

Submission on the Gas Industry Company's proposed changes to gas governance arrangements

Thank you for the opportunity to make this submission on the Gas Industry Company's (GIC) proposed changes to gas governance arrangements.

Overall, we support the proposed changes. In particular, we see enabling the injection of renewable gases as being a critically important aspect of the transition to a low carbon future.

While we are overall supportive, our Firstgas businesses (gas transmission and distribution) have identified some opportunities for improvement. These are set out in the following sections.

Providing data seven days a week under D+1

There are two categories of gas transmission information that GIC proposes to be provided on a 7-day basis: validated gas gate injection data and gas composition data. Below is an outline of our current data handling processes:

- For both sets of information, Firstgas receives data from multiple field locations on the gas transmission system via various data communication circuits which are provided by external communication network providers (Spark, Chorus, Kordia, etc). Data are received by the SCADA Master Station, and from there the information is validated for completeness and accuracy. Validated gas gate injection data are marked as such in OATIS, and gas composition values are posted to OATIS.
- While the data collection systems are largely reliable, occasional communication failures do occur, resulting in a specific site not returning metering / gas composition data to the SCADA Master Station. When these data failures occur, Firstgas makes an estimate of the missing data values. In the case of gas gate injection data, Firstgas estimates the missing data values and posts them on OATIS, leaving the dataset flagged as 'unvalidated' (meaning it is subject to later change). Estimates are based on recent flow history and other available intelligence at the time.
- Where gas composition data are not available (either in part or full) due to communication system issues, an estimate is posted to OATIS (note that gas composition data are not marked as either unvalidated or validated in OATIS). For prolonged data outages, it can take up to 36 hours (or longer) for Firstgas to be able to post actual gas composition data for any specific point or set of meters, due to time of travel of the gas in the pipeline to another point where the composition can be measured. Once Firstgas can post updated gas composition data for locations that had previously been published with estimates, Firstgas will issue an OATIS notice to advise users of the specifically affected transmission meters.
- When data failures occur, this normally requires support of other Firstgas technical teams as well as external responses from the affected communications service provider. Data failures can take 2-3 days, but sometimes up to a week or more, to resolve.

Under the Gas Transmission Code, Firstgas is required to publish validated gas gate injection data and gas composition data on Business Days. As the ability to determine this information "...is dependent on Firstgas' ability to obtain metering data via SCADA and/or other telecommunications systems... Firstgas makes no warranty about the availability of [this information]." (section 3.4 of the Gas Transmission Code)

To require the provision of validated gas gate injection data and gas composition data 7 days a week, there are two issues that need to be considered:



- The first is that providing data on weekends incurs additional operational costs due to resource utilisation during non-standard hours. Hence, there must be a clear and explicit benefit to the business and customers to justify this increased cost.
- The second issue is the completeness and reliability of the data. As outlined above, data outages can and do happen from time to time; and the resolution of these outages can take some time to resolve. This will be especially true of any outages that happen on a weekend or a holiday, as there will be fewer support people available on the day to respond to the outage. This means that any regulatory requirement to supply data will need to be drafted in a way that recognises that the required data will not be complete and validated 100% of the time.

Firstgas is happy to work constructively with industry to develop parameters to define when the dataset is 'complete enough' for the D+1 allocation to proceed, and conversely when there is too much missing data for a meaningful D+1 allocation. The consultation document outlines that there are materiality thresholds for missing gas gate data built into the D+1 allocation process. A materiality threshold for estimated or unvalidated data may also be warranted.

Arrangements for distribution-connected receipt points

GIC canvasses a number of issues related to renewable gas injection into gas distribution systems.

The most complicated issue by far is the determination of gas composition. This will depend on the configuration of the distribution system, the point of connection, and load characteristics upstream and downstream of the biomethane injection point. Unlike gas transmission, gas distribution systems do not have compression, and gas flows are not necessarily unidirectional. For example, if biomethane is injected into an MP4 ('medium pressure') distribution system, it may travel to consumers 'downstream' of that point, but it may also travel 'upstream' on the MP4 system, depending on the characteristics of the load at the time. There appears to be three alternative approaches to this situation:

- Multiple points on the distribution system would be monitored for calorific value—and in turn, ICPs would need to be mapped to subsections of the distribution system. Network modelling would be required to determine where and how many gas chromatographs would be required.
- An alternative would be to ignore—or to average—the effect of biomethane injection. However, the calorific value of biomethane is about 10% less than the calorific value of natural gas in New Zealand (due to the presence of larger hydrocarbons in the natural gas stream). Depending on the network configuration and load characteristics, averaging the calorific values could introduce significant errors in energy calculation and inequitable billing.

GIC's consultation document proposes that gas composition data be collated and published centrally. This seems like a good idea. But Firstgas is not in favour of mandating that it is a role that Firstgas, as the transmission system operator should assume. Moreover, Firstgas has no visibility of operations within other distribution companies.

GIC has also proposed that distribution receipt points be included in the registry, have adequate metering, and be notified to industry participants in advance of commissioning. Accurate metering is an obvious, and necessary, requirement. However, Firstgas questions:

- Why distribution receipt points should be included in the registry. The registry is currently a record of customer installations only. It is not clear why receipt points should be included.
- Why 3 months' notification should be required for the creation of a new biomethane injection point. This seems to be an excessively long lead-time.

GIC's consultation document also briefly outlines some of the issues that need to be considered in terms of allocating distribution injected gas. Firstgas agrees that further discussion and consideration is required on this matter.