CONSULTATION PAPER

Gas Quality – June 2017 Update

June 2017

GAS INDUSTRY COMPANY LIMITED

Executive Summary

Gas Industry Co has published several papers relating to the management of gas quality since it first investigated the topic in 2010. Our objective is:

> To ensure industry arrangements provide for gas quality in a manner that facilitates the safe, efficient, and reliable delivery of gas; and provide for the risks relating to security of supply to be properly and efficiently managed by those parties best able to manage such risks.

Although the likelihood of a gas quality incident is very low, the potential consequences could be major, so it is important to review the arrangements for managing gas quality from time to time. From our analysis of our previous work and subsequent industry developments we conclude that a number of matters are outstanding. We propose that the next steps to follow up on these matters should be that:

1. We engage a suitably qualified consultant to:
   (a) review whether the current liability arrangements are efficient or not; and
   (b) consider whether the benefits of further gas quality monitoring by the transmission system owner would outweigh the costs.
2. Once First Gas Limited (First Gas) has its new access and interconnection arrangements in place, we:
   (a) review the arrangements for notifying gas quality excursions;
   (b) review the procedures for managing gas quality incidents;
   (c) review the arrangements for notifying of any agreements that gas components are being tested less frequently than the default intervals set out in the Interconnection Agreements (ICAs) and Gas Specification; and
   (d) revise the *Gas Quality Requirements and Procedures (R&P)* document so that it accurately reflects the above practices.
3. We will consider whether changes should be proposed to the *Gas (Safety and Measurement) Regulations 2010 (Safety Regulations)* in relation to any of the above work.

We will now proceed with item 1 and will publish our findings when that work is complete. Depending on the status of First Gas's new access regime work, we will then consider when to convene a workshop to present this paper, the review of liability arrangement, and to discuss any gas quality issues arising from the new access arrangements.

In the mean time we welcome any stakeholder views on this paper, or in relation to any gas quality issue.

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1. Background and purpose

1.1 Background

Industry participants consider that the likelihood of an incident related to non-specification gas[1] to be very low, but the potential consequences of such an incident can be major. It is therefore important to take an impartial look at gas quality arrangements from time to time to check that arrangements are fit for purpose and aligned with the Gas Act objectives.

1.2 Purpose

This *Gas Quality – June 2017 Update* reviews previous work, reports on industry initiatives, and considers what matters warrant further attention.

[1] We uses the term 'specification gas' to mean gas meeting the New Zealand Standard: *NZS 5442:2008 Specification for reticulated natural gas* Note that we consider 'gas quality' to comprise:

- composition – the chemical make-up
- detectability – the addition of odorant to ensure that leaks are easily detected
- delivery pressure – so that it is safe for the intended use

2. Review of previous work

In this chapter we give an account of previous gas quality work, while Table 1 below lists the related publications and summarises their conclusions.[2]

Gas Industry Co first identified gas quality as one of the themes in its 2006 *Transmission Access Issues Review* paper. It then looked into gas quality in greater depth in 2010, and issued a consultation paper: *Gas Governance Issues in Quality: Issues Paper (Issues Paper)*. In that paper we noted that some industry participants believed that responsibilities for gas quality were unclear. We also found that responsibilities for gas quality incidents were not contractually well aligned between gas producers, pipeline owners, and retailers.

The *Issues Paper* proposed an objective[3] for gas quality work which was somewhat modified after consideration of the submissions on the paper. The objective is now:

> To ensure industry arrangements provide for gas quality in a manner that facilitates the safe, efficient, and reliable delivery of gas; and provide for the risks relating to security of supply to be properly and efficiently managed by those parties best able to manage such risks.

The responsibilities of industry participants were clarified by the *Safety Regulations* which makes gas retailers and wholesalers responsible for the quality of delivered gas.[4] However, it is parties in the physical supply chain, primarily gas producers, who have direct control over gas composition. Also, although a gas retailer or wholesaler will have gas supply contracts with one or more producers, gas is supplied through a common pool – the transmission pipelines – so there may not be a direct contractual nexus between a producer who injects non-specification gas, and an end-user who consumes it.

On considering submissions on the *Issues Paper*, we concluded that more work was required to describe how industry participants met their obligations, and to assess whether reporting of gas quality incidents was adequate.

In response to the *Issues Paper* and *Safety Regulations*, some gas retailers developed an *Information Exchange Protocol (Retailers' Information Protocol)*, intended to provide information that would alert them to any situations that might put their responsibility to deliver 'specification gas' at risk.

In August 2012, following further investigation, Gas Industry Co published: *Gas Governance Issues in Quality: Investigation Update (Investigation Update)*. The *Investigation Update* identified some opportunities to improve safety and reliability, including finalising an effective *Retailers' Information Protocol*.

However, negotiation of the *Retailers' Information Protocol* made slow progress, not least because parties in the physical supply chain had no obligation to provide the additional information retailers were asking for, and had little incentive to provide it. To break the impasse,

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[2] All documents referred to in this report can be found on the Gas Industry Co website at: http://gasindustry.co.nz/work-programmes/gas-quality/overview/

[3] We occasionally find it helpful to articulate an objective that is consistent with the Gas Act objectives but tailored to the specific matter under consideration. Such an objective gives our work focus and defines its scope.

[4] Regulation 41(4) of the *Safety Regulations* makes each gas retailer and wholesaler who supplies gas to a consumer's point of supply responsible for ensuring that gas complies with the gas specification, NZS 5442.

Gas Industry Co suggested re-orienting the protocol so that, rather than requiring on-going disclosure of monitoring and testing results (as the *Retailers' Information Protocol* did), it would describe the principles and practices of how the industry was managing its gas quality obligations (including gas quality excursions). Gas Industry consulted on a draft of this re-oriented protocol in August 2014. At this stage it was entitled *Draft Gas Quality Information Protocol (Draft Information Protocol)*, and aimed to give an understanding of:

1. the legislation relevant to gas quality;
2. how gas quality is managed in its journey from production station to consumer; and
3. the availability of information about gas quality.

Submitters generally supported the re-oriented protocol. This may partly have been because it was no longer in the form of a contract, but would instead be maintained as a 'living document' (to be periodically reviewed and updated by Gas Industry Co).

In its 5 September 2014 submission on the *Draft Information Protocol*, Maui Development Limited (MDL) proposed a number of changes. Also, in reference to previous Gas Industry Co papers, MDL and the pipeline operators acknowledged that there may be areas where processes could be improved. MDL noted that it was examining a number of potential opportunities for improvement, including:

1. reviewing technical requirements for Welded Points and Stations (Schedule 1 of the MPOC);
2. formalising and standardising the process for injecting parties to demonstrate compliance with the gas specification;
3. investigating whether the Gas Controllers could receive more gas specification alarm information; and
4. publishing a Standard Operating Procedure in relation to the notification of non-specification events and the steps which may be taken by MDL in response to such events.

The other transmission pipeline owner, Vector Limited (Vector), submitted that it supported greater transparency around gas quality, and considered the development of the *Draft Information Protocol* as a significant step towards achieving that.

Responding to submissions, further changes to the re-oriented protocol brought its content and style close to that of other 'requirements and procedures' (R&P) documents that Gas Industry Co is responsible for (one on gas reconciliation and one on gas measurement). A further draft of the document, re-titled as *Draft Gas Quality: Requirements and Procedures (Draft Gas Quality R&P)*, was issued for comment in February 2015.

We considered that, since the document had been widely discussed and consulted on, it would put a certain onus on industry participants to maintain the principles and procedures described in the document, and to consider opportunities for improvement. Accordingly, the protocol was published in June 2015 as: *Gas Quality: Requirements and Procedures (Gas Quality R&P)*.

Importantly, the *Gas Quality R&P* document preserves the principles of good industry practice in respect of gas quality first set out in the *Draft Information Protocol*. These are:

1. Openness about all gas quality incidents and exceptions that occur.
2. Where an aspect of gas quality (specification, odorisation, or pressure) is, or is expected to be, outside agreed limits, parties will:

   (a) promptly notify each other of the situation; and

   (b) work together to minimise the risks to people and property.

3. Service providers, gas wholesalers and retailers will make available all information that they possess relating to gas quality (as detailed in s5 of the *Gas Quality R&P* document) that industry participants reasonably need to demonstrate that they are complying with their legal obligations.

Table 1 Published documents related to Gas Quality

Title	Date issued
Gas Governance Issues in Quality: Issues Paper (Issues Paper)	September 2010

The *Issues Paper* identified three main areas of concern:

1. the liability for gas quality incidents[5]
2. the monitoring of gas quality to ensure compliance with the specification
3. the lack of procedures for notifying and managing gas quality incidents

Gas Governance Issues in Quality: Issues Paper Analysis of Submissions (Issues Paper Submissions Analysis)	December 2010

The *Issues Paper Submissions Analysis* concluded that:

4. retailers and pipeline owners were generally unconcerned about whether contract arrangements would allow the costs of a gas quality incident to be met efficiently, but some gas distributors argued that regulation was necessary to bring certainty and ensure the causer of a quality incident bears its resulting cost
5. while the *Issues Paper* had described the obligations for monitoring, testing, reporting, and auditing gas quality, more work was required to describe how industry participants were meeting those obligations
6. the wide range of views on whether gas quality incidents had occurred, and whether reporting of them was adequate, supported our concern about the poor visibility of such incidents

Gas Governance Issues in Quality: Investigation Update (Investigation Update)	August 2012

The *Investigation Update* concluded that:

7. gas quality monitoring is generally being carried out in accordance with the Gas Specification and ICAs, but the monitoring results are not readily available
8. subject to transparent and robust reporting of the monitoring carried out by injecting parties, little benefit would be derived by pipeline owners installing additional gas quality monitoring equipment
9. work on gas quality incident reporting (including contamination) should be put on hold until the protocol[6] is considered and agreed
10. the need to review the gas quality liability arrangements could be re-assessed when the outcome of protocol discussion is known

[5] In particular, whether existing arrangements would allow liability for a gas quality incident to be sheeted home to the causer.

[6] As noted in s1.1, the *Retailers' Information Protocol* was an initiative of gas retailers aimed at gathering gas quality information from parties in the physical supply chain. The retailers believed that this would go some way to discharging their responsibilities under the Gas (Safety and Measurement) Regulations 2010 to only deliver gas meeting NZS 5442 (the Gas Specification).

Title	Date issued

The *Investigation Update* recommended that:

11. parties in the physical supply chain should give prompt attention to the protocol being promoted by gas retailers
12. if the protocol was not successful, parties in the physical supply chain should jointly review alternative options for improving transparency of the management of gas quality
13. pipeline owners and producers should formally agree the frequency of testing of gas quality components where the frequency is lower than the default specified in the MDL and Vector ICAs
14. Vector should ensure that it monitors (or otherwise demonstrates) that total sulphur in odorised gas meets the gas specification

Draft Gas Quality Information Protocol (Draft Information Protocol)	August 2014

When it became clear that the *Retailers' Information Protocol* was unlikely to be agreed, Gas Industry Co helped to develop it into a more broad-ranging document: the *Draft Information Protocol*. The document reviewed the relevant legislation, and recorded current gas quality management practices.

Draft Gas Quality: Requirements and Procedures (Draft Gas Quality R&P)	February 2015

After consideration of submissions on the *Draft Information Protocol*, the document was revised, renamed, and re-issued as *Draft Gas Quality: Requirements and Procedures (Draft Gas Quality R&P)*, for comment.

Gas Quality: Requirements and Procedures (Gas Quality R&P)	June 2015

Having completed the consultation on the draft document, the initial version[7] of the *Gas Quality R&P* document was published in June 2015. It sets out principles of good industry practice in respect of gas quality. These are:

15. openness about all gas quality incidents[8] and exceptions[9] that occur
16. where an aspect of gas quality (specification, odorisation, or pressure) is, or is expected to be, outside agreed limits, parties will:
    (a) promptly notify each other of the situation; and
    (b) work together to minimise the risks to people and property.
17. service providers, gas wholesalers and retailers will make available all information that they possess relating to gas quality (as detailed in s5 of the *Gas Quality R&P* Document) that industry participants reasonably need to demonstrate that they are complying with their legal obligations.

[7] 'initial version' because, now it is launched as a living document, we expect that it will evolve over time.

[8] An 'incident' is defined in schedule 16 of Gas Transmission Information Disclosure Determination 2012 (Decision No. NZCC 24) as '…any event, including a near miss, that has the potential to impact on the delivery of gas transmission services or the operations of the GTB.'

[9] An 'exception' is where the product deviates from one or more elements of an agreed specification.

3. Matters that may need further attention

In this chapter we review the matters that have previously been identified as possible causes of concern (as described in Table 1), identify any changes that have occurred since then, consider whether or not any further work is required, and propose what that work could be.

3.1 Liability for a major gas quality incident

Original concern and subsequent developments

The liability for gas quality incidents was first considered in the *Issues Paper* (Table 1 item 1). A concern was that the contract arrangements might not allow liability for a gas quality incident to be sheeted home to the party responsible. However, that concern was not shared by all market participants. The *Issues Paper Submissions Analysis* (Table 1 item 4) noted that retailers and pipeline owners were generally unconcerned about the issue, although some gas distributors thought the matter was serious enough to warrant regulation.

Some of the uncertainty around liability for quality incidents was removed when the *Safety Regulations* subsequently clarified that the gas retailer or wholesaler supplying gas at a consumer's Point of Supply is responsible for ensuring that gas meets the gas specification. However, since retailers and wholesalers are not in the physical supply chain, their service contracts with parties who can directly influence the quality and flow of gas must be relied on to meet this responsibility.

More recently, First Gas is formalising the interconnection arrangements with the owners of downstream networks. These Interconnection Agreements (ICAs) require that all gas injected into the transmission system meets the gas specification, that First Gas is not required to monitor gas quality, and that First Gas won't be liable for any loss caused by non-specification gas. Once complete (we understand two ICAs are still to be concluded), this will address one of the 'missing links' we identified in the contract chain.

Need for further work

If gas consumers suffer damage from a non-specification gas event, it is still a concern that the 'common pool' characteristic of the transmission system means that there may not be a chain of contracts between the retailers supplying those consumers and the party responsible for the gas being off-specification.

In 2012, the *Investigation Update* proposed that any review of gas quality liability arrangements should wait until the outcome of the *Retailers' Information Protocol* was known (Table 1 item 10). However, neither that document nor its successor, the *Gas Quality R&P* document, brought any change to the liability arrangements.

As noted above, many market participants seem unconcerned about the issue. That may be because they are already covered by insurance, or because the risk is seen as insignificant, or because they see the issue as too difficult to resolve… or a combination of these and other factors.

While the issue is essentially financial rather than being related to performance or safety, we consider that it is worth getting an suitably qualified consultant to take a closer look at it and consider whether the current arrangements are efficient or not.

3.2 Monitoring gas quality

Original concern and subsequent developments

The monitoring of gas quality to ensure compliance with the gas specification was first identified as a concern in the *Issues Paper* (Table 1 item 2). However, the *Investigation Update* subsequently found that gas quality monitoring was generally being carried out in accordance with the gas specification and ICAs, but the monitoring results were not readily available (Table 1 item 7).

At the time of the *Investigation Update* (2012), some stakeholders considered that the pipeline owners should invest in gas quality monitoring equipment so that they could demonstrate that only specification gas was being delivered. However, the *Investigation Update* concluded that, providing there was transparent and robust reporting of the monitoring being carried out by injecting parties, there would be little additional benefit in further monitoring by the pipeline owners (Table 1 item 8). It suggested that agreement of the *Retailers' Information Protocol* could be one means of achieving such transparent and robust reporting. If the protocol could not be agreed, parties in the physical supply chain should jointly review alternative options for improving the transparency of gas quality management (Table 1 item 12).

In addition, the *Investigation Update* proposed that Vector should ensure that it monitored levels of total sulphur in odorised gas, or otherwise demonstrate that the gas, once odorised, still met specification (Table 1 item 14).

More recently (2015), the *Gas Quality R&P* document records that gas quality monitoring arrangements involve:

1. Each injecting party controlling gas quality, monitoring it, reporting any excursions from the specification, and curtailing the injections when such excursions occur.

   These requirements are set out in ICAs. The ICAs also stipulate minimum frequencies for monitoring gas components, and provide that the injecting party is exposed to potential liability claims in the event that non-specification gas enters the system.

2. Each transmission pipeline owner regularly monitoring odorant levels, and the aspects of gas quality that are necessary to determine the energy content of the gas[10].

   The operating codes stipulate how much odorant will be injected, and what information will be provided for determining the energy content. The asset owner's AMP sets out the practice for monitoring odorant levels.

3. Each distribution network owner monitoring odorant levels.

   The *Safety Regulations* require each distribution network owner to ensure all gas in the distribution system complies with the gas detection and odorisation standard (NZS 5263) and that suitably qualified staff test for compliance.

4. Each gas retailer/wholesaler contracting with service providers to ensure that it is provided with documentation to verify that the gas it delivers is odorised and meets the gas specification.

   The *Safety Regulations* require each retailer/wholesaler to ensure all gas at a point of supply is odorised and meets the gas specification and has documentation that demonstrates compliance.

[10] Typically, CV, SG, %CO2 and %N2.

In addition, First Gas has advised us that:

1. in December 2016 First Gas wrote to each injecting party requesting that it demonstrate to First Gas that it had adequate facilities, systems and procedures in place to ensure that all gas that it injects into the First Gas transmission system meets contract requirements and that the injecting party monitors such gas to demonstrate compliance;
2. responses were received from all injecting parties and First Gas is in the process of responding to each injecting party with requests for further information or clarification where required;
3. nothing First Gas has established in undertaking this exercise has raised material concerns about the injection of non-specification gas into the transmission system; and
4. First Gas intends to share with Gas Industry Co and wider industry stakeholders the general conclusions and observations from the demonstration of compliance process. First Gas will endeavour to provide this feedback during Q3 2017.

Need for further work

It is the responsibility of each market participant to ensure that it is monitoring gas quality to a standard that meets its statutory, contractual and reasonable, and prudent operator obligations. However, if market participants are performing in line with the monitoring arrangements described in the *Gas Quality R&P* document our current view is that this should provide a level of gas quality monitoring sufficient to meet our objective (set out in chapter 2 above). Nevertheless, we think it is worth getting an independent view on whether the benefits of further monitoring by the transmission system owner would justify the cost (as some stakeholders believe).

It is Gas Industry Co's responsibility to keep the *Gas Quality R&P* document up to date so that it accurately reflects the views of industry participants on what their responsibilities for gas quality are, and how they are being managed. With First Gas redesigning its access and interconnection arrangements, a convenient point to review the *Gas Quality R&P* document would be once those new arrangements are in place. This is expected early in 2018.

3.3 Frequency of testing of gas quality components

Original concern and subsequent developments

The *Investigation Update* reported that there had been some instances where pipeline owners had agreed with producers that testing at less frequent intervals than specified in their interconnection arrangements was acceptable. The *Investigation Update* reported that pipeline owners and producers should formally agree such variations (Table 1 item 13).

Need for further work

First Gas advised us that in December 2016 it wrote to each injecting party advising that it would like to work with them to formalise arrangements where gas components are being tested less frequently than the default intervals set out in the ICAs and Gas Specification. Providing these arrangements are also made publicly available, we believe they will address our original concern.

3.4 Procedures for notifying and managing gas quality incidents

Original concern and subsequent developments

The lack of procedures for notifying and managing gas quality incidents was identified as a concern in the *Issues Paper* (Table 1 item 3). The *Issues Paper Submissions Analysis* noted the wide range of views on whether gas quality incidents had occurred, and whether reporting of them was adequate (Table 1 item 6) and proposed that full transparency of all non-specification gas incidents should be considered to provide a better understanding of the types of incident

that are occurring, the risks of future incidents, and identify any control or monitoring shortcomings.

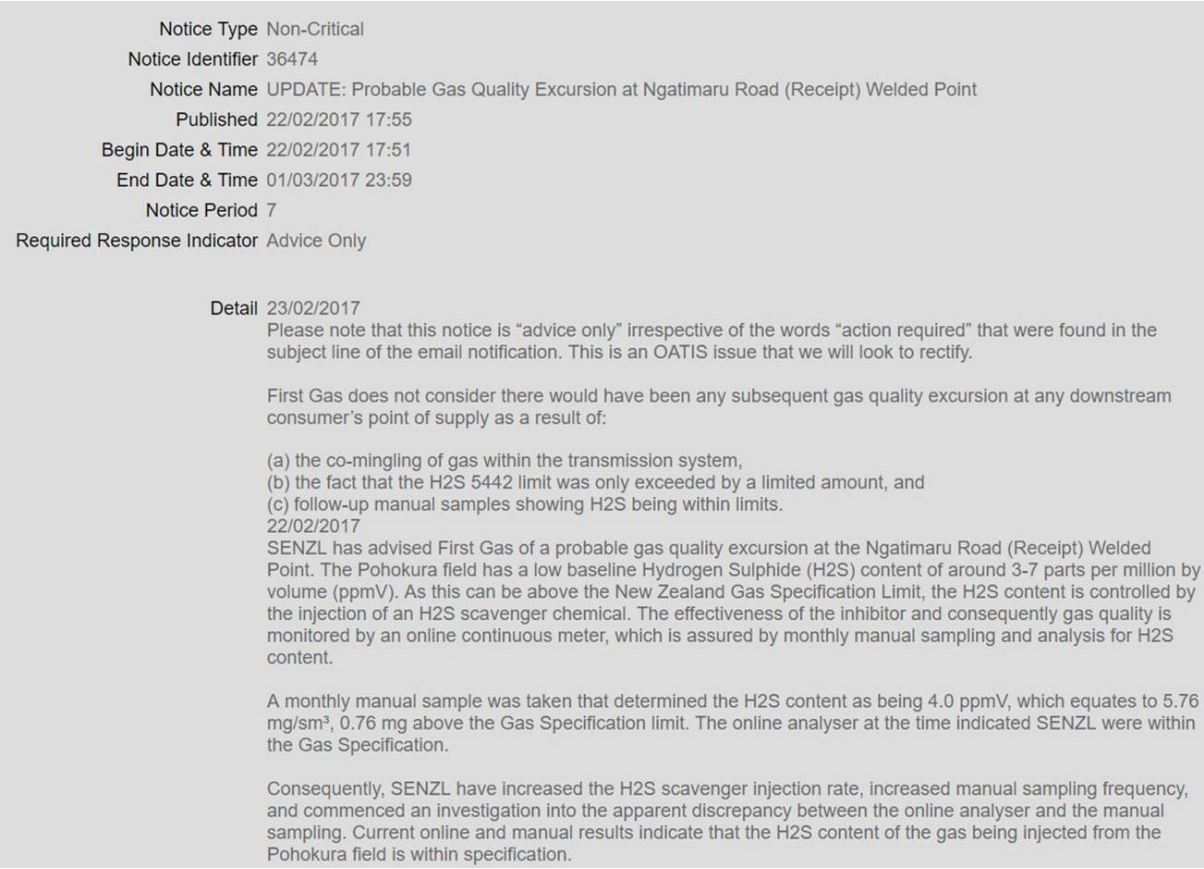
We noted in the *Investigations Update* that: '… the small possibility that a gas quality incident could cause serious economic and reputational harm, coupled with 'common pool' features of gas pipelines, puts a particularly heavy onus on the industry to ensure a high degree of transparency.' However, we suggested that work on incident reporting should be put on hold until the *Retailers' Information Protocol* was agreed (Table 1 item 9).

While MDL and Vector both supported improved transparency, only minor improvements resulted. However, in its 5 September 2014 submission on the *Draft Gas Quality Information Protocol,* MDL noted that it was examining a number of potential opportunities for improvement, including to:

> Publish a "Standard Operating Procedure" in relation to notification of Non-Specification events and the steps which may be taken by MDL in response to such events. MDL could look at adopting the approach of the Australian Energy Market Operator who has developed guidelines to cover short-term gas quality excursions outside the gas quality specifications. These guidelines set notification, alert and curtailment limits for each component of the Australian gas specification.
>
> MDL submission on *Draft Gas Quality Information Protocol, p6,* 05 September 2014

Although this was not achieved before the Maui pipeline was sold to First Gas in mid-2016, First Gas has said that it intends to progress work in this area.

The indications are that First Gas will be more open in relation to gas quality excursions than its predecessors. For example, an incident occurred on 22 February 2017 involving an apparent excursion of H2S levels from the limit specified in NZ 5442, and that incident was notified by First Gas via a non-critical notice on OATIS (see Figure 1). In our view this accords with the principle of good industry practice in respect of gas quality, set out in s1.1 of the *Gas Quality R&P* document, that there should be openness about all gas quality incidents and exceptions. We commend First Gas for being pro-active.



Notice Type	Non-Critical
Notice Identifier	36474
Notice Name	UPDATE: Probable Gas Quality Excursion at Ngatimaru Road (Receipt) Welded Point
Published	22/02/2017 17:55
Begin Date & Time	22/02/2017 17:51
End Date & Time	01/03/2017 23:59
Notice Period	7
Required Response Indicator	Advice Only

Detail 23/02/2017
Please note that this notice is "advice only" irrespective of the words "action required" that were found in the subject line of the email notification. This is an OATIS issue that we will look to rectify.

First Gas does not consider there would have been any subsequent gas quality excursion at any downstream consumer's point of supply as a result of:

(a) the co-mingling of gas within the transmission system,
(b) the fact that the H2S 5442 limit was only exceeded by a limited amount, and
(c) follow-up manual samples showing H2S being within limits.
22/02/2017
SENZL has advised First Gas of a probable gas quality excursion at the Ngatimaru Road (Receipt) Welded Point. The Pohokura field has a low baseline Hydrogen Sulphide (H2S) content of around 3-7 parts per million by volume (ppmV). As this can be above the New Zealand Gas Specification Limit, the H2S content is controlled by the injection of an H2S scavenger chemical. The effectiveness of the inhibitor and consequently gas quality is monitored by an online continuous meter, which is assured by monthly manual sampling and analysis for H2S content.

A monthly manual sample was taken that determined the H2S content as being 4.0 ppmV, which equates to 5.76 mg/sm³, 0.76 mg above the Gas Specification limit. The online analyser at the time indicated SENZL were within the Gas Specification.

Consequently, SENZL have increased the H2S scavenger injection rate, increased manual sampling frequency, and commenced an investigation into the apparent discrepancy between the online analyser and the manual sampling. Current online and manual results indicate that the H2S content of the gas being injected from the Pohokura field is within specification.

Figure 1 - Gas Quality Excursion notice, 22 February 2017

Need for further work

In 2012, the *Investigation Update* proposed that further work on gas quality incident reporting be on hold until the *Retailers' Information Protocol* was complete (Table 1 item 9). However, neither that document nor its successor, *Gas Quality R&P*, brought any more transparency to the reporting of gas quality incidents.

We are encouraged with First Gas' focus on the notification of gas quality excursions. We understand that First Gas will engage with stakeholder as it develops procedures and policies to support its new transmission access regime. The outcomes of this can be reviewed when the *Gas Quality R&P* document is updated in 2018, and any new arrangements can be recorded there.

Regarding control of non-specification gas events, we remain concerned that there is no transparent process for weighing up when a non-Specification event is benign, or serious enough to warrant curtailment. We look forward to seeing how First Gas will complete MDL's work in that area.

3.5 How industry participants are meeting their gas quality obligations

Original concern and subsequent developments

Among other matters, the *Issues Paper Submissions Analysis* concluded that more work was required to describe how industry participants were meeting their obligations for monitoring, testing, reporting, and auditing gas quality (Table 1 item 5). The *Investigation Update* proposed (Table 1 item 11) that industry participants should give attention to the *Retailers' Information Protocol* (which later morphed into the *Gas Quality R&P* document), and consider other alternatives if that was not successful (Table 1 item 12).

Need for further work

We consider that the *Gas Quality R&P* document generally meets the concern since it provides an overview of the various requirements related to gas quality and how those requirements are fulfilled by parties in the gas supply chain. Given the recent acquisition of the transmission pipelines by First Gas, the *Gas Quality R&P* document will need to be updated. As previously noted, a convenient time to do this will be early in 2018, once any new First Gas access contracts are in place.

4. Summary of proposed next steps

In this chapter we summarise our conclusions from chapter 3 and propose what should now be done. We will convene a meeting of stakeholders so that this paper, including our proposed next steps, can be discussed.

4.1 Summary of matters earmarked for further attention

In chapter 3 we considered the need for further work in the areas referenced by the numbered items in Table 1. In summary, we propose that:

1. We engage a suitably qualified consultant to:
   (a) review whether the current liability arrangements are efficient or not; and
   (b) consider whether the benefits of further gas quality monitoring by the transmission system owner would outweigh the costs.
2. Once First Gas has its new access and interconnection arrangements in place, we:
   (a) review the arrangements for notifying gas quality excursions;
   (b) review the procedures for managing gas quality incidents;
   (c) review the arrangements for notifying of any agreements that gas components are being tested less frequently than the default intervals set out in the ICAs and Gas Specification; and
   (d) revise the *Gas Quality R&P* document so that it accurately reflects the above practices.
3. We consider whether changes should be proposed to the *Safety Regulations*[11] in relation to any of the above work.

We will now proceed with item 1 and will publish our findings when that work is complete. Depending on the status of the First Gas new access regime work, we will then consider when to convene a workshop to present this paper, the review of liability arrangement, and to discuss any gas quality issues arising from the new access arrangements.

In the mean time we welcome any stakeholder views on this paper, or in relation to any gas quality issue.

[11] The Safety Regulations will be reviewed as part of the Government's health and safety reform. The new Health and Safety at Work Act 2015 came into force on 4 April 2016. The reform requires everyone in the workplace to be responsible for health and safety. It aims to focus effort on what matters, based on business risk, control and size, in order to:

1. reinforce proportionality – what a business needs to do depends on its level of risk and what it can control
2. shift from hazard spotting to managing critical risks – actions that reduce workplace harm rather than trivial hazards
3. introduce the 'reasonably practicable' concept – focusing attention on what's reasonable for a business to do
4. change the focus from the physical workplace to the conduct of work – what the business actually does and so what it can control
5. support more effective worker engagement and participation – promoting flexibility to suit business size and need.

The Safety Regulations are one of the subordinate pieces of legislation that will be reviewed by WorkSafe New Zealand later this year. This will create an opportunity to propose amendments on any aspect of those regulations.

CONSULTATION PAPER

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'.

SUBMISSIONS CLOSE:
date??

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