energysafe VICTORIA

Creating a safer state with electricity and gas

Key Performance Indicators Specification

Victorian Licensed Pipelines Industry Group (Natural Gas Transmission) reporting requirements

CONTENTS

BACKGROUND AND BRIEF

Energy Safe Victoria (ESV) is the independent regulator responsible for electricity, gas and pipeline safety in Victoria, and compliance with relevant legislation (such as Gas Safety Act and Gas Safety Case Regulations).

This role includes the regulation of natural gas transmission pipelines, which involves:

- accepting industry's safety cases for the design, construction and operation of gas pipeline networks across Victoria
- administering legislation covering licensed pipelines and enforcing the requirements of technical standards
- monitoring the safety and integrity of pipelines and their associated assets
- engaging with industry stakeholders to address emerging risks.

Key performance indicator information specification

ESV and the Licensed Pipelines Industry Group (Natural Gas Transmission) are adopting a more proactive approach to monitoring and managing Victoria's natural gas transmission pipeline assets. As a result, a need has been identified for a series of indicators that will provide an ongoing and proactive signal about natural gas transmission pipeline system safety, integrity, and possible risk.

The purpose of the information specification is to:

- establish the reporting requirements for the Licensed Pipelines Industry Group (Natural Gas Transmission)
- outline the key performance indicators (KPI) that have been developed for Licensed Pipelines Industry Group (Natural Gas Transmission)
- provide a guideline for how the KPIs are to be submitted.

The purpose of the KPIs

ESV has collaborated with stakeholders to develop a list of KPIs that provide a snapshot of pipeline safety and integrity trends rather than relying on outcome-based reporting. The objective was to agree a complete set of KPIs that will proactively show:

- the historical perspective (what has happened)
- current trends indicating possible risks (what may happen).

In particular, the KPIs have been designed to assist ESV and its stakeholders to develop action plans to:

- maintain and increase safety compliance of the gas pipeline industry
- proactively identify gas pipeline industry trends and emerging risks
- provide a level of assurance that risks are being managed and controls are effective.

Structure

The KPIs are designed to cover a series of risk categories involving:

- damage by third parties or external interference
- coating and corrosion protection
- materials failure[1].

[1] Materials failure within facility compounds has been reported as extremely rare, and the group deemed the risk to be sufficient to deem existing engineering design controls and monitoring as satisfactory to monitor this risk. Despite this, legislated reporting requirements continue to apply within the facility compound. Should circumstances arise that impact the integrity of Victorian pipeline materials, this decision may be reviewed and changed.

Reporting

KPI data will be reported by each organisation (to the ESV mailbox esvreportsgpis@energysafe.vic.gov.au) within 20 business days of the end of each quarter using a spread sheet template circulated by ESV.

The collated information will be reported[2] to the relevant State Government Minister, ESV management, stakeholders, and the public (via annual reports).

About the Licensed Pipelines Industry Group (Natural Gas Transmission)

The Licensed Pipelines Industry Group (Natural Gas Transmission), involving licensed natural gas transmission pipelines in Victoria, is characterised by:

- a single large business operating the main Victorian natural gas transmission grid
- businesses operating other licensed natural gas transmission pipelines.

Appendix 1 lists the members of the group involved in the development of the KPIs for natural gas transmission pipeline licensees.

[2] In raw form or in aggregate.

KPI DEVELOPMENT AND CATEGORISATION

The KPIs for the Licensed Pipelines Industry Group (Natural Gas Transmission), which will provide an overview of the ongoing management of risk and provide input into ESV's annual audit plan:

- were established after consultation between the businesses and ESV
- are the outcome of a pragmatic approach towards meeting the needs of the Regulator to monitor safety performance and the ability of the natural gas transmission businesses to extract the information.

Development

The majority of the KPIs have been developed to enable the measurement of an organisation's compliance with its Safety Case, and will also need to evolve over time to account for:

- new risks identified or changing social and regulatory attitudes
- new asset management practises and technologies
- the degree to which the KPIs meet their objective.

The KPIs may also require some additional context to establish proactive trends, especially where comparatively shorter pipeline assets in regional or remote areas are involved, and should be reviewed on a more regular basis (preferably every two years) for suitability and effectiveness.

Categorisation

After a review of relevant literature[3], a ranking of pipeline risks has been identified that formed the basis for the KPI categories (and the definition of what is reportable under each one):

- Number of Incidents
- Gas Leaks
- Emergency Response Exercises
- Asset Management
- Pipeline Interference
- Corrosion
- Community Liaison.

Number of Incidents

The Number of Incidents KPI incorporates two components[4]:

- **Number of Pipeline Damage Incidents**

  Any incident causing damage to the pipeline (whether or not the pipeline suffers a loss of containment or the works were approved/supervised by the licensee).

- **Number of Unauthorised Excavations within 3m of Natural Gas Transmission Pipelines**

[3] US Pipeline and Hazardous Materials Safety Administration, Guidance1 for Strengthening Pipeline Safety Through Rigorous Program Evaluation and Meaningful Metrics, October 2014.

Pipeline Integrity Management Programs, Ray Goodfellow, IRISNDT.

NSW Licensed Pipeline Performance Reporting Guidelines, January 2012.

ExxonMobil Australia, Process Safety – Leading Indicators, Michael Baker.

Pipeline integrity in the gas industry, 7th Annual Pipeline Integrity Management Forum, Technical Association of the European Natural Gas Industry, February 2014.

[4] In accordance with the Gas Safety (Safety Case) Regulations, incidents as defined by legislation will be reported to ESV as soon as practicable.

Any unauthorised excavation within 3 metres of a licensed pipeline as defined by the Gas Safety Act. Unauthorised activity includes any excavation where the licensee has not provided written consent (to excavate).

Gas Leaks

The Gas Leaks KPI incorporates two components:

- **Number of Significant Gas Leaks**

  The uncontrolled loss of containment of gas from the pipeline/installation/facility as defined by the license.

- **Number of Unplanned Gas Releases**

  An unplanned gas release falling outside the parameters of an uncontrolled loss of containment and requiring the attendance of an operational maintenance crew but not Emergency Services.

Emergency Response Exercises

The requirement is for two emergency response exercises per annum, either:

- two desktops, or
- two role plays, or
- one desktop and one role play.

Active participation in a gas industry exercise will also count towards this KPI.

Evidence of the emergency response exercise must be provided separately and will clearly demonstrate that:

- operational competencies have been challenged
- the exercise reflects a realistic facility/pipeline incident event that tests the response and recovery protocols
- responsible persons, as identified in the accepted Emergency Response Plan, are actively involved in the exercise
- emergency exercise reporting includes 'lessons learnt' recommendations and any actions to be taken to ensure ongoing improvement.

Asset Management

This KPI will capture the relevant statistics and associated pipeline licence numbers and will incorporate three components:

- **Intelligent Pigging.**[5]
- **Coating Surveys.**
- **Dig Ups for Direct Inspection.**

Pipeline Interference

The Pipeline Interference KPI incorporates two components:

- **Dial Before You Dig Enquiry Responses**

  Dial Before You Dig enquiry responses will be measured in accordance with a specific Safety Case requirement. (For example, a requirement may be that all enquiries involving a given roadway will receive a response.)

[5] To be provided to ESV as a detailed report.

- **Pipeline Patrols Completed**

  Pipeline patrolling will be undertaken by competent personnel to ensure external threats are identified and managed. The frequency of patrolling will be measured in accordance with Safety Case requirements. (For example, monthly aerial patrols, daily vehicle patrols, etc.)

Corrosion

The Corrosion KPI incorporates two components:

- **Tests Meeting Cathodic Protection Criteria**

  Tests will be conducted in accordance with AS2832.1 and will measure the success of a pipeline's cathodic protection.

- **Potential Surveys Completed**

  This will detail the completion of Potential Surveys; the measure is reported in accordance with the Safety Case. Cathodic protection reports are still required to be sent to ESV each six or twelve months (where applicable).

Community Liaison

Licensees are required to have an established community/stakeholder liaison program to communicate the presence of pipelines and the importance of their integrity. Community/stakeholder liaison activities are a key pre-requisite for risk management and the prevention of external interference activities.

A qualifying liaison includes a communication that involves:

- raising awareness about the location of a pipeline
- precautions that must be taken to prevent interference with a pipeline

The method of liaison will include but is not limited to:

- information pack mail-outs
- face-to-face meetings
- person-to-person calls.

The Community Liaison KPI incorporates three components:

- **Land Owner and Occupier Communications**

  Any individual or organisation that owns/occupies a property traversed by a licensed pipeline.

- **Third Party Communications**

  Any individual or organisation that does not have a legal transaction with the relevant asset owner.

- **Council Communications**

  Any representative from a council's planning department and maintenance/engineering department and measured in accordance with the number of municipalities a licensed pipeline traverses.

Community Liaison Reporting Agreements

The Licensed Pipelines Industry Group (Natural Gas Transmission) nominated a number of other useful Community Liaison KPI inputs that are only relevant to particular asset types that include:

- Number of Land Owners and Occupiers Contacted Face-to-Face
- Number of Third Parties Contacted Face-to-Face
- Number of Councils Contacted Face-to-Face.

As agreed with the Licensed Pipelines Industry Group (Natural Gas Transmission):

- These KPI inputs will be used to indicate the degree of personal contact and its effectiveness at reducing incidents (as reported).
- The results may be reported by ESV as an industry aggregate (not company-by-company).

Community Liaison Reporting Timeframes

Community Liaison KPIs will be reported on an annual basis (at the end of the financial year)[6] in terms of both a number and an overall percentage reported in accordance with the relevant safety case.

[6] As opposed to the other KPIs, which are currently reported quarterly.

PROJECT PROCESS

The participants involved in the group included representatives from ESV and the Licensed Pipelines Industry Group (Natural Gas Transmission) (as shown in Appendix 1), which adopted the following consultative process approach.

The consultative process approach

Project brief and plan

Background research

Industry standards

Stakeholder background and comments / ideas

Workshop 1: Current status and ideas / opportunities

Circulation of notes and discussion points

Collation of individual comments

Workshop 2: Presentation of leading indicators

Draft paper – proposed KPIs

Workshop 3: Final discussion

Final report – KPIs for implementations

The review also used the KPIs of other, non-associated organisations (both in Australia and overseas) as a guide to selecting the final KPI list. KPIs will be used to facilitate the analysis of trends rather than give an absolute measure of performance. The list will be regularly reviewed to determine whether the new:

- incidents, risks, engineering, and operating standards and issues suggest alternative KPIs are needed for proactive management of pipeline integrity
- KPIs are achieving the original project objectives.

APPENDIX 1 - PARTICIPANTS

Members of the Licensed Pipelines Industry Group (Natural Gas Transmission) involved in the development of the KPIs for natural gas transmission pipeline licensees.

APA VTS Australia (Operations) Pty Ltd
Australian Gas Networks Ltd
Gas Pipelines Victoria Pty Ltd
IPM Australia Ltd
Jemena
Multinet gas
Origin Energy Resources Ltd
South East Australia Gas Pty Ltd
AusNet Gas Services
Tasmania Gas Pipelines Pty Ltd

APPENDIX 2 – REPORTING TEMPLATE

KPI Report - Victorian Licensed Pipelines Industry Group (Natural Gas Transmission)

Natural Gas Transmission Business Name

Requirements	Q1			Q2			Q3			Q4			Total
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
1. Number of Incidents													
1.1 Number of Pipeline Damage Incidents													0
1.2 Number of Unauthorised Excavations within 3m of Natural Gas Transmission Pipelines													0

Note: Any unauthorised excavation within 3 metres of a licensed pipeline as defined by the Gas Safety Act.

2. Gas Leaks	Q1			Q2			Q3			Q4			
2.1 Number of Significant Gas Leaks													0
2.2 Number of Unplanned Gas Releases													0

3. Emergency Response Exercises	Q1			Q2			Q3			Q4			
3.1 Number of Desktop Exercises													0
3.2 Number of Role Play Exercises													0

Note: The requirement is for two exercises per annum, either:
- two desktops;
- two role plays; or
- one desktop and one role play.

ACTIVE participation in a gas industry exercise will also count towards this KPI. Please note that evidence must be provided separately of emergency response exercises undertaken.

4. Asset Management	Q1	Q2	Q3	Q4
4.1 Intelligent Pigging				
a) Date Planned				
b) Date Last Pigging Completed				

Note: Intelligent Pigging activities are long term events. They must not be missed and should be reported to ESV annually.
Further details such as pipeline license numbers, pipeline names that would be pigged should be specified in the 'Comments/Remarks' section.

4.2 Coating Surveys				
a) Date Planned				
b) Date Last Coating Survey Completed				

Note: Further details such as pipeline license numbers, pipeline names that would be surveyed should be specified in the 'Comments/Remarks' section

4.3 Dig Ups				
a) Date Planned				
b) Date Last Pigging Completed				

Note: Further details such as pipeline license numbers, pipeline names that would be dug up should be specified in the 'Comments/Remarks' section .

5. Pipeline Interference	Q1			Q2			Q3			Q4			Total	
	# of	Safety Case Requirement	%	# of	Safety Case Requirement	%	# of	Safety Case Requirement	%	# of	Safety Case Requirement	%	Total #	Total %
Dial Before You Dig Enquiry Responses													0	
Pipeline Patrols Completed													0	

Note: Dial Before You Dig enquiry responses will be measured in accordance with a specific Safety Case requirement. For example, a requirement may be that all equiries involving a given roadway will receive a response.

6. Corrosion	Q1			Q2			Q3			Q4			Total	
	# of	Safety Case Requirement	%	# of	Safety Case Requirement	%	# of	Safety Case Requirement	%	# of	Safety Case Requirement	%	Total #	Total %
Tests Meeting Cathodic Protection Criteria													0	
Potential Surveys Completed													0	

Note: Tests will be conducted in accordance with AS2832.1.
Individual cathodic protection reports are still required to be sent to ESV each six or twelve months (where applicable).
Further details such as pipeline license numbers, pipeline names that would be surveyed should be specified in the 'Comments/Remarks' section.

7. Community Liaison	Annual		
	# of	Safety Case Requirement	%
7.1 Land owner and occupier communications			
7.2 Land owner and occupier's contacted Face-to-Face			
7.3 Third party communications			
7.4 Third parties contacted Face-to-Face			
7.5 Council communications			
7.6 Council's contaced Face-to-Face			

Note: Face-to-Face KPI inputs may be reported by ESV as an industry aggregate (not company-by-company).

8. General Comments	
Please provide general comments that will assist in interpreting the KPIs recorded above.	

Name:

(Authorised Person only)

Position:

Date: