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# GAS QUALITY – PAST WORK AND FUTURE DIRECTION

DATE:

24 August 2016

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# GIC's Regulatory Objective

**To ensure industry arrangements provide for  
safe, efficient, and reliable delivery of gas  
by managing  
gas quality, and security of supply risks**

# Agenda

- 2010 Gas Quality Issues Paper
- 2012 Gas Governance Issues in Quality: Investigation Update
- 2015 Gas Quality Requirements and Procedures document
- Industry initiatives
- Matters that still need to be addressed
- Next steps

# 2010 Gas Quality Issues Paper

- Main issues:
  - monitoring gas composition and contaminants:
    - weak requirements to monitor
    - lack of monitoring procedures
  - liability for consequential damages:
    - missing contracts (eg no transmission-distribution ICA)
    - contracts don't always allow liability to flow to causer
    - liability doesn't always fall on parties best able to manage the risk

## 2010 Analysis of Submissions on Issues Paper

- 9 submissions:
  - monitoring gas composition and contaminants:
    - 4 think existing arrangements sufficient
    - 4 think arrangements should be strengthened
  - liability for consequential damages:
    - most prefer that contracts (rather than regulation) address liabilities
    - a few believe that regulation is the only way to guarantee the protection of all participants in the supply chain
- GIC advises Minister in December 2010 that it is working with industry participants to improve arrangements

## 2012 Investigation Update paper (1)

- GIC identifies concerns about control, monitoring and reporting of gas quality:
  - Disparate and occasionally opaque quality management requirements
  - No transparent process for weighing up when a non-Specification event is benign, or serious enough to warrant curtailment
  - No transparent process for TSOs and producers to agree reduced monitoring

Field or pipeline	Maui	Kapuni	M&M	Pohokura	Kupe	Wihapa	Rimu	Kaimiro	Turangī	Kowhai	Gas Specification requirement	MDL/Vector requirement
Operator	STOS	Vector	Todd	STOS	Origin	Origin	Origin	GPL	GPL	GPL	TSO	TSO
Wobbe Index	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	S gc, p	C gc, p
Relative density	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	S gc, p	C gc, p
Carbon dioxide	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	S gc, p	C gc, p
Nitrogen	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	C gc, p	S gc, p	C gc, p
Oxygen	<b>A</b>	<b>*</b>	<b>*</b>	<b>A</b>	<b>M</b>	<b>*</b>	C	<b>?</b>	<b>?</b>	<b>?</b>	S	<b>C</b>
Hydrogen	<b>TBA</b>	<b>*</b>	<b>*</b>	<b>TBA</b>	<b>M</b>	<b>*</b>	<b>*</b>	<b>?</b>	<b>?</b>	<b>?</b>	<b>3M</b>	<b>3M</b>
Hydrogen sulphide	<b>FC</b>	M	<b>*</b>	C gc	C gc	3M	M	<b>?</b>	<b>?</b>	<b>?</b>	<b>3M</b>	<b>3M</b>
Total sulphur	<b>FC</b>	<b>O</b>	<b>*</b>	<b>FC</b>	<b>6M</b>	<b>*</b>	<b>*</b>	<b>?</b>	<b>?</b>	<b>?</b>	<b>3M</b>	<b>3M</b>
Water	C I	C	C I	C gc	C	C	C	<b>?</b>	<b>?</b>	<b>?</b>	D	D
Hydrocarbon dew point	C I	C	C I	C gc	C gc	C	C	<b>?</b>	C gc	C gc	D	D

## 2012 Investigation Update paper (2)

- Proposed opportunities for improvement were:
  - transparent compliance with the Gas (Safety and Measurement) Regulations 2010:
    - Gas retailers were negotiating a Protocol with suppliers to help demonstrate compliance (mostly relating to odourisation and pressure)
    - The Protocol would make gas quality information available to all industry participants at risk from non-Specification gas
  - transparency of excursions from Specification
    - Possibly following the Australian approach (AEMO Guidelines for short-term gas quality excursions)
    - Or Retailers' Protocol could address the issue



## 2012 Investigation Update paper (3)

- Proposed opportunities for improvement were:
  - transparency where TSOs and producers agree to reduced monitoring
    - Reduced monitoring is of particular concern to wholesalers and retailers responsible for gas quality under the Gas Safety Regulations
    - One possibility is for TSOs to publish the monitoring requirements for each gas source on its website
    - Or Retailers' Protocol might address issue

## 2015 Gas Quality Requirements and Procedures document

- Retailers' Protocol morphed into the 2015 Gas Quality Requirements and Procedures (R&P) document
- The R&P document sets out existing:
  - legal requirements
  - technical standards
  - how market participants are meeting their main obligations
  - where gas quality information can be found
- Importantly, it responds to one challenge of the 2010 Issues Paper: to set out industry participant arrangements for the monitoring, testing, reporting, and auditing of gas quality
- Protocol could be referenced by contracts (eg missing Transmission/Distribution interconnection agreements), but doesn't itself put obligations on any industry participants

## Industry initiatives: MDL investigating possible improvements in response to GIC recommendations (1)

- Control
  - MDL reviewing technical requirements for Welded Points and Stations (Schedule 1 of the MPOC)
- Monitoring
  - MDL reviewing how injecting parties demonstrate compliance with NZS 5442
  - MDL considering amending MPOC s17.15 to:
    - require continuous monitoring for water and for hydrocarbon dew-point
    - no longer monitor total halogens
    - no longer monitor of oxygen continuously
  - MDL formalising arrangements where testing < MPOC default frequency

## Industry initiatives: MDL investigating possible improvements in response to GIC recommendations (2)

- Reporting
  - MDL would publish on OATIS the monitoring requirements for each gas source, with any approved exceptions and supporting rationale
  - MDL would include Wobbe Index on Calorific Value reports
  - MDL would discuss the feasibility of Gas Control receiving greater Gas Specification alarm information via SCADA or other telemetry
  - MDL would publish a Standard Operating Procedure on notification of non-spec events and the steps which may be taken by MDL in response
  - MDL would look at adopting the AEMO Guidelines for short-term gas quality excursions

## Matters that still need to be addressed (1)

- GIC remains concerned about:
  - the poor visibility of gas quality incidents, witnessed by the wide range of views on whether incidents have occurred and, if so, whether they were significant (first raised in the 2010 Issues Paper) including no reporting of the details and length of such incidents (first raised in the 2012 Investigation Update Paper)
  - existing contractual arrangements being unlikely to allow liabilities to flow through the contract chain to the party who causes an incident (first raised in the 2010 Issues Paper)
  - No visibility of agreements between TSOs and producers to reduced monitoring (first raised in the 2012 Investigation Update Paper)

## Matters that still need to be addressed (2)

- GIC remains concerned about:
  - The level of total sulphur in odorised gas not being monitored (first raised in the 2012 Investigation Update Paper) The Submissions Analysis paper also proposed a review of gas quality incident reporting and
  - Complaints about gas quality may not be adequately recorded or reported (first raised in the 2010 Issues Paper Submissions Analysis)

## Next steps