

GAS TRANSMISSION SECURITY AND RELIABILITY

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Ian Wilson

AUTHOR:



Presentation of Gas Industry Co's April 2016 'Gas Transmission Security and Reliability' Issues Paper'

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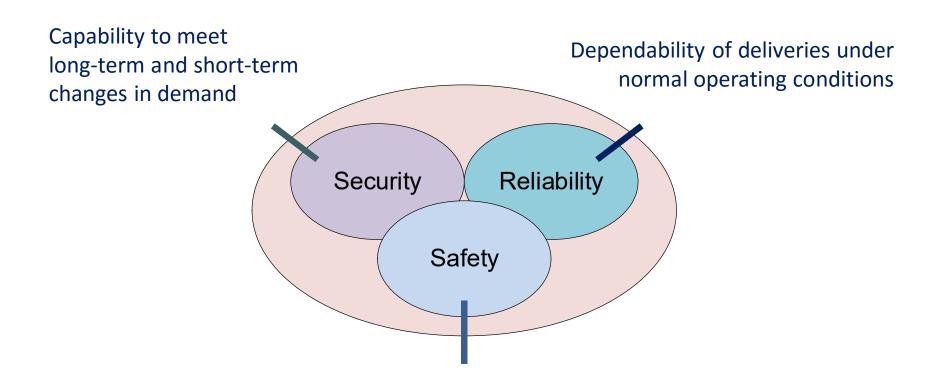
Why look at S&R?

- Economic risk
 - last major outage October 2011 land slip near Pukearuhe
 - Put Maui pipeline out of action for 5 1/2 days
 - Cost NZ economy \$200m
- Major users are uneasy
 - lots of S&R information available, but difficult to interpret
- Timely to review
 - adequacy of disclosures supporting Price-Quality regime
 - 2017 Price-Quality reset
 - Upcoming review of Pipeline Regulations

Transmission Security and Reliability (S&R) Issues Paper - content

- The S&R paper:
 - introduces key concepts
 - reviews disclosed information
 - describes commercial and regulatory framework
 - proposes what is needed to achieve effective S/R
 - provides a gap analysis
 - draws conclusions and suggests actions
 - o invites feedback

S&R are integral to 'pipeline integrity'



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Potential to cause harm to people or property

Current S&R related disclosures

- Disclosures provide useful status and trend indicators
- Disclosures most closely related to S&R are:
 - RTEs, Unplanned Interruptions, Incidents and Emergencies, PREs and Compressor Availability
- But... difficult to interpret without an informed analysis:
 - Suggest results could be summarised in a 'dashboard' format, accompanied by GTB's interpretation of what they mean

Requirements arising from H&S at Work Act/Regs

Key legislation relevant to gas transmission S/R

Responsible Agency

and main responsibilities relevant to gas transmission S/R

Compliance documents

relevant to gas transmission S/R



Health and Safety

(Pipelines) Regulations

Worksafe NZ

Responsible for:

- · Recognising inspection body
- Receiving certificates of fitness, emergency procedures
- Receiving notifications of certain pipeline operations and abandonment

Certificate of Fitness

Pipeline Regulations s10 require that, at least every 5 years, an inspection body body must examine the pipelines to determine their safety and issue a certificate of fitness which may contain conditions of authorisation

Safety and Operating Plans

AS/NZS 2885 s3.3 requires a Safety and Operating plan to be established, monitored and maintained. The plan is to:

- · Describe the system
- · Analyse the likely hazards
- Schedule maintenance, pipeline inspections and cathodic protection surveys
- · Set out emergency plans

Requirements arising from Part 4 of Commerce Act

Key legislation

relevant to gas transmission S/R

Responsible Agency

and main responsibilities relevant to gas transmission S/R

Compliance documents

relevant to gas transmission S/R



Commerce Commission
Price-Quality
Determination

Commerce Commission Information Disclosure Determination

Commerce Commission

Responsible for setting:

- · Price-Quality paths
- · Information disclosure requirements

Asset Management Plans

NZCC24 s2.6.2 requires that the AMP:

- · allow interested persons to assess whether:
 - o assets are properly managed for the long term
 - o level of performance is being delivered
 - o costs are efficient and performances efficiencies are being achieved
- be capable of being understood by interested persons
- identify asset-related risks, particularly high impact asset-related risks

Assurance Report

NZCC24 s2.8 requires disclosure of an independent auditor report on compliance with the NZCC24

Requirements arising from Part 4A of Gas Act

Key legislation relevant to gas transmission S/R

Responsible Agency and main responsibilities relevant to gas transmission S/R

Compliance documents relevant to gas transmission S/R



Gas Governance (Critical Contingency Management)
Regulations

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- Responsible for appointing Critical Contingency Operator, setting its performance standards, and publishing the critical contingency operator service provider agreement
- · May recommend regulation:
 - prescribing terms and conditions of access to transmission pipelines (Gas Act s43F(2)(c))
- requiring expansions, upgrades, or service quality improvements to transmission pipelines (Gas Act s43F(2)(d))

Critical Contingency Management Plans

S24 of the Critical Contingency Regulations requires each transmission system owner to prepare a critical contingency management plan and submit it to Gas Industry Co for approval

Incident and Performance Reports

S64 of the Critical Contingency Regulations requires the Critical Contingency Operator, in consultation with the transmission system owner, to publish an Incident Report on incident cause, duration, etc.

S65 similarly requires publication of a Performance Report, assessing the effectiveness of the management plans, etc.

Asset Management Plans (AMPs) contain key S&R information

AMPs:

- 1. must include information to enable interested persons to assess whether:
 - a. assets are being managed for the long term;
 - b. the required level of performance is being delivered; and
 - c. costs are efficient and performance efficiencies are being achieved.
- 2. must be capable of being understood by interested persons; and
- 3. should provide a sound basis for the on-going assessment of asset-related risks, particularly high impact asset-related risks.

Commerce Commission, Gas Transmission Information

Disclosure Determination 2012 – (consolidated in 2015), s2.6.2

Requirements for S&R (s4.2)

- Short-term security (ie meeting short-term changes in demand) requires arrangements for:
 - Allocating capacity
 - Managing pipeline pressures
 - Managing critical contingencies
- Long-term security (ie meeting long-term changes in demand) requires:
 - Design and build standards
 - Operating policies and plans for maintenance/renewal/upgrade
 - Back-stop legislation to enable efficient system expansion

Requirements for S&R (s4.2)... continued...

- Reliability (ie the dependability of deliveries) requires:
 - Testing and maintenance standards
 - Active management of pipeline operations ('gas control')
 - Pipeline operating procedures (eg a balancing gas operating procedure)
 - Maintenance regimes
- Enhanced S&R (ie to meet the special needs of individual users and unusual investments) requires:
 - Ability for any end-user to discuss its S&R risks with GTB
 - Openness for GTB to negotiate bespoke S&R arrangements
 - Independent party who can order investment if necessary

Gap analysis: short term security

Requirement	Satisfied by:
Capacity allocation arrangements	 MDL's 'flow on nominations' regime Vector's 'capacity reservation' regime. But efficiency concerns (PEA's work)
Pipeline pressure management	 Maui pipeline pressures managed according to Maui Balancing Gas Instruction, Sept 2015 Vector's pipeline pressures passively managed to pressure set points But underlying MBB arrangements subject to GIC review
Critical contingency management arrangements	 the Critical Contingency Regulations. Continuously improved through (CCO and GIC) critical contingency reviews

Gap analysis: long term security

Requirement	Satisfied by:
Design and build standards	AS/NZS 2885 standard under HSE Pipeline Regulations
	Certificate of Fitness provides assurance of compliance
	But some stakeholders believe an additional security standard (eg n-1 redundancy) may also be required and worth paying for
Operating policies and plans for maintenance / renewal / upgrade	GTBs publish AMPs (as required by Information Disclosure Determination)
	GTBs have PIMPs (as required by AS/NZS 2885)
	But some stakeholders do not think the AMPs are adequate and that PIMPs should be published
Back-stop legislation to enable efficient system expansion	 Investment arrangements provided for in Part 4 of Commerce Act (including CPP for large investments)
	s43F(2)(d) of the Gas Act allows for GIC to recommend regulations to require investment
	But CPP may be too expensive, and Gas Act provision is untested

Gap analysis: reliability

Requirement	Satisfied by:
Testing and maintenance standards	 Required by HSE Pipelines Regulations, MPOC and VTC (AS/NZS 2885, NZS 5259, NZS 5442 etc) Reviewed during Certificate of Fitness process
Active management of pipeline operations	Gas Control centre operating to RPO standard
Pipeline operating procedures (eg a balancing gas operating procedure)	 Each GTB has operating procedures and PIMPs Reviewed during Certificate of Fitness process But PIMPs and some operating procedures are not public
Maintenance regimes	 Maintenance regime described in AMPs and reviewed during Certificate of Fitness process But some stakeholders do not think the AMPs are adequate and that PIMPs should be published

Gap analysis: enhanced S&R

Requirement	Satisfied by:
Ability for any end-user to discuss its S&R risks with GTB	GTBs have previously done this and are willing
Openness for GTB to negotiate bespoke S&R arrangements	GTBs have previously done this and are willing
Independent party who can order investment if necessary	 s43F(2)(d) of the Gas Act provides that Gas Industry Co may recommend that regulations be introduced to enable an investment to be made But this provision is untested and it may be difficult to require parties who do not value the marginal increase in enhanced S&R to pay for it

Conclusions of S&R issues paper

- Primary responsibility for transmission S&R lies with GTBs, operating within HSW Act/Commerce Act/Gas Act framework
- Regulatory agencies WorkSafe NZ/MBIE/Commerce
 Commission/GIC have well defined roles with very little overlap
- GTB's have strong incentives reputational, commercial and statutory – to deliver effective S&R
- All arrangements necessary for S&R are in place... but
 - Some untested (CPP arrangements, and Gas Act s43F(2)(d))
 - Some under GIC review (capacity allocation and balancing)
 - Some information disclosures can be improved

Suggested action points

The new GTB:

- address the capacity allocation issues identified by the PEA
- work with stakeholders to improve AMPs and other disclosures
- work with any end-user who wants to assess S&R of its deliveries

• GIC:

- review new balancing arrangements
- continue to work with CC to ensure no duplication

GIC and stakeholders:

 work with CC on IM Review and Price-Quality reset to allow for appropriate constraints/incentives on investment

Feedback

• Submissions invited by 5pm on Friday 10 June 2016