



Planning &
Environment

NSW Licensed Pipeline Performance Reporting Guidelines

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Introduction

A formal annual reporting requirement was introduced within the *Pipelines Regulation 2000*. The reporting requirements were refined when the pipeline regulation was reviewed in 2005 and further simplified in 2011 using an Excel template.

The regulation requires reporting of accidents and emergencies, routine reporting and annual reporting. Pipeline Operators must comply with the requirements identified within the regulation. The template addresses many of those requirements which are collated as key performance indicators (KPIs).

High pressure pipelines typically experience low frequency, high consequence hazardous events. This template has therefore been developed to focus more on the measures taken to prevent these hazardous events by means of the pipelines safety management systems.

The emphasis for annual reporting will therefore be on information relating to asset integrity and the effectiveness of risk mitigation actions in addition to reporting the small number of incidents that do occur.

The template captures “forward looking”, or positive indicators, which focus on prevention of hazardous events in addition to “backward looking”, or reactive indicators, which report incidents that have occurred. The reporting requirements relating to asset integrity and the effectiveness of risk mitigation measures are based on the suite of Australian Standards in AS 2885: Pipelines – Gas and Liquid Petroleum.

Based on the information contained within the Pipeline Operators’ annual reports, NSW Department of Planning (the Department) produces a summary report which reflects the global performance of pipelines in NSW. Any matters requested under the template that do not relate to asset integrity and risk mitigation are not included in this final report but are used by The Department for the purpose of monitoring trends.

As mentioned above, this template refers to KPIs. However, it is not necessary for the Pipeline Operator to calculate each KPI in the report as we will do this as part of the overall evaluation process.

The performance reporting requirements in this template have been broken into categories:

- Accidents / Escapes / Ignitions
- Asset Integrity / Monitoring
- Utilization / Operational Performances

The annual report for licensees of more than one licensed pipeline can incorporate all information into one report but each pipeline must be listed separately.

The reporting period is from the July 1st to June 30th and the annual performance report is to be lodged with the Department by August 31st each year.

This template does not cover gas networks under NSW *Gas Supply Act 1996*. Gas Networks are covered by the Gas Networks Reporting template.

1 Accidents, Escapes and Ignitions

Accidents, escapes and ignitions with pipelines have the potential to have a high consequence if any of the following incidents occur.

A near miss

A non-authorised/un-notified third party activity which does not contact or damage the pipeline¹. As with incidents occurring after notification of work the number of near misses is an indication of the effectiveness of the Licensee's management measures.

- The number of near miss events in the reporting period.

Incident

Any third party activity where contact is made with the pipeline, whether or not the pipeline suffers a loss of containment or damage. Identification of incidents that occur after the Licensee became aware of the activity provides an indication on the effectiveness of the Licensee's management measures.

- The number of incidents in the reporting period.
- Number of incidents which occurred after notification of work being performed in the area in the reporting period.

Loss of Containment (LOC)

Uncontrolled escape of any substance from the pipeline. The number of LOC events is the prime indicator of the effectiveness of the Licensee's Safety Management System.

- Number of LOC events in the reporting period.

Ignitions

Is when the LOC event also ignites. Ignitions are the most hazardous event which can occur on a pressure pipeline. This data allows for clear understanding of how often LOC events ignite.

- Number of ignitions that occurred in the reporting period.

Injuries or property damage involving the pipeline

Is when a person is injured or property is damaged and the pipeline or the pipeline's easement area has played a part in the incident occurring. This provides an indication of the consequence of any hazardous event.

- Number of injuries that occurred in the reporting period.
- Number of property damages in the reporting period.

¹ Near misses are considered to result from uncontrolled activities within 3 metres of the Licensed Pipeline and a depth of 300mm.

KPIs for Accidents, Escapes and Ignitions

- *Near miss events per one thousand kilometres per year (per 5 years and 10 years as data becomes available.)*
- *Incidents per one thousand kilometres per year (per 5 years and 10 years as data becomes available.)*
- *Number of LOC events per one thousand kilometres per year.*
- *Number of Ignitions per one thousand kilometres per year.*
- *Number of injuries per one thousand kilometres per year.*
- *Number of property damages per one thousand kilometres per year.*

2 Integrity Assessment / Monitoring

This section reviews the integrity of the pipeline and the monitoring activities that are performed to reduce the possibility of accidents or incidents occurring on or around the pipeline.

Integrity Assessment

AS 2885 requires three primary reviews with respect to pipeline integrity to be conducted at intervals not exceeding 5 years:-

- Review of Maximum Allowable Operating Pressure (MAOP);
 - Review of Location Class; and
 - Review of Risk Assessment.
-
- When last review was performed.
 - Number of integrity related actions identified.
 - Number of actions not addressed within the timeframe of the scheduled maintenance program.

In-line inspections (PIGs)

A pipeline integrity gauge (PIG) inspection can determine if a pipeline is suffering “ovality”, dents, internal corrosion, or may be used to clean the internal surface a pipeline. An intelligent pig provides a method of checking the pipeline for pipe wall / welding defects that may have occurred over time.

- Date last performed.
- Number of kilometres pigged
- Number of defects/repairs² identified that require action.
- Number of defects/repairs identified that required action which where not addressed within the timeframe of the scheduled period.

Field Inspections

Periodically the pipeline and easement will be inspected to ensure that any existing known pipeline defects have not re-occurred or existing defects progressed.

- Number of field inspections performed and type.
- Number of defects identified.
- Number of repairs carried out.
- Number of defects/repairs identified requiring action which where not addressed within the timeframe of the scheduled period.

² A **defect** is identified within the standard of AS2885/ **repair**:- one repair may cover many defects.

Cathodic Protection (CP)

The pipeline may be protected from corrosion (including stray currents) by a CP system. Should the CP system not fully protect the pipeline, the pipeline may suffer corrosion which can become a contributing factor to a LOC.

- Number of kilometres covered by CP units.
- Number of CP units on pipeline
- Number of CP units that have not been operating correctly (in accordance with AS2832.1 criteria)

Pipeline Patrols

Personnel monitor the pipeline easement to maintain the condition and safety of the pipeline by preventing uncontrolled / unauthorised activity.

- Number of third party activities identified by patrol that did not previously contact the Licensee.

One-Call system

A “one-call” system allows people that are working within an area to find out what assets are in that area and gives the Operators an opportunity to check that the work will not affect a pipeline.

- Number of enquiries your “One-Call” system received about an activity near the pipelines.

Supervised Activity around the Pipeline

Third party construction work is regularly performed near the vicinity of the pipeline that requires monitoring to make sure the pipeline is not damaged during such occasions. Third party damage is the most common cause of pipeline LOC events.

- Number of supervised activities around the pipeline easement area.
- Number of activities that required supervision that did not access a “One-Call” system or the Operator by other means.

Coating defects

The coating is an important part of the pipeline and help prevent corrosion occurring. If the coating is badly damaged this will affect the performance of the CP in operating correctly

- Number of coating defects investigated
- Number of defects investigated that did not require repair (whether a repair was conducted or not)

Landowner Liaison

Continuing contact with Local Government and landholders is designed to inform the landowner of easements within those properties and also should identify who, as the Licensee, should be contacted. This also should address matters dealing with how assets on easements are to be handled.

-
- How many landowners affected by pipeline.
 - How many landowners contacted during this period.
 - How many landowners have changed in area since last contact.

KPIs for Integrity Assessment / Monitoring

- *Number of supervised activities per one thousand kilometres.*
- *Percentage of activities that contacted “One-Call” system.*
- *Percentage of pipelines kilometres that have been pigged in the last 5 years.*
- *Defects identified requiring attention per one thousand kilometres in last 5 years.*
- *Percentage of landowners contacted within 12 month period.*
- *Percentage of corrosion protection systems operating correctly per year.*
- *Percentage of pipeline kilometres that are covered by CP.*

3 Utilisation and Operational Performance

The operational performance monitoring is important as this action maintains what is recognised as ALARP “As Low As Reasonably Practicable” procedures to mitigate incidents occurring. The utilisation of the pipelines allows an insight into possible alternative access arrangements to certain pipelines during supply disruptions.

Loss of Operations

Is defined as when the pipeline or part thereof becomes non operational due to circumstances that are unplanned.

- Number of times this has occurred.
- Number of hours the pipeline or part thereof is not operational.

Details of any unplanned or abnormal incidents that could have a long term effect on the safety of the pipeline

The pipeline is designed to operate within certain parameters which includes pressure and temperature. Operating the pipeline outside of these conditions can affect the long term life of the pipeline.

- Number of over pressure events³.
- Level of over pressure.
- Number of temperature excursions.
- Extent of excursions.

Emergency Simulations or Exercises

Exercises conducted by the operators which are designed to test and identify improvements to the emergency response plan. The simulations may involve the Emergency Services to improve their preparedness to react to any incidents that might arise.

- Number of Emergency Exercises performed.

Non-compliances identified by Independent Audit

An independent audit of the Pipeline Management system (PMS), as per AS 2885, is performed and the auditor documents all non-conformances identified.

- Number of non-conformances identified in the PMS Audit.
- Number of non-conformances not corrected within a scheduled rectification period.

³ An over pressure event is considered to have occurred when the pipelines pressure exceeds the MAOP to AS2885.

Utilisation of the Pipeline

The Licensed pipelines have a capacity that can be transported within a 12 month period and a known transported amount. **(FOR INTERNAL USE ONLY)**

- Highest daily demand within the reporting period and the day that this occurred
- Average daily demand across the full reporting period.
- The total amount transported in the reporting period (standard cubic metres/ litres)
- Total length of pipeline in kilometres.

KPIs for Utilisation and Operational Performance

- *Hours pipelines not operational per year (per 5 years and 10 years as data becomes available.)*
- *Number of unplanned or abnormal incidents per one thousand kilometres per year.*