



## Performance against minimum service standards (MSS)

Energex and Ergon Energy

2019–20 financial year



**Queensland**  
Government

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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 Energy and Public Works.

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, the Department of Energy and Public Works 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 2019–20 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*, 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 reliability performance for 2019–20 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 2019–20 (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 2019–20.

Energex reported five major event days during 2019–20, these are detailed in Table 4.

### Performance against the SAIDI limits

**Table 1 Energex SAIDI performance (minutes)**

	2017–18	2018–19	2019–20	SAIDI MSS limits 2019–20
<b>Total before exclusions</b>				
CBD feeders	4.803	2.671	6.722	
Urban feeders	130.872	92.765	83.409	
Short rural feeders	381.706	322.151	205.409	
<b>Total net of exclusions</b>				
CBD feeders	4.799	2.132	<b>5.001</b>	<b>15</b>
Urban feeders	73.092	70.575	<b>70.473</b>	<b>106</b>
Short rural feeders	187.384	178.883	<b>159.195</b>	<b>218</b>

### Performance against the SAIFI limits

**Table 2 Energex SAIFI performance (number of interruptions)**

	2017–18	2018–19	2019–20	SAIFI MSS limits 2019–20
<b>Total before exclusions</b>				
CBD feeders	0.0355	0.0146	0.025	
Urban feeders	0.8649	0.749	0.683	
Short rural feeders	1.8566	1.7547	1.597	
<b>Total net of exclusions</b>				
CBD feeders	0.0352	0.0141	<b>0.022</b>	<b>0.15</b>
Urban feeders	0.6712	0.6432	<b>0.622</b>	<b>1.26</b>
Short rural feeders	1.4561	1.4423	<b>1.346</b>	<b>2.46</b>

## Excluded interruptions

**Table 3 Energex exclusions from MSS reporting for 2019–20**

	Exclusions from SAIDI (minutes)	Exclusions from SAIFI (interruptions)
<b>Interruption of a duration of one minute or less</b>		
None in 2019–20		
<b>Interruption resulting from load shedding due to a shortfall in generation</b>		
None in 2019–20		
<b>Interruption resulting from a direction by AEMO, a system operator or any other body exercising a similar function under the <i>Electricity Act 1994</i>, National Electricity Rules or National Electricity Law</b>		
None in 2019–20		
<b>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</b>		
None in 2019–20		
<b>Interruption resulting from failure of the shared transmission grid</b>		
None in 2019–20		
<b>Interruption from direction by police officer or other authorised person in relation to public safety</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
CBD feeder	0.0000	0.0000
Urban feeder	0.0422	0.0003
Short rural feeder	0.0027	0.0000
<b>Interruption to the supply of electricity on a distribution entity's supply network which commences on a major event day</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
CBD feeder	0.0000	0.0000
Urban feeder	12.7563	0.0601
Short rural feeder	45.9125	0.2493

<b>Interruption caused by customer electrical installations</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
CBD feeder	1.7217	0.0023
Urban feeder	0.1380	0.0009
Short rural feeder	0.2991	0.0015
<b>Total exclusions</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
CBD feeder	<b>1.7217</b>	<b>0.0023</b>
Urban feeder	<b>12.9365</b>	<b>0.0612</b>
Short rural feeder	<b>46.2143</b>	<b>0.2508</b>

## Major event days

**Table 4 – Major event details**

<b>Event Date/s</b>	<b>Event Description</b>
17 October 2019	Severe thunderstorms in the South East corner.
17 November 2019	A supercell thunderstorm primarily impacting the Sunshine Coast area.
11 December 2019	Severe thunderstorm primarily impacting the Brisbane South area.
20 January 2020	Severe thunderstorms in the South East corner.
21 January 2020	Severe thunderstorms in the South East corner, particularly the Sunshine Coast area.



## Summary of Ergon Energy performance

### Performance against the MSS limits

Ergon Energy's reliability performance for the 2019–20 regulatory year was favourable to 4 of the 6 MSS performance measures. Two feeders, the Urban and Long rural feeders, exceeded SAIDI limits over the 2019–20 period, with the Short rural feeder almost exceeding its SAIDI limit.

Ergon Energy's SAIDI and SAIFI performance before and after exclusions and its MSS limits for 2019–20 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 2019–20.

Ergon Energy reported three major events during 2019–20, these are detailed in Table 8.

### Performance against the SAIDI limits

**Table 5 Ergon Energy SAIDI performance (minutes)**

	2017–18	2018–19	2019–20	SAIDI MSS limits 2019-20
<b>Total before exclusions</b>				
Urban feeders	211.5665	515.0658	232.6815	
Short rural feeders	484.9407	523.3031	447.5339	
Long rural feeders	1259.9457	1170.1658	1182.3328	
<b>Total net of exclusions</b>				
Urban feeders	134.0039	147.7199	<b>224.9419</b>	<b>149</b>
Short rural feeders	315.5424	409.6936	<b>422.8796</b>	<b>424</b>
Long rural feeders	891.2906	1017.9883	<b>1056.0088</b>	<b>964</b>

### Performance against the SAIFI limits

**Table 6 Ergon Energy SAIFI performance (number of interruptions)**

	2017–18	2018–19	2019–20	SAIFI MSS limits 2019–20
<b>Total before exclusions</b>				
Urban feeders	2.0537	1.5107	1.8888	
Short rural feeders	3.5103	3.5250	3.3369	
Long rural feeders	6.8572	6.4706	6.8946	
<b>Total net of exclusions</b>				
Urban feeders	1.519	1.2966	<b>1.7985</b>	<b>1.98</b>
Short rural feeders	2.708	3.1412	<b>3.1596</b>	<b>3.95</b>
Long rural feeders	5.5507	5.8625	<b>6.4575</b>	<b>7.40</b>

## Excluded interruptions

**Table 7 Ergon Energy exclusions from MSS reporting for 2019–20**

	Exclusions from SAIDI (minutes)	Exclusions from SAIFI (interruptions)
<b>Interruption of a duration of one minute or less</b>		
None in 2019–20		
<b>Interruption resulting from load shedding due to a shortfall in generation</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
Urban feeder	0.0000	0.0000
Short rural feeder	0.0065	0.0000
Long rural feeder	0.0000	0.0000
<b>Interruption resulting from a direction by AEMO, a system operator or any other body exercising a similar function under the <i>Electricity Act 1994</i>, National Electricity Rules or National Electricity Law</b>		
None in 2019–20		
<b>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</b>		
None in 2019–20		
<b>Interruption resulting from failure of the shared transmission grid</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
Urban feeder	0.2210	0.0113
Short rural feeder	1.4007	0.0794
Long rural feeder	0.7317	0.0528
<b>Interruption from direction by police officer or other authorised person in relation to public safety</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
Urban feeder	2.6603	0.0402
Short rural feeder	1.9672	0.0374
Long rural feeder	1.2966	0.0159
<b>Interruption to the supply of electricity on a distribution entity's supply network which commences on a major event day</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
Urban feeder	4.8394	0.0387
Short rural feeder	21.0802	0.0602
Long rural feeder	123.8715	0.3681

<b>Interruption caused by customer electrical installations</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
Urban feeder	0.0189	0.0002
Short rural feeder	0.1996	0.0002
Long rural feeder	0.4242	0.0004
<b>Total exclusions</b>		
	<b>SAIDI</b>	<b>SAIFI</b>
Urban feeder	<b>7.7397</b>	<b>0.0904</b>
Short rural feeder	<b>24.6543</b>	<b>0.1773</b>
Long rural feeder	<b>126.3240</b>	<b>0.4371</b>

## Major event days

**Table 8 – Major event details**

<b>Event Date</b>	<b>Event Details</b>
6 September 2019	A result of bush fires in Stanthorpe.
11 December 2019	Severe thunderstorms primarily impacting the Fraser Burnett area.
17 January 2020	Severe thunderstorms primarily impacting the Tropical Coast area.