Performance against minimum service standards (MSS) by Energex and Ergon Energy for the 2013-14 financial year

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Distributor performance

Background

There are currently two Queensland electricity distribution entities: Energex Limited (Energex) in South East Queensland and Ergon Energy Corporation Limited (Ergon Energy) in regional Queensland. Both entities operate distribution networks under Distribution Authorities issued to them by the Regulator under the *Electricity Act 1994* and administered by the Department of Energy and Water Supply (DEWS).

From 1 July 2014, as part of ongoing reforms to the Queensland electricity sector, the minimum service standards (MSS) of electricity distributors and the requirement for them to report their performances against the MSS were incorporated into their respective Distribution Authorities.

Prior to this date the MSS and reporting requirements were contained within the Electricity Industry Code and the reports were published online by the Queensland Competition Authority (QCA).

Minimum Service Standards

The conditions of the Distribution Authorities held by Energex and Ergon Energy require that they use their best endeavours to meet MSS in relation to the frequency and duration of electricity distribution outages. The MSS are put in place to ensure that Queensland electricity customers receive a minimum prescribed level of supply reliability. If a distributor does not meet its MSS limits it must provide reasons for any failure and a proposal to improve its performance.

The MSS limits for Energex and Ergon Energy differ, with those set for Energex being more stringent. This reflects the differences in their distribution networks and the environments in which they operate.

Under the conditions of their Distribution Authorities each entity is required to report on its performance against MSS limits within two months of the end of each quarter. Once the June quarterly report of each entity is received DEWS can ascertain whether the distributor has performed within its MSS limits for the financial year.

This report details the performance of Energex and Ergon Energy against the MSS limits set for the 2013-14 financial year.

Distribution Networks

The MSS reports are not intended to enable performance comparisons between Energex and Ergon Energy. Due to their very different operating environments and distribution network characteristics, any such comparison would be inappropriate. The MSS reports can however be used to gauge the year-on-year performance of each distributor.

The Energex distribution network supplies largely urbanised areas of South East Queensland. Ergon Energy's network is spread across the remainder of the state with a significant number of long, isolated feeders and lower customer densities. The individual prescribed MSS limits for each distribution entity reflect these network differences.

MSS requirements

The MSS requirements are set in relation to the frequency and duration of interruptions to the distribution services provided by Energex and Ergon Energy. An interruption includes any temporary unavailability of electricity supply to a customer associated with an outage of the electricity distribution network.

The MSS are average measures of performance across each distribution network (categorised by feeder type) excluding the impact of certain excluded events such as severe weather events. To ensure a low probability of exceeding their MSS limits in a particular year, distributors must aim to achieve a higher level of performance than the MSS limits. The MSS limits for each financial year are detailed in the Distribution Authority of each distribution entity.

There are six MSS limits for each distributor. Three MSS limits relate to the average duration of service interruptions and three to the average frequency of service interruptions. Reliability performance is expressed using the following measures:

a) ***System average interruption duration index*** **(SAIDI)** is the sum of all customer interruption durations (measured in minutes) divided by the total number of customers (averaged over the financial year) for each distributor; and

b) ***System average interruption frequency index*** **(SAIFI)** is the total number of customer interruptions, divided by the total number of customers (averaged over the financial year) for each distributor.

SAIDI and SAIFI performance is measured and reported based on the broad feeder categories of CBD, urban, short rural and long rural feeders. The MSS limits differ between feeder types reflecting the performance that should reasonably be achieved on each type.

Some interruptions may be excluded by the distributors when reporting performance against MSS limits. Possible exclusions include interruptions commencing on a major event day, interruptions of one minute or less (momentary interruptions), interruptions resulting from a failure of the shared transmission grid and interruptions caused by the failure of a customer's electrical installation. Interruptions resulting from a direction by a police officer or other authorised person who is exercising powers in relation to public safety are also excluded. A complete list of excluded interruptions is set out in the Distribution Authority of each distribution entity.

Failure to perform within MSS limits

If a distributor exceeds the same MSS limit (i.e. SAIDI limit or SAIFI limit) for three financial years in a row, this is considered a 'systemic failure' and represents a contravention of the conditions of the entity's Distribution Authority.

Under the *Electricity Act 1994*, any such contravention may incur disciplinary action such as the cancellation or suspension of a Distribution Authority and/or the imposition of a pecuniary civil penalty.

Summary of Energex performance

Performance against the MSS limits

Energex's SAIDI and SAIFI performance before and after exclusions and its MSS limits for 2013-14 are presented in Tables 1 and 2.

While Energex reported better raw SAIDI figures for all feeder types in 2013-14 than in 2012-13, after adjustment for exclusions, performance in all classes was slightly worse. However, the SAIDI performance for all feeder types remained comfortably within the MSS limits. Similarly SAIFI performance was well within the set limit for all feeder types, despite an increase in the SAIFI figures for CBD feeders.

Performance against the SAIDI limits

Table 1 Energex SAIDI performance (minutes)

	2010-11*	2011-12*	2012-13*	2013-14	SAIDI MSS limits 2013-14
Total before exclusions					
CBD feeders	595.75	9.17	4.58	4.069	
Urban feeders	540.51	67.16	403.90	94.944	
Short rural feeders	642.75	215.62	1033.09	232.873	
Total net of exclusions					
CBD feeders	6.05	8.16	1.41	**3.560**	**15**
Urban feeders	79.45	66.65	71.92	**74.864**	**102**
Short rural feeders	201.58	201.81	156.94	**173.392**	**216**

Performance against the SAIFI limits

Table 2 Energex SAIFI performance (number of interruptions)

	2010-11*	2011-12*	2012-13*	2013-14	SAIFI MSS limits 2013-14
Total before exclusions					
CBD feeders	0.27	0.04	0.01	0.184	
Urban feeders	1.25	0.74	1.19	0.916	
Short rural feeders	2.61	1.80	2.31	1.817	
Total net of exclusions					
CBD feeders	0.01	0.04	0.01	**0.058**	**0.150**
Urban feeders	0.92	0.74	0.79	**0.804**	**1.220**
Short rural feeders	2.05	1.73	1.53	**1.556**	**2.420**

**** previously reported by the QCA***

Excluded interruptions

Table 3 details the interruptions that Energex has excluded in determining performance against its SAIDI and SAIFI limits during 2013-14. The number of exclusions in 2013-14 was significantly lower than that reported in 2012-13, due to fewer severe weather events occurring.

Table 3 Energex exclusions from MSS reporting for 2013-14

	Exclusions from SAIDI (minutes)	Exclusions from SAIFI (interruptions)
Interruption of a duration of one minute or less		
None in 2013-14		
Interruption resulting from load shedding due to a shortfall in generation		
None in 2013-14		
Interruption resulting from a direction by AEMO, a system operator or any other body exercising a similar function under the Electricity Act, National Electricity Rules or National Electricity Law		
None in 2013-14		
Interruption resulting from automatic shedding of load under the control of under-frequency relays following the occurrence of a power system under-frequency condition described in the power system security and reliability standards		
None in 2013-14		
Interruption resulting from failure of the shared transmission grid		
None in 2013-14		
Interruption from direction by police officer or other authorised person in relation to public safety		
CBD feeder	0.000	0.000
Urban feeder	0.070	0.002
Short rural feeder	0.020	0.000
Interruption to the supply of electricity on a distribution entity's supply network which commences on a major event day		
CBD feeder	0.509	0.127
Urban feeder	19.944	0.110
Short rural feeder	59.352	0.259

Interruption caused by customer electrical installations		
CBD feeder	0.000	0.000
Urban feeder	0.066	0.000
Short rural feeder	0.109	0.002
Total exclusions		
CBD feeder	**0.509**	**0.127**
Urban feeder	**20.080**	**0.112**
Short rural feeder	**59.481**	**0.261**

Major event days

A major event day is one where the daily SAIDI value exceeds a certain threshold, which is based on the distributor's historical reliability performance. Major event days are often associated with severe weather events that cause significant, widespread and prolonged customer supply interruptions. Major event days are excluded when assessing the performance of distributors against MSS limits.

Energex reported four major event days during 2013-14:

a) 10 November 2013, due to storms impacting the Energex network; and
b) 29 December 2013, due to storms impacting the Energex network; and
c) 4 January 2014, due to North Stradbroke bushfires and hot weather events; and
d) 6 January 2014, due to storms impacting the Energex network.

Summary of Ergon Energy performance

Performance against the MSS limits

Ergon Energy's SAIDI and SAIFI performance before and after exclusions and its MSS limits for 2013-14 are presented in Tables 4 and 5.

In 2013-14, for the first time since 2007-08, Ergon Energy's reliability performance met all six MSS limits. Ergon Energy reported that, through delivery of the final stages of its reliability improvement initiatives during 2014-15, it expects to be well positioned to achieve its MSS on a consistent basis in the future.

Ergon Energy's SAIDI and SAIFI performances during 2013-14 represent a significant improvement in comparison to those achieved in 2012-13. Ergon Energy noted that this improvement was due to the benefits of Ergon Energy's targeted investment in reliability improvement initiatives beginning to be realised and the generally mild weather conditions experienced across the Ergon Energy distribution region during 2013-14.

Ergon Energy reported that it continues to place a high priority on delivering targeted infrastructure investment and operational practice improvement opportunities to ensure achievement of its MSS. Ergon Energy also reported that its integrated whole-of-business 2010-15 Reliability Improvement Plan is progressively being delivered to address network performance gaps.

Performance against the SAIDI limits

Table 4 Ergon Energy SAIDI performance (minutes)

	2010-11*	2011-12*	2012-13*	2013-14	SAIDI MSS limits 2013-14
Total before exclusions					
Urban feeders	1477.05	189.15	274.85	165.62	
Short rural feeders	2679.42	439.61	697.07	440.11	
Long rural feeders	1737.53	1130.14	1566.54	850.86	
Total net of exclusions					
Urban feeders	148.88	136.28	135.12	**118.49**	**146**
Short rural feeders	425.74	391.95	341.44	**291.91**	**406**
Long rural feeders	827.35	1041.58	951.53	**798.42**	**916**

Performance against the SAIFI limits

Table 5 Ergon Energy SAIFI performance (number of interruptions)

	2010-11*	2011-12*	2012-13*	2013-14	SAIFI MSS limits 2013-14
Total before exclusions					
Urban feeders	2.32	1.78	1.78	1.714	
Short rural feeders	4.54	3.93	3.63	3.169	
Long rural feeders	6.09	7.75	7.16	6.476	
Total net of exclusions					
Urban feeders	1.63	1.41	1.49	**1.394**	**1.92**
Short rural feeders	3.53	3.55	2.98	**2.767**	**3.80**
Long rural feeders	5.27	7.02	6.25	**6.118**	**7.10**

*** previously reported by the QCA**

Excluded interruptions

Table 6 details the interruptions that Energex has excluded in determining performance against its SAIDI and SAIFI limits during 2013-14. The number of exclusions in 2013-14 was significantly lower than in 2012-13, due to far fewer severe weather events occurring.

Table 6 Ergon Energy exclusions from MSS reporting for 2013-14

	Exclusions from SAIDI (minutes)	Exclusions from SAIFI (interruptions)
Interruption of a duration of one minute or less		
None in 2013-14		
Interruption resulting from load shedding due to a shortfall in generation		
None in 2013-14		
Interruption resulting from a direction by AEMO, a system operator or any other body exercising a similar function under the Electricity Act, National Electricity Rules or National Electricity Law		
None in 2013-14		
Interruption resulting from automatic shedding of load under the control of under-frequency relays following the occurrence of a power system under-frequency condition described in the power system security and reliability standards		
Urban feeder	0.000	0.000
Short rural feeder	0.014	0.000
Long rural feeder	0.000	0.000
Interruption resulting from failure of the shared transmission grid		
Urban feeder	0.019	0.003
Short rural feeder	0.275	0.015
Long rural feeder	2.197	0.025
Interruption from direction by police officer or other authorised person in relation to public safety		
Urban feeder	2.687	0.045
Short rural feeder	0.810	0.011
Long rural feeder	0.000	0.000

Interruption to the supply of electricity on a distribution entity's supply network which commences on a major event day		
Urban feeder	42.574	0.258
Short rural feeder	143.80	0.357
Long rural feeder	45.873	0.311
Interruption caused by customer electrical installations		
Urban feeder	1.859	0.014
Short rural feeder	3.306	0.020
Long rural feeder	4.366	0.021
Total exclusions		
Urban feeder	**47.14**	**0.320**
Short rural feeder	**148.20**	**0.420**
Long rural feeder	**52.44**	**0.357**

Major event days

Ergon Energy reported six major event days during 2013-14:

a) 17 November 2013, due to intense thunderstorms, damaging winds and hailstones in parts of South East Queensland; and
b) 22 January 2014, due to severe thunderstorms in Southern Queensland; and
c) 30 January 2014, due to Tropical Cyclone Dylan affecting Northern Queensland; and
d) 11 - 13 April 2014, due to Tropical Cyclone Ita causing widespread damage to the Queensland Coast.

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