

2011/12 Annual Performance Report Energy Distributors

March 2013

Economic Regulation Authority



WESTERN AUSTRALIA

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Overview

This is the fifth annual report published by the Authority that examines the performance of electricity and gas distributors that supply small use customers¹ in Western Australia.

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

Customer Connections

Electricity

Compared to 2011, the state-wide total number of customer connections on electricity distribution systems increased by 0.8% (from 1.05 to 1.06 million connections). The South West Interconnected Network (**SWIN**)² operated by Western Power accounts for 95.6% of these connections.

The number of connections on the Western Power distribution system increased by 0.7%, while the number of connections in regional areas supplied by Horizon Power increased by 2.7%.

Compared to 2011, the state-wide total number of new connections established on electricity distribution systems fell by 13.3%. New connections on the Western Power network fell by 13% (from 24,614 to 21,420), while new connections on the Horizon Power distribution systems decreased by 17.5% (from 2,157 to 1,780). During 2012, Western Power further improved their on-time delivery of new connections to a six year high of 97.9%.

Gas

Compared to 2011, the state-wide total number of customer connections on gas distribution systems increased by 2.6% (from 637,427 to 654,024 connections). Connections on the ATCO³ distribution systems account for 99.83% of the state-wide total.

During 2012, the number of connections on the ATCO distribution systems increased by 2.6%, while the connections on the Esperance Power Station and Wesfarmers distribution systems increased by 4.5% and 11.8% respectively. Compared to 2011, the state-wide number of new distribution connections decreased by 32.8% (from 19,679 to 14,813 connections), of which less than 0.1% were not delivered on time.

Distribution System Reliability

Electricity

The number of customer premises on the Western Power system that experienced an extended interruption (>12 hours) increased by 230% (from 54,414 to 179,694) to reach

¹ Customers who consume not more than 160MWh of electricity or 1TJ of gas per annum.

² The South West Interconnected System (**SWIS**) is the entire energy system, including all generators covering the coastal area from Kalbarri to Bremer Bay and the Goldfields. The transmission and distribution system that supplies this area is known as the South West Interconnected Network (**SWIN**), which mostly (but not completely) comprises the infrastructure that Western Power owns and operates.

³ ATCO Gas Australia Pty Ltd

the highest level on record,⁴ while the number of interrupted customer premises on the Horizon Power systems was also up by 64.8% (from 1,138 to 1,875), compared to 2011.

The number of customer premises experiencing multiple interruptions during 2012 was also up on the previous year. On the Western Power system there was a 94% increase in CBD and urban customer premises experiencing more than 9 interruptions, and a 159% increase in rural customer premises experiencing more than 16 interruptions during 2012. Horizon Power reported a 44% increase in rural customer premises experiencing more than 16 interruptions during 2012.

The average length of interruption to customer premises⁵ in the Perth CBD during 2012 fell significantly and, at 31 minutes total, almost met the 30 minutes per annum standard set in the NQ&R Code.⁶ However, in the urban areas supplied by Western Power the average length of interruption rose from 341 to 405 minutes, which exceeded the 160 minute standard in the NQ&R Code by 245 minutes. This was also the case for the rural areas supplied by Western Power, where the average length of interruptions increased from 777 to 947 minutes, which exceeded the 290 minute standard in the NQ&R Code by 657 minutes.

Western Power has cited storm events and bushfires as the primary contributors to the increases in the number of interruptions and average length of time that customers were off supply during 2012.⁷

The average length of interruption to customer premises in rural areas supplied by Horizon Power rose from 297 to 302 minutes, or 12 minutes over the NQ&R Code standard. Rottneest Island Authority was the only distributor to meet the 290 minute standard in 2012, despite the average length of interruptions increasing by 32% (from 171 to 226 minutes) since 2011.

The measurement of interruptions under the 2002 SCONRRR Framework⁸ (SAIDI, SAIFI and CAIDI)⁹ is a more realistic measure of distributor system reliability because it allows for the exclusion of interruption events caused by factors that are beyond the reasonable control of the distributor. Under the 2002 SCONRRR Framework, the distributors report the total and normalised values of total interruptions. The normalisation process removes days where the duration of interruptions significantly exceed the long-run average performance of the network.

Comparing the normalised SAIDI on the Western Power system in 2011 and 2012 shows that the average customer minutes off supply on most parts of their system were almost unchanged, with the exception of the Perth CBD, where there was a significant improvement (from 30 to 16 minutes of interruption). Both Horizon Power and Rottneest Island Authority reported increases in the Total Network SAIDI between 2011 and 2012, up from 164 to 203 minutes and 142 to 226 minutes respectively.

⁴ The increase in extended interruptions on the Western Power system was caused by major storm events in June 2012 (Western Power Annual Reliability and Power Quality Report 2011/12) – see page 8 for more details.

⁵ The NQ&R Code measures the average length of interruption over a four year period.

⁶ *Electricity Industry (Network Quality & Reliability of Supply Code) 2005*.

⁷ Source: Western Power Annual Reliability and Power Quality Report 2011/12.

⁸ National regulatory reporting for electricity distribution and retailing businesses, Steering Committee on National Regulatory Reporting Requirements, Utility Regulators Forum, March 2002.

⁹ System Average Interruption Duration Index, System Average Interruption Frequency Index and Customer Average Interruption Duration Index.

Gas

2012 is the fifth consecutive year that gas distributors have reported that they did not have any customer supply interruptions longer than 12 hours, nor did any of their customers experience five or more supply interruptions during the reporting year.

Complaints

Electricity distributors are required to report on two distinct complaints categories: technical quality of service (**QoS**) complaints under the NQ&R Code and customer service complaints under the Code of Conduct. Complaint reporting obligations for gas distributors are in the Gas Manual,¹⁰ which covers supply quality and reliability, customer service and network charges and costs.

Compared to 2011, the number of QoS complaints received by electricity distributors fell by 39% (from 2,187 to 1,330 complaints), due to a similar fall in the number of complaints received by Western Power.¹¹ The majority of the complaints were related to issues that did not fall into any of the seven defined categories followed by TV or radio interference complaints and low voltage complaints.

The number of complaints related to Code of Conduct matters received by Horizon Power in 2012 (137) was unchanged from the previous year, while Western Power reported a drop in received complaints (from 1,738 to 712) to reach a six year low. The majority of the complaints received by Horizon Power related to administrative and customer service issues, whereas almost all of Western Power's complaints related to other matters.

After three years of declining performance, 2012 saw Western Power report a substantial improvement (up from 26% to 65%) in the percentage of complaints that it resolved within the 15 business day benchmark in the Code of Conduct. Their complaint resolution performance in 2012 equalled the previous best performance in 2009.

Horizon Power has resolved 100% of the complaints it has received within the 15 business day benchmark for the past five years.

Gas

In 2012, ATCO (36 complaints) and Wesfarmers (2 complaints) were the only distributors to receive complaints. The total number of complaints received by gas distributors in 2012 (38) is substantially lower than those received by electricity distributors (849).

Call Centre Performance

Electricity

Compared to 2012, the total volume of calls to electricity distributor call centres increased by 8% (from 572,149 to 619,981 calls), with across the board increases in the number of calls to all three distributors. Western Power's call centre performance improved in 2012, with the percentage of calls answered within 30 seconds reaching 75%, despite a large increase in the number of calls handled. For the third year in succession, Rottneest Island Authority had the best call answering performance with 95% of calls being answered within 30 seconds.

¹⁰ The Authority's *Gas Compliance Reporting Manual*.

¹¹ Horizon Power and Western Power were the only distributors to receive complaints in 2010/11. Rottneest Island Authority has not received any complaints under the NQ&R Code and the Code of Conduct during the six years to 2012.

Gas

The volume of calls to gas distributor call centres were also higher in 2012 (251,104) than in 2011 (228,155); an increase of 10%. The volume of calls to the ATCO call centre was relatively unchanged, but calls to the Wesfarmers call centre increased by 12% (from 190,764 to 214,280); it should be noted that the Wesfarmers call centre also handles calls for other parts of the Wesfarmers Kleenheat Gas business.

Over the past three years, the proportion of calls answered within 30 seconds by the ATCO call centre has remained stable around the 88% mark. However, the performance of the Wesfarmers call centre has deteriorated over the same period, falling from 93% in 2010 to 66% in 2012. The decline in performance corresponds with the year-on-year increases in calls handled by the call centre.

Contents

Overview	i
List of Tables	vi
List of Figures	viii
Purpose of this Report	1
Energy Distribution Market	3
Energy Distributors	3
Customer Connections	4
Distribution System Reliability	8
Electricity Supply Interruptions	8
Gas Supply Interruptions	9
Electricity Distribution Network Reliability Performance (Network Quality and Reliability Code)	10
Electricity Distribution System Reliability Performance (2002 SCORRR Framework)	14
Complaints	19
Electricity Distributors	19
Gas distributors	21
Call Centre Performance	23
Electricity Distributor Call Centres	23
Gas Distributor Call Centres	25
Service Standard Payments	28
Electricity Distributor Service Standard Payments	28
Gas Distributor Guaranteed Service Level Payments	29
Appendix 1 - Gas Consumption and Unaccounted for Gas	30
Appendix 2 - Leaks on Gas Distribution Systems	32
Appendix 3 - Street Lighting Repairs	34
Appendix 4 – Additional Electricity System Reliability Information	37
Appendix 5 – Electricity Distribution System Asset Information	40
Appendix 6 – Gas Distribution System Construction Information	41
Appendix 7 – Additional Electricity and Gas Distributor Performance Data	42
Appendix 8 – Background information about energy distribution	53
Appendix 9 – The development of the Western Australian energy market	55
Appendix 10 – Licence Area Maps of the State	58

List of Tables

Table 1: Number of licensed distributors	3
Table 2: Small use electricity connections by distributor	5
Table 3: New connections on electricity distribution systems	5
Table 4: Small use gas connections by distributor	6
Table 5: New connections on gas distribution networks	7
Table 6: NQ&R Code standards for the average total length of interruptions of supply (clause 13)	11
Table 7: Distribution feeder classifications (SCONRRR)	15
Table 8: Overall and normalised SAIDI for each electricity distributor - year ending 30 June 2012	16
Table 9: Comparison of normalised SAIDI for each electricity distributor in 2011 and 2012	16
Table 10: Overall and normalised SAIFI for each distributor – year ending 30 June 2012	16
Table 11: Comparison of normalised SAIFI for each electricity distributor in 2011 and 2012	17
Table 12: Overall and normalised CAIDI for each electricity distributor – year ending 30 June 2012	17
Table 13: Comparison of normalised CAIDI for each electricity distributor in 2011 and 2012	18
Table 14: Technical Quality of Service (QoS) complaints – year ending 30 June 2012	19
Table 15: Technical Quality of Service (QoS) complaints – 2008 to 2012	19
Table 16: Likely cause of technical Quality of Service (QoS) complaints – year ending 30 June 2012	20
Table 17: Complaints received by electricity distributors (Electricity Customer Code)	20
Table 18: Complaints received by gas distributors	21
Table 19: Gas complaints by category – year ending 30 June 2012	22
Table 20: Volume of calls to electricity distributor call centres	23
Table 21: Volume of calls to gas distributor call centres	25
Table 22: Service standard payments made by electricity distributors	28
Table 23: Change in gas consumption between 2011 and 2012	30
Table 24: Unaccounted for Gas on distribution systems (GJ)	31
Table 25: Gas main leak repairs	32
Table 26: Gas property service connection leak repairs	32
Table 27: Gas meter leak repairs	33
Table 28: Number of street lights in metropolitan and regional areas	34
Table 29: Number of street light faults logged in metropolitan and regional areas	35
Table 30: Western Power SAIDI Performance – year ending 30 June 2012	37
Table 31: Horizon Power SAIDI Performance – year ending 30 June 2012	37
Table 32: Rottnest Island Authority SAIDI Performance – year ending 30 June 2012	38
Table 33: Western Power SAIFI Performance – year ending 30 June 2012	38
Table 34: Horizon Power SAIFI Performance – year ending 30 June 2012	38
Table 35: Rottnest Island Authority SAIFI Performance – year ending 30 June 2012	38

Table 36: Western Power CAIDI Performance – year ending 30 June 2012	39
Table 37: Horizon Power CAIDI Performance – year ending 30 June 2012	39
Table 38: Rottnest Island Authority CAIDI Performance – year ending 30 June 2012	39
Table 39: Electricity distribution system assets (as at 30 June 2012)	40
Table 40: Gas distribution network construction information (as at 30 June 2012)	41
Table 41: Total small use customer connections on electricity and gas distribution systems (year ending 30 June)	42
Table 42: Establishment of new customer connections on electricity and gas distribution systems (year ending 30 June)	43
Table 43: Number of customer connections not established within the prescribed time frames on electricity distribution systems (year ending 30 June)	43
Table 44: Number of small use electricity customer premises that have experienced interruptions of more than 12 hours continuously (year ending 30 June)	44
Table 45: Number of Urban (including Perth CBD) and Rural electricity customer premises that have experienced multiple interruptions (year ending 30 June)	44
Table 46: Number of small use gas customers experiencing interruptions exceeding 12 hours continuously (year ending 30 June)	45
Table 47: Complaints received by electricity distributors (Electricity Customer Code)	46
Table 48: Complaints received by gas distributors	47
Table 49: Call centre performance (year ending 30 June)	48
Table 50: Residential and non-residential Gas Consumption (year ending 30 June)	49
Table 51: Unaccounted for gas (GJ)	49
Table 52: Percentage of unaccounted for gas on distribution systems (year ending 30 June)	50
Table 53: Number of gas main leak repairs	50
Table 54: Number of street light faults logged (year ending 30 June)	51
Table 55: Metropolitan and regional area street light faults that are repaired after the prescribed timeframes (year ending 30 June)	52

List of Figures

Figure 1: Small use customer connections on electricity and gas distribution systems	4
Figure 2: Percentage of late connections established by Western Power	6
Figure 3: Number of extended interruptions of Horizon Power and Western Power customers	8
Figure 4: Multiple supply interruptions in specified areas of the State	9
Figure 5: Average total duration of interruptions in the Perth CBD and other urban areas	11
Figure 6: Average frequency of supply interruptions in CBD and Urban areas	12
Figure 7: Average total duration of interruptions in other areas of the State	13
Figure 8: Average frequency of interruptions in other areas of the State	13
Figure 9: Electricity distributor complaint resolution performance (Electricity Customer Code)	21
Figure 10: Percentage of electricity distributor calls answered within 30 seconds	24
Figure 11: Average duration before a call is answered by electricity distributors	24
Figure 12: Percentage of calls that are unanswered by electricity distributors	25
Figure 13: Percentage of gas distributor calls answered within 30 seconds	26
Figure 14: Average duration before a call is answered by gas distributors	26
Figure 15: Percentage of calls that are unanswered by gas distributors	27
Figure 16: Percentage of faulty street lights by distributor and location	35
Figure 17: Percentage of faulty metropolitan street lights repaired after 5 days	36
Figure 18: Percentage of faulty regional street lights repaired after 9 days	36
Figure 19: Gas supply areas in Western Australia	58
Figure 20: Electricity Licensing Areas in Western Australia	59

Purpose of this Report

The Economic Regulation Authority (**Authority**) is the independent economic regulator for Western Australia.

In its regulatory role, the Authority assesses the terms and conditions, including prices, offered by owners of monopoly infrastructure to third parties in the gas, electricity and rail industries. It also licenses providers of gas, electricity and water services and monitors compliance with licensing conditions and other related regulatory obligations. The Authority also has a range of responsibilities in gas retailing and surveillance of the State's wholesale electricity market.

This is the sixth annual report that examines the performance of electricity distributors and the fifth annual report that examines the performance of gas distributors who supply small use customers in Western Australia that has been published by the Authority.

The purpose of this report is to bring transparency and accountability to the performance of energy distribution¹² businesses (electricity and gas) who supply small use customers (see below) and to benchmark, where possible, performance against similar businesses in other energy markets.

This report focuses on the performance data provided by energy distributors in relation to:

- All distributors:
 - 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 time frames.
 - Customer Service: information about customer satisfaction with the service provided by the distributor as measured by level of complaints and customer contact centre responsiveness.
 - Network Reliability: information about the frequency and duration of supply interruptions on the distribution network.
 - Compensation Payments / Guaranteed Service Level Payments: information about the number of payments made by electricity distributors for failing to meet the service standards prescribed in either the *Code of Conduct for the Supply of Electricity to Small Use Customers* (**Electricity Customer Code**) and the *Electricity Industry (Network Quality and Reliability of Supply) Code 2005* (**NQ&R Code**), and payments made by the ATCO Gas Australia under their access arrangement.¹³
- Electricity distributors only:
 - Street Lighting: measures the proportion of faulty street lights that are repaired by a distributor within the prescribed standards.

¹² Electricity distribution licensees, electricity integrated regional licensees who distribute to small use customers and gas distribution licensees.

¹³ ATCO Gas Networks is the only gas distributor that is covered by a service standard payment framework, which forms part of their gas access arrangement.

- Gas distributors only:
 - 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.

Appendix 8 provides further background information about energy distribution in Western Australia and Appendix 9 provides an overview of the development of the Western Australian energy market.

Energy Distribution Market

This section of the report looks at the energy distribution market as measured by the number of distributors who have small use customers connected to their distribution systems and the number of customers that are connected to those systems. The remainder of this section provides information about:

- licensed electricity and gas distributors;
- distributors who are distributing electricity or gas to small use customers; and
- the number of small use electricity and gas customer connections.

Energy Distributors

The number of licensed electricity and gas distributors has remained almost unchanged since 2006. Table 1 details the number of licensed electricity and gas distributors during the five years ending 30 June 2012.

Electricity

When the *Electricity Industry Act 2004 (Act)* commenced in 2005, existing retailers were required to obtain a licence from the Authority by 30 June 2006. The majority of the licensed electricity distributors who are currently active in the market were granted a licence in 2005 or 2006. Between 1 July 2006 and 30 June 2011, the total number of licences has fallen from eight to six following EDL NGD (WA) and Central Norseman Gold Corporation surrendering their distribution licences in 2010.¹⁴

Table 1: Number of licensed distributors

	Year ending 30 June				
	2008	2009	2010	2011	2012
Electricity					
Licensed Distributors	8 ¹⁵	8	6	6	6
Distributing to small	3	3	3	3	3
Gas					
Licensed	4	4	3	3	3

The number of electricity licences to distribute electricity to small use customers has remained unchanged since deregulation in 2005. The three distributors supplying small use customers are: Horizon Power, Rottneest Island Authority and Western Power.

Western Power operates the largest distribution system in the State, called the South West Interconnected Network (**SWIN**) that supplies the coastal area from Kalbarri to Bremer Bay and the Goldfields.

¹⁴ The Electricity Industry Exemption Amendment Order 2009 granted exemptions from the requirement to hold a distribution licence to EDL NGD (WA) and Central Norseman Gold Corporation.

¹⁵ Central Norseman Gold Corporation (CNGC) was granted a distribution licence on 1 July 2007 following its takeover of the distribution assets of Croesus Mining. Croesus Mining surrendered its distribution licence to coincide with the granting of the CNGC licence.

¹⁶ The licensing scheme in Part 2A of the *Energy Coordination Act 1994* only covers distribution systems that supply small use customers.

Horizon Power operates the NWIS¹⁷ and 36 islanded distribution systems in regional towns and remote communities across the State.

Rottneest Island Authority operates the distribution system on Rottneest Island, which is an “A class” nature reserve lying 15km off the coast to the west of Fremantle.

Gas

The Authority took over responsibility for licensing gas retailers from the Office of Energy¹⁸ in 2005. At that time there were three licensed gas distributors: AlintaGas Networks, Wesfarmers Kleenheat Gas (**Wesfarmers**) and WorleyParsons Asset Management (**WorleyParsons**). Between 1 July 2006 and 30 June 2012, one new distribution licence was issued to Origin Energy (in June 2008). Origin Energy subsequently surrendered its licence in June 2010.

Following two changes in ownership since 2004, AlintaGas Networks is now called ATCO.¹⁹ ATCO operates natural gas distribution systems supplying the coastal area from Geraldton to Busselton and Kalgoorlie. ATCO also operates the distribution system that supplies LPG²⁰ in Albany.

Wesfarmers operates three gas distribution systems that supply LPG in Leinster, Margaret River and Oyster Bay (near Albany).

Customer Connections

Figure 1: Small use customer connections on electricity and gas distribution systems

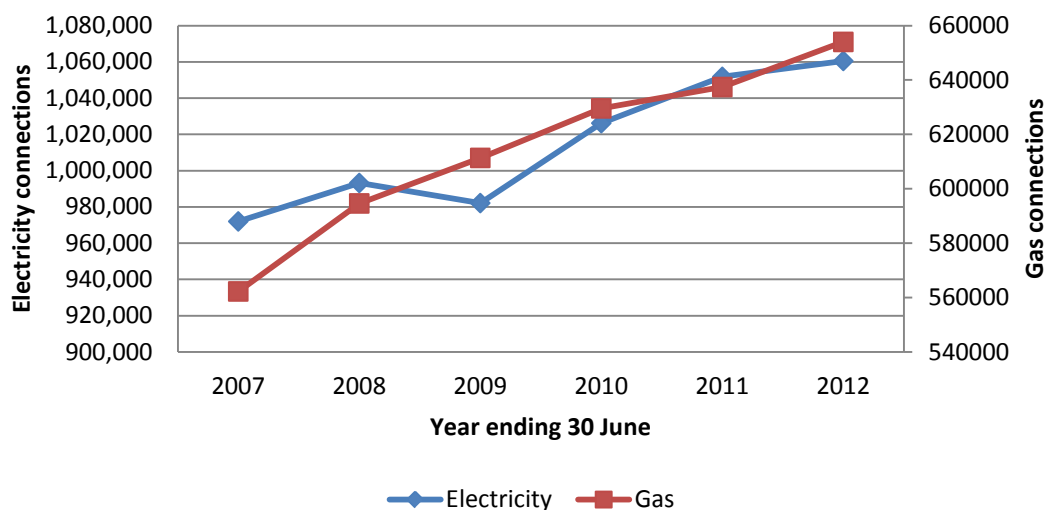


Figure 1 details the total number of small use customer connections on electricity and gas distribution systems in the State. During 2011/12, the state-wide number of electricity

¹⁷ The interconnected system located in the Pilbara region of the State that is supplied by generation plants in Dampier, Port Hedland and Cape Lambert.

¹⁸ The responsibilities of the Office of Energy were transferred to the Department of Finance’s Public Utilities Office in 2012.

¹⁹ ATCO Gas Australia Pty Ltd

²⁰ Liquefied Petroleum Gas.

customer connections increased by 0.8% and the state-wide number of gas customer connections increased by 1.2%.

Connections on electricity distribution systems

Table 2 details the number of customer connections on each electricity distributor's system. Western Power, who operates the SWIN, accounts for 96% of the total state-wide customer connections.

During 2012, the number of customer connections on the Western Power system (SWIN) increased by 0.7%. The number of customer connections on the Horizon Power systems increased by 2.7%, while the number of connections on the Rottneest Island Authority distribution system has increased substantially because they now count each metered connection in multi-unit dwellings and other holiday accommodation.

Table 2: Small use electricity connections by distributor

Distributor	Year ending 30 June				
	2008	2009	2010	2011	2012
Horizon Power	37,580	39,577	41,143	43,181	44,328
Rottneest Island Authority	99	191 ²¹	83	83	527 ²²
Western Power	955,551	942,381	985,000	1,008,525	1,015,679
State Total	993,230	982,149	1,026,226	1,051,789	1,060,534

Table 3 details the number of new connections established by electricity distributors in 2011 and 2012. The total number of new connections established on electricity distribution systems during 2012 was 13.3% lower than in 2011, comprising a 17.5% decrease in new connections established by Horizon Power and a 13% decrease in new connections established by Western Power.

Table 3: New connections on electricity distribution systems

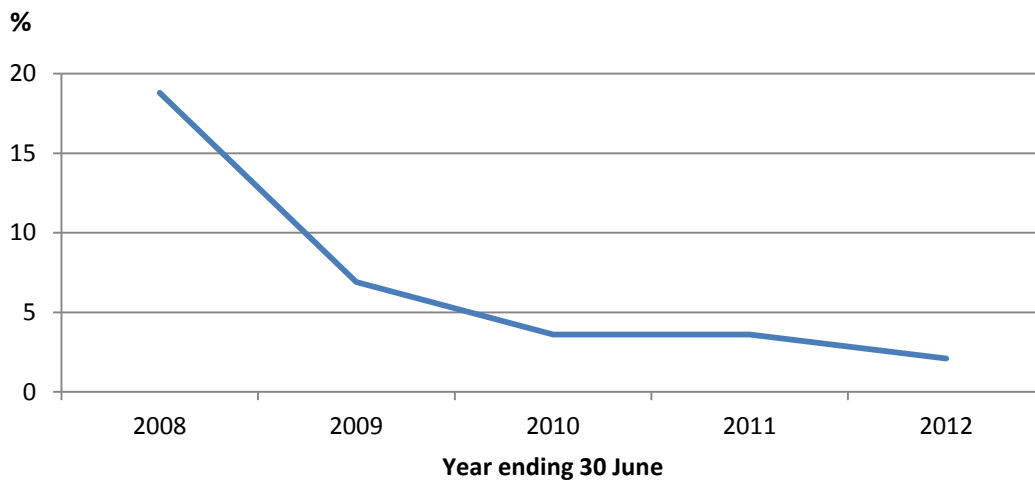
Distributor	Year ending 30 June 2011			Year ending 30 June 2012		
	Number of new connections	Connections not on time	% of connections not on time	Number of new connections	Connections not on time	% of connections not on time
Horizon Power	2,157	0	0.0	1,780	2	0.1
Rottneest Island Authority	0	0	0.0	0	0	n/a
Western Power	24,614	885	3.6	21,420	446	2.1
State Total	26,771	885	-	23,200	448	-

The *Electricity Industry (Obligation to Connect) Regulations 2005* prescribe the conditions for, and the time frames associated with, establishing a connection to an electricity distribution system for a small use customer.²³ Table 3 shows that Western Power's on time delivery of new connections in 2012 was an improvement over that achieved in 2011. Examination of Figure 2 shows that 2012 is the fourth consecutive year that Western Power has improved their on-time connection performance.

²¹ Rottneest Island Authority commented that the 2008/09 figure included all connections on the distribution system, not just small use connections.

²² For 2011/12, Rottneest Island Authority has, for the first time, included multi-unit dwellings and holiday accommodation in its no. of electricity connections.

²³ Electricity distributors are required to connect a customer within 20 business days for a new connection to the distribution system, subject to conditions relating to the proximity of the customer premises to the distribution network, access to land and contractual agreements being in place.

Figure 2: Percentage of late connections established by Western Power

Connections on gas distribution systems

Table 4 shows the number of small use customer connections on each gas distributor's system. ATCO is the largest gas distributor in the State, with 99.81% of total gas connections in 2012.

During 2012, the number of customer connections on the ATCO systems increased by 2.6%, compared to 2011. The number of customer connections on the Wesfarmers and Esperance Power Station systems increased by 4.5% and 11.8% respectively.

Table 4: Small use gas connections by distributor

Distributor	Year ending 30 June					
	2007	2008	2009	2010	2011	2012
ATCO	561,437	593,634	610,294	628,537	636,323	652,808
Wesfarmers	636	791	831	808 ²⁴	862	903
Esperance Power Station	197	209	242	266	280	313
State Total	562,270	594,634	611,367	629,589	637,427	654,024

Table 5 shows the number of connections that were not provided in a time agreed with the customer. ATCO was the only distributor to report late connections, which represented a very small percentage of the total new connections.

²⁴ Wesfarmers has been corrected the number of connections on their distribution systems from 796 to 808 connections.

Table 5: New connections on gas distribution networks

Distributor	Year ending 30 June 2011			Year ending 30 June 2012		
	Number of new connections	Connections not on time	% of connections not on time	Number of new connections	Connections not on time	% of connections not on time
ATCO	19,611	7	0.04	14,752	3	0.02
Wesfarmers	54	0	0.00	41	0	0.00
Esperance Power Station	14	0	0.00	20	0	0.00
State Total	19,679	7	-	14,813	3	-

Distribution System Reliability

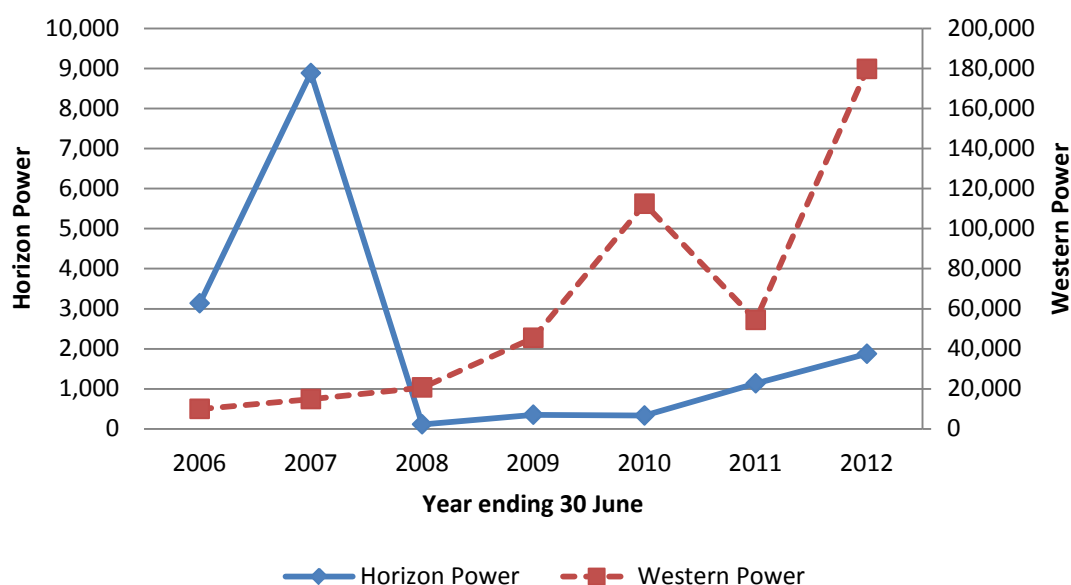
Electricity Supply Interruptions

Section 12 of the NQ&R Code prescribes the following reporting standards in respect of interruptions to supply of small use customer premises:

- The number of customer premises that have experienced interruptions that exceed 12 hours continuously.
- The number of times customer premises in the Perth CBD and Urban areas²⁵ have experienced more than 9 interruptions during the reporting period.
- The number of times customer premises in the other areas of the State have experienced more than 16 interruptions during the reporting period.

Figure 3 shows the number of customer premises on the Horizon Power and Western Power distribution systems that experienced an extended interruption to supply (>12 hours continuously) over the past seven years.²⁶

Figure 3: Number of extended interruptions of Horizon Power and Western Power customers



Comparing 2012 with 2011, the number of customer premises on the Western Power system that experienced an extended interruption increased by 230% to reach the highest level on record. Western Power states that:

Out of the total number of 179,694 extended customer interruptions on the Western Power network, 88% (158,131) of these interruptions occurred due to events beyond Western Power's control, namely the June 2012 storms. As a result of the storms, the Western Power network sustained the most widespread damage since 2001. More than 272,000 customers from Geraldton to Ravensthorpe lost power due to two consecutive

²⁵ The NQ&R Code defines urban areas as being the Perth metropolitan area (excluding the CBD), Albany, Bunbury, Geraldton, Kalgoorlie and Mandurah.

²⁶ Rottnest Island Authority is excluded from Figure 3 because the number of extended interruptions over the past seven years is so small compared to Horizon Power and Western Power.

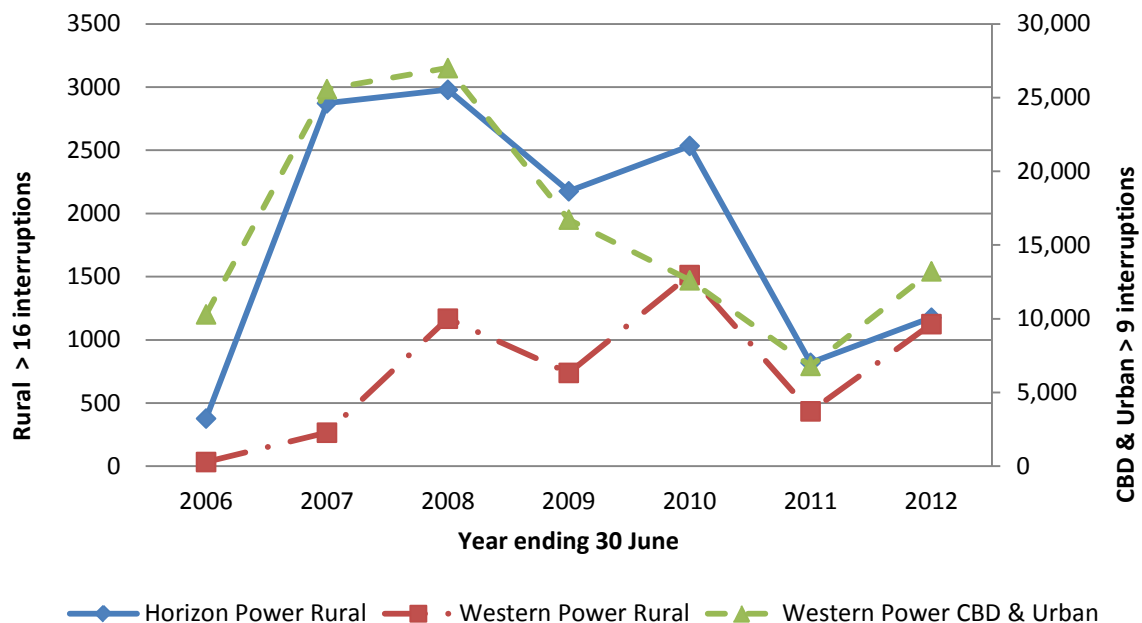
storm fronts. It is noted that Western Power crews restored power to 160,000 affected homes within the first 48 hours of the first storm.

The number of extended interruptions on the Horizon Power systems in 2012 (1,875) was 64.8% higher than in 2011, while Rottnest Island Authority reported that there were a total of three extended interruptions to customer premises during 2012.

Figure 4 details the number of multiple interruptions to customer premises in CBD and Urban areas, and in all other areas of the State (**Rural areas**). The Urban and CBD areas of the State are exclusively supplied by Western Power, whereas both Horizon Power and Western Power supply Rural areas.²⁷

Comparing 2012 with 2011, the number of customer premises in CBD & Urban areas that experienced more than 9 supply interruptions increased by 94.1%. The total number of Rural area premises that experienced more than 16 supply interruptions also increased: by 43.6% for Horizon Power and by 158.6% for Western Power.

Figure 4: Multiple supply interruptions in specified areas of the State



Gas Supply Interruptions

The Gas 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 detailed above.

²⁷ Rottnest Island Authority also supplies Rural areas, but it has not reported any multiple interruptions to customer premises since 2006/07. However, Table 45 details multiple interruption performance for all distributors over the past six years.

2012 is the fifth consecutive year that gas distributors have reported that they did not have any customer supply interruptions longer than 12 hours continuously, nor did any of their customers experience five or more supply interruptions during the reporting year.

Electricity Distribution Network Reliability Performance (Network Quality and Reliability Code)

Schedule 1²⁸ of the NQ&R Code requires distributors to report on the following measures of system reliability for each discrete area²⁹ of the State:

- average total length of all interruptions of supply to customer premises expressed in minutes (this measure divides the total length of network interruptions by the total number of customer premises connected to the network);
- average length of interruption of supply to customer premises expressed in minutes (this measure divides the total duration of interruptions by the total number of customer premises connected to the network that actually experienced a supply interruption);
- average number of interruptions of supply to customer premises (this measure divides the total number of network interruptions by the number of customer premises that actually experienced a supply interruption); and
- average percentage of time that electricity has been supplied to customer premises.

The values of the NQ&R Code reliability indices reported in this section do not exclude Major Event Days (**MED**),³⁰ in line with the requirements of the NQ&R Code. The approach taken in the NQ&R Code is unusual in that, by not excluding Major Event Days, the distributor reliability performance includes interruptions caused by factors that are generally outside the control of the distributor, such as third party action, severe storms and other natural disasters.

Clause 13(3) of the NQ&R Code defines the average value of interruptions as:

- the average of the interruptions for each year for the four years ending in the current reporting period; and
- the average of the four (annual) values.

This calculation gives an overall average over the most recent four year period and it is applied to the calculation of average length, and average frequency of interruptions.

Table 6 details the standards for the average total length of interruptions to supply for each discrete area of the state prescribed in the NQ&R Code. The standards reflect the environmental, infrastructure and demographic factors that influence overall system reliability in each discrete area of the State.

²⁸ Clauses 11 and 13 of Schedule 1 deal with network reliability.

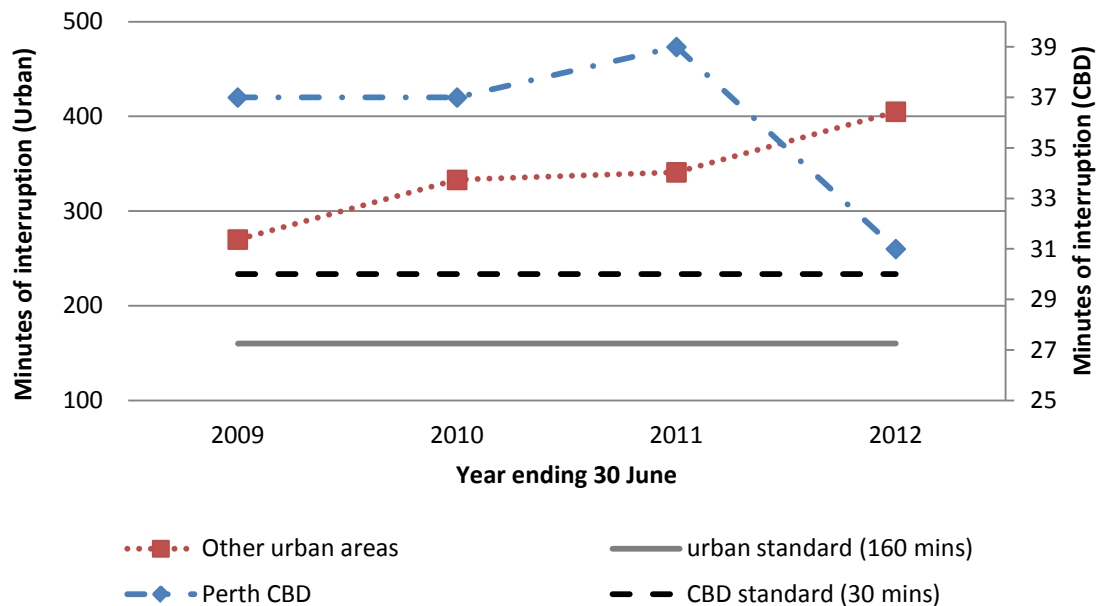
²⁹ The NQ&R Code defines 3 discrete areas for reliability reporting: Perth CBD, Urban and all other areas of the State. Distributors are also required to report on the reliability performance for each isolated system that they operate.

³⁰ Standard IEEE 1366-2003 defines a Major Event Day as a day in which the system SAIDI exceeds a threshold value T_{med} minutes. T_{med} is calculated from a statistical analysis of the SAIDI data over a specified period of time to identify events that deviate significantly from the average performance of the network.

Table 6: NQ&R Code standards for the average total length of interruptions of supply (clause 13)

	The Perth CBD ³¹	Urban areas (excluding Perth CBD)	Any other area of the State
Average total length of interruptions (minutes per annum)	30	160	290

System Reliability in the Perth CBD and Urban Areas

Figure 5: Average total duration of interruptions in the Perth CBD and other urban areas

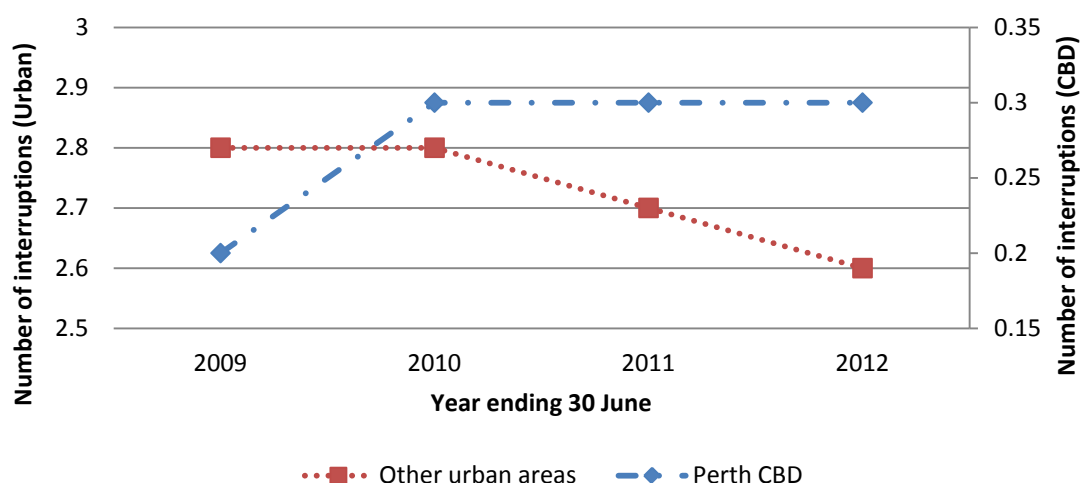
Western Power is the only distributor that supplies customers in the Perth CBD. Figure 5 shows that the average total length of interruptions in the Perth CBD during 2012 (31 minutes) almost met the 30 minute standard.

Western Power is also the only electricity distributor supplying Urban areas. Figure 5 shows that the average total length of interruptions increased in Urban areas during 2012 increased for the third consecutive year, to reach 405 minutes. This exceeds the standard prescribed in the NQ&R Code by 245 minutes.

Figure 6 shows that the average frequency of supply interruptions experienced by customers in the Perth CBD (0.30) during 2012 was unchanged from 2011, while the frequency of supply interruptions in Urban areas fell from 2.7 to 2.6 over the same period.

³¹ The Perth CBD area is defined as the areas supplied from the Milligan Street Zone Substation or the Hay Street Zone Substation.

Figure 6: Average frequency of supply interruptions in CBD and Urban areas



System Reliability in Other Areas of the State

All three distributors supply electricity to areas of the State outside of the CBD and Urban areas. Figure 7 details the average total duration of interruptions for each distributor.

Western Power has been reporting annual average interruption data for isolated systems to the Authority since 2010. However, the Authority has not included this data in Figure 7 because the standard in the NQ&R Code is based on four years of data.³² The 2012/13 report will be the first to include data for isolated systems.

Rottnest Island Authority is the only distributor that has met the 290 minutes prescribed in the NQ&R Code (Table 6) for the fourth consecutive year. However, the four year trend shows the average length of interruptions on their system increasing at an annualised rate of 28%.

During 2012, Horizon Power exceeded the standard by 12 minutes, which was marginally higher than the 7 minutes recorded in 2011. However, the average frequency of interruptions fell by 16%, which suggests the average length of each interruption was longer during 2012 than it was during 2011.

Between 2011 and 2012, the average duration of interruptions on Western Power's system deteriorated significantly from 777 minutes to 947 minutes, or more than three times the 290 minute standard.³³ Over the same period, the average frequency of interruptions was almost unchanged (Figure 8), indicating the average length of each interruption event was longer in 2012.

³² Western Power also operate one isolated system (Ravensthorpe), which was detached from the SWIN in 2009. The three year average total duration of interruptions for Ravensthorpe was 633 minutes.

³³ Western Power attributes the increase in the average length of interruptions to the severe storm event in June 2012 and the bushfire in Margaret River in November 2011 (source: Western Power Annual Reliability and Power Quality Report 2011/12).

Figure 7: Average total duration of interruptions in other areas of the State

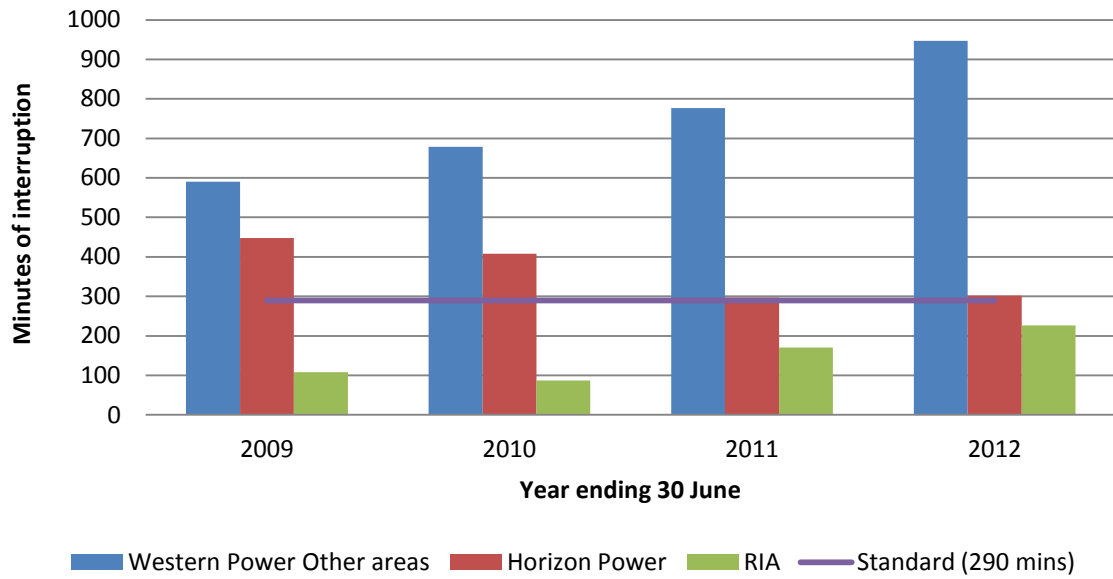
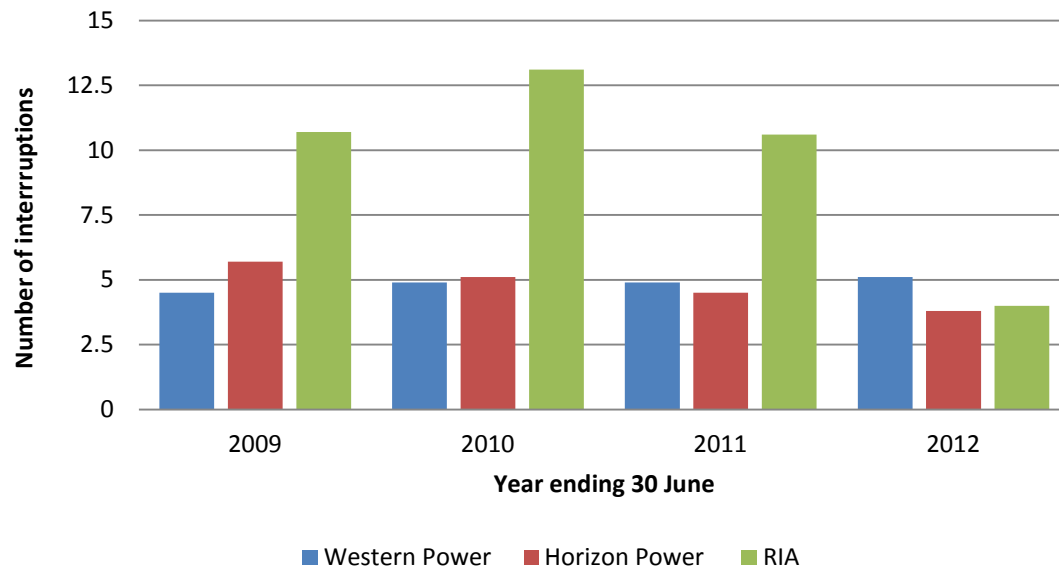


Figure 8: Average frequency of interruptions in other areas of the State



Electricity Distribution System Reliability Performance (2002 SCORRR Framework)

The 2002 SCORRR³⁴ reliability performance reporting indicators are based on the definitions in standard IEEE 1366-2003³⁵. 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 reporting period.

The definition and calculation of SAIDI, SAIFI and CAIDI apply to sustained interruptions of supply. The 2002 SCORRR Framework defines the sustained interruption threshold as being more than 1 minute.

The 2002 SCORRR Framework also categorises the SAIDI, SAIFI and CAIDI measures into Overall, Distribution Network Planned, Distribution Network Unplanned and Normalised Distribution Network Unplanned.

Prior to 2010, the calculation of the Normalised Distribution Network Unplanned measures was based on the definition in the 2002 SCORRR Framework, which excludes 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 Regulator³⁶ 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**). 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 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 2010 reporting period.

The 2002 SCORRR Framework applies the SAIDI, SAIFI and CAIDI reliability measures to the four classes of distribution network feeders that are described in Table 20.

³⁴ National Regulatory Reporting for Electricity Distribution and Retailing Businesses, Utility Regulators Forum Steering Committee on National Regulatory Reporting Requirement, March 2002

³⁵ Standard IEEE 1366-2003 - Guide for Electric Power Distribution Reliability Indices, Institute for Electrical and Electronic Engineers.

³⁶ Electricity Distribution Network Service Providers, Service Target Performance Incentive Scheme, Australian Energy Regulator, November 2009 (see page 12 and Appendix D)

Table 7: Distribution feeder classifications (SCONRRR)

CBD ³⁷	Description		
	Urban	Short Rural	Long Rural
A feeder supplying predominantly commercial, high rise buildings, supplied by a predominantly underground distribution network containing significant interconnection and redundancy compared to urban areas.	A feeder, which is not a CBD feeder, with actual maximum demand over the reporting period per total feeder route length greater than 0.3MVA/km.	A feeder, which is not a CBD or urban feeder, with a total feeder route length less than 200km.	A feeder, which is not a CBD or urban feeder, with a total feeder route length greater than 200km.

It is normal practice to set reliability targets that are more stringent for CBD and Urban feeders compared to Rural feeders. The more stringent standards for CBD and Urban feeders reflect the higher levels of interconnection and available reserved capacity that apply to the design of CBD and Urban distribution networks.

Distributors are also required to record SAIDI, SAIFI and CAIDI for the Total Network. The Total Network measure is the weighted average of the reliability of each class of feeder, and can be used to track trends in overall distributor network reliability over time. This is the fourth year that distributors have reported Total Network performance.

Two measures of SAIDI, SAIFI and CAIDI are presented in this section; Overall and Normalised Distribution Network - Unplanned. The 2002 SCONRRR³⁸ definitions of these two measures are:

- Overall Interruptions - includes all sustained interruptions including transmission, directed load shedding, planned and unplanned.
- Normalised Distribution Network - Unplanned Interruptions – excludes transmission outages, directed load shedding and unplanned outages where the daily SAIDI exceeds the MED threshold.

System Average Interruption Duration Index (SAIDI)

Table 8 shows the overall and normalised SAIDI values by feeder category for each distributor. As would be expected from the normalisation process (which excludes certain outages from the calculation of SAIDI), the values of overall SAIDI are higher than the normalised SAIDI for all categories of feeder, except Rottneest Island Authority, where the values are the same.

Of particular note is the much higher values of normalised SAIDI for the long rural feeders (>200km long) compared to the short rural feeders for both Horizon Power and Western Power. The higher values of long rural feeder SAIDI are attributable to the relatively remote locations of these feeders and longer average time to repair faulty lines. The higher values of normalised SAIDI on long rural feeders have relatively little impact on the Total Network SAIDI for both Horizon Power and Western Power because long rural feeders represent a small proportion of the overall feeder population in their distribution systems.

³⁷ The Perth CBD area is defined as the areas supplied from the Milligan Street Zone Substation or the Hay Street Zone Substation.

³⁸ 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.

Table 8: Overall and normalised SAIDI for each electricity distributor - year ending 30 June 2012

Distributor	Overall Average Interruption Duration (minutes per annum)				
	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	312	276	1460	339
Rottnest Island Authority	N/A	N/A	226	N/A	226
Western Power	25	440	810	1360	620

Distributor	Normalised Average Interruption Duration (minutes per annum)				
	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	283	155	665	203
Rottnest Island Authority	N/A	N/A	226	N/A	226
Western Power	16	119	191	563	177

N/A – No feeders of this type are operated by the distributor

Table 9 compares the normalised SAIDI values reported by distributors in 2011 and 2012. It can be seen that all three distributors reported increases in Total Network SAIDI. The increase in Horizon Power's systems was driven by increases in Urban and Short Rural SAIDI. In Western Power's system, the effect of increased Long Rural SAIDI was almost counterbalanced by a decrease in CBD SAIDI.

Table 9: Comparison of normalised SAIDI for each electricity distributor in 2011 and 2012

Distributor	Year ending 30 June 2011					Year ending 30 June 2012				
	CBD	Urban	Short Rural	Long Rural	Total Network	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	93	147	677	164	N/A	283	155	665	203
Rottnest Island Authority	N/A	N/A	142	N/A	142	N/A	N/A	226	N/A	226
Western Power	30	120	192	529	176	16	119	191	563	177

N/A – No feeders of this type are operated by the distributor

System Average Interruption Frequency Index (SAIFI)

Table 10 details the overall and normalised SAIFI values by feeder category for each distributor. Because the SAIFI associated with the interruptions that are excluded from the calculation of normalised SAIDI in Table 8 are also excluded from the calculation of normalised SAIFI, the normalised values of SAIFI in Table 10 are also less than the overall values.

Table 10: Overall and normalised SAIFI for each distributor – year ending 30 June 2012

Distributor	Overall Distribution network - Average Interruption Frequency (per annum)				
	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	2.2	3.8	8.2	3.7
Rottnest Island Authority	N/A	N/A	3.5	N/A	3.5
Western Power	0.2	2.1	3.5	6.5	2.9

	Normalised Distribution network - Average Interruption Frequency (per annum)				
	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	1.9	3.4	4.5	3.2
Rottnest Island Authority	N/A	N/A	3.5	N/A	3.5
Western Power	0.2	1.2	2.1	4.3	1.7

N/A – No feeders of this type are operated by the distributor

Table 11 compares the normalised SAIFI values reported by distributors in 2011 and 2012. It can be seen that SAIFI for all three distributor systems in 2012 is broadly similar to that in 2011. The exceptions are significant reductions in the SAIFI on Horizon Power's Long Rural feeders and Rottnest Island Authority's Short Rural feeders.

Table 11: Comparison of normalised SAIFI for each electricity distributor in 2011 and 2012

Distributor	Year ending 30 June 2011					Year ending 30 June 2012				
	CBD	Urban	Short Rural	Long Rural	Total Network	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	1.9	3.0	10.3	3.2	N/A	1.9	3.4	4.5	3.2
Rottnest Island Authority	N/A	N/A	5.0	N/A	5.0	N/A	N/A	3.5	N/A	3.5
Western Power	0.2	1.3	2.1	3.9	1.8	0.2	1.2	2.1	4.3	1.7

N/A – No feeders of this type are operated by the distributor

Customer Average Interruption Duration Index (CAIDI)

Table 12 details the overall and normalised CAIDI values by feeder category for each distributor. The CAIDI values for each type of feeder are different to that of SAIDI and SAIFI values, because SAIDI and SAIFI measure the effect of interruptions averaged over all the customers that are supplied by to a feeder whereas CAIDI measures the effect of interruptions only for those customers on a feeder whose supply was actually interrupted. Hence CAIDI is more representative of the actual customer experience than SAIDI.

Table 12: Overall and normalised CAIDI for each electricity distributor – year ending 30 June 2012

Distributor	Overall Distribution Network - Average Interruption Duration (minutes per annum)				
	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	142	72	178	91
Rottnest Island Authority	N/A	N/A	64	N/A	64
Western Power	108	208	231	210	216

	Normalised Distribution Network - Average Interruption Duration (minutes per annum)				
	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	152	46	147	64
Rottnest Island Authority	N/A	N/A	64	N/A	64
Western Power	96	99	91	130	103

N/A – No feeders of this type are operated by the distributor

Table 13 compares the normalised CAIDI values reported by distributors in 2011 and 2012. Horizon Power reported an increase in Total Network CAIDI, which is due to increases in Urban and Long Rural CAIDI. Rottneest Island Authority also reported a large increase in CAIDI on their Short Rural feeders, which follows from the increase in SAIDI (Table 9).

Table 13: Comparison of normalised CAIDI for each electricity distributor in 2011 and 2012

Distributor	Year ending 30 June 2011					Year ending 30 June 2012				
	CBD	Urban	Short Rural	Long Rural	Total Network	CBD	Urban	Short Rural	Long Rural	Total Network
Horizon Power	N/A	48	48	66	51	N/A	152	46	147	64
Rottneest Island Authority	N/A	N/A	27	N/A	27	N/A	N/A	64	N/A	64
Western Power	128	91	91	137	100	96	99	91	130	103

N/A – No feeders of this type are operated by the distributor

Complaints

Electricity Distributors

Complaints Recorded under the SCONRRR 2002 Framework

Table 14 details of the technical quality of service (QoS) complaints that have been received by distributors during 2012.

Rottnest Island Authority did not receive any QoS complaints during 2012. A significant proportion of the complaints received by Horizon Power and Western Power were categorised as ‘other’ (technical matters not falling into the other complaint categories), which is consistent with previous years.

Table 14: Technical Quality of Service (QoS) complaints – year ending 30 June 2012

	Horizon Power	Western Power
Total number of technical QoS complaints	23	1,307
Complaint categories³⁹		
Low supply voltage complaints	8	182
Voltage dip complaints	0	0
Voltage swell complaints	0	24
Voltage spike complaints	0	4
Waveform distortion complaints	0	0
TV or radio interference complaints	0	206
Noise from appliances complaints	0	0
Other complaints	15	891

Table 15 details the number of QoS complaints received by distributors between 2008 and 2012. It can be seen that the total number of QoS complaints received by distributors varies year on year, but there has been a downward trend in the number of complaints received by Horizon Power over the past six years, while the number of complaints received by Western Power has been quite variable.

Table 15: Technical Quality of Service (QoS) complaints – 2008 to 2012

Distributor	Year ending 30 June				
	2008	2009	2010	2011	2012
Horizon Power	96	63	44	29	23
Rottnest Island Authority	0	1	0	0	0
Western Power	1,874	1,646	2,068	2,158	1,307
State Total	1,970	1,710	2,112	2,187	1,330

The 2002 SCONRRR Framework requires distributors to also report on the likely cause of the problems that led to a technical QoS complaint. Table 16 provides a breakdown of the cause of the technical QoS complaints received by Horizon Power and Western Power during 2012. Horizon Power reported that the majority of the QoS complaints it received were due to “network equipment faulty” (16). Western Power reported that they were

³⁹ In previous reports the percentage of complaints falling into each category has been presented. The Authority has decided to instead report on the number of complaints in each category.

unable to identify the cause of 49.6% of their QoS complaints, and none of the complaints related to network interference by a customer.

Table 16: Likely cause of technical Quality of Service (QoS) complaints – year ending 30 June 2012

Likely cause of technical QoS complaints ⁴⁰	Horizon Power	Western Power
Network equipment faulty	16	127
Network interference by network service provider equipment	0	14
Network interference by another customer	0	0
Network limitation	0	132
Customer internal problem	0	115
No problem identified	0	649
Environmental	0	261
Other	7	9

Complaints Recorded under the Electricity Customer Code

The customer complaint categories in the Electricity Customer Code exclude complaints related to network quality and reliability, which are dealt with by the NQ&R Code and the 2002 SCORRRR Framework.

Rottnest Island Authority reported that it did not receive any complaints under the Electricity Customer Code in 2012, nor any of the preceding years.

Table 17 details the complaints received by Horizon Power and Western Power over the past six years. In 2012, Western Power reported receiving a record low number of complaints received, with falls in both complaint categories. In 2012, the number of complaints received by Horizon Power was the same as it was in 2011 (137).

Table 17: Complaints received by electricity distributors (Electricity Customer Code)

	Year ending 30 June					
	2007	2008	2009	2010	2011	2012
Horizon Power						
Administrative and customer service complaints	0	51	77	65	58	86
Other complaints	0	207	72	113	79	51
Total complaints	185	118	149	178	137	137
Western Power						
Administrative and customer service complaints	266	263	253	181	101	33
Other complaints	1,672	2,228	2,592	2,514	1,637	679
Total complaints	1,938	2,491	2,845	2,695	1,738	712

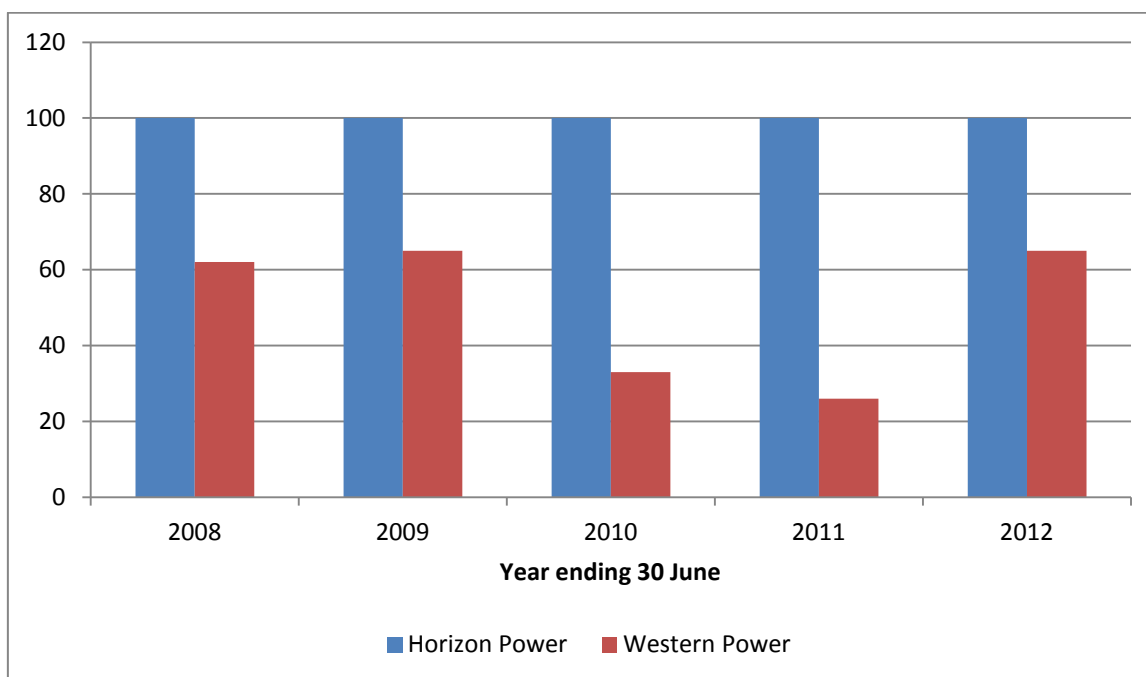
The distributors are also required to report on their complaint resolution performance, which is measured as the percentage of complaints received that they conclude within 15

⁴⁰ In previous reports the likely cause has been presented as a percentage of the total number of complaints falling into each category. The Authority has decided to instead report on the number of complaints in each category.

business days of receipt.⁴¹ Figure 9 shows the complaint resolution performance of Horizon Power and Western Power for the past four years.

Since reporting commenced in 2008, Horizon Power has resolved all of the complaints it has received within 15 business days. In 2012, Western Power has reported a significant improvement in the percentage of complaints resolved within 15 business days, compared to 2011. Western Power's complaint resolution performance in 2012 equalled the previous best performance in 2009 (65%); the improved performance in 2012 corresponds with a substantial reduction in the number of complaints received (Table 15 and Table 17).

Figure 9: Electricity distributor complaint resolution performance (Electricity Customer Code)



Gas distributors

This is the fifth year that gas distributors have been required to report on complaints received. The Gas Manual has a complaints framework that is based on the SCNR 2002 Framework and regulatory reporting frameworks in other jurisdictions.

Table 18 details the number of complaints received by gas distributors over the past five years. Comparing Table 18 with Table 15 and Table 17, the level of complaints received by gas distributors is a fraction of those received by electricity distributors.

Table 18: Complaints received by gas distributors

Distributor	Year ending 30 June				
	2008	2009	2010	2011	2012
ATCO	33	30	38	35	36
Esperance Power Station	0	0	1	0	0
Wesfarmers	0	0	0	0	2
State Total	33	30	39	35	38

⁴¹ It should be noted that this measure applies to the combined complaints under the Electricity Customer Code and the NQ&R Code. As such, it is possible that the resolution performance for complaints under the Electricity Customer Code may differ slightly from the values presented here.

Table 19 categorises the complaints received by the distributors in 2012. The predominant causes of the complaints received by ATCO were reliability of supply and other complaints.

Table 19: Gas complaints by category – year ending 30 June 2012

Complaint Category	ATCO	Esperance Power Station	Wesfarmers
Total Number of Complaints	36	0	2
Complaint category⁴²			
Connection and Augmentation	4	0	0
Reliability of Supply	11	0	0
Quality of Supply	3	0	0
Network Charges and Costs	0	0	0
Administrative Processes or Customer Service	5	0	1
Other	13	0	1

⁴² In previous reports the percentage of complaints falling into each category has been presented. The Authority has decided to instead report on the number of complaints in each category.

Call Centre Performance

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

The scope of this section of the report is limited to calls received by a distributor that were handled by an operator, and in the case of an IVR⁴³ system covers the calls where the customer has selected the relevant option to speak with an operator.

Electricity Distributor Call Centres

All three distributors operated call centres during 2010/11. Horizon Power and Rottnest Island Authority outsource their call centres to other service providers, while Western Power operates an in-house call centre to handle calls related to its distribution business. Horizon Power's call centre handles calls for both the distribution and retail sides of their business, so their call centre performance includes retail calls too.

Table 20 details the volume of calls to electricity distributor call centres over the past six years. Compared to 2011, the total volume of calls has increased by 8.4%, driven by an increase in calls to the call centres of all three distributors. The number of calls to Western Power was the second highest on record, which can be attributed to the large number of calls they received in relation to a significant storm event in June 2012.⁴⁴

Table 20: Volume of calls to electricity distributor call centres

	Year ending 30 June					
	2007	2008	2009	2010	2011	2012
Horizon Power	111,919	85,356	94,018	89,200 ⁴⁵	71,215	82,587
Rottnest Island Authority	N/A	N/A	N/A	1,027 ⁴⁶	5,272	5,840
Western Power	66,351	360,114	373,761	538,903	495,626	531,554
State Total	178,270	445,470	467,779	629,130	572,149	619,981

Figure 10 details the percentage of calls answered by a call centre operator within 30 seconds by the distributor call centres.

Since commencing the call centre service in 2010, Rottnest Island Authority has recorded the highest call response rate of the three distributors. Western Power's call response rate in 2012 has returned to a level not seen since 2008, despite handling a high volume of calls (Table 20).

⁴³ Interactive Voice Response – a system designed to use voice prompts and spoken commands from the customer to control the interaction with the call centre equipment.

⁴⁴ See page 02 of the Electricity Distributor Indicators 2011/12 Report published by Western Power.

⁴⁵ This is the combined total of both retail and distribution calls.

⁴⁶ 2009/10 was the first year that Rottnest Island Authority operated a call centre.

Figure 10: Percentage of electricity distributor calls answered within 30 seconds

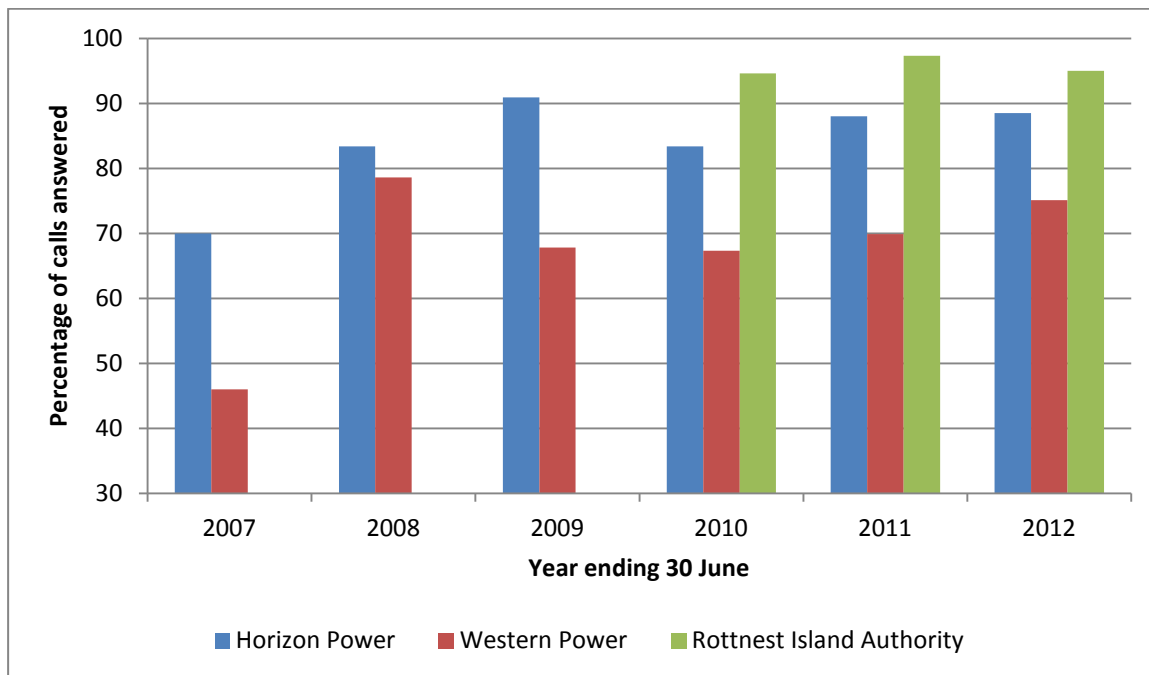


Figure 11 details the average duration before a call is answered by the distributor call centres over the past five years. All three distributors reported reductions in the average time that their customers wait to have a call answered. Western Power recorded the largest fall in average wait time; down from 50 seconds in 2011 to 26 seconds in 2012.

Figure 11: Average duration before a call is answered by electricity distributors

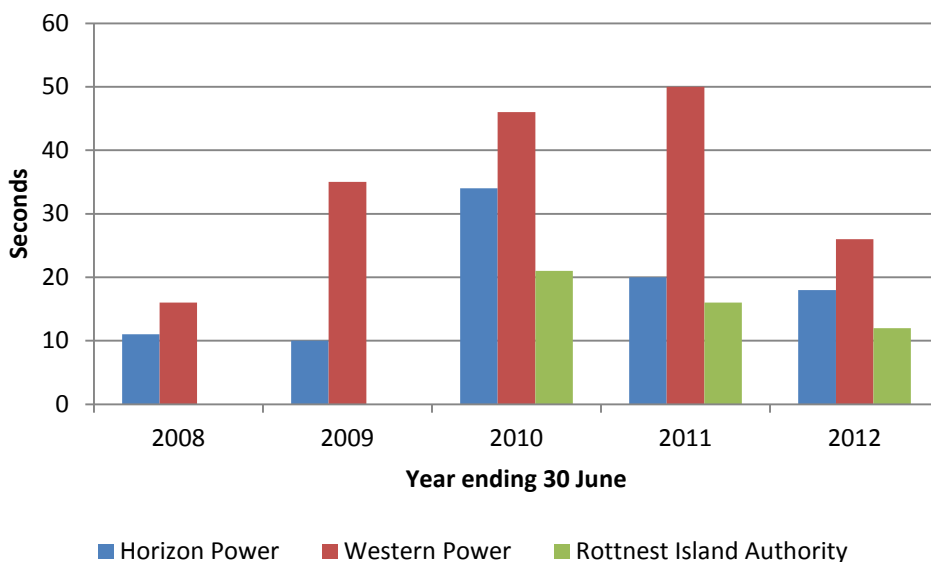
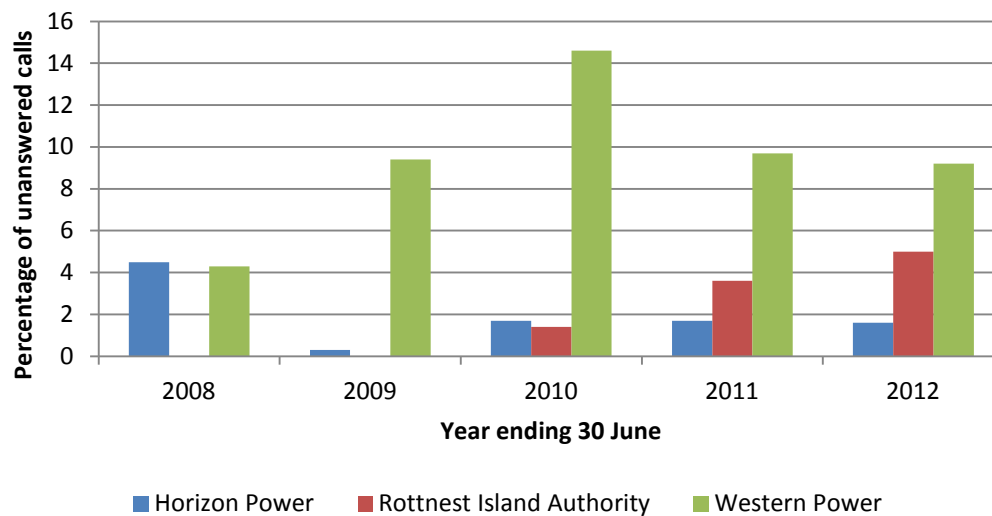


Figure 12 details the percentage of calls that are unanswered (the caller hangs up before the call is answered) by electricity distributor call centres. The data for the past two years presents a mixed picture, with Rottnest Island Authority reporting an increase in the call abandon rate, while Western Power and Horizon Power reported modest reductions.

Figure 12: Percentage of calls that are unanswered by electricity distributors



Gas Distributor Call Centres

ATCO and Wesfarmers are the only gas distributors that operate call centres. Esperance Power Station provides telephone support to its customers using simpler telephone systems that do not record performance statistics. Accordingly, the remainder of this section of the report will focus on ATCO and Wesfarmers.

Table 21 details the volume of calls received by the ATCO and Wesfarmers call centres over the past five years. Compared to 2011, the total volume of calls increased by 10.1%, due to an increase in calls to the Wesfarmers call centre. The increase in the volume of calls to the Wesfarmers call centre should be treated with caution because the call centre also handles calls for other parts of the Wesfarmers Kleenheat Gas business.

Table 21: Volume of calls to gas distributor call centres

	Year ending 30 June				
	2008	2009	2010	2011	2012
ATCO	n/a	59,802	41,132	37,391	36,824
Wesfarmers	179,119	147,202	172,080	190,764	214,280
State Total	179,119	207,004	213,212	228,155	251,104

Figure 13 details the percentage of calls responded to (answered by a customer service agent) within 30 seconds by gas distributor call centres.

Over the past four years, the percentage of calls answered within 30 seconds by the ATCO call centre has been relatively consistent with an average call answer rate of 89%. In contrast, the performance of the Wesfarmers call centre has fallen quite noticeably over the past two years, which corresponds with the recent increases in the number of calls handled by the call centre (Table 21).

Figure 13: Percentage of gas distributor calls answered within 30 seconds

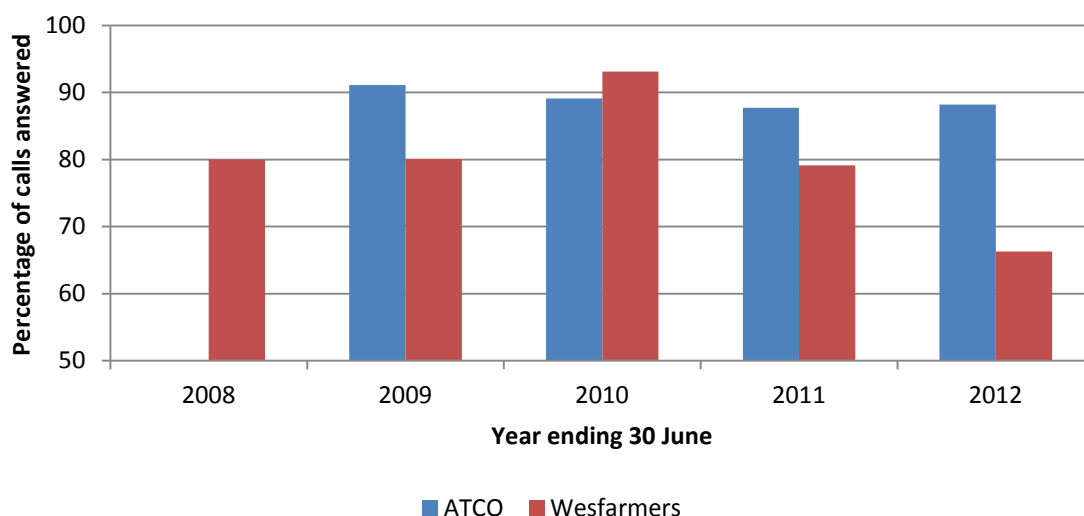


Figure 14 details the average duration before a call is answered by the distributor call centres over the past four years. Compared to 2011, customers calling the Wesfarmers call centre have seen the average wait before their call is answered increase from 21 to 28 seconds. The increase in the call wait time corresponds with the increase in call volumes to the Wesfarmers call centre (Table 21). Customers calling the ATCO call centre saw their wait time fall for the second consecutive year.

Figure 14: Average duration before a call is answered by gas distributors

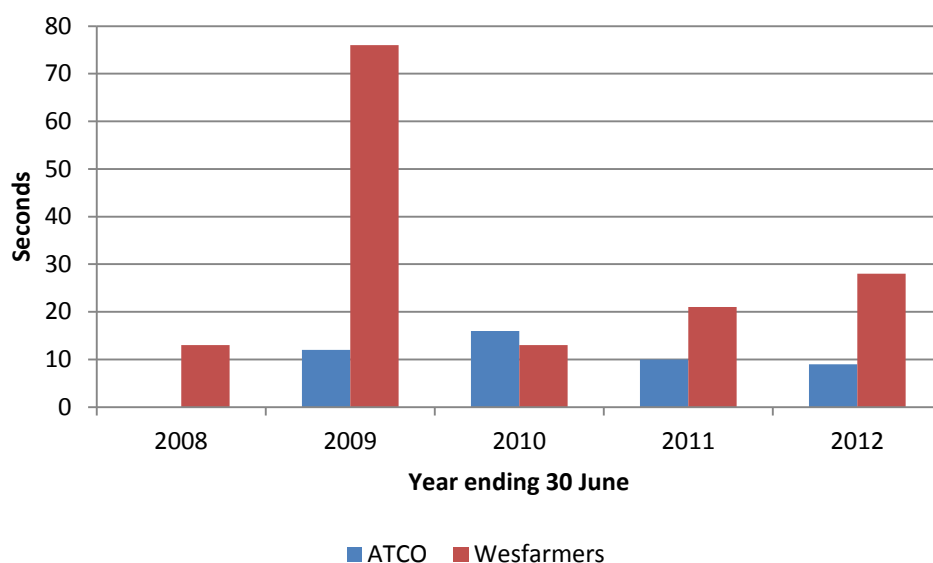
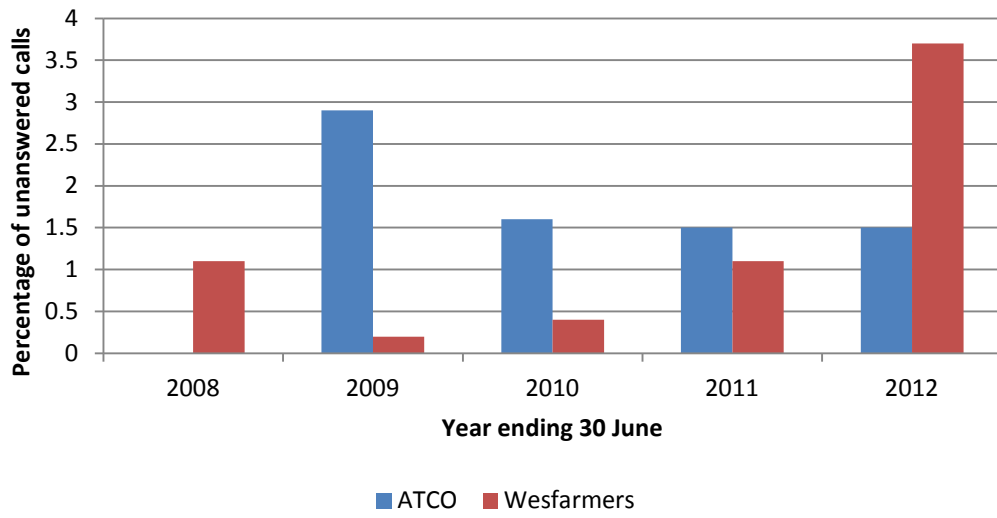


Figure 15 details the percentage of calls that are unanswered (the caller hangs up before the call is answered) by the distributor call centres. The data for the past three years show the level of calls unanswered by the ATCO call centre have remained relatively unchanged, while the level of unanswered calls by the Wesfarmers call centre increased markedly in 2012. This is the third successive year that the unanswered call rate of the Wesfarmers call centre has increased. Again, the increase in unanswered calls corresponds to the increase in calls handled by the call centre.

Figure 15: Percentage of calls that are unanswered by gas distributors

Service Standard Payments

Electricity Distributor Service Standard Payments

The obligation for distributors to make service standard payments to customers is dealt with in both the Electricity Customer Code and the NQ&R Code.

Part 14.4 of the Electricity Customer Code makes provision for service standard payments (at \$20 per occurrence) for failure to acknowledge or respond to a written customer query or complaint within the prescribed time frames.

Part 3 of the NQ&R Code makes provision for service standard payments to 'eligible' small use customers⁴⁷ for:

- failure to give at least 72 hours notice of a planned interruption to supply, at \$20 per occurrence (section 18); and
- supply interruptions exceeding 12 hours in duration, at \$80 per occurrence (section 19).

Rottnest Island Authority did not make any service standard payments to customers in 2011, nor in any of the previous three years. Accordingly, Table 22 details the payments made by Horizon Power and Western Power.

Compared to Western Power, Horizon Power has made relatively few service standard payments over the five years to 2011. Comparing 2012 with 2011, Western Power made fewer payments for not providing 72 hours notice of planned power interruptions, and more payments for outages longer than 12 hours. In 2012, Horizon Power made substantially fewer payments for failing to give 72 hours notice of a planned interruption than in the previous year, where the number of payments had been unusually high.

Table 22: Service standard payments made by electricity distributors

	Year ending 30 June				
	2008	2009	2010	2011	2012
Electricity Customer Code					
- clause 14.4					
Horizon Power	0	0	0	0	0
Western Power	1	4	0	1	4
NQ&R Code – section 18					
Horizon Power	1	2	1	0	9
Western Power	241	364	573	1,158	968
NQ&R Code – section 19					
Horizon Power	27	31	71	589	32
Western Power	3,099	5,589	34,151	24,328	28,800

⁴⁷ Customers consuming not more than 50MWh of electricity per annum (i.e. non-contestable customers).

Gas Distributor Guaranteed Service Level Payments

ATCO (formerly 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 ATCO 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.

ATCO reported a total of three payments for the late establishment of a gas service, down from seven payments in the previous year. No other GSL payments were made during 2012.

Appendix 1 - Gas Consumption and Unaccounted for Gas

Gas Consumption

The Gas 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 systems in the hour(s) of heaviest customer demand. Table 50 (Appendix 7) details gas consumption on each distributor's systems for the five years to 2012.

Table 23 compares gas consumption in 2012 with the previous year. During 2012, state-wide gas consumption decreased by 6.5%, comprising a 9.8% decrease in residential gas consumption and a 4.5% decrease in non-residential gas consumption.

In 2012, ATCO accounted for 99.9% of residential and 99.97% of non-residential gas consumption. Examination of Table 23 shows that the overall changes in residential and non-residential gas consumption really reflect the consumption patterns of ATCO's customers.

There were relatively large changes in gas consumption on the smaller distribution systems operated by Esperance Power Station and Wesfarmers during the two years. Wesfarmers's residential customers increased their consumption, while their non-residential customer's gas consumption was relatively unchanged. Esperance Power Station's residential customers increased their consumption, while their non-residential customer consumption fell substantially.

Table 23: Change in gas consumption between 2011 and 2012

Distributor	Residential (year ending 30 June)			Non-Residential (year ending 30 June)		
	2011	2012	Change (%)	2011	2012	Change (%)
ATCO	10,563,707	9,528,366	-9.8	17,397,626	16,633,141	-4.4
Esperance Power Station	3,060	3,536	15.6	4,309 ⁴⁸	4,666	8.3
Wesfarmers	6,268	5,506	12.2	250	243	-2.8
State Total	10,573,035	9,537,408	-9.8	17,423,028	16,638,050	-4.5

Unaccounted for Gas

Unaccounted for gas (**UFG**) is a measure of network efficiency for gas distribution systems. UFG represents the difference between gas metered at the input to the distribution system 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 system, thereby reducing the level of leaks and other gas loss events.

Table 24 details the level of UFG for the five years to 2012. In 2012, the state-wide level of UFG fell by 14.9%, driven by significant falls in UFG reported by ATCO and Wesfarmers. This is the first year that the state-wide level of UFG has fallen.

⁴⁸ Esperance Power Station had previously reported a non-residential consumption value of 25,152GJ for 2010/11. This was an error, as it included customers consuming more than 1TJ per annum. The corrected value of 4,309GJ has been included in Table 23.

Esperance Power Station has reported zero UFG for the past five years. This is not surprising given that their distribution network is only eight years old, and it is constructed using modern plastic piping.

Table 24: Unaccounted for Gas on distribution systems (GJ)

Distributor	Year ending 30 June					
	2007	2008	2009	2010	2011	2012
ATCO	621,266	830,915	858,000	866,667	920,371	783,640
Esperance Power Station	50	0	0	0	0	0
Wesfarmers	804	415	344	931	1,158	173
State Total	622,120	831,330	858,344	867,598	921,529	783,813

Comparing Table 24 with Table 23 it can be seen that the state-wide total UFG represents 3.0% of the total gas entering the distribution systems in 2012, down from 3.3% in 2011.

Appendix 2 - Leaks on Gas Distribution Systems

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 Gas Manual categorises gas main leaks into mains, (customer) service connections and meters. Each of these categories are further sub-categorised into low ($\leq 7\text{kPa}$), medium ($7\text{-}210\text{kPa}$) and high ($>210\text{kPa}$) operating pressure segments of the reticulation network.

Table 25 details the number of repairs to low, medium and high pressure gas mains during the six years to 2012. Given the relative size of the ATCO gas distribution system in comparison to the distribution systems operated by Esperance Power Station and Wesfarmers (Table 40), it is not surprising that ATCO accounts for nearly all of the mains leak repairs. Compared to 2011, ATCO reported a 38.3% increase in the number of gas main leak repairs on their networks. ATCO attributes the increase in the number of gas main leak repairs to an increase in the number of proactive leak surveys that it conducted during the reporting year.

Table 25: Gas main leak repairs

	Year ending 30 June					
	2007	2008	2009	2010	2011	2012
ATCO	276	755	706	916	600	830
Esperance Power Station	1	0	1	3	0	0
Wesfarmers	0	0	0	0	1	0
State Total	277	755	2716	919	601	830

Table 26 details the number of leak repairs to property service connections during the five years to 2012. For the reasons specified above, ATCO accounts for nearly all of the repairs over the five year period. Compared to 2011, ATCO reported a 5.8% fall in the number of property service connection leak repairs carried out.

Table 26: Gas property service connection leak repairs

	Year ending 30 June				
	2008	2009	2010	2011	2012
ATCO	5,713	5,348	6,481	6,003	5,657
Esperance Power Station	2	1	0	1	0
Wesfarmers	0	0	0	0	0
State Total	5,713	5,349	6,481	6,004	5,657

Table 27 details the number of leak repairs to gas meters during the four years to 2010/11. Compared to 2011, ATCO reported a 19.0% drop in the number of leak repairs to gas meters over the four year period.

Table 27: Gas meter leak repairs

	Year ending 30 June				
	2008	2009	2010	2011	2012
ATCO	787	1,006	1,079	1,008	816
Esperance Power Station	0	0	0	0	0
Wesfarmers	0	0	0	0	1
State Total	787	1,006	1,079	1,008	817

Appendix 3 - Street Lighting Repairs

The Electricity Customer Code requires electricity distributors to maintain records in respect of street lights that they are responsible for, including:

- the total number of street lights they are responsible for the maintenance of in metropolitan⁴⁹ and regional areas;⁵⁰
- the number of street lights reported faulty each month in metropolitan and regional areas;
- the number of occasions that they have failed to repair faulty street lights within:
 - 5 business days for the metropolitan area;
 - 9 business days for regional areas; and
- the average number of days to repair faulty street lights in metropolitan and regional areas.

The time to repair commences from the time that a distributor becomes aware that the street light is faulty.

Table 28 details the number of street lights in metropolitan and regional areas that are maintained by each distributor. Over the past five years the average annual growth of metropolitan and regional streetlights was 2.6% and 3.0% respectively. The streetlight population maintained by Horizon Power and Western Power has grown over time, while the number of streetlights maintained by Rottnest Island Authority has remained unchanged over the five years to 2012, which reflects the limited amount of development on Rottnest Island.

Table 28: Number of street lights in metropolitan and regional areas

	Year ending 30 June				
	2008	2009	2010	2011	2012
Metropolitan areas					
Horizon Power	4,344	4,636	5,017	5,293	5,441
Western Power	179,320	183,342	187,305	192,890	198,070
Total	183,664	187,978	192,322	198,183	203,511
Regional areas					
Horizon Power	8517	8,817	9,257	9,610	9,978
Rottnest Island Authority	190	190	190	190	190
Western Power	33,765	35,060	35,867	37,018	37,595
Total	42,472	44,067	45,314	46,818	47,763

Table 29 details the number of faulty street lights reported to the distributors over the past five years. Compared to 2011, the number of metropolitan street lights reported faulty has fallen, and the number of regional street lights reported faulty has increased slightly.

⁴⁹ The Electricity Customer Code defines the metropolitan area as: Perth, Mandurah, Shire of Murray, Albany, Bunbury, Geraldton, Kalgoorlie, Karratha, Port Hedland and South Hedland.

⁵⁰

Table 29: Number of street light faults logged in metropolitan and regional areas

Metropolitan	Year ending 30 June				
	2008	2009	2010	2011	2012
Metropolitan areas					
Horizon Power	432	420	156	168	180
Western Power	27,554	40,508	39,978	35,912	34,271
Total	27,986	40,928	40,134	36,080	34,451
Regional areas					
Horizon Power	264	276	192	156	168
Rottneest Island Authority	30	48	24	36	18
Western Power	1,114	4,043	6,214	2,922	3,137
Regional Total	1,408	4,367	6,430	3,114	3,323

Figure 16 details the number of street light faults logged as a percentage of the total street light population maintained by each distributor in the metropolitan and regional areas. The proportion of faulty metropolitan street lights reported to Horizon Power and Western Power is higher than in the regional areas. It is not clear why this is the case, but it is possible that the detection rate for faulty street lights in regional areas is lower than in metropolitan areas due to their relatively isolated locations.

The proportion of faulty streetlights reported to Western Power in metropolitan areas has declined over the three years to 2012, which is attributable to the combination of an increase in the total number of streetlights and a decline in the number of faults reported.

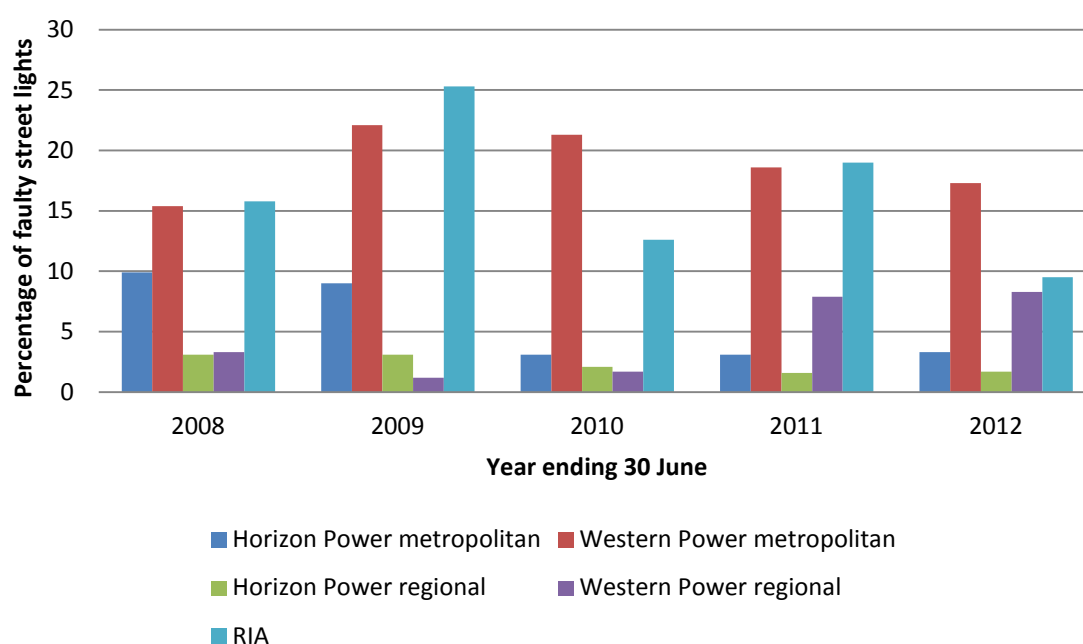
Figure 16: Percentage of faulty street lights by distributor and location

Figure 17 details the percentage of faulty metropolitan street lights that have been repaired after the five day deadline specified in the Electricity Customer Code over the past five years.

Over the six years, Western Power has significantly improved the timeliness of their metropolitan street light repairs; the percentage of late repairs in 2012 was almost

unchanged from the previous year at 3.0%. This contrasts with Horizon Power, where 28% of their repairs were outside the five day standard over the past three years.

Figure 17: Percentage of faulty metropolitan street lights repaired after 5 days

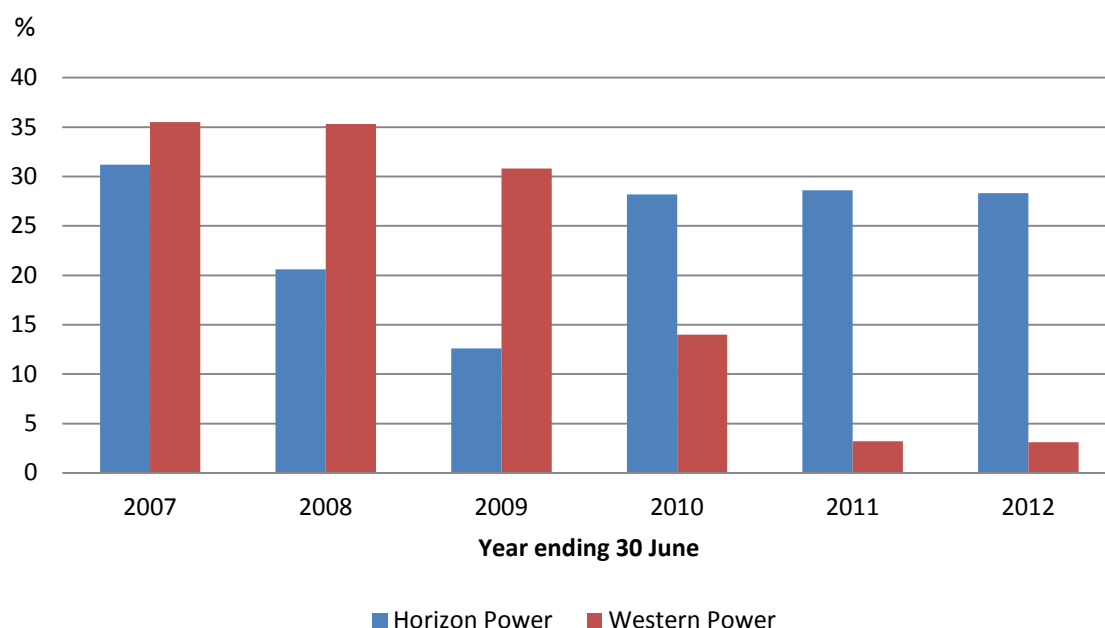
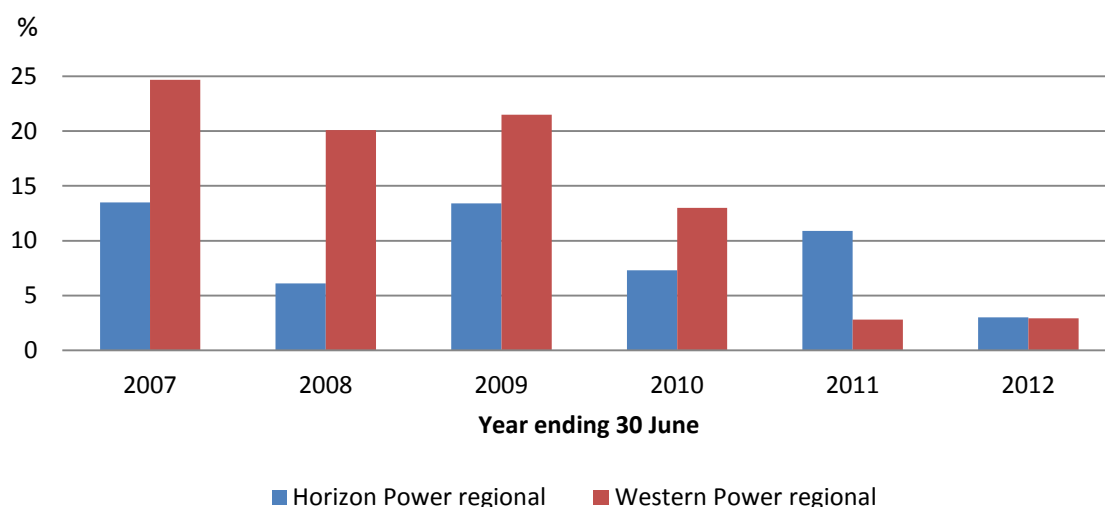


Figure 18 details the percentage of faulty regional street lights that have been repaired after the nine day deadline specified in the Electricity Customer Code over the past six years.

Over the past six years, Western Power has improved the timeliness of their regional street light repairs; which coincides with the improvements in metropolitan repair timeliness. Compared to 2011, Horizon Power has improved the timeliness of its streetlight repairs, with the percentage of late repairs in 2012 (3.0%) being the lowest on record.

Figure 18: Percentage of faulty regional street lights repaired after 9 days



Appendix 4 – Additional Electricity System Reliability Information

Network Reliability (SCONRRR 2002)

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

- Overall – includes all sustained planned and unplanned interruptions including those caused by generation outages, transmission outages and directed load shedding.
- Distribution Network (Planned) – excludes generation outages, transmission outages and directed load shedding.
- Distribution Network (Unplanned) – excludes generation outages, transmission outages and directed load shedding.
- Normalised Distribution Network (Unplanned) – excludes outages which:
 - are generation outages;
 - are transmission outages;
 - are directed load shedding; and
 - where the daily SAIDI value exceeds the threshold for a MED;⁵¹

SAIDI

Table 30: Western Power SAIDI Performance – year ending 30 June 2012

SAIDI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	620	25	440	810	1360
Distribution Network (Planned)	87	5	80	86	145
Distribution Network (Unplanned)	491	16	311	700	1161
Normalised Distribution Network (Unplanned)	177	16	119	191	563

Table 31: Horizon Power SAIDI Performance – year ending 30 June 2012

SAIDI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	339	N/A	312	276	1460
Distribution Network (Planned)	82	N/A	6	60	748
Distribution Network (Unplanned)	256	N/A	216	712	306
Normalised Distribution Network (Unplanned)	203	N/A	283	155	665

⁵¹ Standard IEEE 1366-2003 defines a Major Event Day as a day in which the system SAIDI exceeds a threshold value T_{med} minutes. T_{med} is calculated from a statistical analysis of the SAIDI data for the whole reporting period to identify events that deviate significantly from the average performance of the network.

Table 32: Rottnest Island Authority SAIDI Performance – year ending 30 June 2012

SAIDI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	226	N/A	N/A	226	N/A
Distribution Network (Planned)	139	N/A	N/A	139	N/A
Distribution Network (Unplanned)	87	N/A	N/A	87	N/A
Normalised Distribution Network (Unplanned)	226	N/A	N/A	226	N/A

SAIFI

Table 33: Western Power SAIFI Performance – year ending 30 June 2012

SAIFI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	2.9	0.2	2.1	3.5	6.5
Distribution Network (Planned)	0.3	0.0	0.3	0.3	0.6
Distribution Network (Unplanned)	2.2	0.2	1.5	2.8	5.3
Normalised Distribution Network (Unplanned)	1.7	0.2	1.2	2.1	4.3

Table 34: Horizon Power SAIFI Performance – year ending 30 June 2012

SAIFI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	3.7	N/A	2.2	3.8	8.2
Distribution Network (Planned)	0.4	N/A	0.0	0.4	3.0
Distribution Network (Unplanned)	3.3	N/A	2.2	3.5	5.1
Normalised Distribution Network (Unplanned)	3.1	N/A	1.9	3.4	4.5

Table 35: Rottnest Island Authority SAIFI Performance – year ending 30 June 2012

SAIFI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	3.5	N/A	N/A	3.5	N/A
Distribution Network (Planned)	0.5	N/A	N/A	0.5	N/A
Distribution Network (Unplanned)	3.0	N/A	N/A	3.0	N/A
Normalised Distribution Network (Unplanned)	3.5	N/A	N/A	3.5	N/A

CAIDI**Table 36: Western Power CAIDI Performance – year ending 30 June 2012**

CAIDI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	216	108	208	231	210
Distribution Network (Planned)	278	230	295	256	262
Distribution Network (Unplanned)	222	96	202	247	220
Normalised Distribution Network (Unplanned)	103	96	99	91	130

Table 37: Horizon Power CAIDI Performance – year ending 30 June 2012

CAIDI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	91	N/A	142	72	178
Distribution Network (Planned)	192	N/A	178	165	245
Distribution Network (Unplanned)	78	N/A	141	63	139
Normalised Distribution Network (Unplanned)	64	N/A	152	46	147

Table 38: Rottnest Island Authority CAIDI Performance – year ending 30 June 2012

CAIDI Measure	Total Network	CBD Feeders	Urban Feeders	Short Rural Feeders	Long Rural Feeders
Overall	64	N/A	N/A	64	N/A
Distribution Network (Planned)	287	N/A	N/A	287	N/A
Distribution Network (Unplanned)	29	N/A	N/A	29	N/A
Normalised Distribution Network (Unplanned)	64	N/A	N/A	64	N/A

Appendix 5 – Electricity Distribution System Asset Information

Table 39 provides an overview of the assets deployed in the distribution systems operated by Horizon Power, Rottnest Island Authority and Western Power.

Table 39: Electricity distribution system assets (as at 30 June 2012)

Asset Type	Asset Sub-Type	Horizon Power	Rottnest Island Authority	Western Power
Number of metered supply points	CBD	N/A	N/R	7,214
	Urban	8,341	N/R	648,744
	Short Rural	34,553	184	292,593
	Long Rural	2,077	N/R	93,405
Feeder Length (km)	CBD	N/A	N/R	171.9
	Urban	217.9	N/R	18101.3
	Short Rural	3189.9	44.9	21048.3
	Long Rural	3182.3	N/R	50692.1
Number of Transformers	Sub-transmission	N/A	2	N/A
	Distribution	3,956	13	65,519
Total Capacity of Transformers (MVA)	Sub-transmission	N/A	2	N/A
	Distribution	644	3	8,537
Number of street lights		15,419	190	235,665
Number of Poles		57,238	50	757,555

Appendix 6 – Gas Distribution System Construction Information

Table 40 provides an overview of the network assets deployed in the distribution systems operated by ATCO, Esperance Power Station and Wesfarmers. It can be seen that the distribution systems installed and in service for Esperance Power Station and Wesfarmers are significantly smaller and less diverse in both asset and operating pressure than the distribution systems operated by ATCO.

Table 40: Gas distribution network construction information (as at 30 June 2012)

Asset Type	Asset Sub-Type	ATCO			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	0.0	27.9	0	0	0	0	0	0
	Unprotected Steel	0.0	78.4	121.9	0	0	0	0	0	0
	Protected Steel	762.3	11.8	0.0	0	0	0	0	0	0
	PVC	0.0	6017.0	3624.1	0	0	0		8.7	0
	Polyethylene	613.4	1833.9	50.0	0	35.2	0	0	42.1	0
	Other	0.2	15.3	25.7	0	0	0	0	0	0
Total length of distribution mains installed and in service (km)		1375.7	7956.3	3849.5	0	35.2	0	0	50.8	0
Number of service connections per km of gas mains			49.5			8.9			17.8	

Appendix 7 – Additional Electricity and Gas Distributor Performance Data

Table 41: Total small use customer connections on electricity and gas distribution systems (year ending 30 June)

	Electricity						Gas						
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012	
Horizon Power	36,542	37,580	39,577	41,143	43,181	44,328	ATCO	561,437	593,634	610,294	628,537	636,323	652,808
Rottnest Island Authority	98	99	191	83	83	527 ⁵²	Wesfarmers	636	791	831	808 ⁵³	862	903
Western Power	935,393	955,551	942,381	1,023,341	1,043,364	1,015,679	Esperance Power Station	197	209	242	266	280	313
State Total	972,033	993,230	982,149	1,064,567	1,086,628	1,060,534	State Total	562,270	594,634	611,367	629,589	637,427	654,024

⁵² For 2011/12, Rottnest Island Authority has, for the first time, included multi-unit dwellings and holiday accommodation in its no. of electricity connections.

⁵³ Wesfarmers has corrected the number of connections on their distribution systems from 796 to 808 connections.

Table 42: Establishment of new customer connections on electricity and gas distribution systems (year ending 30 June)

	New connections on electricity systems						New connections on gas systems						
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012	
Horizon Power	853	1,749	1,793	1,764	2,157	1,780	ATCO	-	18,870	16,660	16,911	19,611	14,752
Rottnest Island Authority	6	1	2	0	0	0	Wesfarmers	-	73	40	42	54	41
Western Power	34,206	33,641	25,568	26,304	24,614	21,420	Esperance Power Station	-	16	33	24	14	20
State Total	35,065	35,391	27,363	28,068	26,771	23,200	State Total	-	20,038	16,733	16,977	19,679	14,813

Table 43: Number of customer connections not established within the prescribed time frames on electricity distribution systems (year ending 30 June)

	Number of new connections not established on time						Percentage of total new connections					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Electricity												
Horizon Power	0	273	0	0	0	2	0.0	15.6	0.0	0.0	0.0	0.1
Western Power	6,995	6,325	1,771	957	885	446	20.4	18.8	6.9	3.6	3.6	2.1
RIA	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Gas												
ATCO	-	34	35	6	7	3	-	0.2	0.2	0.04	0.04	0.02
Wesfarmers	-	0	0	0	0	0	-	0.0	0.0	0.0	0.0	0.0
Esperance Power Station	-	0	0	0	0	0	-	0.0	0.0	0.0	0.0	0.0

Table 44: Number of small use electricity customer premises that have experienced interruptions of more than 12 hours continuously (year ending 30 June)

	2007	2008	2009	2010	2011	2012
Horizon Power	8,882	115	354	334	1,138	1,875
Rottnest Island Authority	0	0	0	0	0	3
Western Power	14,889	20,699	45,456	112,396	54,414	179,694
State Total	23,771	20,814	45,810	112,730	55,552	181,572

Table 45: Number of Urban (including Perth CBD) and Rural electricity customer premises that have experienced multiple interruptions (year ending 30 June)

	Perth CBD and Urban areas, > 9 interruptions						Rural areas, > 16 interruptions					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Horizon Power	N/A	N/A	N/A	N/A	N/A	N/A	2,872	2,979	2,176	2,535	819	1,176
Rottnest Island Authority	N/A	N/A	N/A	N/A	N/A	N/A	98	0	0	0	0	0
Western Power	25,577	27,006	16,733	12,616	6,813	13,224	266	1,168	739	1,513	435	1,125
State Total	25,577	27,006	16,733	12,616	6,813	13,224	3,236	4,147	2,915	4,048	1,254	2,301

Table 46: Number of small use gas customers experiencing interruptions exceeding 12 hours continuously (year ending 30 June)

	Customers with interruptions to supply >12 hours continuously					Customers with 5 or more supply interruptions				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
ATCO	0	0	0	0	0	0	0	0	0	0
Esperance Power Station	0	0	0	0	0	0	0	0	0	0
Wesfarmers	1	0	0	0	0	0	0	0	0	0
State Total	1	2009	0	0	0	0	0	0	0	0

Table 47: Complaints received by electricity distributors (Electricity Customer Code)

	Year ending 30 June					
	2007	2008	2009	2010	2011	2012
Total number of complaints						
Horizon Power	185	118	149	178	137	137
Western Power	1,938	2,491	2,845	2,695	1,738	712
Admin processes and customer service complaints						
Horizon Power	0	51	77	65	58	86
Western Power	266	263	253	181	101	33
Other Complaints						
Horizon Power	0	207	72	113	79	51
Western Power	1,672	2,228	2,592	793	1,637	679
Customer complaints concluded in 15 business days (% of all complaints)						
Horizon Power	NR	100	100	100	100	100
Western Power	NR	62	65	33	26	65

NR = Not reported

Table 48: Complaints received by gas distributors

	Year ending 30 June				
	2008	2009	2010	2011	2012
ATCO	33	30	38	35	36
Wesfarmers	0	0	1	0	2
Esperance	0	0	0	0	0
State Total	33	2039	39	35	38

Table 49: Call centre performance (year ending 30 June)

Retailer	Total number of calls						Calls responded within 30 sec (%)					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Horizon Power	111,919	85,356	94,018	89,200 ⁵⁴	71,215	82,587	70.0	83.4	90.9	83.4	88.0	88.5
RIA	N/A	N/A	N/A	1,027	5,272	5,840	N/A	N/A	N/A	94.6	97.3	95.0
Western Power	66,351	360,114	373,761	538,903	495,626	531,554	46.0 ⁵⁵	78.6	67.8	67.3	69.9	75.1
Electricity Total	178,270	445,470	467,779	629,130	572,149	619,981						
ATCO	N/A	N/A	59,802	41,132	37,391	36,824	N/A	N/A	91.1	89.1	87.7	88.2
Wesfarmers ⁵⁶	N/A	179,119	147,202	172,080	190,764	214,280	N/A	80.0	80.1	93.1	79.1	66.3
Gas Total	N/A	179,119	207,004	213,212	228,155	251,104						

Retailer	Average duration before a call is answered by an operator (seconds)						Unanswered calls (%)					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Horizon Power	26.5	11	10	34	20	18	9.4	4.5	0.3	1.7	1.7	1.6
RIA	N/A	N/A	N/A	21	16	12	N/A	N/A	N/A	14.0	3.9	5.0
Western Power	166	16	35	46	50	26	0.1	4.3	9.4	14.6	9.7	9.2
ATCO	N/A	N/A	12	16	10	9	N/A	N/A	2.9	1.6	1.5	1.5
Wesfarmers	N/A	13	76	13	21	28	N/A	1.1	0.2	0.4	1.1	3.7

⁵⁴ This is the combined total of both retail and distribution calls.

⁵⁵ The Western Power call centre measured calls answered within 15 seconds in 2006/07. The data for the following years is based on the standard 30 second answer period.

⁵⁶ The Wesfarmers call centre also handles calls for other Wesfarmers Kleenheat Gas businesses. The data presented in this table includes all calls to the Wesfarmers call centre.

Table 50: Residential and non-residential Gas Consumption (year ending 30 June)

	Residential Gas Consumption (GJ)					Non-residential Gas Consumption (GJ)				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
ATCO	10,279,166	10,620,391 ⁵⁷	10,806,658 ⁵⁸	10,563,707	9,528,366	18,978,436	17,194,904 ⁵⁹	17,231,682 ⁶⁰	17,397,626	16,633,141
Esperance Power Station	2,474	2,644	2,893	3,060	3,536	17,783	19,038	19,303	25,152	4,666
Wesfarmers	19,935	22,875	5,100 ⁶¹	6,268	5,506	2,036	1,847	315 ⁶²	250	243
State Total	10,301,575	10,645,910	10,814,651	10,573,035	9,537,408	18,998,255	17,215,789	17,251,300	17,423,028	16,638,050

Table 51: Unaccounted for gas (GJ)

	Year ending 30 June					
	2007	2008	2009	2010	2011	2012
ATCO	621,266	830,915	858,000	866,667	920,371	783,640
Esperance Power Station	50	0	0	0	0	0
Wesfarmers	804	415	344	931	1,158	173
State Total	622,120	831,330	858,344	867,598	921,529	783,813

⁵⁷ ATCO reported corrected figures for the periods 2008/09 and 2009/10.

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ 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.

⁶² Ibid. Footnote 26.

Table 52: Percentage of unaccounted for gas on distribution systems (year ending 30 June)

	Total gas consumption (GJ)					Unaccounted for gas (%)				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
ATCO	29,257,607	27,976,970	27,880,360	27,961,333	26,161,507	2.8	3.1	3.1	3.3	3.0
Wesfarmers	21,971	24,722	5,415	6,158	5,749	1.8	1.4	17.2	17.7	3.0
Esperance Power Station	20,257	21,682	22,196	28,212	8,202	0.0	0.0	0.0	0.0	0.0

Table 53: Number of gas main leak repairs

	Year ending 30 June					
	2007	2008	2009	2010	2011	2012
ATCO	276	755 ⁶³	706	916	600	830
Esperance Power Station	1	0	1	3	0	0
Wesfarmers	0	0	0	0	1	0
State Total	277	755	2716	919	601	830

⁶³ From 2007/08, WA Gas Networks converted its leak detection systems from manual to automatic, which subsequently recorded several new categories of leaks.

Table 54: Number of street light faults logged (year ending 30 June)

Metropolitan	Total number of streetlights						Street light faults logged					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Horizon Power	NR	4,344	4,636	5,017	5,293	5,441	314	432	420	156	168	180
Western Power	NR	179,320	183,342	187,305	192,890	198,070	21,560	27,554	40,508	39,978	35,912	34,271
State total	NR	183,664	187,978	192,322	198,183	203,511	21,874	27,986	40,928	40,134	36,080	34,451
Regional	Total number of streetlights						Street light faults logged					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Horizon Power	NR	8,517	8,817	9,257	9,610	9,978	304	264	276	192	156	168
RIA	NR	190	190	190	190	190	13	30	48	24	36	18
Western Power	NR	33,765	35,060	35,867	37,018	37,595	1,026	1,114	4,043	6,214	2,922	3,137
State total	NR	42,472	44,067	45,314	46,818	47,763	1,343	1,408	4,367	6,430	3,114	3,323

Table 55: Metropolitan and regional area street light faults that are repaired after the prescribed timeframes (year ending 30 June)

Metropolitan	Number of faults fixed in > 5 days						Percentage					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Horizon Power	101	89	53	44	48	51	31.2	20.6	12.6	28.2	28.6	28.3
Western Power	7,654	9,738	12,494	5,598	1,134	1,050	35.5	35.3	30.8	14.0	3.2	3.1
State total	7,755	9,827	12,547	5,642	1,182	1,101						
Regional	Number of faults fixed in > 9 days						Percentage					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Horizon Power	41	16	37	14	17	5	13.5	6.1	13.4	7.3	10.9	3.0
RIA	0	0	3	0	0	7	0.0	0.0	6.3	0.0	0.0	38.9
Western Power	253	224	871	808	83	91	24.7	20.1	21.5	13.0	2.8	2.9
State total	294	240	911	822	100	103						

Appendix 8 – Background information about energy distribution

Definition of a small use customer

Throughout this report, the following definitions of a customer are used:

- Customer - means a (small use) customer connection that:
 - consumes not more than 1TJ (or approximately \$30,000) of gas per annum, or
 - consumes not more than 160MWh (or approximately \$35,000) of electricity per annum.

Distribution Licence Performance Reporting Obligations

All energy distribution licences include obligations for the licensee to provide information to the Authority in respect of the activities covered by the licence. As described below, the Authority has restricted the obligation to provide non-financial performance information to those distributors who supply small use customers.

Electricity Licences

Electricity 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 *Electricity Industry Act 2004 (Electricity Act)*. The Authority has specified the non-financial performance information that is to be provided by the electricity distribution licensees who supply small use customers in the *Electricity Compliance Reporting Manual (Electricity Manual)* published by the Authority in May 2011. The Electricity Manual incorporates the record keeping requirements of the Electricity Customer Code, which in turn references the 2002 SCORRR Framework.⁶⁴

Gas Licences

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 (Gas Act)*, and the reporting requirements contained in the Compendium of Gas Licence Obligations (**Gas Compendium**⁶⁵). The Authority has specified the non-financial performance information that is to be provided by the gas distribution licensees who supply small use customers in the Gas Compliance Reporting Manual (**Gas Manual**) published by the Authority in November 2010.⁶⁶ The Gas Manual incorporates the record keeping requirements in the Gas Compendium.

⁶⁴ National regulatory reporting for electricity distribution and retailing businesses, Utility Regulators Forum, March 2002.

⁶⁵ The Compendium of Gas Customer Licence Obligations (Gas Compendium) is made by the Authority pursuant to section 11M and Schedule 1A of the Gas Act. Obligations in the Gas Compendium are included in gas licences as conditions of the licence.

⁶⁶ 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

Electricity Networks Access Code

The *Electricity Networks Access Code 2004* (**Access Code**) provides the framework for the independent regulation of certain electricity networks in the State. The objective of the Access Code is to promote the economically efficient investment in, and operation and use of, networks and services of networks in the State and to promote competition in electricity retail and wholesale markets.

The Authority is responsible for regulating third party access to regulated or 'covered' electricity networks. Since the commencement of the Access Code, the only covered network in the State is Western Power's network within the South West Interconnected System (**SWIS**), which comprises most, but not all of the South West Interconnected Network (**SWIN**).⁶⁷

The Access Code requires Western Power to provide third parties access to its transmission and distribution network through an Access Arrangement.⁶⁸ Access arrangements detail the terms and conditions, including prices, which apply to third parties seeking the use of regulated electricity networks. Western Power's access arrangement for the first access arrangement period (2006/07 to 2008/09, "AA1") was approved by the Authority on 26 April 2007, to become effective from 1 July 2007. Revisions to this access arrangement for the second access arrangement period (2009/10 to 2011/12, "AA2") were approved by the Authority on 19 January 2010, to become effective from 1 March 2010. The Authority published its final decision on the third access arrangement ("AA3") for the period 2012/13 to 2016/17, on 5 September 2012. The Authority considered Western Power's Amended Proposed Access Arrangement⁶⁹ and published a Further Final Decision on 29 November 2012. The Amended Proposed Access Arrangement commenced on 1 February 2013.

Each access arrangement sets out a number of reference services that may be purchased from Western Power by a third party, the pricing of each service⁷⁰ and the service standard benchmarks that are to be met for each reference service. The majority of the reference services relate to the distribution network. Western Power is required to provide to the Authority an annual report on its performance against the service standard benchmarks.

Unlike the first two access arrangements, the third access arrangement incorporates price controls that are designed to encourage Western Power to deliver services at the lowest efficient cost.⁷¹

⁶⁷ The SWIS includes the coastal area from Kalbarri to Bremer Bay and the Goldfields. The distribution and transmission systems that supply this area are collectively known as the South West Interconnected Network (**SWIN**).

⁶⁸ Details of the Access Arrangement can be found on the Authority's website:
http://www.erawa.com.au/3/882/48/electricity_access__western_powers_approved_access.pm

⁶⁹ The current 2009 -2012 approved access arrangement continues in effect until a revised access arrangement is approved.

⁷⁰ Pricing matters are covered in Chapters 6 to 8 of the Access Code.

⁷¹ This comprises two components: the service standard adjustment mechanism and the gain sharing mechanism, details of which can be found in Chapter 6 of the Access Code.

Appendix 9 – The development of the Western Australian energy market

Historically, the Western Australian energy sector for small use customers has been dominated by government owned monopoly utilities. The State Energy Commission of Western Australia (**SECWA**) was established on 1 January 1975 as an amalgamation of the State Electricity Commission of Western Australia (established in 1945) plus the Fuel and Power Commission.

On 1 January 1995, SECWA was split into separate gas and electricity utilities: AlintaGas and Western Power Corporation. Both of these entities have subsequently been disaggregated into other businesses that focus on particular segments of the energy market. The following sections provide further details of the disaggregation of the utilities and the development of licensed electricity and gas distribution network providers.

Electricity distribution

In 2006, the Government restructured Western Power Corporation into four new statutory Corporations:

- Electricity Networks Corporation (t/a Western Power): operates the majority of the transmission and distribution networks within the SWIS;⁷²
- Electricity Retail Corporation (t/a Synergy): retails electricity within the SWIS;
- Regional Power Corporation (t/a Horizon Power): vertically integrated electricity business that operates a number of small distribution systems in areas of the State outside the SWIS; and
- Electricity Generation Corporation (t/a Verve Energy): operates the former Western Power generation facilities.

The restructuring of the former Western Power Corporation followed the deregulation of electricity supply in the State, with the passing into law of the Electricity Act. The Electricity Act includes provisions for the licensing of electricity supply and in particular, Part 2 of the Electricity Act sets out the provisions pertaining to the licensing scheme for electricity service providers. The Electricity Act prescribes five classes of electricity licence:

- a) Distribution – construct and operate electricity distribution networks.
- b) Generation – construct and operate electricity generation plant.
- c) Retail – sell electricity to customers.
- d) Transmission – construct and operate electricity transmission networks.
- e) Integrated Regional – undertake one or more of the activities listed in (a) to (d) above.

Since the introduction of the electricity licensing scheme in 2005, there has been a total of nine distribution licences issued by the Authority. Some of these licences have

⁷² Ibid note 15

subsequently been surrendered, leaving a total of six distribution licences active as at 30 June 2012.

Appendix 1 (Figure 1) details the areas of the State that are subject to an electricity distribution licence, or an integrated regional licence, issued by the Authority as at 30 June 2012.⁷³

Gas distribution

Following the split of SECWA in January 1995, the SECWA gas retail and distribution businesses were transferred to AlintaGas, which was formed in January 1995 as an integrated gas distribution and retail business that also had ownership of the Dampier to Bunbury Natural Gas Pipeline (DBNGP). As part of the government's policy of privatisation, the DBNGP was later sold in 1998, and is now owned and operated by the DBNGP consortium. AlintaGas retained ownership of the gas distribution and retail operations.

In 1999, the Gas Act was amended to facilitate the privatisation of AlintaGas and implement a licensing scheme covering the supply of gas to small use customers.

AlintaGas was publicly listed on the Australian stock exchange in July 2000. The privatised AlintaGas was restructured into separate distribution and retail businesses:

- Alinta Sales assumed ownership of the retailing operations of AlintaGas; and
- AlintaGas Networks⁷⁴ - assumed ownership of AlintaGas' distribution networks in the Coastal, Goldfields-Esperance and Great Southern licence areas.

Part 2A of the Gas Act regulates the licensing scheme for gas distributors and retailers who supply small use customers. The Gas 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 network.
- b) Trading - which authorises the licensee to sell gas to small use customers that is transported through a distribution network.

Since the introduction of the gas licensing scheme in 1999 there has been a total of four gas distribution licences⁷⁵ issued by the Authority and its predecessor, the Office of Energy.⁷⁶ One of these licences has subsequently been surrendered, leaving a total of three distribution licences active as at 30 June 2012.

⁷³ Details of electricity licenses can be found on the Authority's web site:
http://www.era.wa.gov.au/2/245/51/licence_holders.pm

⁷⁴ Following a change of ownership in 2011, the AlintaGas Networks distribution networks are now owned by ATCO Gas Australia.

⁷⁵ Prior to 2008, licences were associated with a single supply area. At that time there were six licences issued to three licensees. The amendment of gas licences in August 2007 resulted in a single licence covering multiple supply areas, which reduced six licences to three. The fourth licence was issued to Origin Energy in 2008 for the Mid-West supply area.

⁷⁶ The responsibilities of the Office of Energy were transferred to the Department of Finance's Public Utilities Office in 2012.

Appendix 10 (Figure 2) shows the eight gas supply areas in the State⁷⁷ and the locations of gas distribution operations that were licensed by the Authority as at 30 June 2012.⁷⁸

⁷⁷ Figure 2 shows the Albany area separately. However, this forms part of the Great Southern gas supply area.

⁷⁸ Details of gas licenses can be found on the Authority's web site:
http://www.erawa.com.au/2/315/51/gas_licensing__licence_holders.pm

Appendix 10 – Licence Area Maps of the State

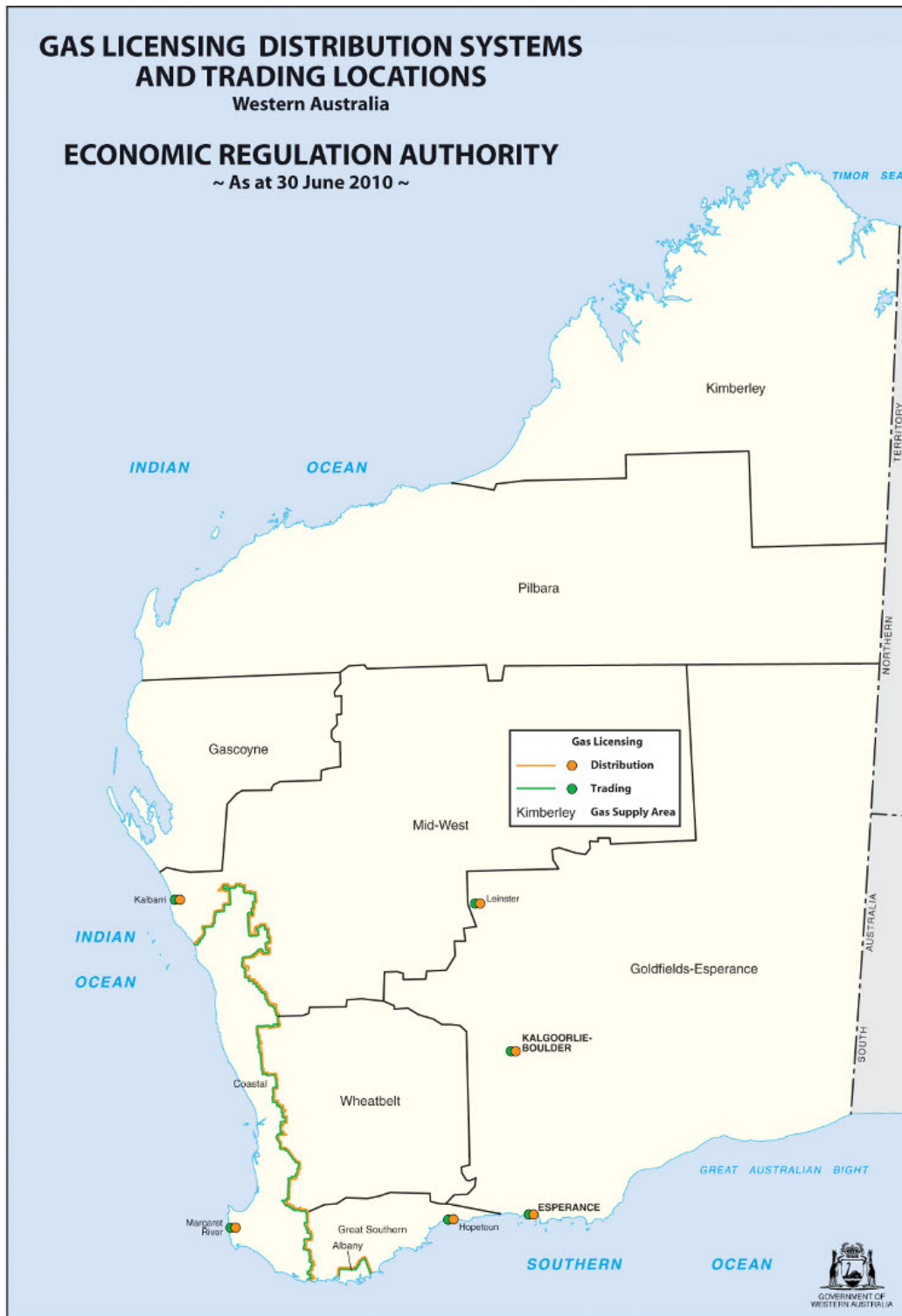


Figure 19: Gas supply areas in Western Australia



Figure 20: Electricity Licensing Areas in Western Australia