



Performance against minimum service standards (MSS)

Energex and Ergon Energy

2022–23 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 2022–23 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 three minutes 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 2022–23 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 2022–23 (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 2022–23.

Energex reported three major event days during 2022–23, these are detailed in Table 4.

Performance against the SAIDI limits

Table 1 Energex SAIDI performance (minutes)

	2020–21	2021–22	2022–23	SAIDI MSS limits 2022–23
Total (including exclusions)				
CBD feeders	9.892	52.52680	6.20891	
Urban feeders	116.112	250.93590	85.42000	
Short rural feeders	325.180	423.15766	208.22621	
Total (excluding exclusions)				
CBD feeders	8.071	4.91007	3.59288	15
Urban feeders	70.444	80.38472	80.89822	106
Short rural feeders	180.783	202.34889	170.63369	218

Performance against the SAIFI limits

Table 2 Energex SAIFI performance (number of interruptions)

	2019–20	2020–21	2021–22	SAIFI MSS limits 2021–22
Total (including exclusions)				
CBD feeders	0.090	0.10326	0.03600	
Urban feeders	1.038	0.78516	0.66953	
Short rural feeders	1.936	1.70401	1.28980	
Total (excluding exclusions)				
CBD feeders	1.70401	0.07164	0.03354	0.15
Urban feeders	0.637	0.64747	0.64345	1.26
Short rural feeders	1.330	1.44176	1.19176	2.46

Excluded interruptions

Table 3 Energex exclusions from MSS reporting for 2022–2023.

	Exclusions from SAIDI (minutes)	Exclusions from SAIFI (interruptions)
Interruption of a duration of three minutes or less		
None in 2022–23		
Interruption resulting from load shedding due to a shortfall in generation		
None in 2022–23		
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		
None in 2022–23		
Interruption resulting from automatic load shedding due to the operation of under-frequency relays following the occurrence of a power system under-frequency condition		
None in 2022–23		
Interruption resulting from failure of the shared transmission grid		
	SAIDI	SAIFI
CBD feeder	Nil	Nil
Urban feeder	Nil	Nil
Short rural feeder	0.00673	0.00002
An interruption resulting from a failure of transmission connection assets except where the interruptions were due to actions, or inactions, of the distribution entity that are inconsistent with good industry practice or inadequate planning of transmission connections and the distribution entity is responsible for transmission connection planning		
None in 2022–23		
Any interruption to the supply of electricity on a distribution entity's supply network which commences on a major event day		
	SAIDI	SAIFI
CBD feeder	Nil	0.00000
Urban feeder	4.21455	0.02396
Short rural feeder	37.39518	0.09669

An interruption caused by a customer's electrical installation, a customer's request to be disconnected to isolate their installation, or failure of that electrical installation, if power is still available at the point of supply

	SAIDI	SAIFI
CBD feeder	2.61603	0.00247
Urban feeder	0.28740	0.00153
Short rural feeder	0.18152	0.00114

An interruption caused or extended by a direction from a police officer or another authorised person exercising powers in relation to public safety, provided that a fault in, or the operation of, the network did not cause, in whole or in part, the event giving rise to the direction.

	SAIDI	SAIFI
CBD feeder	Nil	Nil
Urban feeder	0.01983	0.00059
Short rural feeder	0.00909	0.00019

Total exclusions

	SAIDI	SAIFI
CBD feeder	2.61603	0.00247
Urban feeder	4.52178	0.02608
Short rural feeder	37.59252	0.09804

Major event days

Table 4 – Major event details

Event Date/s	Event Description
27 October 2022	Severe thunderstorms and vegetation in the Sunshine Coast area
8 December 2022	Severe thunderstorms primarily in the Brisbane North area
4 January 2023	Severe thunderstorms in the Sunshine Coast area



Summary of Ergon Energy performance

Performance against the MSS limits

Ergon Energy's reliability performance for the 2022–23 regulatory year was favourable to 3 of the 6 MSS performance measures. The Urban, Short rural and Long rural feeders exceeded SAIDI limits over the 2022–23 period.

Ergon Energy's SAIDI and SAIFI performance before and after exclusions and its MSS limits for 2022–23 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 2022–23.

Ergon Energy reported three major events during 2022–23, this event is detailed in Table 8.

Performance against the SAIDI limits

Table 5 Ergon Energy SAIDI performance (minutes)

	2020–21	2021–22	2022–23	SAIDI MSS limits 2022–23
Total (including exclusions)				
Urban feeders	360.8330	262.19093	253.55783	
Short rural feeders	573.9934	560.51837	522.67522	
Long rural feeders	1117.0652	1403.27746	1249.71127	
Total (minus exclusions)				
Urban feeders	236.2912	243.53946	231.92001	149
Short rural feeders	460.6476	522.75162	481.51471	424
Long rural feeders	1048.2913	1343.58276	1141.30196	964

Performance against the SAIFI limits

Table 6 Ergon Energy SAIFI performance (number of interruptions)

	2020–21	2021–22	2022–23	SAIFI MSS limits 2022–23
Total (including exclusions)				
Urban feeders	1.8367	1.75608	3.01627	
Short rural feeders	3.4979	3.47679	6.92484	
Long rural feeders	6.3367	6.79967	17.35739	
Total (minus exclusions)				
Urban feeders	1.6239	1.68358	1.63523	1.98
Short rural feeders	3.1962	3.30387	3.03260	3.95
Long rural feeders	5.9783	6.53888	5.85332	7.40

Excluded interruptions

Table 7 Ergon Energy exclusions from MSS reporting for 2022–2023.

	Exclusions from SAIDI (minutes)	Exclusions from SAIFI (interruptions)
Interruption of a duration of three minutes or less		
	SAIDI	SAIFI
Urban feeders	0.35541	1.05125
Short rural feeders	0.88013	3.46252
Long rural feeders	1.95030	11.06706
Interruption resulting from load shedding due to a shortfall in generation		
	SAIDI	SAIFI
Urban feeder	10.87047	0.12427
Short rural feeder	5.02527	0.11979
Long rural feeder	13.54616	0.09686
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		
None in 2022–23		
Interruption resulting from automatic load shedding due to the operation of under-frequency relays following the occurrence of a power system under-frequency condition		
None in 2022–23		
Interruption resulting from failure of the shared transmission grid		
	SAIDI	SAIFI
Urban feeder	2.62871	0.12027
Short rural feeder	6.95312	0.15823
Long rural feeder	2.05383	0.08584
An interruption resulting from a failure of transmission connection assets except where the interruptions were due to actions, or inactions, of the distribution entity that are inconsistent with good industry practice or inadequate planning of transmission connections and the distribution entity is responsible for transmission connection planning		
None in 2022–23		
Any interruption to the supply of electricity on a distribution entity's supply network which commences on a major event day		
	SAIDI	SAIFI
Urban feeder	4.65275	0.04006
Short rural feeder	25.95526	0.12914
Long rural feeder	89.84636	0.25195

An interruption caused by a customer's electrical installation, a customer's request to be disconnected to isolate their installation, or failure of that electrical installation, if power is still available at the point of supply

	SAIDI	SAIFI
Urban feeder	0.03050	0.00027
Short rural feeder	0.04345	0.00026
Long rural feeder	0.21442	0.00014

An interruption caused or extended by a direction from a police officer or another authorised person exercising powers in relation to public safety, provided that a fault in, or the operation of, the network did not cause, in whole or in part, the event giving rise to the direction.

	SAIDI	SAIFI
Urban feeder	3.09998	0.04492
Short rural feeder	2.30062	0.02229
Long rural feeder	0.79824	0.00223

Total exclusions

	SAIDI	SAIFI
Urban feeder	21.63782	1.38104
Short rural feeder	41.16051	3.89224
Long rural feeder	108.40931	11.50407

Major event days

Table 8 – Major event details

Event Date	Event Details
28 October 2022	Severe thunderstorms in the Pioneer area.
8 December 2022	Severe Thunderstorms primarily affecting the Fraser-Burnett area
7 April 2023	Severe Thunderstorms primarily affecting the Darling Downs area

