



Trade &  
Investment  
Resources & Energy

# **New South Wales**

## **2010-2011 Licensed Pipelines**

### **Performance Report**

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## Executive Summary

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The aim of this Annual Performance Summary Report is to assess the performance of NSW licensed pipeline operators in implementing the safety management systems required by the *Pipelines Act 1967*, the supporting *Pipelines Regulation 2005* and other criteria set by NSW Trade and Investment, Resources and Energy Division (the Department). The Department can then identify any opportunities for improvement to ensure security of supply is maintained and that risks to the public are as kept low as reasonably practicable (ALARP). ALARP refers to the process of minimising the risks of adverse events, and is incorporated in the AS 2885 Gas and Petroleum Standard.

In conjunction with the Licensees and Operators, the Department developed an annual reporting template which relates to technical performance, asset integrity and reliability. The previous two years performance reports can be viewed at:

<http://www.trade.nsw.gov.au/energy/pipelines/safety>

The Operators for all 31 licensed pipelines have reported their individual figures to the Department which are reflected in this performance summary report. This years report shows a decline in the number of near misses and the number of minor injuries from work on, or near, pipeline assets. There were no uncontrolled losses of containment and no serious injuries, ignitions or fatalities reported during the 2010/11 reporting period.

The reporting processes, criteria, data relevance and usefulness of the Annual Performance Report is reviewed on an ongoing basis, in consultation with the pipeline owners and operators, to ensure the maximum value is obtained from this report.

# 1. Introduction

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This Annual Performance Summary Report (the Report) is based on the November 2005 reporting template (rev. 2011) and covers all licensed pipelines operating in NSW. It is presented on a whole-of-State basis from the individual annual performance reports submitted by the licensees. These reports were submitted in accordance with the reporting requirements in the *Pipelines Regulation 2005*, in a format developed by the Department in consultation with the pipeline licensees.

The Report presents information on the potential public safety hazards associated with pipelines and provides an overview of the regulatory framework that the Department administers to ensure that any such risks are reduced to the minimum possible level and maintained at that level.

The *Pipeline Regulation 2005* and the Australian Standard AS 2885 complement each other in setting the technical standards for gas and liquid petroleum pipelines. The Regulation refers to the AS 2885 series of standards for design, construction, welding, operation and maintenance for all types of pipelines which reflects international “*Best Practice*” for construction and operation of pipelines.

The Department’s approach to safety regulation is performance based (sometimes also referred to as “outcomes focused”). This approach focuses on desired outcomes rather than the means for achieving those outcomes. This allows for flexibility by pipeline operators in their approach and encourages innovation by the licensees.

The reporting requirements examine actions taken to prevent any loss of containment from pipelines, as nearly all licensed pipelines are considered to form a crucial part of the NSW energy infrastructure. With this aim, the Department’s primary focus, through the reporting process, is to prevent incidents from occurring and to foster effective risk management practices.

The reporting requirements for licensed pipelines are broken into three categories;

- Accidents / Escapes / Ignitions;
- Integrity Assessment / Monitoring; and
- Operational Performance.

All of these require different actions to provide protection, but all should combine to maintain the safety and integrity of the pipeline.

Finally, the Report provides an overview of safety performance/safety management systems and asset management activities for the pipelines during the 2010/11 reporting year.

## 2. Accidents Escapes and Ignitions

This section of the Report deals with accidents, escapes, ignitions and injuries or property damage. Incidents occurring on high pressure pipelines can have significant consequences and may result in serious harm to people and/or property.

The items that are reported within this section are:

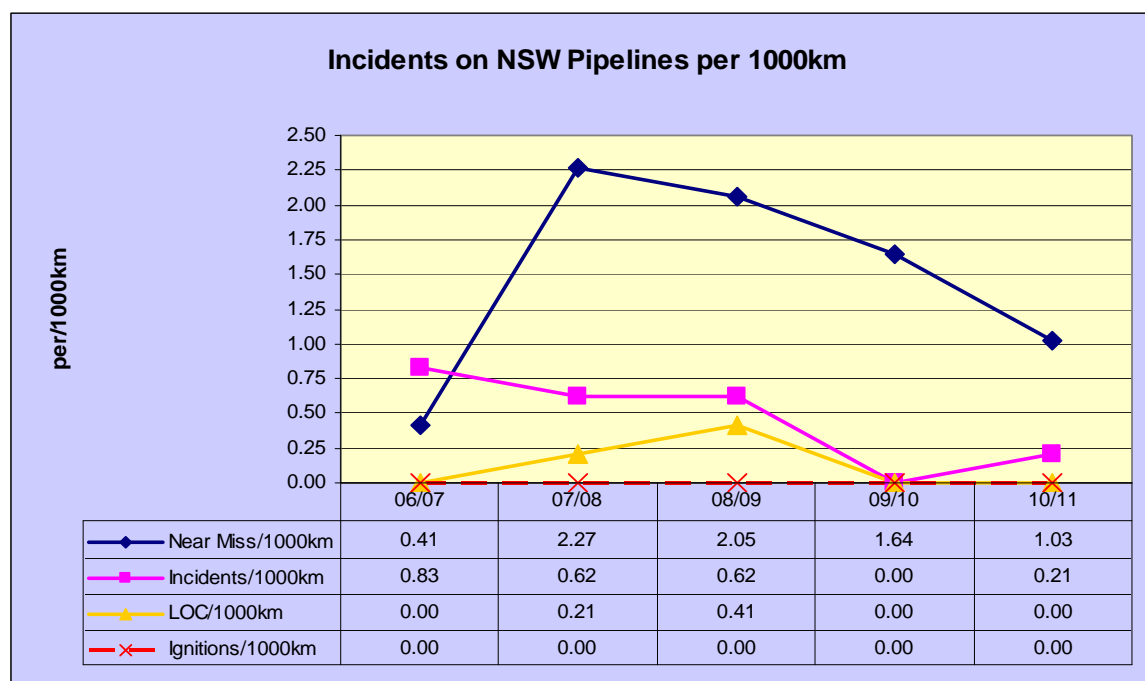
- Near Misses;
- Incidents;
- Loss of Containment (LOC);
- Ignitions;
- Injuries; and
- Property damage.

A detailed definition of the above items can be located in the reporting template. The main Key Performance Indicators (KPI) are identified below in Table 2.1

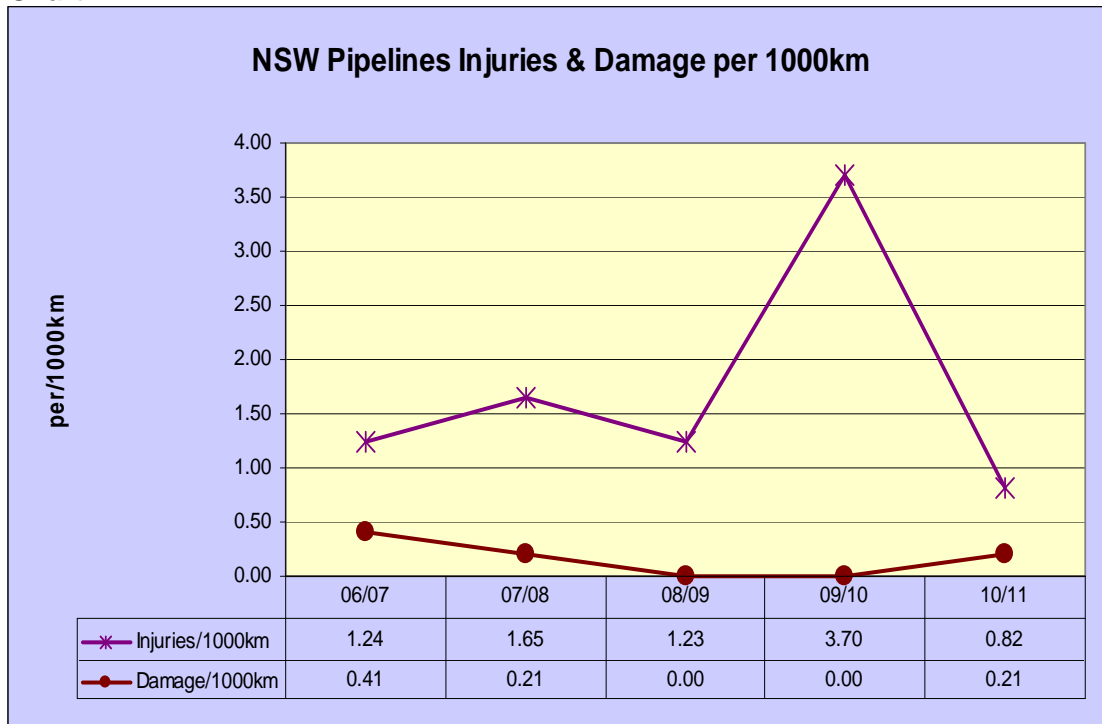
**Table 2.1** [Blue columns shown in Chart 2.1]

| Year    | Near Miss per 1000km | Incidents per 1000km | Loss of Containment per 1000km | Ignitions per 1000km | Injuries per 1000km | Damage per 1000km |
|---------|----------------------|----------------------|--------------------------------|----------------------|---------------------|-------------------|
| 2006/07 | 0.41                 | 0.83                 | 0                              | 0                    | 1.24                | 0.41              |
| 2007/08 | 2.27                 | 0.62                 | 0.21                           | 0                    | 1.66                | 0.21              |
| 2008/09 | 2.05                 | 0.62                 | 0.41                           | 0                    | 1.23                | 0                 |
| 2009/10 | 1.64                 | 0                    | 0                              | 0                    | 3.76                | 0                 |
| 2010/11 | 1.03                 | 0.21                 | 0                              | 0                    | 0.82                | 0.21              |

**Chart 2.1**



**Chart 2.2**

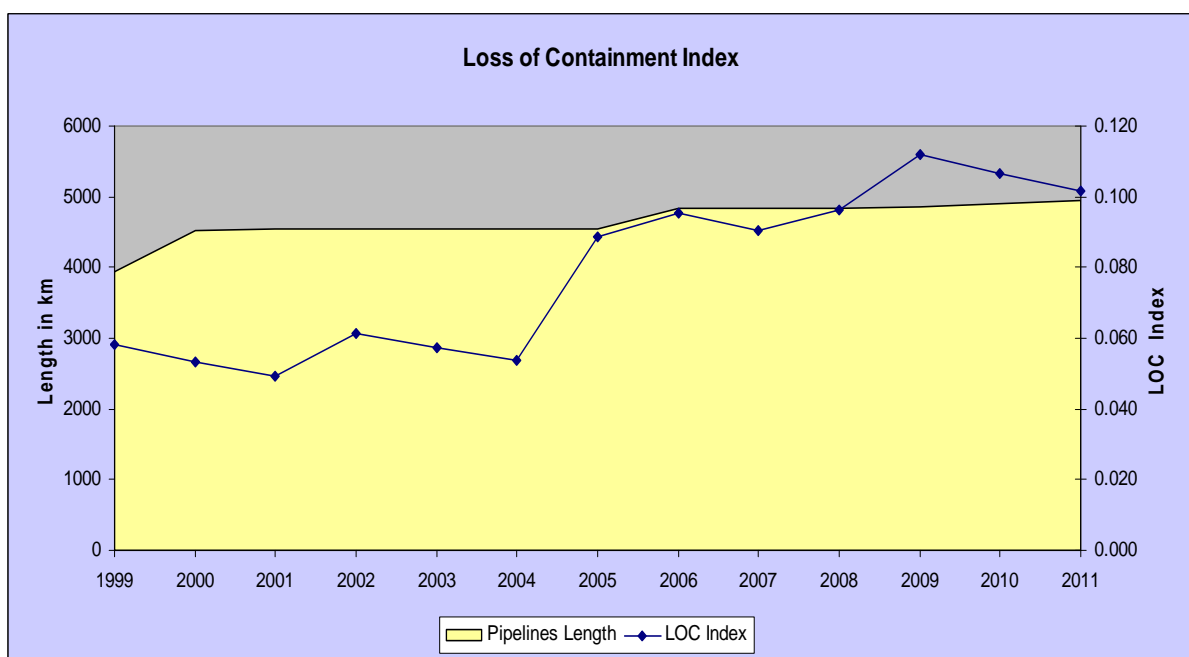


Note: Although the injuries per 1000 km rose significantly in 2009/10, the injuries were very minor and there were no fatalities as a result of any pipeline activities in NSW.

Chart 2.3 below is an index of the total number of loss of containment (LOC) incidents per time-weighted-average of 1000's pipeline km.

$$\text{LOC Index} = \frac{\text{Total No LOC incidents}}{\text{Time weighted average per 1000s pipeline km}}$$

**Chart 2.3**



### 3. 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.

The items that are reported within this section are:

- Integrity Assessment;
- In-line Inspections;
- Field Inspections;
- Cathodic Protection (CP);
- Pipeline Patrols;
- One-Call Systems;
- Supervised Activity around the Pipeline;
- Coating Defects; and
- Landowner Liaison

A detailed definition on the above terms and what is required to be reported is available within the reporting template.

The main KPI's are identified below in the Table 3.1

**Table 3.1** [Blue columns shown in Chart 3.1]

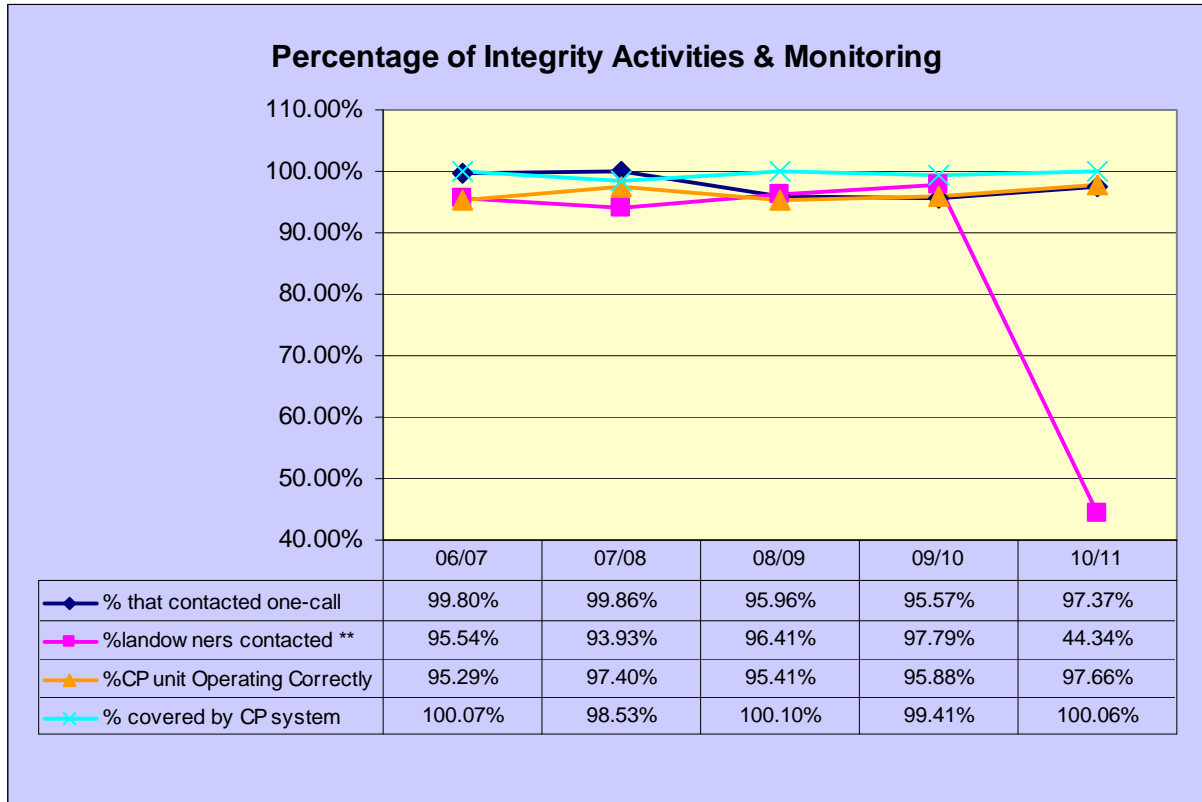
| Year    | Number Supervised Activities per 1000km <sup>1</sup> | Percentage that contacted "One-Call" system | Percentage of Pipeline in-line Inspected in last 5 years | Defects identified requiring attention per 1000km | Percentage of Landowners Contacted within 12 month period | Percentage of CP units operating correctly | Percentage of pipeline covered by CP |
|---------|--|---|--|---|---|--|--------------------------------------|
| 2006/07 | 1007.96  | 99.80%                                      | 75.03%   | 102.10  | 96.68%  | 95.29%                                     | 100%                                 |
| 2007/08 | 1157.91  | 99.86%                                      | 106.73%  | 375.79  | 94.27%  | 97.40%                                     | 98.53%                               |
| 2008/09 | 1179.10  | 95.96%                                      | 108.43%  | 847.85 <sup>2</sup>                               | 96.39%  | 95.38%                                     | 100%                                 |
| 2009/10 | 1325.81  | 95.57%                                      | 76.61%   | 187.17  | 97.90%  | 95.85%                                     | 99.45%                               |
| 2010/11 | 1210.78  | 97.37%                                      | 64.98%   | 43.95   | 44.34%  | 97.66%                                     | 100%                                 |

As Table 3.1 shows, NSW Pipeline Operators continue to operate their assets in a safe and reliable manner with all KPIs remaining strong. Legislation in NSW requires third parties to contact the One-Call ("1100") system prior to any excavation which is helping to prevent serious incidents. Although a small percentage of contractors are not using this service, we believe this will improve as more contractors make a habit of calling the "1100" One-Call system before beginning work near gas assets.

<sup>1</sup> These figures do not just relate to Licensed Pipelines as some Operators are still refining their collection methods to separate different assets, such as distribution networks.

<sup>2</sup> The increased value in 2008-09 reflects the results of an extensive in-line inspection program on one major pipeline which was closely monitored by the Department.

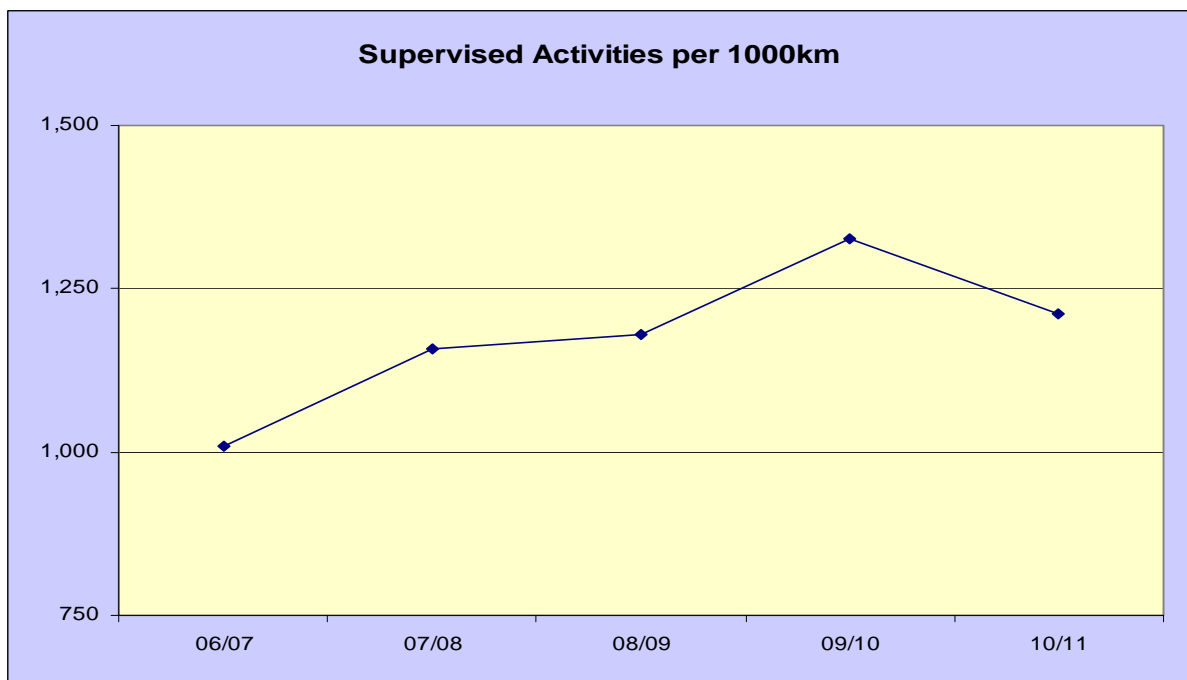
**Chart 3.1**



\*\* Note: Several operators did not contact all landowners within the 2010/11 period. There is, however, no contact frequency specified in AS 2885.

**Chart 3.2**

Third party activities supervised by pipeline operators per 1000km



Note: this figure includes activities near some gas networks, mains and unlicensed pipelines

#### 4. Operational Performance

Operational performance monitoring is important as this action maintains what is recognised as ALARP procedures to mitigate incidents.

The items that are reported within this section are:

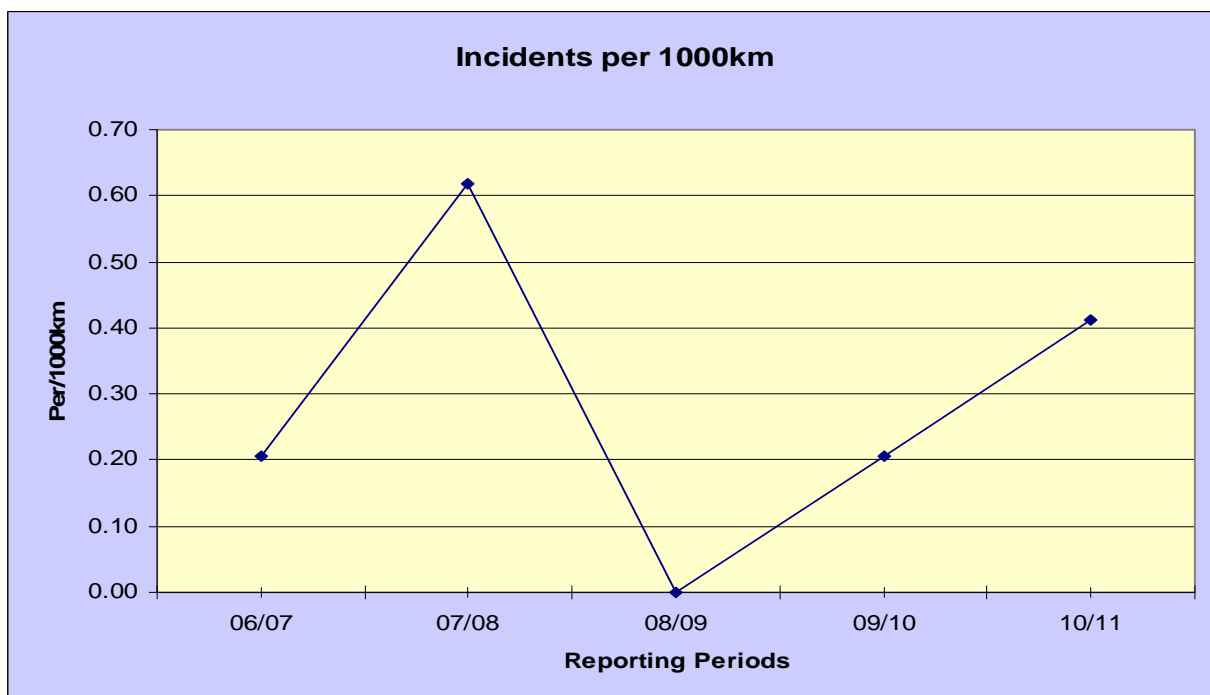
- Loss of Operations;
- Details of any unplanned or abnormal incidents that could have a long term effect on the safety on the pipeline;
- Emergency Simulations; and
- Non-Compliances identified by the independent audit

A more detailed definition on the above terms and what is required to be reported is available within the reporting template (see NSW Trade & Investment website). The main KPIs are identified below in the Table 4.1 and in the graph below.

**Table 4.1** [Blue column is shown in chart 4.1]

| Year    | Hours Pipelines Not Operational <sup>3</sup> | Incidents per 1000km |
|---------|--|----------------------|
| 2006/07 | 136  | 0.21                 |
| 2007/08 | 3951   | 0.62                 |
| 2008/09 | 4343   | 0                    |
| 2009/10 | 3670   | 0.21                 |
| 2010/11 | 104 <sup>3</sup>                             | 0.41                 |

**Chart 4.1**



<sup>3</sup> Prior to this year data included periods when pipelines were not operated for market reasons. From 2010/11 on this will include only periods when a pipeline is not operational due to emergency closures, unplanned maintenance or repairs, etc.

## 5. Conclusion

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As in the previous years' reports, this report indicates that the licensed pipelines in NSW continue to operate in a safe and reliable manner. It also shows that third party interference prevention strategies, including the "One-Call" system, which provides information to callers on all below ground assets, have been very effective in avoiding adverse public safety events for all operators.

Although the percentage of calls made to "One-Call" systems prior to works beginning rose 2% from last year, the Department is continually investigating ways to improve "One-Call" rates as an effective way of preventing unplanned contact with all pipeline assets.

Overall we can safely conclude that the NSW Pipeline Operators continue to manage their assets in a safe and reliable manner, providing a quality supply of gas, petroleum and other products to NSW consumers.