



Review of comments on the updated Gas Measurement Requirements and Procedures document

October 2019

Executive Summary

Gas Industry Co maintains a number of “Requirements and Procedures” documents that provide an overview of the legal requirements and technical standards that apply to particular areas of the industry and describe common industry practices. In anticipation of the Gas Transmission Access Code (GTAC) coming into effect, Gas Industry Co (GIC) drafted updates to the Gas Measurement Requirement and Procedures document (Gas Measurement R&P document) and invited comment.

We received comments from two stakeholders:

- First Gas Limited (First Gas); and
- Vector Limited (Vector).

Each submitted a cover letter and a file with their suggested edits redlined. Here we summarise and respond to their comments. We have revised the Gas Measurement R&P document accordingly.

The Gas Measurement R&P document we issued for comment, the comments we received, and the revised Gas Quality R&P document (redlined from the version we issued for comment) can be found on GIC’s website at:

<https://gasindustry.co.nz/work-programmes/gas-metering/update-of-gas-measurement-requirements-and-procedures-document-2019/>

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1. Summary of Submissions

1.1 What submitters said

First Gas suggests that:

- the document only relates to the measurement of natural gas rather than LPG, say, and this needs to be more explicit. Also, although possibly outside the scope of this update, GIC should consider what would happen if in the future other gases were blended with natural gas; and
- while the Gas Act definition of GMS is "... a system for measuring the quantity of any gas **or** the energy content of any gas, whether by actual measurement or estimation; and includes any equipment that forms part of, or is ancillary to, any such system" (emphasis added), the document seems to use the term GMS to mean ...a system for measuring the quantity of any gas **and** the energy content.

Vector suggests that:

- the document's references to gas measurement standards, particularly NZS 5259:2015 Gas Measurement, need to be checked.

Both First Gas and Vector provide marked-up copies of the document reflecting the above suggestions and including other suggested edits.

1.2 Discussion on matters raised

Only Natural Gas

In its submission, First Gas says that:

We understand the scope of the Gas measurement requirements and procedures document is the measurement of natural gas only. We recommend that this be made clear in the document to remove any possibility of confusion. References to "gas" in the title and introduction, for instance, should be amended to "natural gas". We also recommend defining "gas" in the glossary to only mean "natural gas" for the purpose of this document.

We agree that the document only relates to the measurement of gas injected into, carried through, or withdrawn from the open access gas transmission or gas distribution pipelines.

A possible issue with the First Gas suggestion is that "natural gas" is not generally a term defined in legislation, or generally used in contracts, or in the Gas Transmission Access Code (GTAC). Where it has been used, for example in the Health and Safety in Employment (Pipelines)

Regulations 1999, its definition can be very wide: “any naturally occurring gaseous hydrocarbon”, and “includes Liquefied Petroleum Gas”.

On reflection, rather than introducing the new term “natural gas”, we have introduced a “Scope” section into the document, saying:

In this document, “gas” means gas injected into, carried through, or withdrawn from the open access gas transmission or gas distribution pipelines and required by the owners of those pipelines to meet the requirements of NZS 5259: Specification for Reticulated Natural Gas.

This is now also reflected in the Glossary definition of “gas”. We think this will remove any possible ambiguity.

Regarding the possibility that in future other types of gas may be carried in the pipelines, we acknowledge that the possibility of blending hydrogen into the gas stream is becoming more likely and it would be useful to identify any potential issues well in advance. As First Gas notes, this work would be outside the scope of reviewing the Gas Measurement R&P document, and we will address it in our broader work programme.

Meaning of GMS

We agree with First Gas that the Gas Measurement R&P document uses the term GMS to mean all components of a measurement system necessary to determine the energy quantity of gas delivered to a gas consumer. This is clear from the Introduction which says:

The GMS at a major plant is in some ways the easiest to understand because all its component parts are located at one physical metering station. In contrast, the on-site elements of a residential GMS comprise just the meter itself (to measure gas volume) and a pressure regulator (to maintain a stable delivery pressure). The other elements of a residential GMS are remote from the meter location. They include ancillary equipment such as gas chromatographs (instruments that measure the energy quantity of standard volumes of gas) and the hardware and software for calculating the various adjustments necessary to convert the measured volume into an energy quantity.

First Gas considers that this takes too broad a view of what a GMS is, and may be at odds with the Gas Act definition of a GMS, which is:

... a system for measuring the quantity of any gas **or** the energy content of any gas, whether by actual measurement or estimation; and includes any equipment that forms part of, or is ancillary to, any such system. [emphasis added]

First Gas believes that this definition allows for a GMS to be just a meter that measures a volumetric quantity of gas, as in a residential situation. This interpretation would have the benefit that a GMS would have only one owner, rather than multiple owners, as could occur if the GMS is considered to include all components of the energy determination system (where, for example, the gas meter component may have a different owner to the energy calculation component of the GMS.)

We note that the definition of a GMS in the Gas Act is extremely broad and that it is significant that the definition refers to a “system”, and expressly states that it includes “equipment that forms part of, or is ancillary to, any such system”. So a “system” must be broader than just equipment (e.g. more than just a meter) and could, for example, include documentation and electronic processes involved in measuring a quantity of gas or the energy content of gas.

Also, in respect of the sale of gas, Gas (Safety and Measurement) Regulations 2010 (SM Regs) s21(2) requires that:

Gas must be sold by energy content measured by a gas measurement system...

So, in the context of measuring gas for sale, a GMS will include more than just a volumetric meter.

However, we acknowledge that within the industry the term GMS is often used to mean just the part of the measurement system that a single owner is responsible for, such as a volumetric meter. The Gas Measurement R&P document should recognise this, and we have adjusted the document accordingly. For example, the Introductory paragraph quoted earlier has been revised to include a more comprehensive description:

The Gas Act definition of GMS covers all arrangements for measuring gas, from major plant measurement systems down to residential measurement systems.

The GMS in relation to major plant is easiest to understand because all component parts necessary to determine the quantity of energy delivered are located at one physical metering station and are likely to have a single owner.

In contrast, the arrangements for determining the quantity of energy delivered to a residential end-user are more fragmented. A gas meter at the customer's premises will measure the volumetric quantity of gas delivered, but the system to convert that volumetric quantity into an energy quantity will likely be part of a retailer's billing system. Nevertheless, for the purpose of selling gas, the GMS will comprise all the equipment and systems involved in measuring the volume and converting that measured volume to an energy quantity. This is necessary to meet the requirement of s21(2) of the SM Regs that "gas must be sold by energy content measured by a gas measurement system...".

Under the SM Regs it is the gas wholesaler/retailer (W/R) who supplies gas to the consumer, regardless of whether this is at a major plant, at a small business, or at residential premises. In relation to GMS services, the W/R may rely on contracts with a number of service providers, each of which may only provide part of the GMS service.

In the industry, the term "GMS" is used more freely than in the SM Regs. Commonly it is used to refer to just part of the total energy measurement system. For example, it is common to talk about a gas retailer contracting for "GMS services" from a "GMS owner", but that "GMS owner" may just own a part of the measurement system, such as a gas meter, and rely on information provided by other parties, such as gas composition data provided by the TSO, First Gas.

In summary, depending on the context, "GMS" can mean all the components of a measurement system necessary to determine the energy quantity of gas delivered to a gas consumer, or just part of that system, such as the volumetric gas meter.

References to NZS 5259

As suggested by Vector, we have checked the references to NZS 5259:2015 Gas Measurement.

Other suggested edits

The other edits suggested by First Gas and Vector mostly correct minor errors and have generally been adopted.

2. Next steps

R&P documents aim to represent the broad industry consensus on a range of subjects. Gas Industry Co is responsible for maintaining the documents, but stakeholders are responsible for ensuring that the document reflects their own views on the requirements and procedures. Where one or more stakeholders disagree with the majority view on a particular aspect of an R&P document, we will note that contrary view in the document. In this way the R&P documents record the full spectrum of stakeholder views.

Having consulted on the Gas Measurement R&P document, we are satisfied that it is fit for purpose and addresses the comments we have received. If at any time a stakeholder takes issue with some aspect of it, they are free to notify us, and we will discuss their views with the industry at the next iteration of the document. We will only review the document on an as-required basis.

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.

Gas Industry Co's corporate strategy is to 'optimise the contribution of gas to New Zealand'.