2009/10 Annual Performance Report
Gas Distributors

March 2011

Economic Regulation Authority
WESTERN AUSTRALIA

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Economic Regulation Authority
Perth, Western Australia
Phone: (08) 9213 1900

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Purpose of the Report

The purpose of this report is to bring transparency and accountability to the performance of gas distribution businesses that supply small use customers.[1]

All gas distribution licences include a condition that the licensee must provide to the Authority any information that the Authority may require to fulfil its functions under the *Energy Coordination Act 1994* (**Act**). The Authority has specified the performance information to be provided by gas distribution licensees in the Gas Compliance Reporting Manual (**Reporting Manual**), published by the Authority in July 2010[2] and the Gas Distribution Licence Performance Reporting Handbook (**Handbook**)[3] published by the Authority in May 2010.

This report focuses on the performance data provided by gas distributors in accordance with the performance reporting obligations set out in the Reporting Manual.

The report focuses on performance in the following areas:

- Customer Connections: information about the total number of connections on the distribution network and the proportion of new connections that have been established by the distributor outside the prescribed timeframes.
- Gas Consumption: information about the amount of gas consumed by customers and the level of unaccounted for gas.
- Leaks: information about the number and type of leaks on the distribution network.
- Network Reliability: information about the frequency and duration of supply interruptions on the distribution network.
- Customer Service: information about customer satisfaction with the service provided by the distributor as measured by level of complaints and customer call centre responsiveness.
- Guaranteed Service Level Payments: information about the number of payments made by WA Gas Networks for failing to meet the service standards prescribed in their Access Arrangement.

Gas Distribution Market Structure

Gas licensing is regulated by the *Energy Coordination Act 1994* (**Act**). Part 2A of the Act deals with the licensing of gas supply. The functions of the Authority[4] in respect of licensing are to:

- administer the licensing scheme;
- monitor and report to the Minister for Energy on the operation of the licensing scheme and the compliance of licensees with their licences; and

[1] A small use gas customer consumes less than 1Terajoule (1TJ) of gas per annum.

[2] Gas Compliance Reporting Manual, which can be found on the Authority's website: http://www.erawa.com.au/2/319/51/gas_licensing__regulatory_guidelines.pm

[3] Gas Distribution Licence Performance Reporting Handbook, which can be found on the Authority's website: http://www.erawa.com.au/2/319/51/gas_licensing__regulatory_guidelines.pm

[4] Section 11AA of the Act.

- inform the Minister of any failure by a licensee to meet the requirements of its licence.

The Act prescribes two classes of gas supply licence:

a) Distribution - which authorises the licensee to construct a distribution system and transport gas through it, or to transport gas through an existing distribution system (**network**).[5]

b) Trading - which authorises the licensee to sell gas to small use customers that is transported through a distribution network.

Gas distribution licences permit the distributor to supply gas via a reticulation network in one or more supply areas, or one or more parts of one or more supply areas. Figure 1 shows the eight gas supply areas in the State and the locations of gas distribution networks that are currently licensed by the Authority.

During 2009/10, there were four gas distributors licensed by the Authority:

- WA Gas Networks, formerly AlintaGas Networks, (licence GDL8);
- Esperance Power Station (licence GDL10);
- Origin Energy Retail (licence GDL7); and
- Wesfarmers Kleenheat Gas (**Wesfarmers**) (licence GDL9).

Performance data is not presented for Origin Energy Retail in this report as the licensee did not supply gas to customers during 2009/10.

In 2009/10, the Western Australian gas distribution market comprised just over 629,000 residential and non-residential customer connections.

Gas distribution in Western Australia is dominated by WA Gas Networks, which holds a licence to operate distribution networks in the Coastal, Goldfields-Esperance and Great Southern supply areas. WA Gas Networks supplies gas to 99.8% of all small use customer connections (629,589 connections) in the State. The Coastal and Goldfields-Esperance networks supply natural gas and the Great Southern network supplies LPG.[6]

Esperance Power Station operates a small natural gas reticulation network in Esperance, supplying 266 (or 0.04% of the total) small use customer connections. WorleyParsons Asset Management, an associated company, is the exclusive gas retailer in the area supplied by the Esperance Power Station distribution network.

Wesfarmers operates three[7] small LPG reticulation networks in Leinster,[8] Margaret River and Albany, supplying 786 (or 0.12% of total) small use customer connections. Wesfarmers is also the exclusive gas retailer in the areas supplied by these distribution networks.[9]

[5] This report uses the term distribution network to describe a distribution system, which is consistent with the approach used to describe electricity distribution systems.

[6] Liquefied Petroleum Gas.

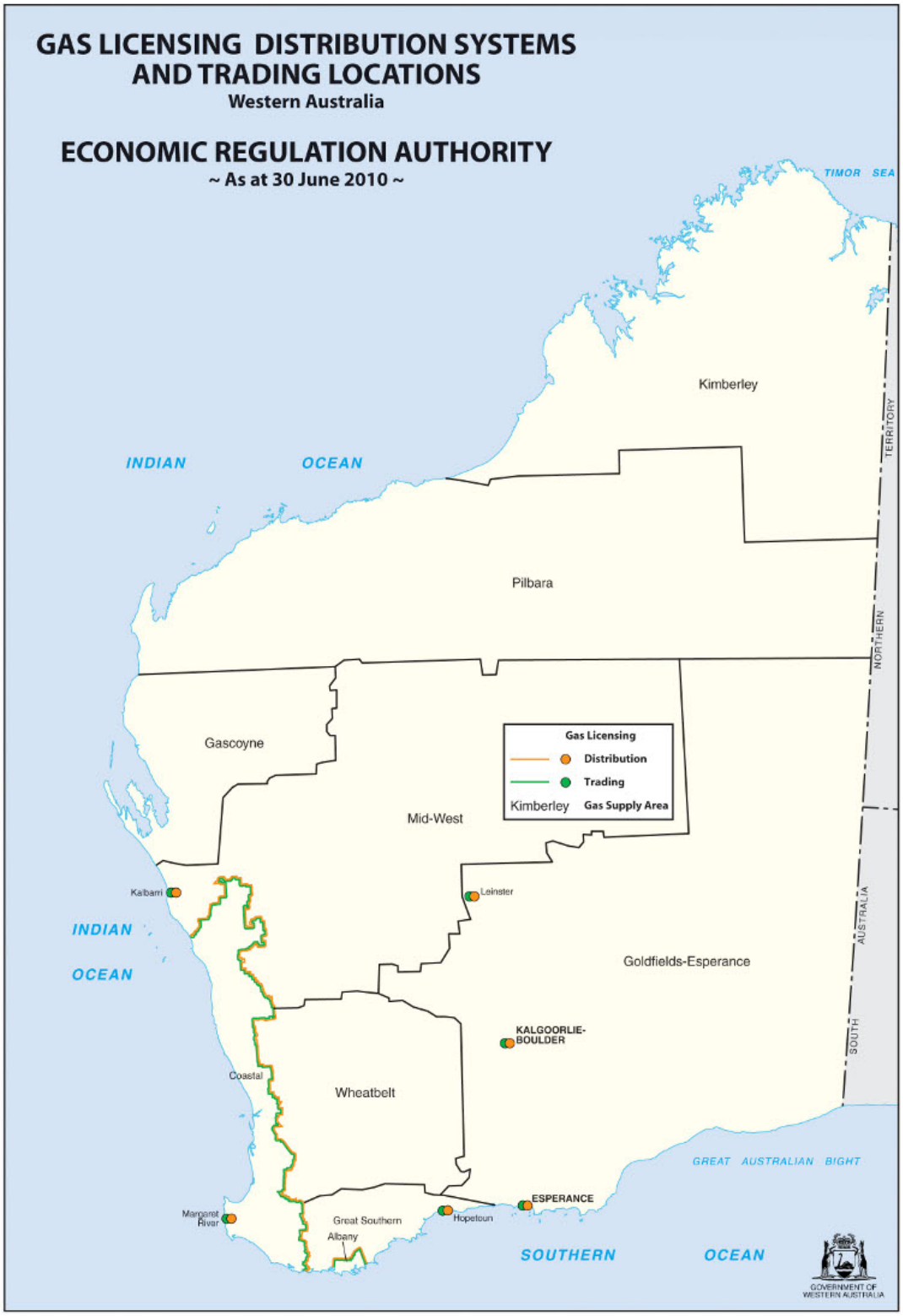
[7] Wesfarmers has informed the Authority that it does not consider Hopetoun's gas distribution network should be included in the licensed gas networks and has not included performance data for Hopetoun for the 2009/10 year. Data on the Hopetoun network has been included in previous year's figures.

[8] Wesfarmers supplies gas in Leinster under contract to BHP Billiton.

[9] Wesfarmers has informed the Authority that it no longer retails gas in Leinster. Instead gas is supplied under a bulk contract.

Origin Energy has constructed 8.4 km of gas main to distribute LPG in Kalbarri, but no gas was supplied to customers during 2009/10.[10]

Figure 1: Gas supply areas in Western Australia



[10] Origin Energy Pty Ltd surrendered its gas trading and distribution licences on 5 July 2010.

Gas Compliance Reporting Manual

Version published in September 2009

In December 2008, the Authority approved a range of new customer protection licence conditions under the Act. These new conditions were listed in Parts 3 to 13 of the *Compendium of Gas Customer Licensing Obligations (the Compendium)*, also known as the *Gas Customer Code 2008*. [11]

In May 2009, the Authority approved the amendment of gas trading and distribution licences to include the new customer protection provisions in the *Gas Customer Code 2008*. On 1 July 2009, gas licences were amended to include the requirements with most of the new conditions coming into effect from that date. A revised version of the Reporting Manual, incorporating the requirements of the *Gas Customer Code 2008*, was published by the Authority in September 2009. [12]

Version published in July 2010

The Authority introduced the *Gas Customer Code 2008* in January 2009[13] to ensure that gas customers received, where possible, protection equal to that provided for electricity customers under the *Code of Conduct for the Supply of Electricity to Small Use Customers*. Following a review of the *Code of Conduct for the Supply of Electricity to Small Use Customers*, the Authority announced, on 23 January 2010, that it would be making a new Code, effective from 1 July 2010.

To ensure that customer protection remained as consistent as possible across the electricity and gas sectors, the Authority made amendments to the *Gas Customer Code 2008* that were intended to align, where possible, the provisions in the *Gas Customer Code 2008* with the provisions in the electricity Code. The amended *Gas Customer Code 2008* was also renamed the *Gas Customer Code*.

On 15 July 2010, the Authority published a new Reporting Manual, which incorporated changes to the compliance obligations and performance reporting obligations for both gas trading and distribution licences arising from the new *Gas Customer Code.* It was agreed that the 2009/10 non-financial performance reports provided by the licensees would be based on the Reporting Manual that was published in July 2010. Accordingly, in May 2010, the Authority published the MS Excel Gas Distribution Data Sheets and a Gas Distribution Licence Performance Reporting Handbook[14] to assist retailers with the reporting process.

[11] Further information is available on the Authority's website: http://www.erawa.com.au/2/317/51/notices.pm

[12] The revised Manual is available on the Authority's website: http://www.erawa.com.au/2/317/51/notices.pm

[13] The Authority published the *Gas Marketing Code of Conduct* (**GMCC**) and the *Gas Customer Code 2008* (**GCC**) in January 2009. The GMCC came into effect in January 2009 and the GCC on 1 July 2009.

[14] The Gas Distribution Licence Performance Reporting Handbook can be found on the Authority's website: http://www.erawa.com.au/2/319/51/regulatory_guid.pm

Highlights

This is the fourth annual report published by the Authority examining the performance of gas distributor licensees who supply small use customers in Western Australia. The 2009/10 report is the third report that presents the performance of gas distributors based on performance reports provided in accordance with the Reporting Manual.[15]

Customers

During 2009/10, the total number of customer connections on distribution networks grew by 3.0%, to 629,589 connections.

WA Gas Networks is the dominant gas distributor in Western Australia, supplying gas to just over 628,000 customer connections (99.83% of total gas connections). The remaining distributors, Esperance Power Station and Wesfarmers have 266 (0.04%) and 786 (0.12%) customer connections, respectively.

Gas Consumption

In 2009/10, overall gas consumption fell by 0.4%, to 27,908TJ, compared to the previous year.

Total residential gas consumption increased by 0.9%, to 10,785TJ, and total non-residential gas consumption fell by 1.2%, to 17,123TJ.

The overall fall in gas consumption can be mainly attributed to the 1.2% fall in WA Gas Networks non-residential gas consumption. WA Gas Networks has indicated that this fall has arisen due to industrial and large commercial customers reducing their gas usage.

Leaks

In 2009/10, there was a 30% increase in the overall number of mains leak repairs (to low, medium and high pressure gas mains), compared to 2008/09, with almost all mains leak repairs occurring on the WA Gas Networks distribution networks.

There was a 21.1% increase in the overall number of leak repairs to (low, medium and high pressure) property service connections in 2009/10, with all leak repairs being made to WA Gas Networks customer connections.

WA Gas Networks was the only distributor to report carrying out meter leak repairs during 2009/10, reporting a 7.3% increase (to 1,079 repairs) in the number of leak repairs, compared to 2008/09.

Network Reliability

This is the third year that gas distributors have been required to report network reliability performance. The Reporting Manual requires distributors to provide data for a suite of reliability performance reporting indicators that are based on the definitions in standard IEEE 1366-2003.[16]

[15] The 2006/07 report was based on the non-financial performance information provided by licensees in accordance with the gas licences that were in force prior to June 2007.

[16] Standard IEEE 1366-2003 - Guide for Electric Power Distribution Reliability Indices, Institute for Electrical and Electronic Engineers. The Standard defines a number of measures of network reliability: SAIDI (System Average Interruption Duration Index), SAIFI (System Average Interruption Frequency Index) and CAIDI (Customer Average Interruption Duration Index).

Esperance Power Station and Wesfarmers reported zero interruptions to supply on their networks during 2009/10.

In 2009/10, the overall System Average Interruption Duration Index (**SAIDI**) on the WA Gas Networks distribution networks decreased by 13.9%, compared to 2008/09. The overall network SAIDI was 0.99 minutes with a corresponding System Average Interruption Frequency Index (**SAIFI**) of 0.005, which equates to a Customer Average Interruption Duration Index (**CAIDI**) of 183 minutes. WA Gas Networks have stated that the majority of the supply interruptions on their networks were the result of third party damage to their infrastructure, which resulted in a normalised SAIDI of 0.053 minutes (or 5.4% of overall SAIDI). The average percentage of time that gas was supplied on the WA Gas Networks distribution networks was 99.999%, over the 2009/10 reporting year.

Complaints

This is the third year that gas distributors have been required to report on the level of customer complaints. Wesfarmers stated that they received no complaints from customers during 2009/10.

WA Gas Networks reported 38 customer complaints for this period, which represents 0.1 complaints per 100 customers, an increase of 27% compared with 2008/09.

The majority of customer complaints relate to 'Other' issues (41%) (which includes meter reading, privacy considerations, health and safety issues, and any other matter not falling into the other customer service categories), followed by 'Reliability of Supply' (28.2%) (which includes issues related to both planned and unplanned supply interruptions), and 'Connection and Augmentation' (20.5%) (which includes quality and timeliness of providing new service connections or network augmentation works).

Call Centre Performance

Only WA Gas Networks and Wesfarmers[17] operate call centres.

Compared to 2008/09, the total number of calls to an operator decreased by 10.8% to 213,212 calls. The number of calls handled by the WA Gas Networks call centre fell by 31.2%, while the number of calls handled by Wesfarmers also decreased by 3.9%.

In 2009/10, WA Gas Networks reported an improvement in performance in only one call centre performance measure, the level of unanswered calls. Wesfarmers reported an improvement in the percentage of calls responded to within 30 seconds and the level of unanswered calls, while the average time for a call to be answered remained the same as the previous year.

[17] The Wesfarmers call centre handles calls for gas distribution, gas retailing and other Wesfarmers businesses.

DISTRIBUTOR PERFORMANCE

Customers

In 2009/10 there were three gas distributors active in the small use[18] gas market: WA Gas Networks, Esperance Power Station and Wesfarmers.

Table 1 details the number of connections on each distributor network and the number of customers connected, as at 30 June 2010.

The number of customers connected is a new indicator[19] that has been introduced in 2009/10.

Table 1: No. of Connections provided and customers connected as at 30 June 2010

Licensee	No. of Connections	No. of Customers Connected
WA Gas Networks	628,537	618,750[20]
Esperance Power Station	266	266
Wesfarmers	786[21]	808[22]
State Total	**629,589**	**619,824**

WA Gas Networks is the dominant gas distributor in the State, with 99.83% of total gas connections. The remaining distributors, Esperance Power Station and Wesfarmers supplied 266 (0.04%) and 808 (0.13%) total customers, and provided 266 (0.04%) and 786 (0.12%) connections, respectively.

Table 2 details the total number of customer connections[23] over the six year period to 30 June 2010. During 2009/10, the state-wide total number of connections increased by 3% compared with the previous year.[24] Over the past five years, the number of connections has increased by an average of 3.7% per annum.

[18] Small use customers consume less than 1 TeraJoule (TJ) of gas per annum.

[19] The total number of customers connected is the average of {the active and inactive} customer connections at the beginning and end of the reporting period.

[20] Ibid. Footnote 19.

[21] Wesfarmers has informed the Authority that it does not consider Hopetoun's gas distribution network should be included in the licensed gas networks and has not included performance data for Hopetoun for the 2009/10 year. Data on the Hopetoun network has been included in previous year's figures.

[22] Ibid. Footnote 21.

[23] Both residential and non-residential connections.

[24] Ibid. Footnote 23.

Table 2: Total number of Connections

Licensee	No. of Connections					
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
WA Gas Networks	530,703	536,392	561,437	593,634	610,294	628,537
Wesfarmers	623	633	636	791	831	786
Esperance Power Station[25]	N/A	N/A	197	209	242	266
State Total	**531,326**	**537,025**	**562,270**	**594,634**	**611,367**	**629,589**

Timeliness of New Connections

Table 3 details the total number of customer connections that were not provided by the date agreed with the customer for the three years to 2009/10.

Table 3: Total customer connections not provided by the agreed date

Licensee	Total connections		
	2007/08	2008/09	2009/10
WA Gas Networks	34	35	6
Esperance Power Station	0	0	0
Wesfarmers	0	0	0
State Total	**34**	**35**	**6**

In 2009/10, WA Gas Networks was the only distributor to report that they had provided connections after the date agreed with the customer, with six connections not provided to customers by the agreed date.

[25] Esperance Power Station was granted a gas distribution licence in August 2007.

Gas Consumption

Gas Consumption by Customers

The Reporting Manual requires gas distributors to keep records of the amount of gas consumed by residential and non-residential customers and the peak gas demand on their distribution network in the hour(s) of heaviest customer demand. Table 4 details gas consumption for the three years to 2009/10.

Table 4: Residential and Non-residential Gas Consumption

Licensee	Residential Customer Gas Consumption (GJ)			Non-residential Customer Gas Consumption (GJ)		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
WA Gas Networks	10,279,166	10,666,514	10,776,560	18,978,436	17,310,456	17,103,800
Esperance Power Station	2,474	2,644	2,893	17,783	19,038	19,303
Wesfarmers	19,935	22,875	5,100[26]	2,036	1,847	315[27]
State Total	**10,301,575**	**10,692,033**	**10,784,553**	**18,998,255**	**17,331,341**	**17,123,418**

Compared to 2008/09, state-wide total gas consumption decreased by 0.4%, to 27,908TJ, comprising a 0.9% increase in residential gas consumption and a 1.2% fall in non-residential gas consumption. The fall in overall gas consumption can be mainly attributed to the 1.2% fall in WA Gas Networks non-residential gas consumption.

WA Gas Networks has commented:

> The 1.2% reduction in non-residential consumption has arisen from changes in the usage profile of industrial and large commercial gas consumption delivery points. WA Gas Networks has also observed that the average usage for all reference tariff classes, both residential and non residential has decreased from 2008-09 to 2009-10, overall this represents a drop per connection of 3.1%.[28] This has been driven by changing commercial usage, more efficient gas fuelled equipment and appliances, and new connections having lower gas usage demand.

Table 4 also shows Wesfarmer's distribution networks reported a 77.7% reduction in residential consumption and a 82.9% reduction in non-residential consumption. Wesfarmers has commented that:

> The large reduction in residential and non-residential consumption was due to the meters in Leinster no longer being read, together with Hopetoun no longer being considered, to be captured by the distribution licence and its gas consumption no longer being included in the total gas consumed.[29]

The 9.4% increase in residential gas consumption on the Esperance Power Station network during 2009/10, followed an increase of 6.9% during the preceding year.

[26] For 2009/10, Wesfarmers has indicated that, in the licensee's opinion, Hopetoun is no longer considered to be captured by the requirements of the distribution licence. Additionally, while Leinster is considered to be captured by the distribution licence, its meters are no longer being read as gas is being bulk supplied and therefore its gas consumption is not included in either the 2009/10 residential or non-residential gas consumption figures.

[27] Ibid. Footnote 26.

[28] The average usage figures used in this calculation by WA Gas Networks are calculated by dividing the Gas Consumption at end of calendar year by the average no. of customers connected (calculated by averaging the opening and closing customer connections per financial year) per financial year.

[29] Ibid. Footnote 26.

Esperance Power Station has commented:

> The 9.4% increase in residential gas consumption was due to the increase in new residential gas connections (22 in total).

Unaccounted for Gas

Unaccounted for gas (**UFG**) is a measure of network efficiency for gas distribution networks. UFG represents the difference between gas metered at the input to the distribution network and the gas usage billed to customers. The two most common contributors to UFG are leaks and metering differences. The amount of UFG can be reduced by maintaining the distribution network, thereby reducing the level of leaks and other gas loss events.

Table 5 details the level of UFG for the four years to 2009/10. During 2009/10, the total amount of UFG increased by 1.1%, compared to 2008/09, comprising of a 1.1% increase on the WA Gas Networks distribution networks and a 170.6% increase on the Wesfarmers networks.

Wesfarmers has commented:

> The increased level of UFG on the Wesfarmers network relates to the initial commissioning of the Oyster Harbour network, and expansion of the Margaret River and Oyster Harbour networks. Gas used to purge the system is not metered, and hence is measured as UFG. The initial fill of the storage vessels (2 x Oyster Harbour, and 1 x Margaret River) are the main contributors to an increased level of UFG. The first fill is measured going into the system, and the tank levels are kept up with regular deliveries matching consumption.

Table 5: Unaccounted for gas

Licensee	Unaccounted for Gas (GJ)			
	2006/07	2007/08	2008/09	2009/10
WA Gas Networks	621,266	830,915	858,000	866,667
Esperance Power Station	50	0	0	0
Wesfarmers	804	415	344	931
State Totals	**622,120**	**831,330**	**858,344**	**867,598**

Table 6 shows that UFG as a proportion of the total gas consumed varies between networks.[30] The Esperance Power Station network is much newer than the other networks and it is reasonable to expect relatively low levels of leaks and metering errors.

Wesfarmers reported a large increase in the percentage level of UFG, reflecting the increase shown in Table 5.

[30] It should be noted that distribution licences do not set targets for the level of UFG.

Table 6: Unaccounted for gas as a percentage of total gas consumed

Licensee	2007/08		2008/09		2009/10	
	Total Gas Consumed (GJ)	Unaccounted for gas (%)	Total Gas Consumed (GJ)	Unaccounted for gas (%)	Total Gas Consumed (GJ)	Unaccounted for gas (%)
WA Gas Networks	29,257,607	2.8	27,976,970	3.1	27,880,360	3.1
Wesfarmers	21,971	1.8	24,722	1.4	5,415	17.2
Esperance Power Station	20,257	0.0	21,682	0.0	22,196	0.0

Leaks

The level of leaks in a gas distribution network over time is influenced by asset condition. Prudent distribution network operators use leak data as an input to their asset operation and maintenance strategies. The Reporting Manual categorises gas main leaks into mains, (customer) service connections and meters. Each of these categories are further sub-categorised into low (≤ 7kPa), medium (7-210kPa) and high (>210kPa) operating pressure segments of the reticulation network.

Table 7 details the annual number of leak repairs to low, medium and high pressure gas mains during the five years to 2009/10. During 2009/10, there was a 30% increase in the state-wide number of gas main leak repairs. The majority of the leaks were reported by WA Gas Networks, who commented that:

> The reason for the increase in leaks [compared with 2008/09] arises from the impact of winter severity on gas diffusivity. This pattern of fluctuation occurs every year.

Esperance Power Station reported that the increase in gas main leaks on their network was due to third party damage (i.e. contractors of other service providers not following the 'Dial Before You Dig' protocol).

Table 7: Number of gas main leak repairs

Licensee	Number of gas main leak repairs[31]				
	2005/06	2006/07	2007/08	2008/09	2009/10
WA Gas Networks	217	276	755[32]	706	916
Esperance Power Station	N/A	1	0	1	3
Wesfarmers	0	0	0	0	0
State Total	**217**	**277**	**755**	**707**	**919**

Table 8 details the state-wide total number of leak repairs to low, medium and high pressure property service connections for the five years to 2009/10.

WA Gas Networks, the only distributor to report property service connection leak repairs during 2009/10, reported a 21.2% increase in the number of repairs during 2009/10.

[31] The data for 2004/05 to 2006/07 is based on the gas main breaks performance indicator in the old form distribution licence.

[32] From 2007/08, WA Gas Networks converted its leak detection systems from manual to automatic, which subsequently recorded several new categories of leaks.

Table 8: Number of property service connection leak repairs

Licensee	Number of property service connection leak repairs[33]				
	2005/06	2006/07	2007/08	2008/09	2009/10
WA Gas Networks	1,409	1,598	5,713[34]	5,348	6,481
Esperance Power Station	N/A	0	0	0	0
Wesfarmers	0	0	2	1	0
State Total	**1,409**	**1,598**	**5,715**	**5,349**	**6,481**

Prior to the introduction of the Reporting Manual in 2007, distributors were not required to report the number of leak repairs to gas meters. Table 9 details the number of leak repairs to gas meters for the three years to 2009/10.

Table 9: Number of leak repairs to gas meters

Licensee	Number of leak repairs to gas meters		
	2007/08	2008/09	2009/10
WA Gas Networks	787	1,006	1,079
Esperance Power Station	0	0	0
Wesfarmers	0	0	0
State Total	**787**	**1,006**	**1,079**

WA Gas Networks was the only distributor to report carrying out gas meter repairs. During 2009/10, WA Gas Networks reported carrying out a total of 1,079 leak repairs to gas meters, an increase of 7.3% on the previous year.

[33] The data for 2004/05 to 2006/07 is based on the service pipe breaks performance indicator in the old form distribution licence.

[34] From 2007/08, WA Gas Networks converted its leak detection systems from manual to automatic, which subsequently recorded several new categories of leaks.

Guaranteed Service Level Payments

WA Gas Networks is subject to a guaranteed service level (**GSL**) payment scheme under the Access Arrangement for the Mid-West and South-West Gas Distribution Systems. GSL schemes are intended to provide incentives to service providers to ensure that the level of service delivered to individual end use consumers meets minimum standards. Where the service provider fails to deliver prescribed services within predetermined service levels, payments are made by the service provider to consumers by way of compensation.

This scheme provides for payments by WA Gas Networks to small gas users in circumstances of:

- late arrival for a gas fault or emergency appointment;
- late establishment of a gas service;
- more than four unplanned interruptions in a calendar year; and
- unplanned interruptions greater than 12 hours continuously.

WA Gas Networks reported a total of six payments[35] for the late establishment of a gas service, a decrease of 80.6% on the previous year. No other GSL payments were made during 2009/10.

[35] The total amount paid was $440.00.

Network Reliability

Significant Interruptions to Small Use Customer Premises

The Reporting Manual requires distributors to report on interruptions to supply of small use customer premises. The performance measures for these interruptions are:

- the number of customer connections that have experienced interruptions that exceed 12 hours continuously; and
- the number of customer connections that have experienced five or more interruptions during the reporting period.

These measures are similar to the performance measures applying to electricity distributors.

Table 10 details the number of customers that have experienced an interruption of supply exceeding 12 hours continuously. There were no interruptions of this type reported by gas distributors during 2009/10.

Table 10: Number of customers experiencing interruptions exceeding 12 hours continuously

Licensee	Customers with interruptions to supply >12 hours continuously		
	2007/08	2008/09	2009/10
WA Gas Networks	0	0	0
Esperance Power Station	0	0	0
Wesfarmers	1	0	0
State Total	**1**	**0**	**0**

Table 11 details the number of customers who have experienced five or more interruptions to supply during the three years to 2009/10. For the third consecutive year, the distributors reported that no customers had experienced five or more supply interruptions.

Table 11: Number of customers experiencing 5 or more interruptions to supply

Licensee	Customers with 5 or more supply interruptions		
	2007/08	2008/09	2009/10
WA Gas Networks	0	0	0
Esperance Power Station	0	0	0
Wesfarmers	0	0	0
State Total	**0**	**0**	**0**

Network Reliability Performance

This is the third year that gas distributors have been required to report network reliability performance. The Reporting Manual requires distributors to report against a suite of reliability performance reporting indicators that are based on the definitions in standard IEEE 1366-2003.[36] Measures of supply reliability include:

- System Average Interruption Duration Index (**SAIDI**) – measures the total duration of supply interruption for the average customer on the network.
- System Average Interruption Frequency Index (**SAIFI**) – measures how often the average customer experiences a supply interruption.
- Customer Average Interruption Duration Index (**CAIDI**) – measures the total duration of supply interruption for those customers who have experienced an interruption during the year to 30 June.
- Average percentage of time that gas has been supplied to customer premises.

The definition and calculation of SAIDI, SAIFI and CAIDI apply to sustained interruptions of supply.[37]

The equivalent reliability standards for electricity networks define four measures of SAIDI, SAIFI and CAIDI: Overall, Distribution Network Planned, Distribution Network Unplanned and Normalised Distribution Network Unplanned.[38] Two measures of SAIDI, SAIFI and CAIDI are presented in this section; overall and normalised.

Prior to 2009/10, the calculation of the Normalised Distribution Network Unplanned measures was based on the definition in the 2002 SCONRRR Framework, which excluded outages that were beyond the reasonable control of the distributor and any outage (irrespective of the cause) that contributes more than three minutes to the network SAIDI value.

In November 2009, the Australian Energy Regulator[39] adopted the method described in standard IEEE 1366 to calculate the daily threshold SAIDI value used to exclude interruptions. The IEEE method applies a statistical approach to calculate the SAIDI threshold for a Major Event Day (**MED**).[40] The Normalised SAIDI then excludes all days during the reporting period where the daily SAIDI value exceeds the MED threshold.

The Authority considers it important that, where possible, there is consistency between the reliability performance measures applying to Western Australian energy distributors and the measures applying to distributors in other jurisdictions. Accordingly, the Authority has adopted the MED method to exclude unplanned interruptions from the Normalised Distribution Network Unplanned SAIDI, commencing from the 2009/10 reporting period.

[36] Standard IEEE 1366-2003 - Guide for Electric Power Distribution Reliability Indices, Institute for Electrical and Electronic Engineers.

[37] A sustained interruption of supply is an interruption with a duration greater than 5 minutes.

[38] This measure excludes outages that are caused by exceptional natural or third party events and events that distributors cannot reasonably be expected to mitigate against in their asset management processes.

[39] Electricity Distribution Network Service Providers, Service Target Performance Incentive Scheme, Australian Energy Regulator, November 2009 (see page 12 and Appendix D).

[40] Refer to the Standard IEEE 1366-2003 - Guide for Electric Power Distribution Reliability Indices, Institute for Electrical and Electronic Engineers for a definition of the “2.5-beta method” that is used to calculate the major event day boundary.

The definitions[41] of the two measures of SAIDI, SAIFI and CAIDI are:

- Overall Interruptions - includes all sustained interruptions including transmission outages, planned interruptions and unplanned interruptions.
- Normalised Interruptions - excludes transmission outages, outages with an unplanned SAIDI value that exceeds the major event day boundary and outages caused by third party events.

System Average Interruption Duration Index (SAIDI)

Table 12 details the overall and normalised SAIDI performance for the three gas distribution networks for the three years to 2009/10. WA Gas Networks was the only distributor to report sustained interruptions on their networks during 2009/10. Compared to 2008/09, the overall SAIDI fell by 14.2% and the normalised SAIDI increased by 55.9%. During 2009/10, WA Gas Network's Normalised SAIDI was 5.4% of the Overall SAIDI, indicating that 94.6% of the overall SAIDI was caused by interruptions[42] that are considered to be beyond their reasonable control.

WA Gas Networks has commented:

> The majority of the supply interruptions on their networks were the result of third party damage to their infrastructure.

Table 12: Gas distribution network SAIDI

Licensee	Average Interruption Duration (minutes per annum)					
	2007/08		2008/09		2009/10	
	Overall	Normalised	Overall	Normalised	Overall	Normalised
WA Gas Networks	26.8	Not Provided	1.148	0.034	0.985[43]	0.053[44]
Esperance Power Station	0	0	0	0	0	0
Wesfarmers	3,060[45]	120	0	0	0	0

System Average Interruption Frequency Index (SAIFI)

Table 13 details the Overall and Normalised SAIFI performance for the three years to 2009/10. WA Gas Networks was the only distributor to report non-zero values for SAIFI in 2009/10. Consistent with Table 12, WA Gas Networks Normalised SAIFI was much lower (at 17.2%[46]) than the Overall SAIFI.

[41] Table 2 (page 7) National Regulatory Reporting for Electricity Distribution and Retailing Businesses, Utility Regulators Forum, Steering Committee on National Regulatory Reporting Requirements, March 2002.

[42] For a description of excluded interruptions see Appendix 1.

[43] Rounded to three decimal places.

[44] Rounded to three decimal places.

[45] In 2007/08, 94% of Wesfarmers Overall SAIDI was due to a single outage of 2,880 minutes caused by factors beyond their control.

[46] Based on the provided data to six decimal places.

Table 13: Gas distribution network SAIFI

Licensee	Average Interruption Frequency (interruptions per annum)					
	2007/08		2008/09		2009/10	
	Overall	Normalised	Overall	Normalised	Overall	Normalised
WA Gas Networks	0.5	Not Provided	0.006	0.001	0.005[47]	0.001[48]
Esperance Power Station	0	0	0	0	0	0
Wesfarmers	4	2	0	0	0	0

Customer Average Interruption Duration Index (CAIDI)

Table 14 details the overall and normalised CAIDI performance of the three gas distribution networks for the three years to 2009/10. As discussed above, SAIDI and SAIFI measure the effect of interruptions averaged over all customers connected to the distribution network. CAIDI measures the effect of interruptions for only those customers who have experienced an interruption during the reporting period. Compared to 2008/09, Overall CAIDI fell by 6.2% and Normalised CAIDI increased by 6.7%.

Table 14: Gas distribution network CAIDI

Licensee	Average Interruption Duration (minutes per annum)					
	2007/08		2008/09		2009/10	
	Overall	Normalised	Overall	Normalised	Overall	Normalised
WA Gas Networks	53.6	Not Provided	195.6	54.0	183.4	57.6
Esperance Power Station	0	0	0	0	0	0
Wesfarmers	765.0	60.0	0	0	0	0

Average Percentage of Time that Gas was Supplied by Distributors

Table 15 details the average percentage of time[49] that gas was supplied to customer premises. Compared to 2008/09, WA Gas Networks reported an improvement to 99.999%, which is consistent with the reduction in Overall SAIDI.

Table 15: Average percentage of time that gas was supplied

Licensee	Average percentage of time gas was supplied		
	2007/08	2008/09	2009/10
WA Gas Networks	99.995	99.993	99.999
Esperance Power Station	100.0	100.0	100.0
Wesfarmers	99.419	100.0	100.0

[47] Rounded from the actual figure of 0.00536.

[48] Rounded from the actual figure of 0.0009231431509.

[49] This is calculated as 100 x (minutes in the year – overall SAIDI)/(minutes in the year).

Complaints

This is the third year that gas distributors have been required to report on the level of customer complaints. The Reporting Manual has a customer complaint framework that is based on the SCONRRR 2002 report and regulatory reporting frameworks in other jurisdictions.

Table 16 provides a summary of the number of complaints received from residential and non-residential customers in 2009/10 and previous years. WA Gas Networks reported an increase of 26.7% in the number of customer complaints, with 38 complaints received in 2009/10.

WA Gas Networks has commented:

> There is no main driver for the increase in customer complaints. Given the small base number of complaints [any] change in the number of complaints will give a large percentage change.

In 2009/10, Esperance Power Station recorded one complaint only, compared with none for the previous year.

Table 16: Total customer complaints received by gas distributors

Licensee	Customer complaints					
	2007/08		2008/09		2009/10	
	Number of complaints	Complaints per 100 customers	Number of complaints	Complaints per 100 customers	Number of complaints	Complaints per 100 customers
WA Gas Networks	33	0.1	30	0.1	38	0.1
Esperance Power Station	0	0.0	0	0.0	1	0.38
Wesfarmers	0	0.0	0	0.0	0	0.0
State Total	**33**	**0.1**	**30**	**0.1**	**39**	**0.1**

Table 17 disaggregates the customer complaints received during 2009/10 into six complaint categories.

Table 17: Customer complaints by category during 2009/10

Complaint Category	WA Gas Networks	Esperance Power Station	Wesfarmers
Total Number of Complaints	38	1	0
Connection and Augmentation (% of total)	21.1	0.0	0.0
Reliability of Supply (% of total)	28.9	0.0	0.0
Quality of Supply (% of total)	5.3	0.0	0.0
Network Charges and Costs (% of total)	2.6	0.0	0.0
Administrative Processes or Customer Service (% of total)	2.6	0.0	0.0
Other (% of total)	39.5	100.0	0.0

The majority of total customer complaints relate to ‘Other’ issues (41%) (which includes meter reading, privacy considerations, health and safety issues, and any other matter not

falling into the other customer service categories), followed by ‘Reliability of Supply’ (28.2%) (which includes issues related to both planned and unplanned supply interruptions), ‘Connection and Augmentation’ (20.5%) (which includes quality and timeliness of providing new service connections or network augmentation works) and ‘Quality of Supply’ (5.1%) (which includes gas quality and supply pressure issues).

Call Centre Performance

A customer call centre comprises a dedicated telephone infrastructure and customer service officers to handle customer enquiries. The telephone infrastructure is capable of recording a range of information about the incoming calls, including performance statistics.

Only WA Gas Networks and Wesfarmers operate call centres. Esperance Power Station provides telephone support to its customers using simpler telephone systems that do not record performance statistics.

Table 18 provides an overview of call centre performance in 2009/10. Table 19 details the total number of calls to an operator that were handled by each call centre during 2009/10 and the previous two years. Compared to 2008/09, the total number of calls to an operator decreased by 10.8%. The number of calls handled by the WA Gas Networks call centre fell by 31.2%, while the number of calls handled by Wesfarmers decreased by 3.9%.

WA Gas Networks has commented:

> This [decrease] has been driven by a new telephony system, which now has an introduction which picks up calls which were meant for the retailers, this has reduced the total number of calls having to be answered by the WA Gas Networks call centre.

Table 18: Summary of distributor call centre performance – 2009/10

Licensee	Total number of calls to an operator	Operator calls responded to within 30 seconds (%)	Unanswered calls (%)	Average duration before call is answered by an operator (seconds)
WA Gas Networks	41,132	89.4	1.6	16
Wesfarmers	172,080	93.1	0.4	13
State Total	**213,212**	**92.4**	**0.6**	**-**

Table 19: Total number of calls to an operator

Licensee	2007/08	2008/09	2009/10
WA Gas Networks	64,491	59,802	41,132
Wesfarmers	147,202	179,119	172,080
State Total	**211,693**	**238,921**	**213,212**

Table 20, Table 21 and Table 22 detail call centre performance against the three key performance measures in 2009/10 and the previous two years.

In 2009/10, WA Gas Networks reported an improvement in performance in only one call centre performance measure, the level of unanswered calls. Wesfarmers reported an improvement in the percentage of calls responded to within 30 seconds and the level of

unanswered calls, with the average time for a call to be answered remaining the same as 2008/09. The levels of both WA Gas Networks and Wesfarmers compare favourably to those reported by industry peers. [50]

Table 20: Operator calls responded to within 30 seconds (%)

Licensee	2007/08	2008/09	2009/10
WA Gas Networks	84.5	91.1	89.4
Wesfarmers	80.1	80.0	93.1
State Total	**81.5**	**82.8**	**92.4**

Table 21: Level of unanswered calls (%)

Licensee	2007/08	2008/09	2009/10
WA Gas Networks	5.0	2.9	1.6
Wesfarmers	1.2	1.1	0.4
State Total	**2.4**	**1.5**	**0.6**

Table 22: Average duration before a call is answered by an operator (seconds)

Licensee	2007/08	2008/09	2009/10
WA Gas Networks	16.9	12.0	16.0
Wesfarmers	15.0	13.0	13.0

[50] Refer to 2009/10 Annual Performance Report – South Australian Energy Supply Industry, p147, Tables A4-9 and A4-10 available at http://www.escosa.sa.gov.au/library/101124-AnnualPerformanceReport_2009-10.pdf

Appendix 1 – Additional Network Reliability Information for 2009/10

Network Reliability (SCONRRR 2002)

The following definitions[51] apply to the measures reported in this section:

- Overall – includes all sustained interruptions including transmission, planned and unplanned.
- Distribution Network (Planned) – excludes transmission outages and unplanned outages.
- Distribution Network (Unplanned) – excludes transmission outages and planned outages.
- Normalised Distribution Network (Unplanned) – excludes outages which:
  - are transmission outages and planned outages;
  - exceed an unplanned SAIDI exceeding the major event day boundary[52];
  - are caused by exceptional natural or third party events;
  - the distributor cannot reasonably be expected to mitigate the effect of the event on interruptions by prudent asset management.

SAIDI

Table 23 details the four SAIDI measures for gas distribution networks.[53] For WA Gas Networks, 63% of the total SAIDI was attributable to planned outages and 37% was attributable to unplanned outages.

Table 23: Additional gas distribution network SAIDI data - 2009/10

Licensee	Average Interruption Duration (minutes per annum)			
	Overall	Planned	Unplanned	Normalised
WA Gas Networks	0.985	0.624	0.360	0.053
Esperance Power Station	0	0	0	0
Wesfarmers	0	0	0	0

[51] The definition is taken from National Regulatory Reporting for Electricity Distribution and Retailing Businesses, Utility Regulators Forum, Steering Committee on National Regulatory Reporting Requirements, March 2002. Table 2; page 7.

[52] Please refer to the standard IEEE 1366-2003 - Guide for Electric Power Distribution Reliability Indices, Institute for Electrical and Electronic Engineers, for a definition of the "2.5-beta method", which is used to calculate the major event day boundary.

[53] All SAIDI figures have been rounded to three decimal places.

SAIFI

Table 24 details the four SAIFI measures[54] for gas distribution networks. For WA Gas Networks, 32% of the total SAIFI was attributable to planned outages and 68% was attributable to unplanned outages.[55]

Table 24: Additional gas distribution network SAIFI data - 2009/10

Licensee	Average Number of Interruptions (per annum)			
	Overall	Planned	Unplanned	Normalised
WA Gas Networks	0.0054	0.0017	0.0036	0.0009
Esperance Power Station	0.0	0.0	0.0	0.0
Wesfarmers	0.0	0.0	0.0	0.0

CAIDI

Table 25 details the four CAIDI measures[56] for gas distribution networks. CAIDI is the ratio of SAIDI divided by SAIFI. Comparing Table 23 with Table 24 shows that SAIDI due to planned outages is higher than that for unplanned outages. However, planned outages occurred less frequently (lower SAIFI), which resulted in planned CAIDI being approximately 3.6 times higher than unplanned CAIDI.

Table 25: Additional gas distribution network CAIDI data - 2009/10

Licensee	Average Interruption Duration (minutes per annum)			
	Overall	Planned	Unplanned	Normalised
WA Gas Networks	183.4	360.0	99.1	57.6
Esperance Power Station	0.0	0.0	0.0	0.0
Wesfarmers	0.0	0.0	0.0	0.0

[54] Rounded to four decimal places.

[55] The calculation of these percentages is based on the SAIFI figures to five decimal places.

[56] Rounded to one decimal place.

Appendix 2 - Network Construction Information

Table 26 provides an overview of the network assets deployed in the distribution networks operated by WA Gas Networks, Esperance Power Station and Wesfarmers.[57] It can be seen that the distribution networks installed and in service for Esperance Power Station and Wesfarmers are significantly smaller and less diverse in both asset and pressure type compared to the distribution networks operated by WA Gas Networks.

Table 26: Distribution network construction information by distributor (as at 30 June 2010)

Asset Type	Asset Sub-Type	WA Gas Networks			Esperance Power Station			Wesfarmers		
		High Pressure	Medium Pressure	Low Pressure	High Pressure	Medium Pressure	Low Pressure	High Pressure	Medium Pressure	Low Pressure
Length of gas main (km) constructed from:	Cast Iron	0	0	38.3	0	0	0	0	0	0
	Unprotected Steel	0	84.1	134.1	0	0	0	0	0	0
	Protected Steel	741.6	10.6	0	0	0	0	0	0	0
	PVC	0	5,993.9	3,652.6	0	0	0		8.7	0
	Polyethylene	558.6	1,518.9	47.2	0	35.2	0	0	42.1	0
	Other	5.9	30.5	39.1	0	0	0	0	0	0
Total length of distribution mains installed and in service (km)		1306.2	7,638.0	3,911.3	0	35.2	0	0	50.8	0
Number of service connections per km of gas mains			48.9			7.6			15.5	

[57] Origin Energy surrendered its gas distribution licence on 5 July 2010.