



**Trade &  
Investment**  
Resources & Energy

## **New South Wales**

### **2010-2011 Gas Networks**

### **Performance Report**

This report was prepared by NSW Trade & Investment, Regional Infrastructure & Services – Division of Resources and Energy. It is also available on the Department's website: <http://www.trade.nsw.gov.au/energy/gas/networks/performance>

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## Abbreviations

<b>T &amp; I</b>	Trade and Investment
<b>OFT</b>	Office of Fair Trading within the Department of Commerce in NSW
<b>GJ</b>	Gigajoule
<b>IPART</b>	Independent Pricing and Regulatory Tribunal
<b>kPa</b>	Kilopascal: pressure units
<b>KPI</b>	Key Performance Indicator
<b>LGA</b>	Local Government Area
<b>LPG</b>	Liquefied Petroleum Gas
<b>MAOP</b>	Maximum Allowable Operating Pressure
<b>MJ</b>	Megajoule
<b>PJ</b>	Petajoule
<b>SNG</b>	Simulated Natural Gas
<b>TJ</b>	Terajoule
<b>TLPG</b>	Tempered Liquefied Petroleum Gas
<b>UAFG</b>	Unaccounted-for-Gas (difference between gas entering and leaving the system)

**Table 1 :- Gas units of measurement.  
(a Joule is the international unit for measuring energy content)**

1000 Megajoules (MJ)	= 1 Gigajoule
1000 Gigajoules (GJ)	= 1 Terajoule
1000 Terajoules (TJ)	= 1 Petajoule (PJ)

**Note:-** One standard cubic metre of natural gas is approximately 38 MJ. This figure can vary as it relates to the heating value of a particular sample of gas.

# Executive Summary

This Annual Network Performance Summary Report has been prepared by the Resources and Energy Division of NSW Trade and Investment, Regional Infrastructure and Services ([the Energy Branch](#)) on the operations of natural gas and liquefied petroleum gas (LPG) distribution networks in NSW. These networks are regulated under the *NSW Gas Supply Act 1996* (the Act) and the *Gas Supply (Safety and Network Management) Regulation 2008* (the Regulation). The report consolidates and comments on performance data and information provided by the Gas Network Operators.

Under the Regulation, Network Operators are also required to prepare Safety and Operating Plans (SAOP) which are lodged with the Energy Branch and which govern their operations. The SAOPs are then annually audited by an independent auditor to assess performance against the Plan. This process is proving effective in providing safe and reliable networks, with no public or network worker fatalities involved on networks since the Regulation was originally proclaimed in 1997.

Many factors influence network performance including network scale, age, construction materials and operating regimes. Comparisons in performance across networks and between jurisdictions, must consider the factors that differentiate the networks and influence their performance.

Key Performance Indicators (KPI) have been developed by the Energy Branch to monitor and analyse the Network Operators' performances against network integrity, reliability, and safety parameters.

Much of the data reported are presented on a year-to-year basis to identify trends and changes in performance.

## **Natural Gas Networks**

The Network Operators have demonstrated a high level of performance in the areas of network integrity, reliability, and safety. Reporting against the requirements overall was good, although it is expected that improvements in reporting will continue to occur.

Furthermore we acknowledge that the Network Operators are constantly looking at ways to improve their reporting, in accordance with the Regulation, and the Energy Branch is working with the operators to achieve the best possible results. It must be noted, however, that some of the figures may be different from earlier reports. This is a result of the Network Operators improving the way in which information is being recorded and collated.

## **High-Pressure Pipelines (Unlicensed)**

Jemena Gas Networks (NSW) Ltd, ActewAGL and Albury Gas have high-pressure pipelines (operating pressure > 1050 kPa) as part of their networks. The reporting requirements for the high-pressure assets changed in the 2006 reporting period. This report contains data on these (unlicensed) pipelines over the past 5 years.

## **Liquefied Petroleum Gas (LPG) Networks**

Due to the size and complexity of LPG networks, comparison of these to natural gas networks is inappropriate. The LPG network information received by the Energy Branch is shown in Appendix A and it provides a significant input to the compliance regime in this particular field of operation.

Generally speaking LPG networks are performing well. However due to their small sizes, any incidents that do occur appear significant with respect to their customer numbers or the size of network. The overall size of the LPG networks has decreased over the past two years with the decommissioning of

two networks. NB: The figures for 2005/06 are not accurate as not all networks provided information for this reporting period.

Given the significant differences between LPG and larger, Natural Gas Networks, the Energy Branch continues to consult with LPG Network Operators to improve the LPG reporting regimes and to take into account the unique characteristics of the LPG networks.

## **Conclusions**

The state averages for the KPIs indicate that all assets are being maintained to a very high standard.

### Summary of KPIs

- The NSW Gas Network has grown just over 5% in the last five reporting periods.
- The number of consumers connected to Natural Gas in NSW is now over 1.17 million and has been increasing for the past 5 years.
- The number of consumers grew by over 25% since last year. This is largely due to significant housing construction in the western suburbs of Sydney.
- The average Unaccounted for Gas (UFG) figure for the state has increased slightly from 1.78% last year to just over 2.45% for this period.
- The number of mechanical damage incidents rose from 0.74 to 0.76 per 10 kilometers.

These results remain strong and indicate that the Network Operators continue to manage their assets in a safe and reliable manner.

The Energy Branch continually reviews all annual reports received and has a policy to consult closely with the Network Operators in the ongoing evaluation of the reporting requirements.

# 1. Introduction

This report consolidates performance information and data provided by each of the gas distribution network operators for the 2010/11 financial year in accordance with the requirements of the Annual Reporting Template for Network Operators.

This report:

- presents the Energy Branch's interpretation and commentary on the information and data provided by the operators and compares overall performance;
- identifies areas of achievement and opportunities for improvement for the NSW industry as a whole; and

## 1.1 Report Structure

This report summarizes data provided by the distribution network operators in accordance with the annual reporting requirements prepared by the Energy Branch and has the following structure:

- **Chapter 1** *Introduction.*
- **Chapter 2** *Network Asset Information.*
- **Chapter 3** *Network Integrity and Safety Information.* This chapter also presents KPIs, derived from the data provided,
- **Chapter 4** *Network Reliability and Consumer Related information.* This chapter also presents KPIs, derived from the data provided,
- **Chapter 5** *High-Pressure (Unlicensed) Pipeline data.*
- **Appendix A** LPG Industry and LPG networks reported data.
- **Appendix B** Natural Gas Industry within NSW.

## 1.2 Limitations of This Report

There are currently nine licensed gas network operators in NSW. Six of these reticulate natural gas while the remaining three operate distribution systems that reticulate LPG. These are all regulated by NSW Trade & Investment in similar fashion under the *Gas Supply Act 1996*. The annual reporting is carried out in accordance with the requirements of the *Gas Supply (Safety and Network Management) Regulation 2008*.

The scope of this Report relates primarily to the natural gas networks. The LPG distribution Network Operators have the same reporting requirements as natural gas network operators. However the analysis of this data is detailed later in this performance report (see Appendix A) due to the small sizes and complexities of these particular networks. Licensed high-pressure transmission pipeline systems are not addressed in this report (*please refer to the Licensed Pipeline Performance Report*).

The Energy Branch recognises the efforts made by the Network Operators on improving the quality of information, data and reporting. Where possible, the Energy Branch has identified the limitations of the information and data provided in this Report.

There are many factors that can influence network performance including network size, age, construction materials and operating regimes. Therefore, in attempting to draw comparisons of performance across networks, consideration must be given to the factors which may influence the overall performance results and the manner in which information is gathered and reported.

## 2. Network Asset Information

### 2.1 Annual Reporting Requirements

This chapter presents information on the gas network's size and capacity. To access the overall performance of the gas network a number of factors must be taken into account including::

- network pipe length ( less than 1050kPa<sup>1</sup> );
- quantity of gas entering the network;
- quantity of gas delivered to custody transfer points; and
- new regions connected to gas supply.

The Network Operators are required to report network details by district or groups of districts. For network safety and reliability reasons, it is important that any trends occurring in a localised area are identified and reported, rather than being potentially lost in aggregated data. Aggregated data can average out to show good or poor results that can misrepresent localised information which is particularly important for the larger networks.

Where a method of gathering information has changed, immediate comparisons may not be an accurate way of accessing the performance of the asset owner or assets, in which case this data has been removed from the tables or graphs.

### 2.2 Key Performance Indicator

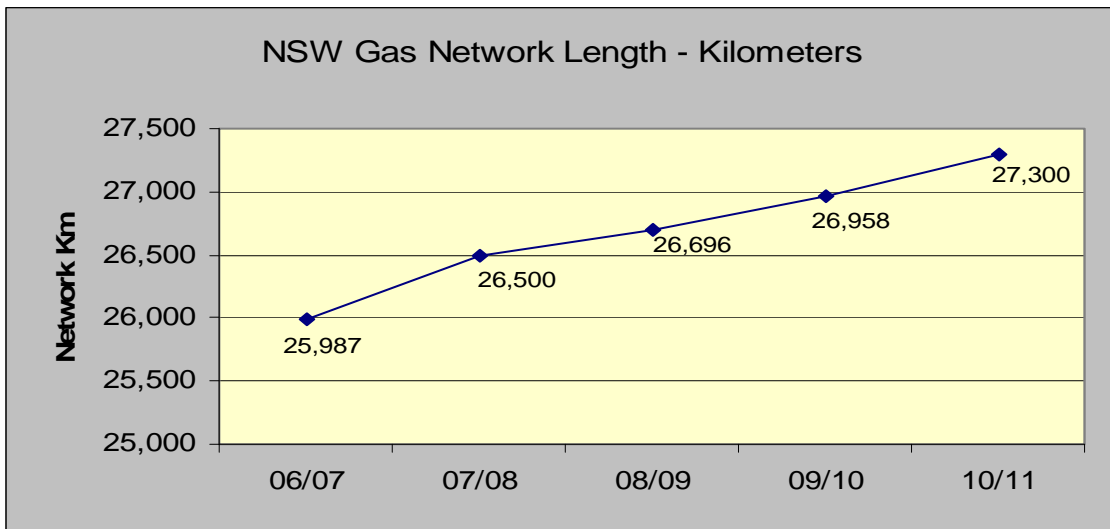
- Unaccounted for Gas (UAFG)

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<sup>1</sup>: 1. Operating pressure classes are: 1. less than or equal to 1050kPa and 2. pressures greater than 1050kPa.

### 2.3 Natural Gas Networks – Asset Information

In 2010/11 the length of the natural gas network again grew 1%, reaching 27,300 km, delivering approximately 110.2 PJ or about 2.92 billion standard cubic metres of gas to consumers.

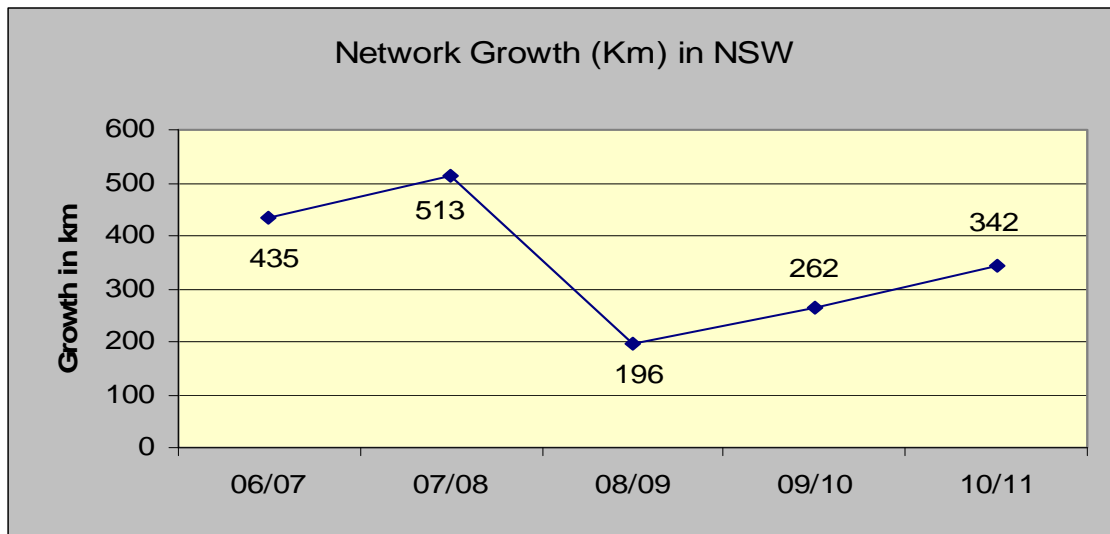


**Table 2.1 Natural Gas Networks in NSW – Summary Statistics**

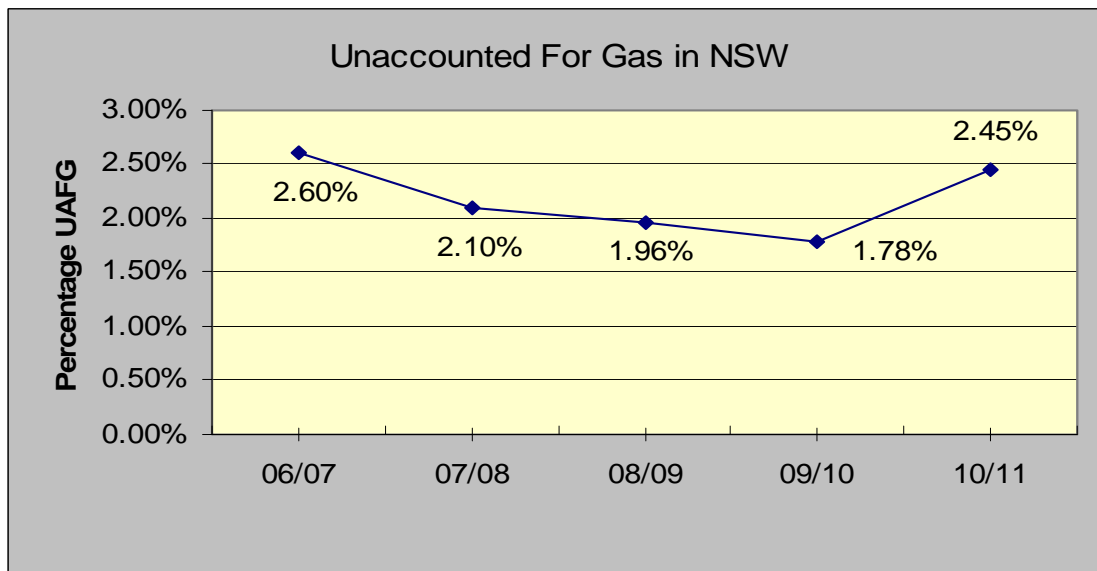
Reporting Period	Network Growth in NSW in km	Gas entering the Network in PJ	Gas Delivered in PJ	Percent Unaccounted for Gas (UAFG) %
2006/07	435	106.3	103.6	2.60
2007/08	513	108.0	105.7	2.10
2008/09	196	111.5	109.5	1.95
2009/10	262	108.6	106.3	1.78
2010/11	342	112.9	110.2	2.45

Blue columns are also in graphs below

## Network Growth (Km)



- **KPI – Unaccounted For Gas**



### 2.3.1 New regions

No new regions have been reticulated in this reporting period, therefore the growth is within the existing networks areas.

### 2.4 Conclusion

Since the previous reporting period the total length of the gas networks in NSW has increased by approximately 342km. This is 80km more than last year's network growth. The overall length of the NSW gas networks is currently 27,300km.

The amount of Unaccounted for Gas (UAFG) has been reported as 2.45% of gas entering the system, which is slight increase from the past two reporting periods.

## 3. Network Integrity and Safety Information

### 3.1 Annual Reporting Requirements

This chapter deals with product loss through escapes and from third party activity. It indicates how secure the assets are and how activity around the assets affect the performance. It also deals with the preventative measures associated with leak surveys:

- Number of gas leaks reported to network operator by third parties, by pressure class;
- Kilometres of pipe subjected to leak surveys;
- Number of leaks found during leak surveys;
- Number of recorded mechanical damage incidents to gas networks, by type and source – by pressure class and location;
- Number of emergency exercises or simulations conducted; and
- Number of calls to a “One-Call” system (*Dial Before You Dig*) received about work near the networks.

### 3.2 Key Performance Indicators

The key performance indicators adopted by the Energy Branch for monitoring network integrity and safety include:

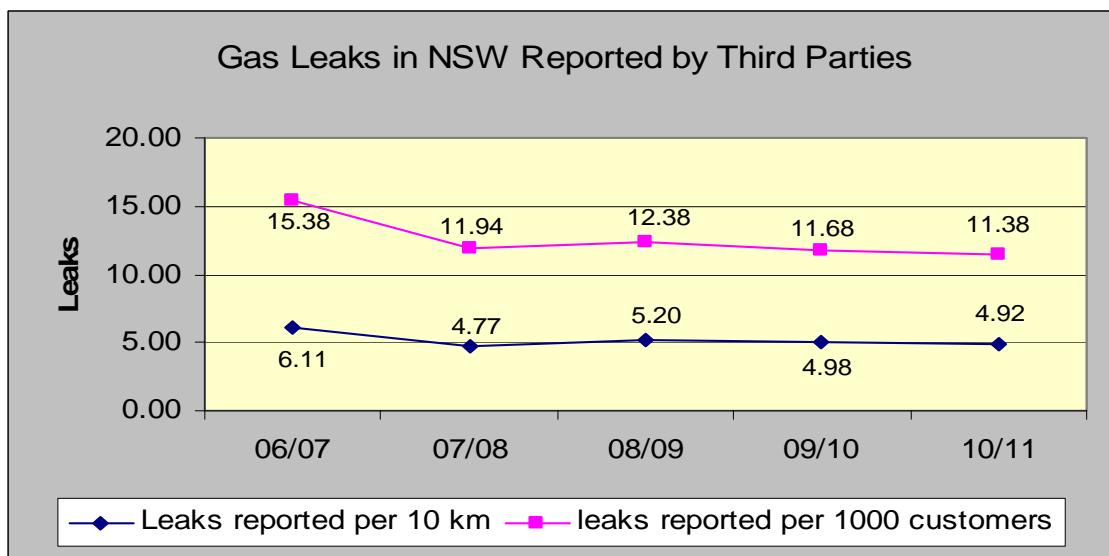
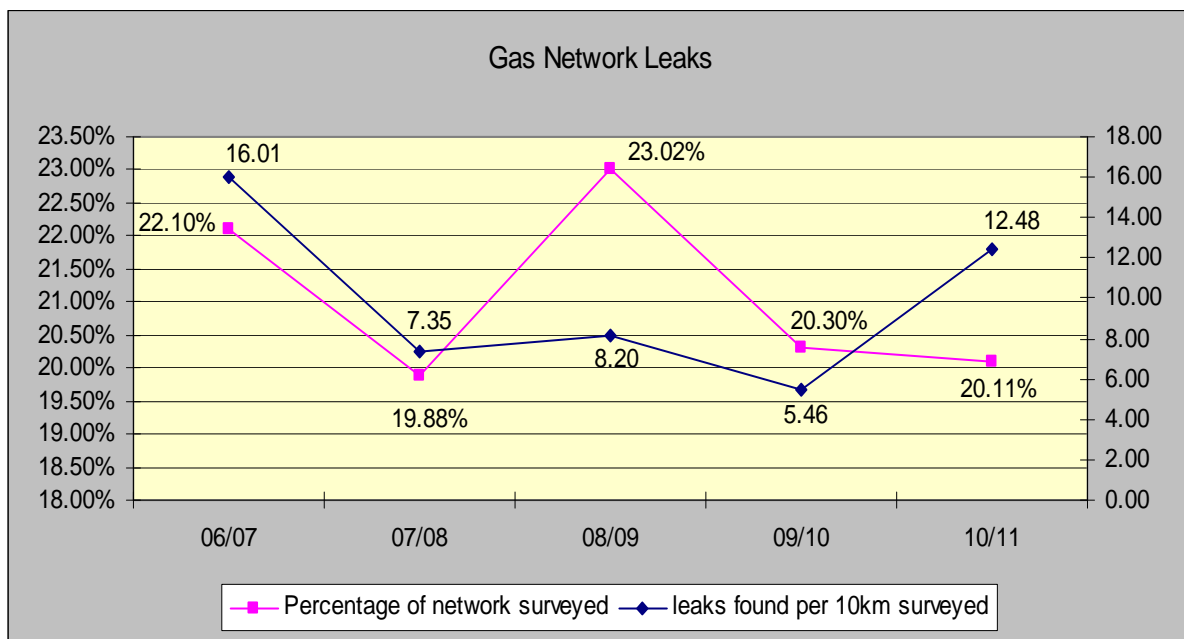
- Gas leaks per 10km of pipe reported by third parties;
- Gas leaks per 1,000 customers as reported by third parties;
- Leak surveys as a Percentage of total pipe length;
- Leaks found per 10 kilometres of pipe surveyed;
- Mechanical damage incidents per 10 km of pipe;
- Mechanical damage incidents per 1000 consumers; and
- Number of Emergency Exercises

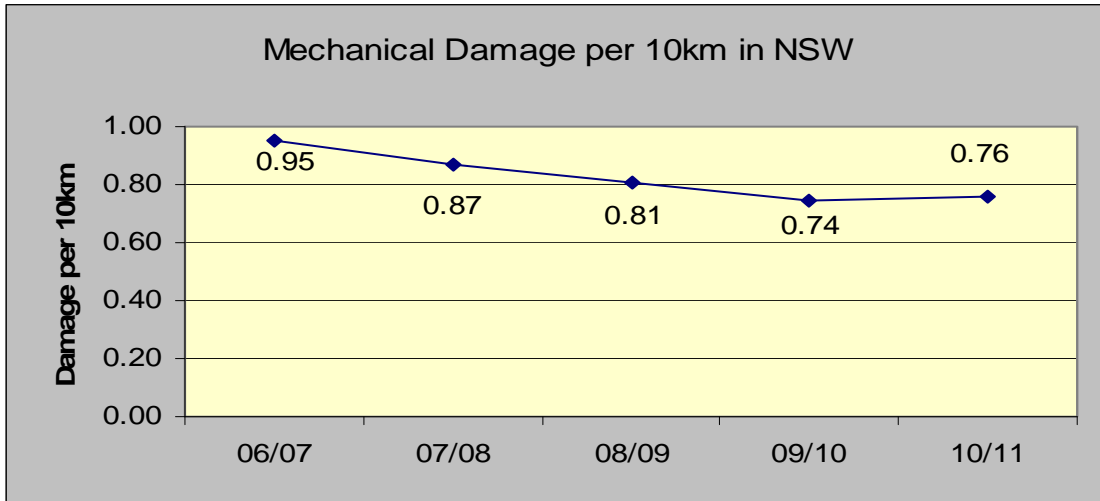
These data are presented in Table 3.1 and in the accompanying graphs.

**Table3.1 Network Integrity and Safety for NSW.**

Reporting Period	Percentage of Network Leak Surveyed	Leaks found per 10km	Mechanical Damage per 10km	Mechanical Damage per 1000 consumers	Emergency Exercises
2006/07	22.10	16.01	0.95	2.39	12
2007/08	19.88	7.35	0.87	2.18	19
2008/09	23.02	8.20	0.81	1.92	19
2009/10	20.30	5.46	0.74	1.74	10
2010/11	20.11	12.48	0.76	1.79	9

Blue columns also in graphs below.





### 3.2.1 Natural gas - networks surveys

It is not a requirement for operators to survey their entire gas networks each year but they must survey 100% of their network within a span of 5 years. The amount of network surveyed in 2010/11 was about 20% however the figures for surveys over the past 5 years indicate that approximately 116% of the networks have been surveyed.

Mechanical damage per 10km was slightly greater than last years figure.

### 3.3 Conclusion

The Network Operators have been working with third party contractors to reduce impacts over the reporting periods and this appears to have worked with a steady decline occurring in recent years. Third party impact on assets.

Both the number of gas leaks reported per 10km and per 1000 customers remain at low levels.

The *Amendments to the Energy Legislation (Infrastructure Protection) Act 2009 and Regulations*, were passed in June 2009 and came into force on 1 July, 2010. The NSW Gas Network Operators were involved in the drafting of these legislative amendments which were aimed at reducing the frequency of damage to gas network assets by requiring third parties to contact a one-call system prior to working near gas assets. Recent publicity about these legislative changes and an increase in public awareness has contributed to large increases in "Dial Before You Dig" (1100) enquiries during the past two years. In 2010-11 there were approximately 151,670 calls to "Dial Before You Dig" pertaining to gas network assets.

## 4. Network Reliability and Consumer Related Matters

### 4.1 Annual Reporting Requirements

This section reports on the ability of Network Operators to detect incidents that have occurred and the amount of time taken rectify these events. And the ability to respond to events within a specific time period. The consumer related numbers are used to assist in the KPI analysis in relation to how many consumers are affected by these events:

- Number of Consumers Connected to the Network; (Total number);
- Number of New Consumers Connected to the Network: (Total number);
- Loss of Supply; (Duration, Total unplanned consumer hours lost - 5 or more customers);
- Loss of Supply; (Number, Total unplanned numbers of loss of supply instances - 5 or more customers);
- Poor Supply Pressure; (Total number of instances)
- Odorant Levels Not to Specification; (Total number of instances);
- Number of incidents or emergencies responded to; and
- Incidents or Emergencies Response Not Within 60 Minutes of Notification; (Total number).

### 4.2 Key Performance Indicators

The KPIs adopted by the Energy Branch for monitoring network reliability and safety are:

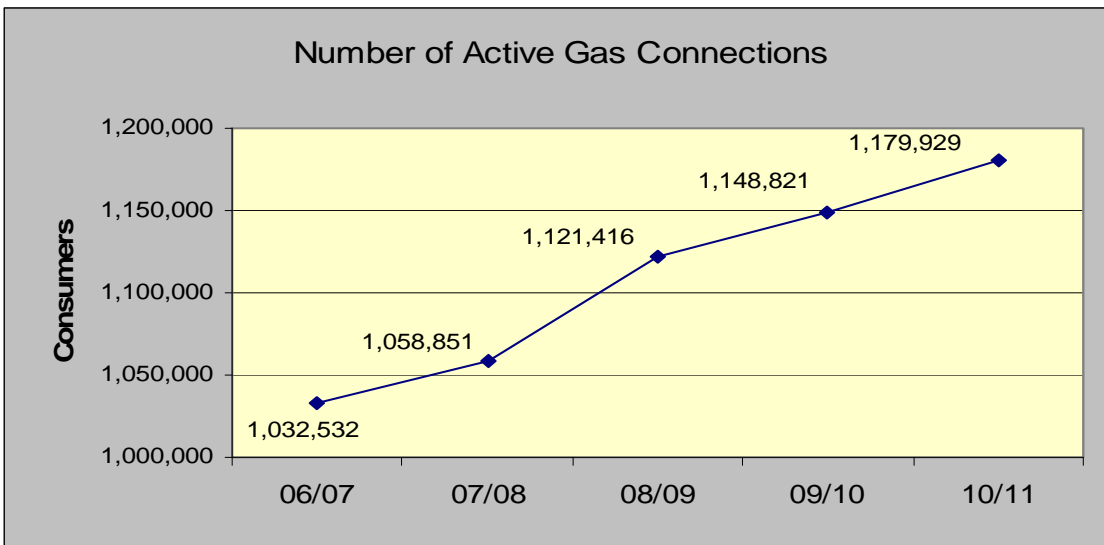
- Loss of Supply (Total unplanned consumer hours lost 5 or more customers) per 1,000 customers); and
- Percentage of calls responded to within 60 min.

**Notes relating to network reliability and consumer statistics**

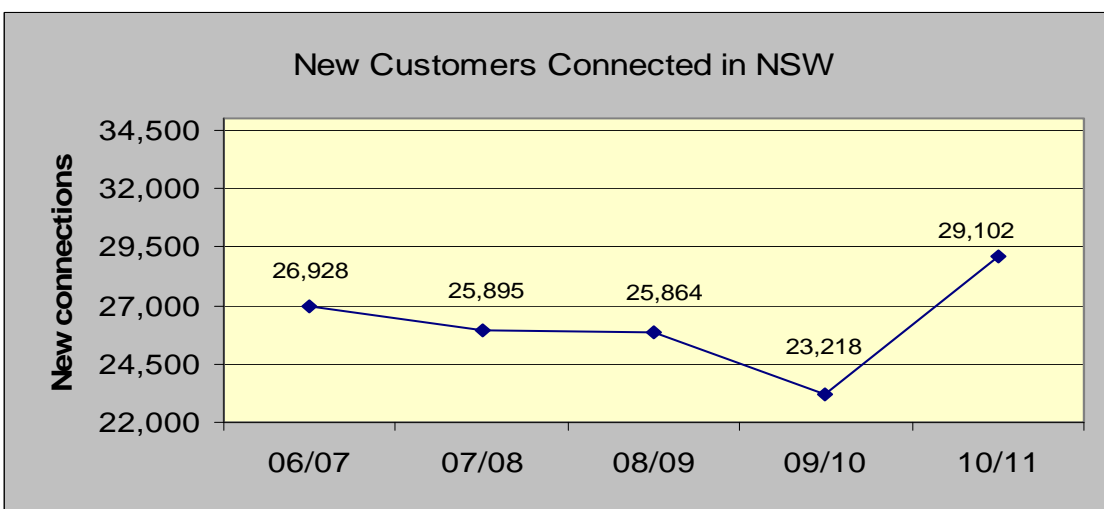
**Consumers numbers connected to gas networks** is the sum of all connection points that are active and consuming gas.

**New Customers connected to the networks** relates to new installations. These figures may not necessarily be included in the consumer numbers because at the time of calculation the new connection point may not be active (taking gas). This is one reason why the consumer number growth does not equal the new customers connected. Another reason for the difference in numbers is the reconnection or disconnection of consumers to and from the network.

**Total NSW natural gas consumers**



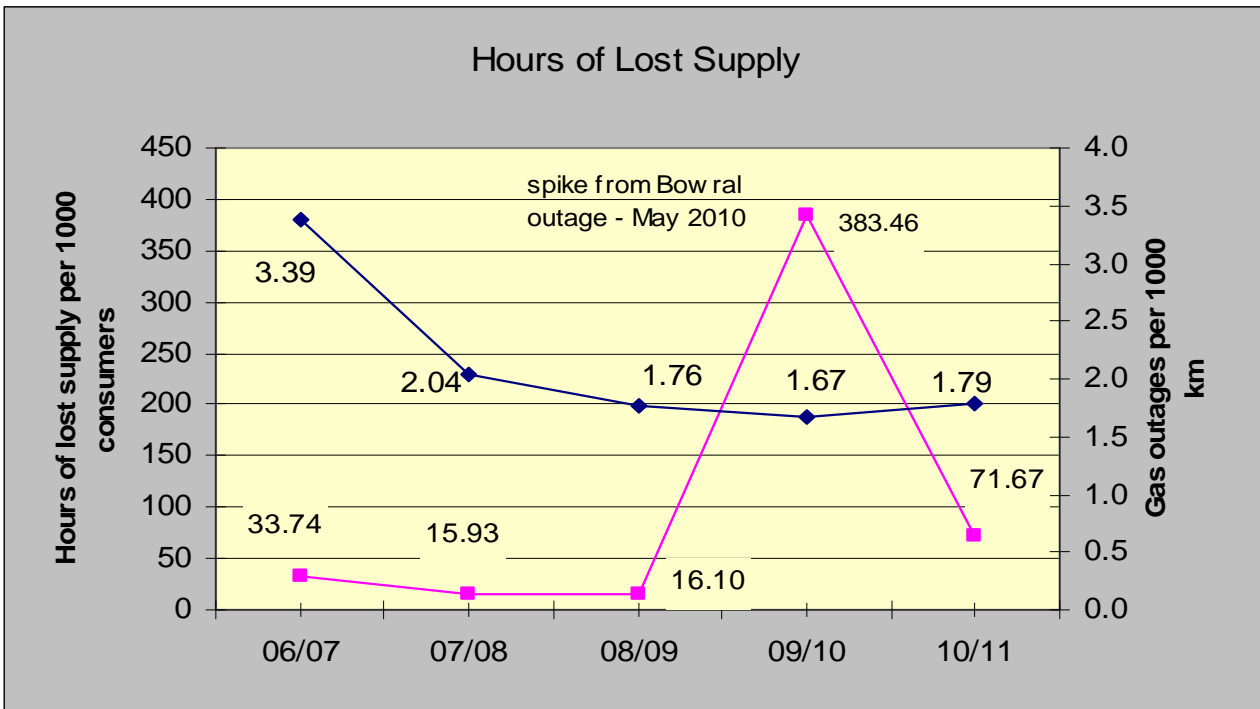
**New natural gas network connections**



Note: In 2008-09 the Department was advised; changes within the NSW market have necessitated reviewing the methodology used to determine consumer numbers. Gas distribution businesses have no contractual relationship with end consumers; contestable Delivery Point Identifiers (DPI) reflect the number of contestable sites which retailers register with the Australian Energy Market Operator (AEMO). Consequently it is now appropriate to record "DPI" rather than "consumers", resulting in a significant increase over previous years due to allocation of previously unattached supply points to retailers.

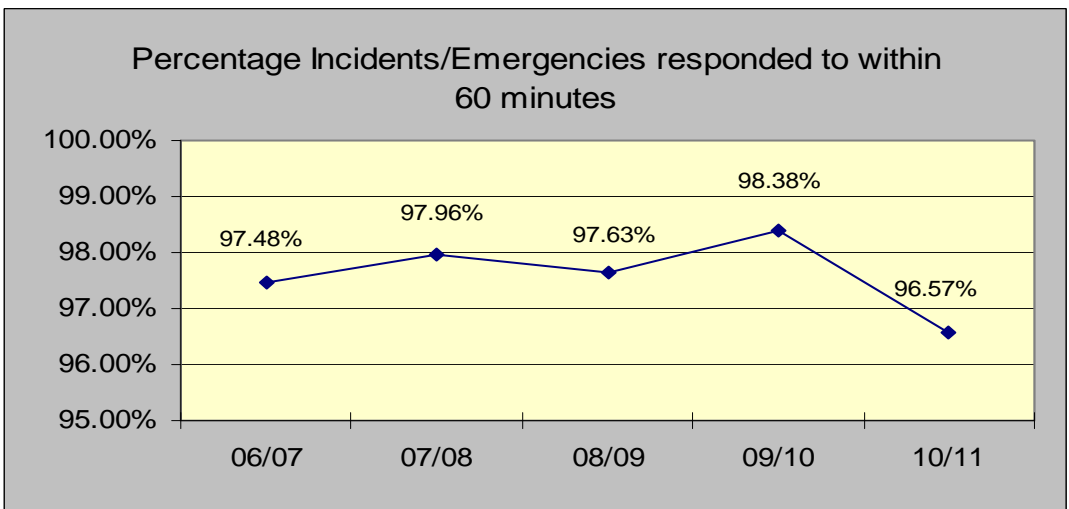
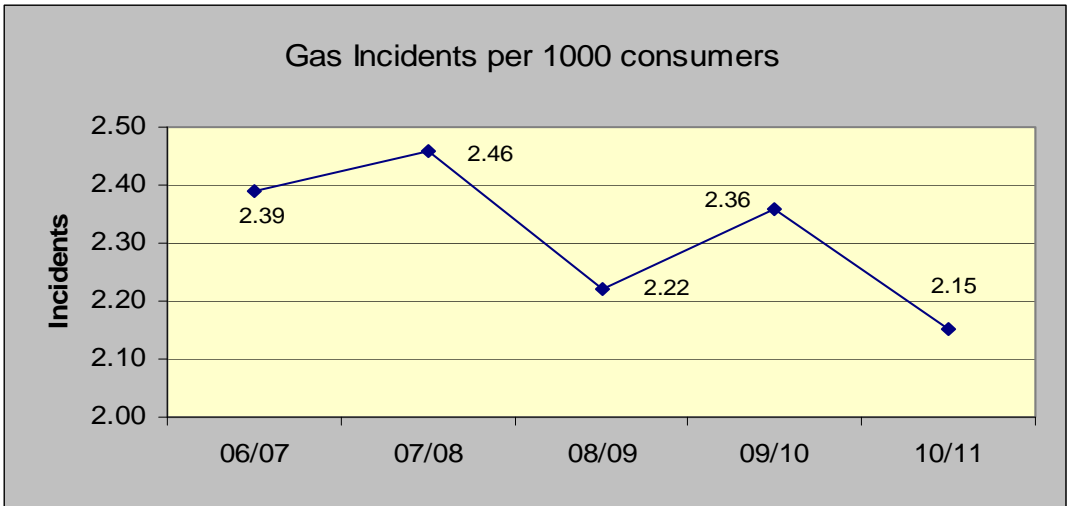
Reporting Period	Unplanned Consumer hours lost per 1000 consumers	Unplanned loss of supply incidents per 1000km	Number of out of spec gas or odorant levels	Number of Incidents/emergencies per 1000 consumers	% Incidents/emergencies responded to within 60 min.
2006/07	33.74	3.39	347	2.39	97.48
2007/08	15.93	2.04	68	2.46	97.96
2008/09	16.10	1.76	54	2.22	97.63
2009/10	383.46 *	1.67	12	2.36	98.38
2010/11	71.67	1.79	50	2.15	96.57

\* A significant contamination incident at the Bowral trunk station, impacting 8905 consumers, was the cause of the jump in hours of lost supply in 2009/10.



Note : The Hours of lost supply per 1000 consumers in 2009/10 *without the Bowral incident* was 7.26 hours.

An outage in Cooma in March 2011, impacting more than 1700 consumers, was largely responsible for the high hours of lost supply per 1000 consumers (71.67).



### 4.3 Conclusion

The number of consumers connected to gas networks has increased by over 29,000 to a total of over 1.17 million. The connection of new customers has been fairly constant since the 2006/07 reporting period with the number of new customers connected this reporting period increasing sharply due to new housing construction in the western suburbs of Sydney.

Apart from the gas contamination incident at the Bowral Trunk Station, in May 2010, and an outage in Cooma in March 2011, the reliability indicators show that Network Operators continue to provide a reliable supply of gas to consumers and there were only 2.15 incidents per 1000 gas consumers in NSW.

The response times to emergencies and incidents rose slightly but still remains strong, with more than 95% being responded to within 60 minutes.

## 5. High pressure (unlicensed) pipeline activities

### 5.1 General

Jemena (Sydney), Jemena (Coastal), ActewAGL and Albury Gas operate high pressure pipelines (>1050 kPa) as part of their network activities. Network operators are required to review matters such as pressure, location, land use, security and risk assessments on a periodic basis as defined under Australian Standard AS 2885: Pipelines - Gas and liquid petroleum.

The Energy Branch's annual reporting requirements requested the following information:

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

NSW has approximately 174km of mains operating in the network that are running at a pressure above 1050kPa. These distribution mains contain a larger amount of energy and are important feeders to the distribution network. This is why they require a more in-depth review of the operation and safety aspects to the public, personnel and environment.

### 5.2 Accidents, Escapes and Ignitions

The following issues are covered within this section:

- Incidents;
- Loss of Containment (LOC);
- Ignitions;
- Injuries involving the pipeline; and
- Damage involving the pipeline.

Reporting Period	Incidents	Loss of Containment (LOC)	Ignitions	Injuries	Damage
2006/07	0	0	0	0	0
2007/08	0	1	0	0	0
2008/09	0	0	0	0	0
2009/10	0	0	0	0	0
2010/11	0	0	0	0	0

### 5.3 Integrity Assessment / Monitoring

The following issues are covered within this section:

- Integrity Assessment;
- Pipeline Patrols;
- Supervised activity around the Pipeline;
- Field Inspections;
- Cathodic Protection (CP); and Coating Defects.

#### Summary of relevant reporting data from this reporting period

Reporting Period	Supervised activities per km	Percentage of activities that contacted Operator (%)	Defects found requiring repair per 1000 km	Percentage of CP units operating correctly (%)	Percentage of pipeline covered by CP systems (%)
2006/07	26.81	69.53	15.94	100	100
2007/08	29.10	72.27	1.00	100	100
2008/09	29.97	95.92	0	100	100
2009/10	33.73	95.76	28.57*	100	100
2010/11	30.51	97.32	0	100	100

\*Note: A higher percentage of the network was subject to surveys resulting in an increase in defects found.

### 5.4 Operational Performance

The following issues are covered within this section:

- Loss of Operation; and
- Details of any unplanned or abnormal incidents that could have a long term effect on the safety of the pipeline.

Reporting Period	Hours pipeline not operational	Number of unplanned or abnormal incidents /km
2007/08	0	0
2008/09	0	0
2009/10	0	0
2010/11	0	0

### 5.5 Conclusions

The High pressure gas network pipelines continue to perform well with no losses of containment or serious incidents reported in the 2010/11 reporting period.

## Appendix A LPG Networks in NSW and networks performance data

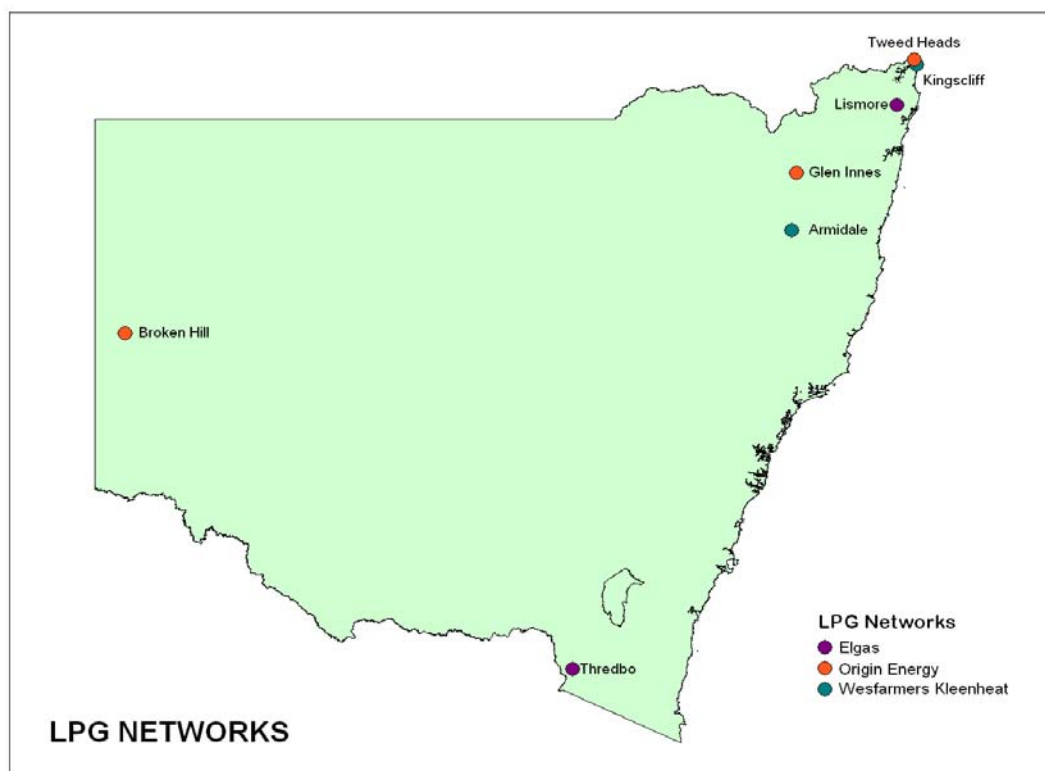
In addition to the natural gas distribution network in NSW, there are also a number of LPG distribution systems supplying gas to consumers within the State where natural gas is not available. LPG is transported to these sites by road and is therefore favoured for small stand-alone distribution systems.

LPG may be reticulated in several forms, such as TLPG, SNG, Butane or as direct LPG. The significance of this however is that gas appliances must be approved for use with the particular type of gas being reticulated within a network.

The scope of this section of the report is limited to the LPG and TLPG distribution networks only.

There were three licensed distributors of LPG in NSW who reported to the Energy Branch. The locations of these networks are illustrated in Figure A.1. The networks are briefly described below and network data provided by the operators is presented in this section. The figures for 2005/06 are not accurate as not all networks provided information for this reporting period.

**Figure A.1 Location of LPG Networks in NSW**



### ***Wesfarmers Kleenheat Ltd***

Kleenheat dominates the LPG sector in all three measures; pipe length, gas delivered and customer numbers. Kleenheat's distribution networks are in Armidale and Kingscliff. Armidale is the largest LPG network in NSW, separate from the now closed TLPG network which was permanently shut off in October 2011 for economic reasons.

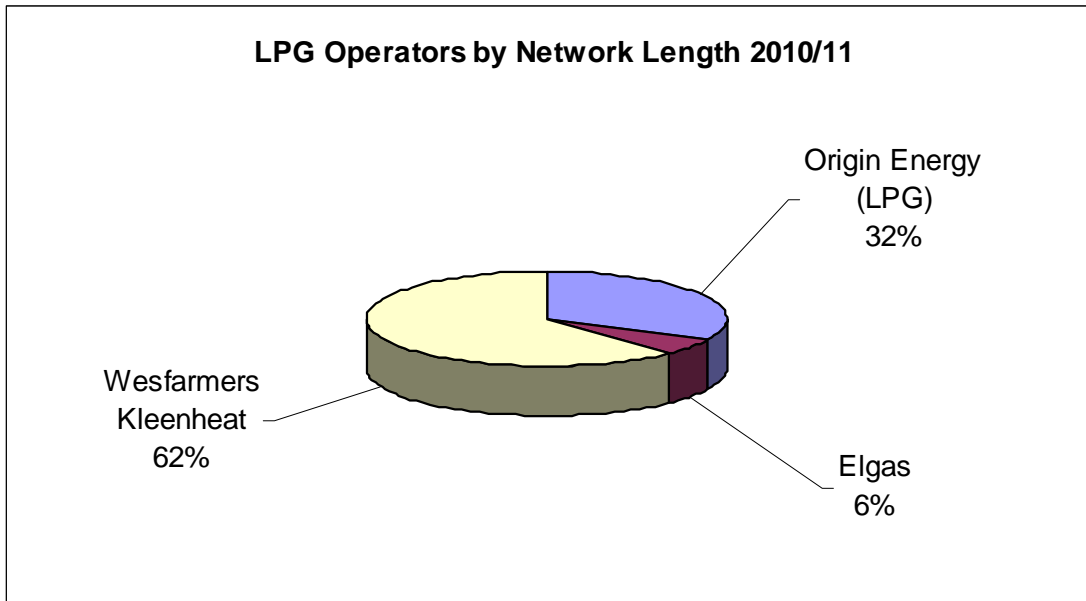
**Origin Energy LPG Ltd**

Origin Energy has distribution districts in Glen Innes, Tweed Heads and Broken Hill. Origin Energy at Glen Innes is the second largest LPG network in NSW.

**Elgas Reticulation Ltd**

Elgas has two distribution districts located in Lismore and Thredbo.

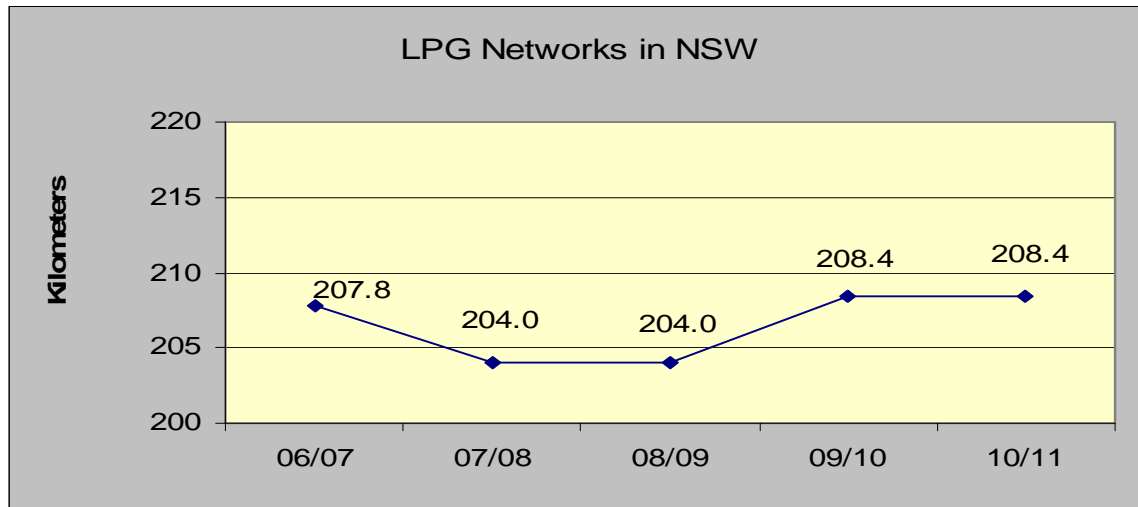
**Figure A.2 Relative Sizes of LPG Networks**



## LPG networks – Asset Information

NSW LPG distribution networks delivered 152TJ of gas through approximately 208 kilometres of pipes in 2010/11 period.

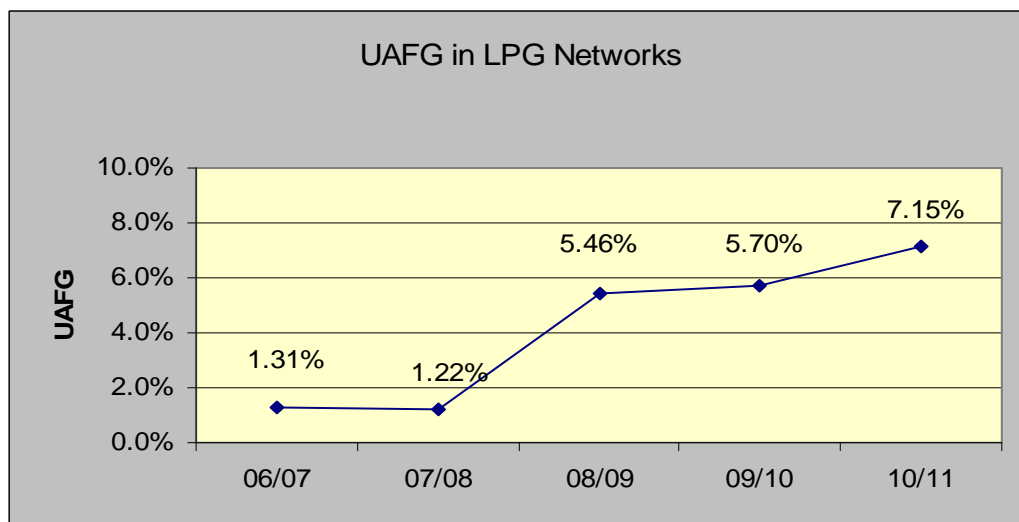
**Chart A.1 LPG Networks Length**



**Table A.1 Asset Information for LPG Networks 2009/10**

	Quantity Gas Entering Network (TJ)	Quantity Gas Delivered (TJ)	UAFG (%)
2006/07	148	146	1.31
2007/08	160	158	1.22
2008/09	168	159	5.46
2009/10	162	152	5.70
2010/11	159	148	7.15

**Chart A.2 UAFG in NSW LPG Networks**



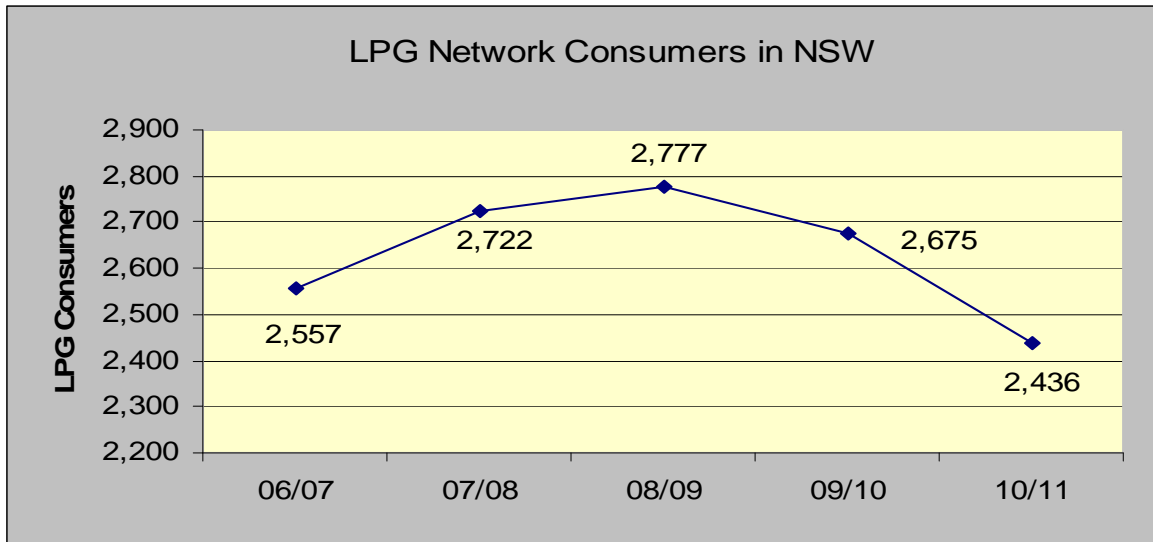
Note: A significant leak in Kleenheat's TLPG network was partly responsible for the high UAFG this year.

**Table A.2 Customer Information for LPG Networks**

	New consumers connected to the network	Total consumers connected to the network
2006/07	1	2557
2007/08	165	2722
2008/09	39	2777
2009/10	6	2675
2010/11	35	2436

Blue column also in graph of LPG consumers below.

**Chart A.3 LPG Networks Consumer Numbers**

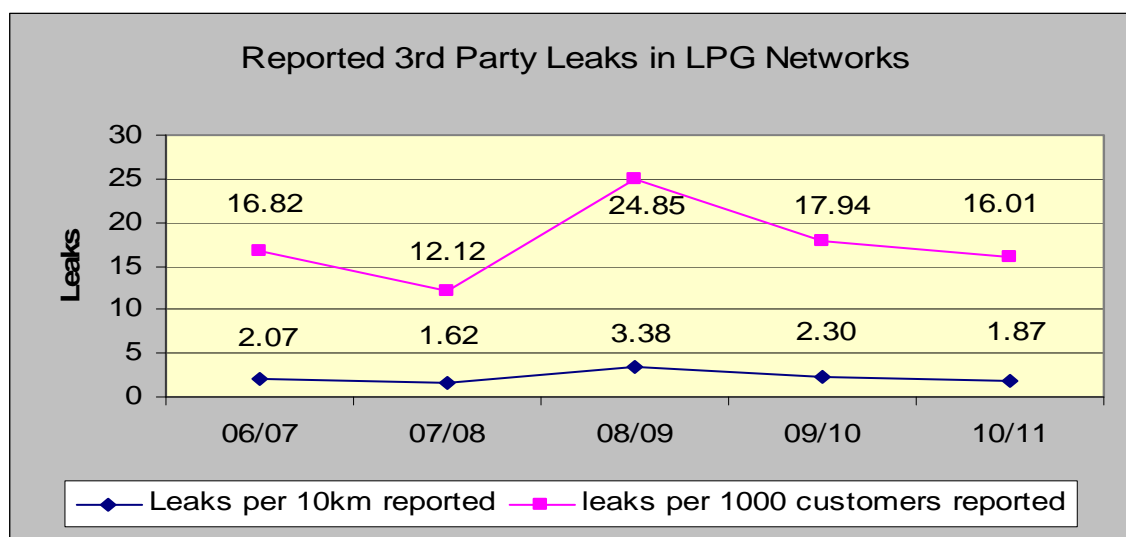


**Table A.3 Network Integrity and Safety Information: LPG Networks**

	Leaks per 10km Reported by third Parties	Leaks per 1,000 Customers Reported by third Parties	Percent of Network subject to Leak Surveys (%)	Leaks Found per 10km of Pipe Surveyed	Mechanical Damage Incidents per 10km by third Party	Emergency Exercises Conducted
2006/07	2.07	16.82	12.46	13.51	0.05	1
2007/08	1.62	12.12	17.12	2.29	0.15	6
2008/09	3.38	24.85	18.10	1.62	0.05	5
2009/10	2.30	17.94	33.11	3.91	0.34	5
2010/11	1.87	16.01	16.27	1.77	0.19	5

Blue columns also in graph below.

**Chart A.4 Leaks reported by Third Party**



**Conclusion**

The total number of LPG consumers fell slightly since the previous year and 2 separate gas incidents were responsible for an increase in UAFG to 7.15 %. However with the permanent closure of Kleenheat's TLPG network in Armidale we expect to see a significant improvement in future UAFG figures.

Due to their smaller sizes, small fluctuations in the LPG networks figures can have a significant impact on their KPI's. Hence the need to record the LPG network figures as a separate category.

## Appendix B Natural Gas Industry in NSW

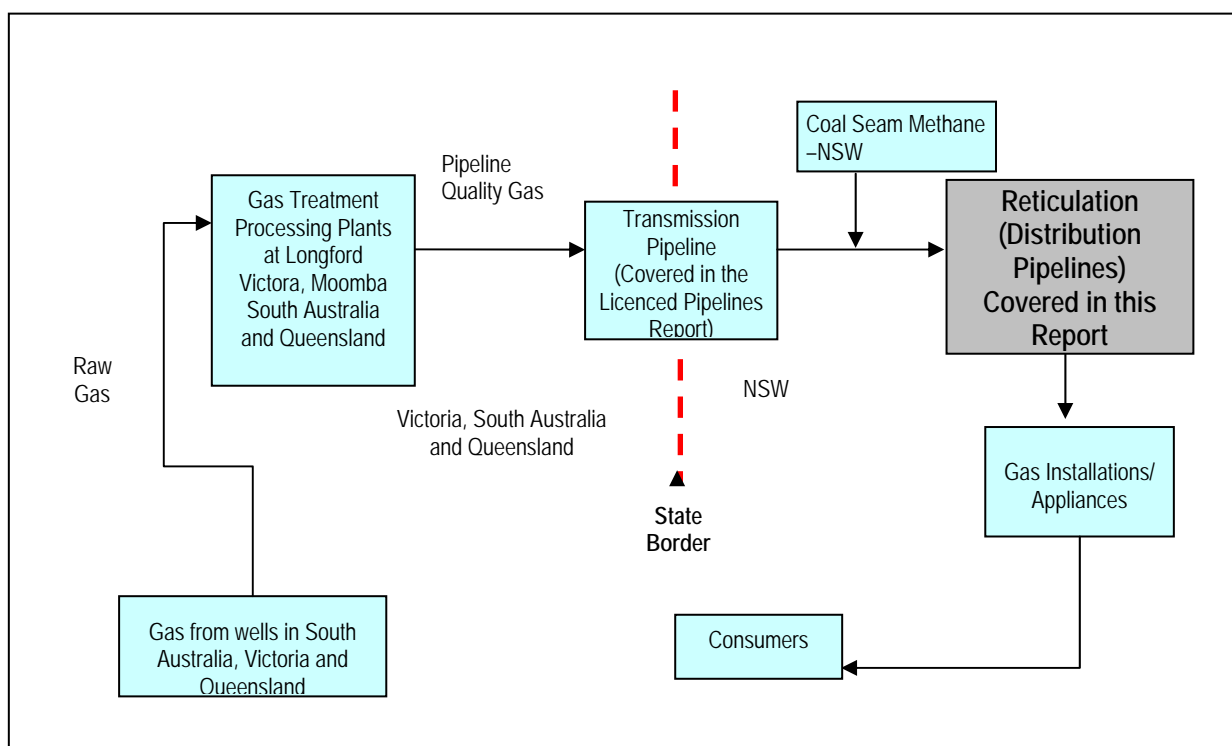
The gas distribution industry in NSW is made up of authorised reticulators of natural gas and to a considerably lesser extent, licensed distributors of LPG. The NSW gas transmission system and NSW gas retailers are not addressed in this report. It is worth noting however that the latest available (2007) figures from The Australian Bureau of Agriculture and Resource Economics (ABARE) reveals that the consumption of LPG in NSW was 1,139 ML or 30.18 PJ. [assuming 26.5 MegaJoules per litre]

### Natural Gas Networks

The natural gas supply chain, shown **Figure B.1**, consists of four main discrete entities:

- Gas Production (covered in NSW by the Mineral Resources Branch within the Resources and Energy Division of NSW Trade & Investment);
- Transmission system (Covered in the Licensed Pipelines Report);
- Distribution networks (Covered in this Report); and
- Retailers (Covered by IPART).

**Figure B.1 The NSW Natural Gas Supply Chain**



Although NSW has a significant amount of proven and unproven reserves of Coal Seam Methane gas, it is unique among the mainland states of Australia with no commercially viable reserves of natural gas within its borders or in adjacent waters at this time. Most of the natural gas used in NSW is presently produced in the Cooper Basin (South Australia) and piped through a transmission pipeline system, most of which is owned and operated by the APA Group.

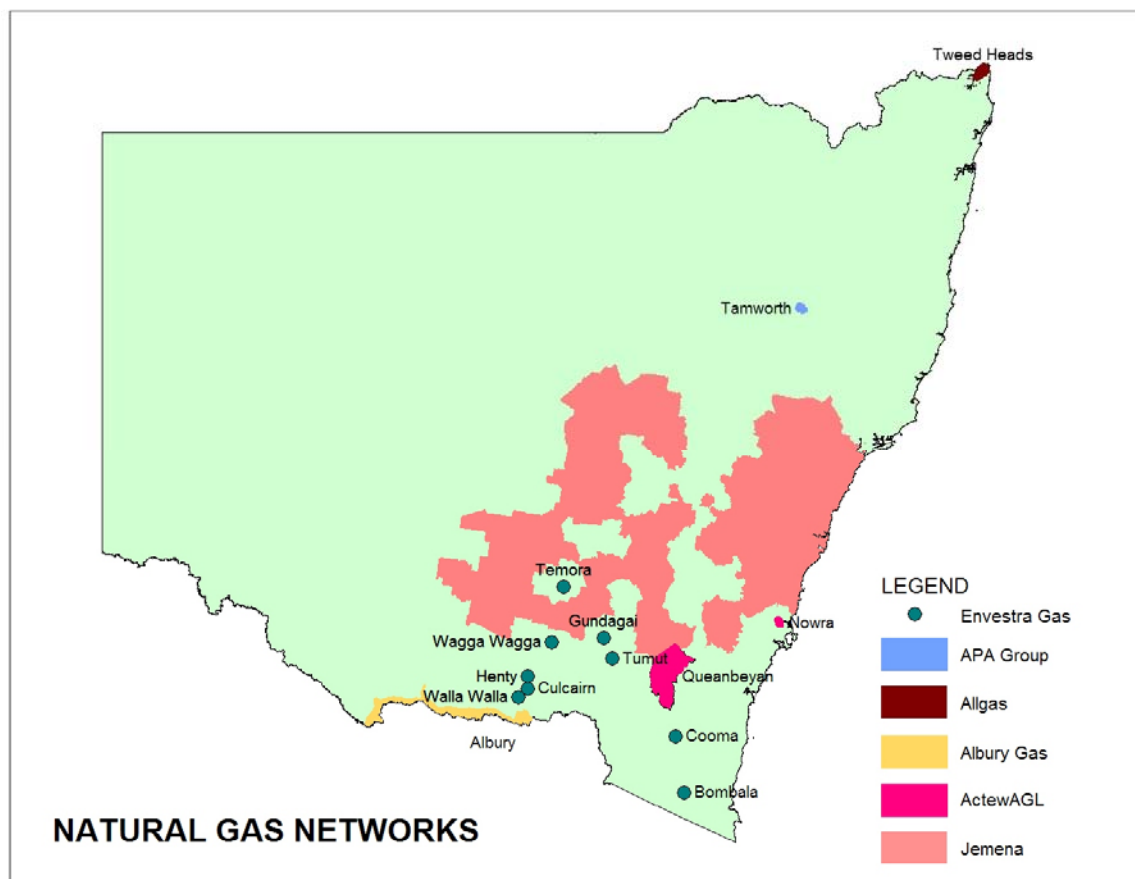
A second transmission pipeline, owned and operated by Jemena, links NSW with Victoria from Longford in Victoria to Sydney along the eastern seaboard. There is a third, but smaller, inter-connect between NSW and Victoria at Albury and gas is also supplied from Queensland into Tweed Heads. Some gas is sourced within NSW from coal seam resources and Santos Pty Ltd is currently in the process of developing the coal seam gas fields near the township of Narrabri, in northwest NSW.

The NSW retail gas market has been progressively opened up to competition since 1996 giving consumers the choice of gas supplier. The market has been fully contestable since January 2002.

The scope of this report is limited to the distribution networks. The natural gas distribution network in NSW is the conduit for the reticulation of natural gas and supply to consumers in the State. The greater NSW network is divided into smaller distribution networks and operated by authorised operators.

There were six authorised natural gas network operators in NSW during the reporting period. The locations of these networks are illustrated in **Figure B 2**. The networks are briefly described below.

**Figure B.2 Location of Natural Gas Networks in NSW.**



### **Jemena Gas Networks (NSW) Ltd**

The principal reticulator of natural gas in NSW is Jemena Gas Networks (operated for and on behalf of Jemena Gas Networks by Jemena Asset Management). The Jemena Gas Network in NSW is divided into five large natural gas distribution networks:

- Jemena (Sydney North);
- Jemena (Sydney West)
- Jemena (Country).
- Jemena (Sydney South);
- Jemena (Coastal); and

Jemena (Sydney) Network broadly services the area bounded by Palm Beach and Hornsby to the North of Sydney, Sutherland Shire and Bankstown to the South and West to Lithgow. This network is large and complex. The Jemena (Coastal) Network broadly services the Hunter and Newcastle, the Central Coast and Illawarra Regions and the Jemena (Country) Network covers a large area in central NSW and services the Southern Highlands, Central Tablelands, Central West, Riverina and South-West Slopes Regions.

Jemena Gas Networks also owns natural gas transmission assets in NSW.

### **ActewAGL Distribution (ActewAGL)**

ActewAGL gas distribution network is also operated by Jemena Asset Management (on behalf of the ActewAGL Distribution Partnership). ActewAGL is a joint venture between the ActewAGL Retail Partnership and the ActewAGL Distribution Partnership. The ActewAGL Distribution Partnership comprises Jemena ATA Pty Ltd and the ACT Government owned ACTEW Corporation. ActewAGL has two networks in NSW: one located at Queanbeyan/ Bungendore and the other network at Nowra. ActewAGL also has a substantial network in the ACT.

### **Envestra Ltd\***

Envestra Ltd holds two Natural Gas Reticulator Authorisations in NSW, one for The Albury Gas Company Ltd and one for Envestra (NSW) Pty Ltd, formerly Country Energy Gas. Envestra contracts the management, operation and maintenance of its network assets to APA Group.

The Envestra (NSW) network supplies Wagga Wagga, Culcairn, Tamara, Walla Walla, Cooma, Tumut, Henty, Bombala and Gundagat

*\* Note: Country Energy Gas was sold to Envestra Ltd in late 2010. However there has been no impact on services to former Country Energy customers. Country Energy Gas was a NSW State-Owned Corporation established by the Energy Services Corporation Act 1985.*

### **Central Ranges Pipeline Pty Ltd (APA Group)**

Central Ranges Pipeline Pty Ltd owns a gas network in the Tamworth distribution district area which is operated by Jemena Asset Management.

### **Albury Gas Company**

The Envestra (Albury Gas) network supplies Albury, Thurgoona, Lavington, Jindera, Howlong, Moama, Tocomwal, Finley, Barooga, Mulwala and Corowa.

### **APT Allgas Energy Pty Ltd**

APT Allgas Energy Pty Ltd is owned by APA. Allgas has one distribution district in NSW, which includes the local government area of Tweed Heads and also has significant Queensland gas operations.