily AGMI data to the allocation agent.*
- *Validated injection and daily-reconciled consumption data must be provided seven days per week*

6. Energy conversion

Discussion topics: gas billing factors, compliance with NZS 5259:2015, temperature data, gas composition for distribution injection points

6.1 Gas billing factors

The general equation governing the process of converting register readings to energy is:

$$E = V \times M \times F_T \times F_P \times F_A \times F_Z \times CV$$

Where:

E is energy to be billed

V is the volume indicated by the meter (typically the difference between two consecutive register readings)

M is the register (or meter) multiplier (or 1 where no multiplier is required)

F_T, F_P, F_A, and F_Z are the correction factors for temperature, pressure, altitude and compressibility, respectively

CV is the calorific value of the gas being measured

Gas Industry Co publishes a Gas Billing Factors Guideline[12] with further details of the steps involved

Errors in energy conversion can cause UFG and also impact customer billing. NZS 5259:2015 sets out the standards for gas measurement and conversion to energy. Compliance with the standard is enforced through the Gas (Safety & Measurement) Regulations 2010 and through the Reconciliation Rules.

6.2 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 and offence provisions, 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 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. The positive impact of the Reconciliation Rules on UFG is illustrated in section 8.2.2.

[12] https://www.gasindustry.co.nz/assets/WorkProgrammeDocuments/5075Gas-Billing-Factors-guideline-November-2015.pdf

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 Rules themselves) and that the provisions do not go wider than compliance for individual ICPs. We propose amending the 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.

PROPOSALS:

- Broaden the obligation to demonstrate compliance with NZS 5259:2015 to capture (a) all allocation participants and (b) all aspects of the standard.

6.3 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[13] 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.

We also think it sensible to include a requirement that Gas Industry Co updates the temperature data at reasonable intervals. When we sourced the data from NIWA, they recommended once every ten years.

PROPOSALS:

- Introduce requirement to use Gas Industry Co-published temperate data for temperature correction or otherwise be able to demonstrate compliance with NZS 5259:2015
- Require Gas Industry Co to refresh temperature data at intervals not exceeding ten years

6.4 Gas composition

Gas composition varies around the transmission system depending on proximity to gas fields and the co-mingling of gas from different sources. This is recognised by the existence on the transmission system of gas types which are cross-referenced to delivery points. Calorific values for each gas type are published by Firstgas as part of the gas composition data available on OATIS. The requirement for Firstgas to publish gas composition data is covered in the GTC.

6.4.1 7-day publication of gas composition data

As mentioned in section 5, gas composition data is published on business days only. For 7-day D+1 to operate effectively, gas composition data will need to be published every day so that

[13] https://www.gasindustry.co.nz/assets/WorkProgrammeDocuments/6631Temperate-data-for-website.xlsx

validated injection and consumption data (for daily-metered consumers) can be submitted to the allocation agent.

While this is an existing GTC requirement (at least for business days), there is direct relevance to downstream reconciliation, so Gas Industry Co is comfortable introducing this obligation to the Reconciliation Rules.

PROPOSALS:

- The transmission system owner must publish validated gas composition data seven days per week.

6.4.2 Gas composition for networks with distribution injection points

At present, all gas flowing through the transmission system and into distribution networks has entered the system in Taranaki. The gas composition data published in OATIS therefore covers 100% of delivered gas.

In the future it is possible that gas from different origins could flow into distribution networks. These alternative gas supplies could enter the transmission or distribution systems at any geographical point so the current arrangements for retailers to source calorific value may need to change.

Where gas enters the *transmission* system outside of Taranaki then the obligations in the GTC would still apply. Firstgas can feasibly create a gas type in OATIS for a new blend of gas downstream of an injection point and retailers can use this gas type for customers taking gas from networks downstream of this point.

Conversely, for gas injected on a *distribution* network, Firstgas would have no obligation to publish gas composition information on OATIS. In fact, 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.

Gas Industry Co considers it will be necessary to determine responsibilities and a process so that gas composition data for networks with blended gas is available to retailers:

- Responsibility for measuring gas composition and volume at distribution injection points
- Responsibility for performing calculation and providing inputs to the calculation
- The method of calculation eg flow-weighted average calorific value for a network
- Responsibility for publishing (or otherwise disseminating) daily values

We also consider that, if renewable gas injection becomes commonplace in the future, there are clear benefits to having a single, centralised, uniform process, together with compliance provisions, so the Reconciliation Rules are the appropriate arrangements to capture this process, rather than individual use of system agreements or other contractual arrangements.

We believe the obligations for metering, measurement and gas quality can only sit with each injecting party (as they do for transmission-connected producers). We would also place the obligation to report gas composition data each day on the injecting party.

The responsibility for collating gas composition data from multiple supply points, calculating an overall network average (such as a flow-weighted average calorific value), and publishing or disseminating the results could feasibly sit with the distributor, the TSO, the allocation agent or with Gas Industry Co. Our view is from a technical point of view the TSO is best equipped to

perform the calculations, but from a contractual point of view, the allocation agent may be better positioned to perform the role on behalf of the industry.

PROPOSALS:

- Develop appropriate roles and procedures to ensure retailers have all the information required to measure energy consumption for their customers on networks with distribution injection points.

Q3: Do you support the proposals in this section (summarised below)? Please provide comments and feedback, including whether there are additional changes that Gas Industry Co should consider

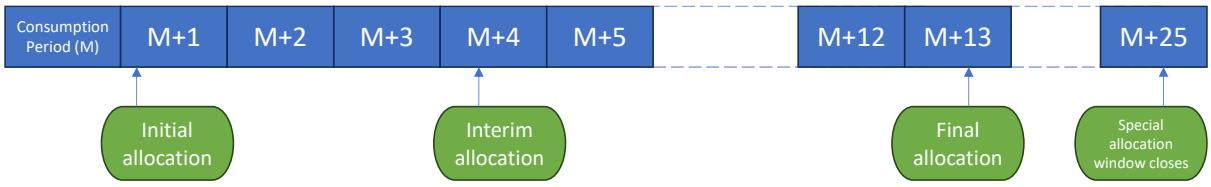
- *Broaden the obligation to demonstrate compliance with NZS 5259:2015 to capture (a) all allocation participants and (b) all aspects of the standard*
- *Introduce requirement to use Gas Industry Co-published temperate data for temperature correction or otherwise be able to demonstrate compliance with NZS 5259:2015*
- *Require Gas Industry Co to refresh temperature data at intervals not exceeding ten years*
- *The transmission system owner must publish validated gas composition data seven days per week*
- *Develop appropriate roles and procedures to ensure retailers have all the information required to measure energy consumption for their customers on networks with distribution injection points*

7. Allocation stages

Discussion topics: D+1 allocation stage, consideration of merging initial and interim allocation

7.1 Current settings

The Reconciliation Rules set out a three-stage process for allocation: the initial, interim and final allocations (plus the possibility of a special allocation up to 12 months after a final).



At the initial allocation, allocation group 1 & 2 consumption is known, but the mass market largely estimated (only 35-40% of volumes are historical estimates). Due to the large amount of mass market estimation, UFG volumes are high (positive in winter and negative in summer) and volatile.

At the interim, the majority of mass market meters have reads spanning the consumption period. This is linked to the metering interrogation obligations which require 90% of non-TOU customers to have a reading every 3 months. UFG reduces significantly between the initial and interim allocations.

At the final allocation all ICPs have reads spanning the consumption period unless exceptional circumstances apply, so the consumption data submitted to the allocation agent is as accurate as it can be. The reduction in UFG is smaller between the interim and final allocations than between the initial and interim.

7.1.1 Special allocation process for D+1 results

For the D+1 pilot, it is necessary to publish a special allocation each month to ensure that the D+1 allocations produced throughout each month can go on to be used by Firstgas for transmission billing. This is because the GTC definition of allocation results references the Reconciliation Rules.

Each month, Gas Industry Co publishes the following notice:

> Pursuant to rule 51 of the Rules, each month Gas Industry Co directs a special allocation to replace the initial allocation results with the D+1 allocation results produced using the D+1 model.
>
> The reason for directing a special allocation is that retailers have received D+1 allocations throughout the consumption period and used those numbers to inform their

nominations. The D+1 allocations differ from the initial allocation sufficiently that it would be unfair to retailers to retain the existing initial allocation results.

The D+1 allocation results provided to Firstgas by the Allocation Agent are the same as the results provided directly to shippers on the afternoon run of the first business day after each day in the consumption period (consistent with the D+1 Business Rules and MBB D+1 Pilot Agreement)

With the introduction of D+1 to the Reconciliation Rules, it will become a formal allocation stage and the outputs from D+1 will meet the definition of allocation results in the GTC, thus removing the need for special allocations.

7.2 D+1 allocation stage

The provisions for performing D+1 allocations that we proposing adding to the Reconciliation Rules will be similar to the existing provisions for the initial, interim and final allocations. At a basic level:

- Obligations on retailers, the TSO, and distribution injection parties to supply consumption and injection information by specific deadlines each day
- Obligations on the allocation agent to perform the D+1 allocation at certain times on each day
- Obligations on the allocation agent to follow the approved allocation methodology, apply estimation/corrections where necessary and publish reports

We intend to maintain the existing schedule of two allocation runs per day: the morning (unvalidated) run shortly after 11am and the afternoon (validated) run shortly after 2pm. In the Rules, 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 change the Rules.

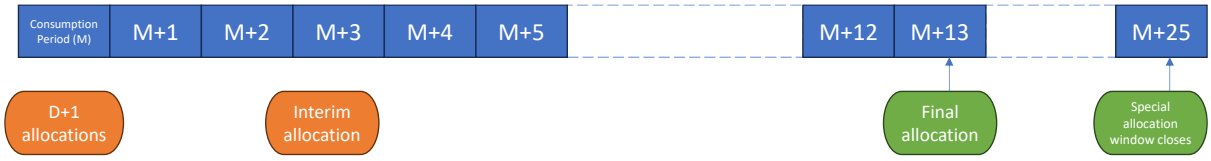
PROPOSAL:

- Incorporate the D+1 allocation into the Reconciliation Rules, allowing for changes to the timing of the morning and afternoon publication deadlines

7.3 Proposal to merge initial and interim allocations

The overall goal of the staged allocation approach in the Rules is to balance timeliness and accuracy. Before D+1 existed, the initial allocation had to be produced as soon as possible after month-end so that the TSO could run its monthly billing process. In order to meet this timeframe, initial mass market submissions are mostly based on estimates rather than actual reads, so there is considerable swing between the initial and interim allocation.

As noted in the D+1 Options Paper, if Firstgas continues using D+1 allocations for billing, there is less urgency around performing the initial allocation so we could likely achieve a better trade-off between timeliness and accuracy. Hence we proposed merging the current initial (M+1) allocation and interim (M+4) allocation to create a new interim allocation somewhere between the middle of M+2 and start of M+3. This idea is illustrated below.



We noted this could have the following benefits:

- the first wash-up after D+1 would be more timely
- there is less seasonal change between the consumption period and the wash-up month
- the new interim would still have a majority of mass market volumes based on actual reads
- there would be fewer tasks/deadlines in the first week of the month (traditionally a busy time for reconciliation activities for the industry)

One important aspect of the initial allocation that would still be required is the calculation of the seasonal adjustment daily shape values (SADSV), which are used by retailers to profile meter read volumes into consumption periods. To continue producing the SADSV the allocation agent would just need gas gate injections and TOU submissions (mass market submissions are not an input into the calculation), most of which it receives via the D+1 system, with the only additional data being AG2 volumes.

We consulted on the idea of merging the initial and interim but do not plan to implement the change at this stage because:

- there was no strong support from retailers who would be significantly impacted by the change
- additional cost would be incurred compared to the status quo
- the initial allocation still has benefits (used for D+1 regression models, SADSV production)
- the rollout of AGMI and extra telemetry means that D+1 and initial allocations will be more accurate so the wash-up quantum will hopefully decrease. This remains to be seen but at least suggests that now is not the right time to make changes or try to determine a new sweet spot for first wash up.

Nevertheless we are interested in feedback from stakeholders on whether you see merit in adjusting wash-up timings in the future.

Q4: *Do you support the proposals in this section (summarised below)? Please provide comments and feedback, including whether there are additional changes that Gas Industry Co should consider*

- *Incorporate the D+1 allocation into the Reconciliation Rules, allowing for changes to the timing of the morning and afternoon publication deadlines*
- *Do not implement any changes to the timing of the initial or interim allocations at this stage*

8. Allocation methodology and UFG

Discussion topics: adding D+1 allocation methodology to the rules, modifying allocation methodology for AGMI and distribution injection points, consideration of alternative UFG allocation, calculation of SADSV

8.1 Current 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 (typically a small network with one large gas user) use the G1M methodology and all other allocated gas gates 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, calculated using interim and final submission consumption data. Non-TOU ICPs get a monthly UFG (MUFG) factor which is also gas-gate specific, calculated each month, by dividing injections less TOU allocations by non TOU consumption.

The steps in the allocation process are summarised in the diagrams below.

Standard methodology

G1M methodology

8.2 UFG allocation

8.2.1 Background to UFG allocation

Prior to the commencement of the Reconciliation Rules in 2008, allocation of gas to retailers at shared delivery points was determined by the Reconciliation Code, an industry agreement established in 2000.

The common allocation methodology under the Reconciliation Code was reconciliation by difference, where non-incumbent retailers on a network got a fixed UFG factor applied to all of

their consumption volumes and the incumbent retailer was allocated the remaining (residual) volumes.

As part of the policy development process leading to the Reconciliation Rules, Gas Industry Co commissioned a report on UFG allocation by Maunsell Limited[14] to investigate alternative approaches. The excerpt below gives a snapshot of UFG issues in 2007 and the prior period:

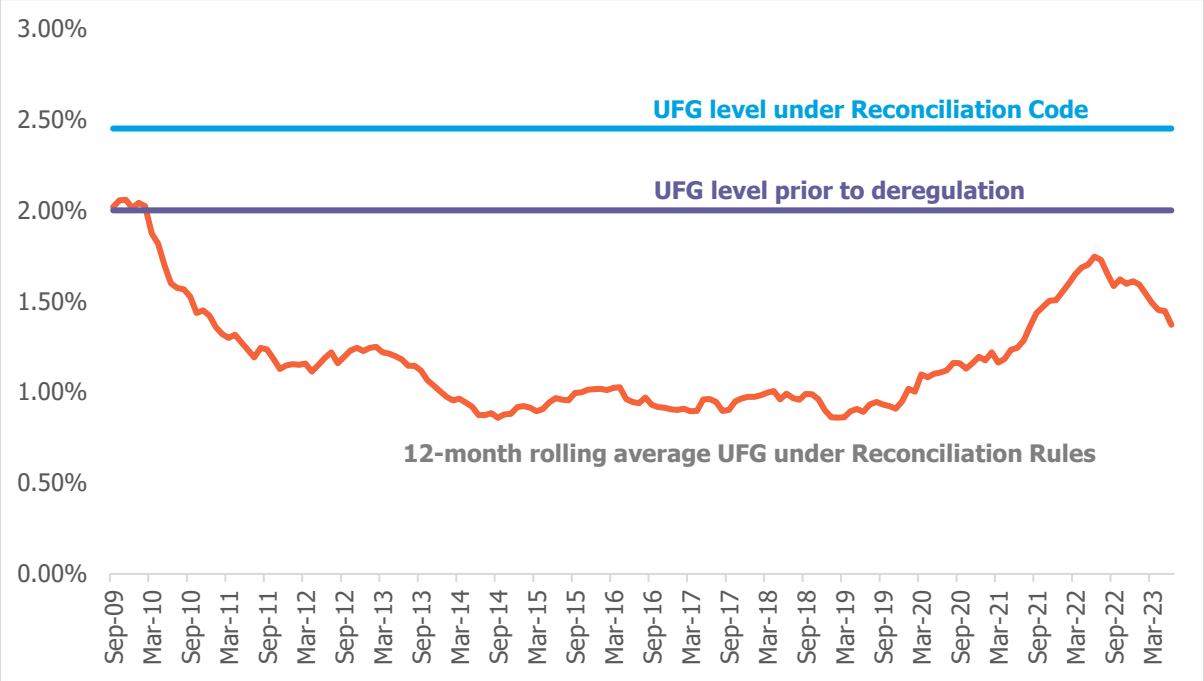
> Gas leakage from the distribution networks is estimated to be small in New Zealand, as the networks use modern materials and jointing techniques. We estimate that leakage is below 0.2%.
>
> Losses for operational purposes are by our estimate also very small and mainly occur when gas has to be vented for maintenance reasons or new connections.
>
> Theft has been investigated in the past and was found to be low in New Zealand.
>
> We therefore believe that the responsibility for UFG should not exclusively be allocated to network companies, as leakage and operational losses are estimated to be below 0.5%. This is similar as in the UK, where "shrinkage" as disclosed per distribution network is typically below 1%.
>
> UFG as defined in New Zealand is the sum of the billing errors, including metering and data processing. We therefore believe that the Retailers should account for most of the UFG (currently 2.5%).
>
> Before the industry was deregulated in the early to mid 1990s, the total UFG as identified by distribution networks was in the order of 2%. Gas companies usually published UFG figures in their annual reports, and the Gas Association of NZ may still have these records.
>
> The "billing error" as distinct from "shrinkage" would then have been in the order of 1 – 1.5%.
>
> As the table in Appendix B shows, some networks have significantly higher UFG figures. We know from experience that the Lower Hutt networks downstream of the Belmont gate station used to have UFG figures of typically 2%. Appendix B shows that this figure is now approximately 5%. We believe that this trend is the result of deregulation and changed billing processes.

8.2.2 Impact of Reconciliation Rules on UFG

With the introduction of the Reconciliation Rules, there came standardisation of conversion, submission, and allocation processes, greater transparency of allocation data and UFG, more checks and balances, audit provisions, and a compliance and enforcement regime. These improvements led to a reduction in system-wide UFG to historically low levels (illustrated in the chart below). Nevertheless, issues with high UFG at specific gas gates do persist and Gas Industry Co and the allocation agent actively investigate these.

[14] https://www.gasindustry.co.nz/assets/WorkProgrammeDocuments/4463Maunsell-Report.pdf

UFG percentage under historical reconciliation regimes



UFG issues that have been discovered and resolved since 2008 include:

- TOU meter/corrector setup errors
- Meter reading errors (wrong number of digits/fixed zero painted on meter)
- Physical failure of delivery point and customer meters
- Errors in application of billing factors
- Failure to submit for certain load groups (eg sites with active-vacant status)
- Profiling errors impacting mass market customers
- ICPs mapped to incorrect gas gates
- One instance of persistent, deliberate, under submission

The increase in UFG in the last two years is significant compared to the period immediately prior, but, at a maximum of 1.75%, is still lower than before the Reconciliation Rules and low by international standards. Gas Industry Co and industry auditors have investigated potential causes of the uptick but have not been able to identify a specific issue. Given the timing of the onset, and what appears to be a steady improvement since mid-2022, we suspect that the COVID lockdowns and aftermath (including prolonged resourcing difficulties such as staff shortages and sickness) may be to blame.

8.2.3 Alternative approaches to UFG allocation

Stakeholders have occasionally asked Gas Industry Co to consider alternative allocation methodologies to those set out in the Reconciliation Rules.

A common request (typically by mass market retailers) has been to remove the 'favoured-nation' status of AUFG allocation to TOU consumers after the initial allocation and instead allocate monthly UFG evenly to all consumer groups. The argument put forward is that by the

interim and final allocations, when mass market customers have reads spanning the consumption period, any transitional UFG caused by forward estimation gets resolved, and so the remaining 'long-term' UFG could be attributable to any customer so should be shared between all customers.

In contrast, another suggestion has been to calculate a national average AUFG factor which gets applied to all TOU ICPs at all gas gates, in order to insulate TOU customers from pass through of sporadic high AUFG factors that can occur on a network due to a sustained (and unresolved) UFG issue. This approach was considered when the Reconciliation Rules were being drafted.

Most recently, one submission on the AGMI consultation paper argues that pipeline losses should set with pipeline owners so UFG should not be allocated to retailers at all.

Gas Industry Co's views on these suggestions are:

- UFG is low, so the potential benefits to redistributing UFG may not be higher than the cost of implementing the changes.
- UFG issues identified have been fairly evenly distributed between TOU and mass market, but TOU issues, due to their size, tend to have a larger market impact.
- The proportion of daily-reconciled sites is going to increase. We are hopeful that this will lead to a further reduction in UFG but it is yet to be seen.
- The AGMI rollout means that mass market customers can be given the same favoured-nation treatment as the TOU market. We think that preferential UFG treatment serves as a good incentive for wider adoption of AGMI. As AGMI penetration increases we could envisage the majority of larger networks being allocated using the G1M methodology
- Due to the level of change in the market (AGMI, more telemetry, potential renewable gas injections) we don't think it is the right time to make changes to the UFG allocation methodology. We would prefer to wait and see what happens to the UFG trend over the next few years.
- We disagree with the view that pipeline owners should bear the responsibility for UFG. Consistent with the findings in the Maunsell report, our experience of identifying UFG issues is that they arise from physical errors with metering (customer and transmission meters) or setup errors in billing systems. If pipeline owners were allocated UFG it would likely be treated as a pass-through cost anyway. The Commerce Commission clarified its position on transmission UFG as a pass-through cost. The position of distribution UFG has presumably not been raised with, or by, the Commerce Commission because going back as far as 2000, retailers have taken title to all gas entering distribution systems.

Taking all of these points into account, we propose to maintain the status quo UFG allocation methodology, with appropriate amendments to give daily-reconciled AGMI ICPs the same UFG treatment as TOU ICPs.

PROPOSAL:

- Maintain the current approach for UFG allocation (a combination of AUFG, MUFG and G1M MUFG) as the prevalence of AGMI and telemetry increases but continue to monitor UFG levels and causes.

8.3 Changes to allocation methodology

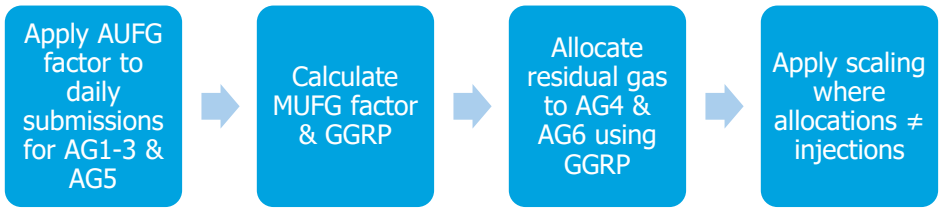
As well as adding the D+1 allocation methodology into the Reconciliation Rules, there are substantial changes proposed to the current allocation methodology for the initial, interim and final allocations:

- The modifications to allocation groups 3 and 5 proposed in section 5 (for daily-reconciled AGMI consumption) mean a change to the UFG allocation methodology for these allocation groups from MUFG to AUFG.
- A change is proposed to the G1M gas gate determination to include allocation group 3 and 5 volumes in the 'TOU' percentage. This is necessary to avoid the situation where the majority of load at a gate is allocated a fixed factor UFG proportion and the remaining consumers at the gate bear an unfair and volatile share of total UFG.
- For networks with distribution injection points, a method is required to determine how both the physical volumes and the contractual volumes on the network are reconciled. Up to now, all gas networks have been supplied from a single delivery point (or can be treated as such).

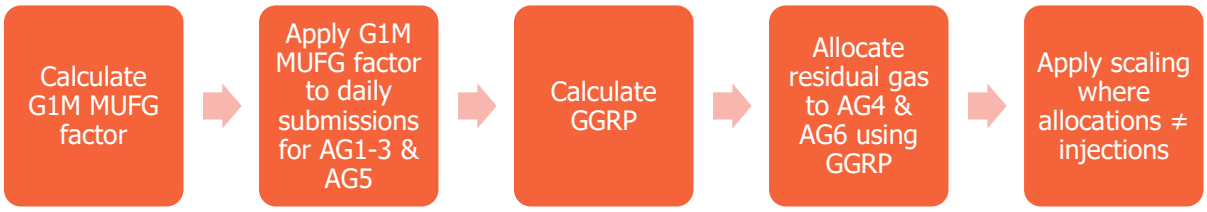
8.3.1 Modifications for AGMI

The modifications proposed above for AGMI are reasonably simple to describe. The diagrams below encapsulate the changes that are required to the methodologies set out in section 8.1.

Standard methodology



G1M methodology



8.3.2 Modifications for distribution injection points

The modifications to the allocation methodology for the injection of renewable gases are more complicated and have not yet been determined in detail. We consider that the following principles will be important:

- In order for parties to unlock any premium which might be attached to renewable gases, it is essential that the systems and processes that measure and track injection and consumption of renewable gases are transparent and have integrity
- Customers will use co-mingled gas from the distribution network, so the physical flow will not reflect a contractual entitlement to any renewable gas that has been injected.

- Similarly, retailers will measure (and submit to the allocation agent) the energy consumed by their customers on the network. It is impossible for a retailer to separate out the gas consumed by injection source.
- A party injecting renewable gas at a distribution injection point must have a retailer or customer that is contracted to buy that gas, but that retailer or customer may not necessarily be on the same network as the injection point.
- There is likely to be a difference between the physical amount of renewable gas injected on a day and the contracted volume. On the transmission system this is characterised as operational imbalance or shipper mismatch, but these concepts do not exist on distribution networks.
- A retailer who has purchased renewable gas from a distribution injection point should not have to pay transmission charges for that portion of its customers' consumption if they are on the same network

Gas Industry Co will work closely with industry participants, and Firstgas in particular, to determine the best way to approach this issue.

PROPOSAL:

- Modify the standard and G1M allocation methodologies to provide for AGMI data in allocation groups 3 and 5 and for distribution injection points

8.4 D+1 allocation methodology

The table below sets out the main processes from the D+1 system. We propose to add the D+1 allocation methodology to the Reconciliation Rules at a sufficiently high level that improvements to the accuracy of the system (particularly in the regression models) can be implemented without the need for a rule change.

Process	Description
Maintain Data	The reference data used in the D+1 models is maintained following receipt of up-to-date information from the external parties who own the data. These maintenance processes relate to data about: Gas Gates, TOU ICPs, Participants, Contracts, Business Days, & Shipper Info.
Recalibrate Statistical Models	This is the monthly process via which the regression models are updated with the latest Allocation Agent data. The statistical models are updated as soon as practicable with information from all the allocation runs that have been performed since the previous model update. This process is manually invoked after the Initial allocation is published.
Receive Daily Inputs	The D+1 system is responsible for retrieving the available daily input data used for the daily allocation. The inputs are retrieved at different intervals.
Begin Allocation Run	As a pre-requisite to the execution of daily allocation processes the system determines the parameters of the run, validates and estimates the injection data and evaluates whether the run will be successful.
Produce TOU Allocations	The system uses the provided TOU consumption (known) and then runs the regression models to estimate and allocate TOU consumption that has not been provided (unknown) for the previous day.

	The allocation process includes validation of the data prior to the estimation of TOU consumption and a scaling step to ensure the sum of allocations equals the injection value for the day.
Produce Mass Market Allocations	The system determines the gas that has not been allocated to AG1 & AG2 ICPs and applies the residual to Mass Market Model to determine allocations for each retailer.
Produce Reports	The system produces various daily and monthly reports provided to the First Gas and Shippers following a D+1 run, as well as internal reports that allow the D+1 operator to monitor the system.

PROPOSAL:

- Incorporate the D+1 allocation methodology into the Reconciliation Rules

8.5 Changes to SADSV calculation

The current calculation of the gas gate residual profile (GGRP) and the seasonal adjustment daily shape values (SADSVs) are synonymous, being the difference between daily injected volumes and TOU allocations. However the two concepts are quite different. As the name suggests, the GGRP is the amount of residual gas that remains to be allocated for a particular month and particular gas gate, whereas the SADSVs are a time series that is used by retailers to profile customers' read-to-read volumes.

A consequence of increased AGMI penetration at a gas gate will be that the GGRP values will trend downwards over time as volumes are transferred out of allocation groups 4 and 6 into allocation groups 3 and 5. This will create a profiling issue if the GGRP continues to be the basis for the SADSV. To ensure that it remains fit-for-purpose, we propose amending the SADSV calculation to include AGMI volumes in the daily shape values. We believe this should preserve the correct seasonal shape for profiling mass market reads:

- Calculation of GGRP for a day will be

  $GGRP_d = Inj_d - \sum AQ_{1,2,3,5,d}$

- Calculation of SADSV for a day will be

  $SADSV_d = Inj_d - \sum AQ_{1,2,d}$

We also propose a minor and technical change to the SADSV calculation to allow any injection or TOU errors to be corrected immediately (that is, at the next allocation) rather than having to perform a special allocation. This would resolve an issue encountered occasionally where an error is discovered and there is a desire to fix the profile *before* the next scheduled allocation stage, so that submissions for that allocation are profiled correctly. There have been situations where a special allocation decision has been made solely to correct SADSVs prior to the next scheduled allocation.

PROPOSALS:

- Separate the calculation of the GGRP and SADSVs
- Allow calculation errors in the SADSV to be corrected at the next scheduled allocation.

Q5: Do you support the proposals in this section (summarised below)? Please provide comments and feedback, including whether there are additional changes that Gas Industry Co should consider

- *Maintain the current approach for UFG allocation (a combination of AUFG, MUFG and G1M MUFG) as the prevalence of AGMI and telemetry increases but continue to monitor UFG levels and causes.*
- *Modify the standard and G1M allocation methodologies to provide for AGMI data in allocation groups 3 and 5 and for distribution injection points*
- *Incorporate the D+1 allocation methodology into the Reconciliation Rules*
- *Separate the calculation of the GGRP and SADSVs*
- *Allow calculation errors in the SADSV to be corrected at the next scheduled allocation.*

9. Maintaining contract & customer information

Discussion topics: contract IDs for traders at distribution injection points, notification of changes to TOU customer demand for D+1

9.1 Contract IDs for distribution injection points

As discussed in section 8.3.2, it is vital that title tracking can occur for renewable gas injection in order for the system (and any potential green gas certification scheme) to have integrity. A first step towards title tracking would be a requirement for any retailer or customer buying gas from a distribution injection point to have a contract ID for that contract. This is the case for gas transacted on the non-Maui pipelines under the GTC, where a 4-digit code is used to identify the gas volumes shipped under each transmission services agreement.

The allocation system and D+1 system are already designed to assign gas volumes to shipper IDs and contract IDs so we see a benefit in maintaining a consistent naming convention.

PROPOSAL:

- Require volumes transacted for distribution injection points to be assigned to a contract ID

9.2 Notification of changes that impact D+1

The D+1 system requires either daily telemetry information or a statistical model to produce an allocation for a TOU ICP. In scenarios where these are not available or not reliable, the system provides retailers with the ability to supply an alternative value.

Scenarios include:

- A new TOU ICP with no telemetry
- An existing TOU ICP with a material change to gas consumption (such that the existing statistical model would produce inaccurate results)
- A temporary reduction in demand (eg factory shutdown, maintenance period, COVID lockdown)
- A permanent cessation of demand
- TOU switching (in advance of registry switch completion)

We don't consider that it is necessary to try and capture these specific circumstances in the Reconciliation Rules, however, because of the potential for this feature to be misused, we consider that there should be an obligation on retailers to supply information about their customers and contracts to the allocation agent that is accurate, up to date and not misleading or likely to mislead.

PROPOSAL:

- Require retailers to notify the allocation agent of customer, contract and consumption information that is pertinent to D+1 allocations

Q6: Do you support the proposals in this section (summarised below)? Please provide comments and feedback, including whether there are additional changes that Gas Industry Co should consider

- *Require volumes transacted for distribution injection points to be assigned to a contract ID*
- *Require retailers to notify the allocation agent of customer, contract and consumption information that is pertinent to D+1 allocations*

10. Minor & technical changes

The following proposals, relating to the Reconciliation Rules and the Switching Rules, have been recorded by Gas Industry Co over the last several years.

We invite stakeholders to give feedback on any particular issues raised and also whether our characterisation is correct that these changes can be deemed minor and technical.

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 43 (DR)	Accuracy, estimation, corrections	Consequence of not responding to UFG queries
Rule 65 (DR)	Audits	GIC should be 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	Amendment to rule 25 and 26 so that Gas Industry Co is able to give notice of file formats for additional categories of information and ensure allocation agent has the necessary information to carry out role.
Rule 46 (DR)	Gas gates	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	The Switching Rules require distributors to maintain "Loss Factor Codes". These relate to expected losses at a gas gate. The Loss Factor Codes serve no purpose under the SW Rules or DR Rules. Historically they were used for network billing purposes, but no longer appear to be relevant under use-of-system agreement.
Rule 30/41 (DR)	Metering interrogation	Provide for monthly-read non TOU gate meters (eg Matangi and Pauatahanui 2)
Various (DR)	Minor drafting	Whenever the Rules mention "consult with allocation participants" it should say "consult with allocation participants and the allocation agent" as it does in rule 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	Rule 72.2 provides that if a gas switching notice (GNT) includes a requested switch date, the responsible retailer must use the requested switch date as the switch date and provide switch readings applicable to that date.
Rule 75.1 (SW)	Minor drafting	Rule 75.1 sets out the circumstances in which a switch "may" be withdrawn. The drafting should be changed to "may only" if these are intended to be the only circumstances in which a switch may be withdrawn. At present, the rule is permissive and could not be breached.
Rule 72.1 (SW)	Minor drafting	The Switching Rules should be amended to require that the information in a gas transfer notice is accurate.
Rule 76.2 (SW)	Minor drafting	The Switching Rules should be amended to require that the information in a gas switching withdrawal notice is accurate.
Rule 61.1 (SW)	Minor drafting	The requirement to correct or update the information will only apply if the relevant participant "becomes aware" that the information is incorrect or requires updating. This makes this provision difficult to enforce, unless of course it has been previously raised with the participant subject to the breach allegation. The requirement that the participant must be aware should be removed.
Rule 25.3 (DR & SW)	Minor drafting	Notification of estimated market fees shouldn't include 'amount payable'
Rule 91.3 (DR & SW)	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.

Q7: *Do you support the minor and technical changes proposed in this section? Do you agree that these issues are minor and technical? Please provide comments and feedback, including whether there are additional changes that Gas Industry Co should consider*

11. Non-regulatory changes

Discussion topics: access to ICP lookup API, use of GIEP Exchange for GAA submissions and publications, security improvements to gas registry, D+1 run report

The final set of proposals in this Statement of Proposal relate to ad hoc system improvements to either the gas registry, allocation system or D+1 system. The proposals do not require rule amendments, since they only impact system specifications, but they are substantial enough that we consider it prudent to seek industry feedback before implementation.

11.1 Access to gas registry data

Gas registry access has always been limited to registry participants (retailers, meter owners, distributors, Gas Industry Co, service providers) and their agents. The Switching Rules provide that Gas Industry Co can determine, in consultation with industry, the limits on who can access ICP information.

Other organisations (public and private) have an interest in accessing ICP information held in the gas registry. Historically we have consulted on access applications for EGCC (now Utilities Disputes), Energy Safety (now WorkSafe), the Fire Service and energy consultants, brokers and procurement specialists. We have only granted access to a very limited number of users with a clearly demonstrated consumer benefit (such as Utilities Disputes), rather than cases where registry access confers a commercial advantage to the applicant.

Gas Industry Co's website now provides a simple ICP lookup function to enable a consumer to find their ICP identifier and basic details about their connection. This plugin uses a gas registry API, which is not publicly exposed. The introduction of this lookup facility met the needs of many of the organisations (and individuals) that sought registry access.

We also receive requests from providers of energy comparison services/websites for the ability to perform their own ICP and address lookups. The electricity registry provides a publicly exposed API to access ICP information, and many providers want the same service for gas. As there is a clear benefit to the consumer in being able to easily compare energy prices, we propose providing a publicly exposed API to certain parties, subject to an application and approval process and monitoring by Gas Industry Co.

PROPOSAL:

- Allow approved non-industry participants access to an ICP lookup API

11.2 GIEP Exchange for GAA

The GIEP Exchange is a secure, efficient, and auditable method of file exchange between industry participants (including Gas Industry Co and the allocation agent) using gas registry functionality. It is the current method used for sending and receiving files to and from the D+1 system.

We propose extending the use of the GIEP Exchange to submission files and allocation reports to and from the allocation system. Currently the only means to access and submit allocation system files is via manual upload to the allocation agent website

PROPOSAL:

- Allow use of the GIEP Exchange for GAA submissions/reports

11.3 Security improvements to gas registry

Security settings for the gas registry have not changed since go live in March 2009. Jade Software has made suggestions to improve security for users. The majority of these proposals have already been implemented for the electricity registry.

11.3.1 New Password requirements

Gas Registry users must change their passwords as per FS Appendix 3 Password standards. New password standards will take effect as part of the Registry Manager's release on a date agreed with GIC. New password standards will include:

Description	Current values	New values
Number of characters	Minimum: 8 Maximum: 20	(*) Minimum: 10 (*) Maximum: 64
Upper/lower case sensitive	Not case sensitive	Case sensitive
Alphabetic characters	One (upper or lower case)	(*) Minimum password length of ten characters, consisting of at least three of the 4-character sets (upper and lower case are considered separate sets). Examples: • The2OfHearts - uses 3 of 4-character sets (upper, lower and numeric) and is 10 or more in length • WhenIWas17# - uses all 4-character sets (upper, lower, numeric and special) and is 10 or more in length
Numeric characters	One	
Special characters	None	
Disallow re-use password cycling	Last 5 password used	Last 10 password used
Valid period (not applicable to 'Web Services Only' users)	30 days	(*) 90 days

11.3.2 Applying new Password Standards

The major change is passwords becoming case sensitive.

Currently, passwords are stored in the Gas Registry encrypted and as uppercase. Encryption is one-way so the underlying password cannot be recovered. Given this changing to case sensitive requires that:

- All users (including Web Service Only) login for the first time on or after the new implementation/deployment date (to be agreed with GIC) must change their passwords. The Gas Registry must validate the user logon with the current password and then force to change the password which must comply to new password standards.
- Password history must be cleared (a password cannot be one of the last five passwords)

11.3.3 Randomly Generated Passwords

The Gas Registry will use randomly generated password for a one-time-use password for new users or after resetting a password.

11.3.4 Password - Configurable Minimum and Maximum Length

On authorisation from GIC, the Registry Manager must be able to configure the password minimum and maximum number of characters. The Administration application System Settings form will be changed to maintain these values.

Default values will be: Minimum: 10 characters / Maximum: 64 characters

11.3.5 Anonymise Failed Logon Attempts

Currently, failed logon attempt messages identify the field in error, for example 'Password is invalid, please retry'.

As part of the enhancements to the security of the Gas Registry, the following error messages will be changed to return a generic message.

Error Number /Description	Current Message	New Message
1041 – User Id not valid	User code is invalid	Login failed; Invalid user ID or password
1042 – User Id disabled	User code is disabled	
1043 – User Id locked out	This user code has been locked	
1044 – User Id locked out after multiple retries	Password is invalid. The user code has now been locked	
1045 – Valid User Id with wrong password	Password is invalid, please retry	
1049 – User Id not authorised to use an application	User code is not authorised to access this application	

11.3.6 User Email Address

A user must have an email address where the Gas Registry sends a one-time password from a password reset request.

A Registry Participant using their supervisor logon must supply an email address when setting up new users. For existing users, when updating their details, the email address must be supplied.

The Registry Administrator, at a Participant's request, may add an email address to a user from the Administration application.

11.3.7 Requesting a Password Reset

The Registry Logon screen must be amended to include a 'Forgot password?' option. When clicking on it, users that have not been disabled must be presented with the 'Forgot Password' screen.

When there is no email address for the User Id supplied on the Forgot Password screen, an appropriate message must be displayed informing users to contact their supervisors or the Registry Administrator to set up their email address.

Web Services Only users cannot request a password reset

11.3.8 Display User ID Last Logon Time

The Gas Registry main screen must display the date and time when the current user last logged into the system.

PROPOSAL:

- Make improvements to gas registry security

11.4 D+1 run report

Shippers often approach the allocation agent and Gas Industry Co to troubleshoot outlier D+1 allocation results that are data issues relating to TOU or DDR inputs. Shippers want to know:

- why their allocations at a gate or pool are particularly high or low for a day;
- how accurate/reliable their D+1 allocations are;
- any outliers in the allocation data and any issues that may be impacting accuracy; and
- whether data is missing and timeframes for resolution.

The majority of the information required can be determined directly (and automatically) from the D+1 system, for example, the amount of missing TOU data, but it would provide better information to users if there was also an opportunity for the allocation agent to provide additional comments such as emails from Vector Metering or Firstgas, for example:

> […] heads up that we may not have any data for yesterday for the 11.00 distribution. We have all the overnight downloads but so far have not been able to import them into Flow2e. We are currently estimating that the calculation and distribution of the data will take between 45 - 60 minutes once the problem is resolved.

We propose distributing a report with each D+1 allocation run containing information and characteristics of the D+1 run to all interested parties. The report will assist the allocation agent and Gas Industry Co with troubleshooting and will reduce incoming queries.

We invite feedback on the specific format and content of the report, for example, should it contain generic information or be retailer/shipper specific? How should it be formatted (text file, PDF market snapshot)? How should the report be delivered (email/SFTP/website publication)?

PROPOSAL:

- Introduce a D+1 run report

Q8: Do you support the proposals in this section (summarised below)? Please provide comments and feedback, including whether there are additional changes that Gas Industry Co should consider

- *Allow approved non-industry participants access to an ICP lookup API*
- *Allow use of the GIEP Exchange for GAA submissions/reports*
- *Make improvements to gas registry security*
- *Introduce a D+1 run report*

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.

SUBMISSIONS CLOSE:
23 February 2023

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Gas Industry Co.