Department of Natural Resources, Mines and Energy

Performance against minimum service standards (MSS) by Energex and Ergon Energy for the 2017-18 financial year

Queensland Government

This publication has been compiled by <insert name/s> of <insert business group>, <insert department>.

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Distributor performance

Background

There are currently two Queensland 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 Natural Resources, Mines and Energy.

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 2017-18 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 central business district (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.

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.

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, a*ny 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 reliability performance for 2017-18 was favourable to the MSS for all six performance measures.

Energex's SAIDI and SAIFI performance before and after exclusions, and its MSS limits for 2017-18 (as prescribed in its distribution authority) are presented in Tables 1 and 2.

Table 3 details the interruptions that Energex has excluded in determining performance against its SAIDI and SAIFI limits during 2017-18.

Energex reported six major event days during 2017-18, these are detailed in Table 4.

Performance against the SAIDI limits

Table 1 Energex SAIDI performance (minutes)

	2013-14*	2014-15	2015-16	2016-17	2017-18	SAIDI MSS limits 2017-18
	Total before exclusions					
CBD feeders	4.069	3.699	28.278	7.953	4.803	
Urban feeders	94.944	190.512	85.916	131.562	130.872	
Short rural feeders	232.873	263.357	258.085	520.825	381.706	
	Total net of exclusions					
CBD feeders	3.560	3.699	4.680	3.840	**4.799**	**15**
Urban feeders	74.864	90.813	76.670	76.261	**73.092**	**106**
Short rural feeders	173.392	178.592	180.890	164.641	**187.384**	**218**

* previously reported by the QCA

Performance against the SAIFI limits

Table 2 Energex SAIFI performance (number of interruptions)

	2013-14*	2014-15	2015-16	2016-17	2017-18	SAIFI MSS limits 2017-18
	Total before exclusions					
CBD feeders		0.158	0.131	0.044	0.0355	
Urban feeders	0.184	0.957	0.793	0.842	0.8649	
Short rural feeders	0.916	1.861	1.760	1.991	1.8566	
	Total net of exclusions					
CBD feeders	0.058	0.158	0.032	0.024	**0.0352**	**0.150**
Urban feeders	0.804	0.786	0.740	0.671	**0.6712**	**1.260**
Short rural feeders	1.556	1.546	1.562	1.453	**1.4561**	**2.460**

* previously reported by the QCA

Excluded interruptions

Table 3 Energex exclusions from MSS reporting for 2017-18

	Exclusions from SAIDI (minutes)	Exclusions from SAIFI (interruptions)
Interruption of a duration of one minute or less		
None in 2017-18		
Interruption resulting from load shedding due to a shortfall in generation		
None in 2017-18		
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 2017-18		
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 2017-18		
Interruption resulting from failure of the shared transmission grid		
	SAIDI	**SAIFI**
CBD feeder	0.000	0.000
Urban feeder	1.543	0.0601
Short rural feeder	0.928	0.0291
Interruption from direction by police officer or other authorised person in relation to public safety		
	SAIDI	**SAIFI**
CBD feeder	0.000	0.000
Urban feeder	0.000	0.000
Short 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		
	SAIDI	**SAIFI**
CBD feeder	0.000	0.0003
Urban feeder	56.199	0.1329
Short rural feeder	193.328	0.3709
Interruption caused by customer electrical installations		
	SAIDI	**SAIFI**
CBD feeder	0.000	0.000
Urban feeder	0.038	0.0007
Short rural feeder	0.066	0.0005

Total exclusions		
	SAIDI	**SAIFI**
CBD feeder	**0.004**	**0.0003**
Urban feeder	**57.780**	**0.1937**
Short rural feeder	**194.322**	**0.4005**

Major event days

Table 4 – Major event details

Event Date/s	Event Description
9 December 2017	Severe storms and lightning strikes impacted Sunshine Coast and surrounding areas
25 December 2017	Severe storms and lightning strikes impacted Brisbane South, Gold Coast and surrounding areas
31 December 2017	Storm impacted the Energex network
11 and 12 February 2018	Severe storms impacted Brisbane Metro South, Brisbane South-West and areas in the South Coast region
16 February 2018	Severe storms impacted Brisbane Metro South, South East areas and Central Districts

Summary of Ergon Energy performance

Performance against the MSS limits

Ergon Energy's reliability performance for the 2017-18 regulatory year was favourable to the MSS for 6 of the 6 performance measures.

Ergon Energy's SAIDI and SAIFI performance before and after exclusions and its MSS limits for 2017-18 as prescribed in its distribution authority are presented in Tables 5 and 6.

Table 7 details the interruptions that Ergon Energy has excluded in determining performance against its SAIDI and SAIFI limits during 2017-18.

Ergon Energy reported nine major events during 2017-18, these are detailed in Table 8.

Performance against the SAIDI limits

Table 4 Ergon Energy SAIDI performance (minutes)

	2013-14*	2014-15	2015-16	2016-17	2017-18	SAIDI MSS limits 2017-18
	Total before exclusions					
Urban feeders	165.62	836.4232	145.3321	482.095	211.5665	
Short rural feeders	440.11	1042.8636	397.0792	1225.878	484.9407	
Long rural feeders	850.86	1590.7802	1040.4344	1235.369	1259.9457	
	Total net of exclusions					
Urban feeders	118.49	133.6567	127.7016	106.988	**134.0039**	**149**
Short rural feeders	291.91	359.0826	349.5913	279.380	**315.5424**	**424**
Long rural feeders	798.42	1052.7546	954.7147	780.761	**891.2906**	**964**

* previously reported by the QCA

Performance against the SAIFI limits

Table 5 Ergon Energy SAIFI performance (number of interruptions)

	2013-14*	2014-15	2015-16	2016-17	2017-18	SAIFI MSS limits 2017-18
	Total before exclusions					
Urban feeders	1.714	1.8846	1.3957	1.378	2.0537	
Short rural feeders	3.169	3.8963	3.1983	3.098	3.5103	
Long rural feeders	6.476	7.3054	7.1775	6.457	6.8572	
	Total net of exclusions					
Urban feeders	1.394	1.2686	1.2723	1.135	**1.519**	**1.98**
Short rural feeders	2.767	3.1501	3.0234	2.637	**2.708**	**3.95**
Long rural feeders	6.118	6.7643	6.7663	5.804	**5.5507**	**7.40**

* previously reported by the QCA

Excluded interruptions

Table 6 Ergon Energy exclusions from MSS reporting for 2017-18

	Exclusions from SAIDI (minutes)	Exclusions from SAIFI (interruptions)
Interruption of a duration of one minute or less		
None in 2017-18		
Interruption resulting from load shedding due to a shortfall in generation		
None in 2017-18		
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 2017-18		
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		
	SAIDI	**SAIFI**
Urban feeder	1.053	0.0564
Short rural feeder	0.3713	0.0201
Long rural feeder	1.1528	0.0549
Interruption resulting from failure of the shared transmission grid		
	SAIDI	**SAIFI**
Urban feeder	8.8299	0.2409
Short rural feeder	6.1271	0.1554
Long rural feeder	4.0225	0.0745
Interruption from direction by police officer or other authorised person in relation to public safety		
	SAIDI	**SAIFI**
Urban feeder	0.6785	0.0142
Short rural feeder	3.4761	0.0436
Long rural feeder	0.0872	0.0006
Interruption to the supply of electricity on a distribution entity's supply network which commences on a major event day		
	SAIDI	**SAIFI**
Urban feeder	66.9674	0.2230
Short rural feeder	159.324	0.5830
Long rural feeder	363.3092	1.1761

Interruption caused by customer electrical installations		
	SAIDI	**SAIFI**
Urban feeder	0.0338	0.0003
Short rural feeder	0.0999	0.0003
Long rural feeder	0.0833	0.0004
Total exclusions		
	SAIDI	**SAIFI**
Urban feeder	**77.5626**	**0.5347**
Short rural feeder	**169.3983**	**0.8023**
Long rural feeder	**368.6551**	**1.3065**

Major event days

Table 8 – Major event details

Event Date	Event Details
19 October 2017	Severe storms, lightning strikes and heavy rainfall affecting Cairns, Rollingstone and adjacent inland areas
7 November 2017	Severe storms, lightning strikes and heavy rainfall affecting the Bundaberg region
26 December 2017	Severe storms impacting South Burnett, Toowoomba, Darling Downs and surrounding areas
31 December 2017	Severe storms impacting Bundaberg and surrounding areas
1 January 2018	Severe storms impacting Rockhampton and surrounding areas
2 January 2018	Severe storms impacting Dawson, Callide, Rockhampton, Port Curtis and surrounding areas
16 February 2018	Severe storms impacting the Fraser Burnett and Capricornia regions
20 February 2018	Severe storms impacting Moranbah, Townsville and surrounding areas
17 April 2018	Fault at South Bundaberg substation