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**Financial and Service Quality  
Performance 2006-07**

**Energex**

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*March 2008*

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## 1. INTRODUCTION AND SUMMARY

In the Authority's 2001 & 2005 Determinations on the Regulation of Electricity Distribution, the Authority required the Queensland Distribution Network Service Providers (DNSPs) to provide annual information on their financial and service quality performance.

This report provides an assessment of the financial performance of Energex for 2006-07, including a comparison with the financial forecasts that were included in the Authority's 2005 Determination and comparisons with the past financial performance of Energex.

The financial information for 2006-07 was submitted in accordance with the Authority's *Electricity Distribution: Regulatory Reporting Guideline* and the DNSPs' approved Cost Allocation Guidelines.

The Authority's *Electricity Distribution: Service Quality Reporting Guidelines* require the DNSPs to provide data on specific service quality measures on a quarterly and annual basis. While the DNSPs commenced reporting with the December quarter 2001 reports, the Authority did not commence publicly releasing the reports until the issue of the September quarter 2002 reports due to concerns about the robustness of the data.

The Authority released revised Guidelines in August 2005 in order to improve the reporting of the DNSPs service quality performance. In some instances, this will mean that data provided since 1 July 2005 can not be reliably compared to past data.

This report draws on data from both the annual and quarterly service quality reports, primarily for 2006-07, but also from the three preceding financial years.

### 1.1 General Operating Background

There are currently two main DNSPs operating in Queensland, Energex and Ergon Energy<sup>1</sup>. Both distribution entities are owned by the Queensland Government and until recently had legally separate but wholly owned subsidiary retailing operations. Energex's retailing operations and a portion of Ergon Energy's retailing operations were sold by the Government during 2006-07, with Ergon Energy retaining only certain franchise customers.

#### *Network Characteristics*

The distribution entities have considerably different network characteristics. Energex operates a largely urban network with relatively high customer density in South East Queensland, whereas Ergon Energy operates a geographically dispersed network with low customer density that covers much of the remainder of the State.

Table 1 identifies the key characteristics of each network, and illustrates the differences between the two networks. A key difference is customer density. Specifically, while there are 24.9 customers per kilometre of line in Energex's network, Ergon Energy has just 5.2 customers per kilometre of line in its network.

These differences in network characteristics are an important determinants of the service quality performance of each distributor, particularly the reliability of their respective networks.

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<sup>1</sup> Country Energy (NSW) operates a franchise network on the Queensland/New South Wales border extending into Queensland and Okey Creek Coal and Anglo Coal (Capcoal Management) operate very small networks confined to their respective mine sites.

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As a result, the service quality measures collected by the Authority are not intended to provide a comparison of the two DNSPs one with the other. It is to be expected that the distributors' performances will vary significantly on a number of service quality measures.

**Table 1: Network characteristics - 2006-07**

<i>Characteristics</i>	<i>Energex</i>	<i>Ergon Energy</i>
Network service area (sq km)	25,256	1,698,100
Number of customers <sup>a</sup>	1,248,510	753,668
Energy delivered (GWh)	20,758	14,507
Energy delivered per customer (MWh)	16.6	19.2
Kilometres of line	50,217	145,631
Customers per km of line	24.9	5.2
Maximum demand of network (MVA)	4,432	2,655
Number of distribution transformers	42,261	83,736
Asset utilisation (%) <sup>b</sup>	29.3	24.5
Distribution losses (%)	6.65	6.41

<sup>a</sup> These values are reported in the distributors' regulatory reports and differ slightly to the values reported for the same measures in the distributors' service quality reports due to technical differences in the way they are defined.

<sup>b</sup> Sub-transmission transformer utilisation factor. Electricity throughput, Megawatt hour (MWh), expressed as a percentage of sub-transformer capacity (MVA) multiplied by the number of hours per year.

## 1.2 Energex Customer Profile

Energex's customers consist of:

- *individually calculated customers* - those customers whose electricity consumption is sufficiently large to warrant individually calculated prices;
- *connection asset customers* - those customers whose electricity consumption is sufficient to warrant individually calculated connection charges but their remaining charges are averaged; and
- *standard asset customers* - those who pay averaged charges. The standard asset customer group includes customers with an average consumption of up to 4,000 MWh per year, although the vast majority of these customers are residential customers or small businesses with consumption below 100 MWh per year.

The number of customers in each category and the corresponding units of electricity sold to each in 2006-07 are presented in Table 2.

**Table 2: Energex customer numbers and units sold - 2006-07**

<i>Customer type</i>	<i>Customers</i>		<i>Units sold</i>		<i>Units sold per customer</i>	
	<i>Number</i>	<i>Percentage change from previous year</i>	<i>MWh</i>	<i>Percentage change from previous year</i>	<i>MWh/customer</i>	<i>Percentage change from previous year</i>
Individually calculated customers	27	3.8	1,601,508	0.7	59,315.1	(3.1)
Connection asset customers	369	1.9	3,564,683	(0.2)	9,660.4	(2.1)
Standard asset customers (consuming 100-4,000MWh pa)	5,317	17.5	3,779,081	12.0	710.8	(4.7)
Standard asset customers (consuming <100MWh pa)	1,242,613	2.5	11,992,981	(0.7)	9.7	(3.5)
Public street lighting	174	(7.0)	133,574	(8.5)	767.7	(1.7)
Embedded generators	10	66.6	25,778	1019.8	2,577.8	571.8
Total	1,248,510	2.6	21,097,605	1.6	16.9	(1.2)

The number of customers increased by 2.6 per cent during 2006-07, slightly more than the 2.3 per cent increase during 2005-06, driven by the increase in the number of small customers who account for over 99 per cent of Energex's total customer base.

Energy sales increased 1.6 per cent during the year, significantly less than the 5.6 per cent increase in 2005-06. This growth was also significantly below the 4.1 per cent average growth in energy sales that was forecast for the regulatory period (2005-6 to 2009-10) in the 2005 Final Determination.

As the growth in customer numbers exceeded the growth in energy sales across most customer categories, there was a general reduction (with the exception of embedded generators) in energy sales per customer.

The strong growth for embedded generators results from the low number of embedded generators at the start of the year and the connection during the year of a few relatively large embedded generators.

### 1.3 Summary of Energex Financial Performance

Energex exceeded its Aggregate Annual Revenue Requirement (AARR) by \$30.9 million in 2006-07. This was due to over-recoveries of \$23.0 million from the provision of services and \$8.0 million from capital contributions, marginally offset by the payment of \$0.1 million more in tax than had been forecast in the 2005 Final Determination. Energex will be required to return this over-recovery to customers in future years.

A summary of Energex's financial performance in 2006-07 is provided in Table 3.

**Table 3: Energex financial performance - 2006-07 (\$ nominal)**

	<i>Actual</i> <i>2005-06</i> <i>(\$ mill)</i>	<i>Actual</i> <i>2006-07</i> <i>(\$ mill)</i>	<i>Forecast</i> <i>2006-07</i> <i>(\$ mill)</i>	<i>Variance from forecast</i> <i>2006-07</i>	
				<i>(\$ mill)</i>	<i>(%)</i>
<b>Aggregate Annual Revenue Requirement</b>	<b>715.5</b>	<b>768.9</b>	<b>744.3</b>	<b>24.6</b>	<b>3.3</b>
Revenue from services*	652.7	715.1	692.1	23.0	3.3
Capital contributions	38.8	47.2	39.2	8.0	20.4
Income tax paid	24.0	6.6	6.5	0.1	1.5
<b>Operating and maintenance expenditure</b>	<b>234.2</b>	<b>274.5</b>	<b>270.5</b>	<b>4.0</b>	<b>1.5</b>
<b>Capital expenditure</b>	<b>725.0</b>	<b>718.9</b>	<b>667.6</b>	<b>51.3</b>	<b>7.7</b>

\* *Includes network and non-network services*

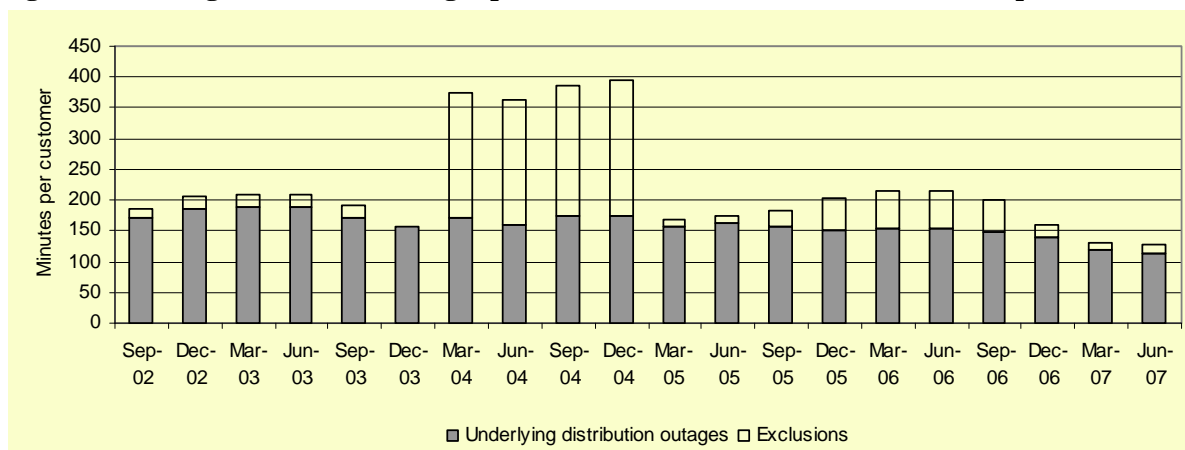
In its 2005 Final Determination, the Authority estimated the level of operating costs and capital expenditure required to deliver prescribed distribution services for each year of the regulatory period. While estimates were provided for each year of the regulatory period, actual annual operating and capital expenditure are likely to vary from those estimates in response to a range of external circumstances and operational requirements not foreseen at the time estimates are made.

Operating and maintenance expenditure of \$274.5 million in 2006-07 was \$4 million (1.5 per cent) higher than forecast. Operating costs associated with the introduction of full retail competition (FRC) in 2006-07 were reported to be around \$3 million.

Capital expenditure was \$51.3 million (7.7 per cent) higher than originally forecast. This was driven by demand related expenditure and significantly higher expenditure on non-system assets, such as vehicles and land and buildings. The increase also reflected a continued focus by Energex on improving its network performance in line with the recommendations of the Government's Electricity Distribution and Service Delivery (EDSD) Review, which reported in July 2004.

#### **1.4 Summary of Energex Service Quality Performance**

During 2006-07, Energex customers on average experienced 1.42 distribution-related interruptions leaving them without power for a total of 126.5 minutes. As shown in Figure 1, there was a gradual improvement in the duration of outages over the course of the year. The spike in the total level of outages in 2004 was the result of severe storms that hit Energex's network in January 2004.

**Figure 1: Average duration of outages per customer for the 12 months to end of quarter**

The total number of technical quality of supply complaints received by Energex decreased from 1,839 in 2005-06 to 1,504 in 2006-07. The main areas of complaints in 2006-07 related to minor voltage dips, which can cause flickering lights, and low supply voltage, which can cause light dimming and motor starting problems.

The average time taken to investigate and resolve these technical quality of supply complaints varied over the year but was still generally below the levels recorded in 2005-06.

Energex's performance against a range of customer service measures was mixed during 2006-07:

- the length of time that customers had to wait to speak to an operator when calling the call centre steadily improved during 2006-07 with the best performance on record for this measure of 16 seconds recorded in the June quarter 2007.
- the percentage of calls abandoned deteriorated slightly from 2.8 per cent in the June quarter 2006 to 3.0 per cent in the June quarter 2007.
- the proportion of customer appointments that were not met by Energex within 15 minutes of the agreed time spiked in the June quarter 2007 to 4.1 per cent, the worst result on record.
- the proportion of new connections that Energex failed to make by the agreed date spiked in the June quarter 2007 to 1.1 per cent, compared to 0.5 per cent in the June quarter 2006.
- the proportion of re-connections of supply that were not made on the agreed date generally improved during 2006-07 with the best performance on record for this measure recorded in March quarter 2007 when only 0.1 per cent of re-connections were not made by the agreed date.

## 2. FINANCIAL PERFORMANCE

This section summarises the financial performance of the revenue cap regulated business segment of Energex. The information is for the year ended 30 June 2007. The data used in the analysis has been drawn mainly from Energex's audited Regulatory Reporting Statements. These accounts were submitted in accordance with the Authority's *Electricity Distribution: Regulatory Reporting Guidelines*.

Areas of particular interest concerning Energex's overall financial performance are revenue, operating and maintenance expenditure, and capital expenditure. Energex's reported results on these components compared with the corresponding forecasts that were included in the 2005 Final Determination and the previous year's actual data are presented below. Detailed financial data for Energex is provided at Appendix A.

### 2.1 Revenue

#### *Under-/Over-Recovery of Distribution Revenue*

In the 2005 Final Determination, the Authority set a maximum revenue cap for each of the five years of the regulatory period for Energex. The maximum revenue cap allows Energex to earn a return on assets, plus an allowance for depreciation and operating and maintenance expenditure incurred in the delivery of prescribed distribution services.

The 2005 Final Determination revenue cap calculations included both Distribution Use of System (DUOS) Services and some non-DUOS service. These non-DUOS services include prescribed distribution services, such as temporary builders' services, that are related to the operation and use of the distribution system. These services typically account for less than 5 per cent of total services revenue. In the Authority's 2001 Final Determination, non-DUOS services were dealt with separately from the revenue cap calculations.

The 2005 Final Determination also provided for any differences between forecast and actual tax paid to be subject to an unders and overs process on an annual basis. In the 2001 Final Determination, any difference between forecast and actual tax paid was addressed in the next regulatory review period.

The Authority's 2005 Final Determination uses an "unders and overs" account for each DNSP to ensure compliance with the annual revenue caps. The unders and overs process compares actual revenue earned in the year against the annual revenue cap for that year as determined by the Authority (see Table 4).

**Table 4: Energex Aggregate Annual Revenue Requirement – 2006-07**

	<i>\$ million (nominal)</i>
Actual revenue earned during 2006-07	
Revenue from services	715.1
Revenue from capital contributions	<u>47.2</u>
Total	762.3
Allowable annual revenue	
Revenue from services	692.1
Revenue from capital contributions	<u>39.2</u>
Total	731.3
<b>Actual revenue earned less allowable revenue (a)</b>	<b>31.0</b>
Income tax paid	
Actual income tax paid	6.6
Allowance for income tax paid	6.5
<b>Actual income tax paid less allowance for income tax paid (b)</b>	<b>0.1</b>
<b>Over-recovery of AARR for 2006-07 (equals (a) – (b))</b>	<b>30.9</b>

Table 4 shows that Energex exceeded its 2006-07 AARR by \$30.9 million. This was comprised of over-recoveries of:

- \$23 million more revenue than forecast from the provision of services. Energex attributed this to higher than forecast demand for “Recoverable Works” (a non- DUOS service); and
- \$8 million more than forecast from capital contributions.

These increases were marginally offset by \$0.1 million higher than forecast income tax paid as a result of higher than forecast Group Operating Profit Before Tax.

The revenue over-recovery by Energex during 2006-07 will be rolled-forward and returned to all customers through lower distribution prices in future years.

#### *Under-/Over-Recovery of Transmission Use of System (TUOS) Charges*

TUOS charges are calculated by the distributors each year to pass-through to distribution customers the cost levied for the use of the transmission system. These costs primarily reflect Powerlink charges and payments to embedded generators. Electricity transmission charges are regulated by the Australian Energy Regulator (AER) and paid to Powerlink by distributors on behalf of customers.

The connection of an embedded generator to a distribution network reduces the amount of energy drawn from the transmission network. This in turn reduces the TUOS charge that the distributor has to pay the transmission network owner. However, the distributor passes through the full amount of these avoided TUOS payments to the embedded generator whose connection led to the reduction in TUOS payable.

The Authority approves TUOS charges, to be levied by the distributors, that allow them to recover the TUOS charges they have paid to Powerlink and avoided TUOS payments to embedded generators. Any difference between TUOS revenue recovered by distributors from customers and the charges they pay to Powerlink and embedded generators is recouped from, or returned to, customers through future charges.

**Table 5: Energex's TUOS Unders and Overs Account – 2006-07**

	<i>\$ million (nominal)</i>
TUOS charged by Powerlink	199.9
<i>plus</i> TUOS charged by Embedded Generators	0.9
<i>equals</i> Total TUOS charged	200.8
<i>less</i> actual TUOS revenue earned during 2006-07	194.5
<i>equals</i> <b>Under-recovery for 2006-07</b>	<b>6.3</b>

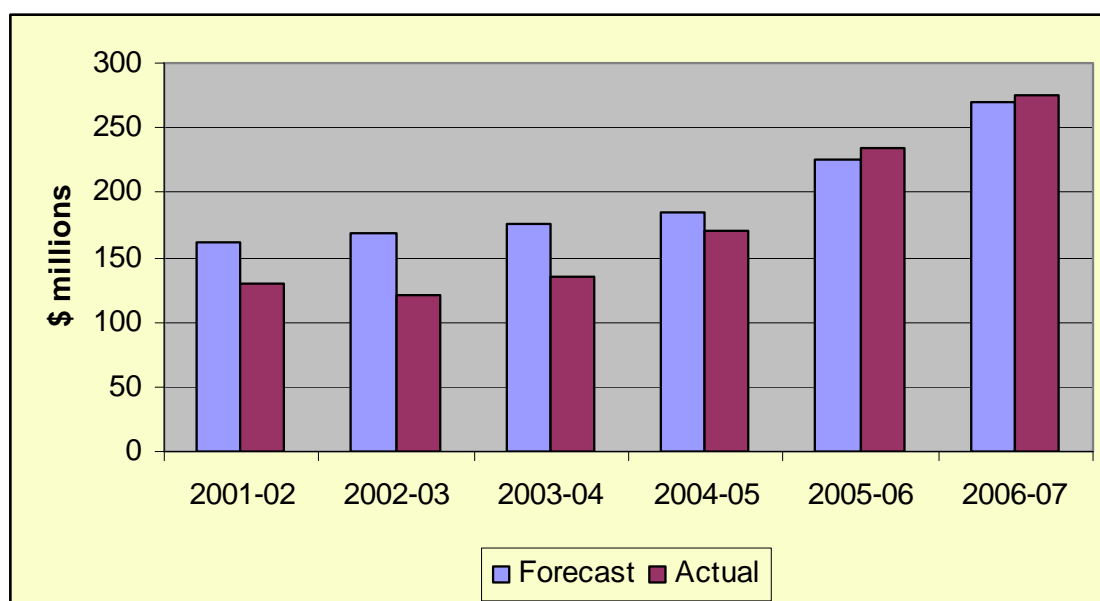
Table 5 indicates that TUOS charges to customers were less than TUOS payments to Powerlink and embedded generators by \$6.3 million during 2006-07. Energex will be allowed to recover this revenue shortfall from customers as part of its 2008-09 TUOS charges.

## 2.2 Operating and Maintenance Expenditure

The regulatory framework is designed to give the distribution businesses an incentive to increase their forecast return by improving operating efficiency. To this end, the distributors retain the benefit of any efficiency gain for the remainder of the regulatory period.

Figure 2 shows network operating and maintenance expenditure reported by Energex for 2001-02 to 2006-07, compared with that forecast at the time of the 2001 and 2005 Final Determinations.

**Figure 2: Energex operating and maintenance expenditure – 2001-02 to 2006-07**



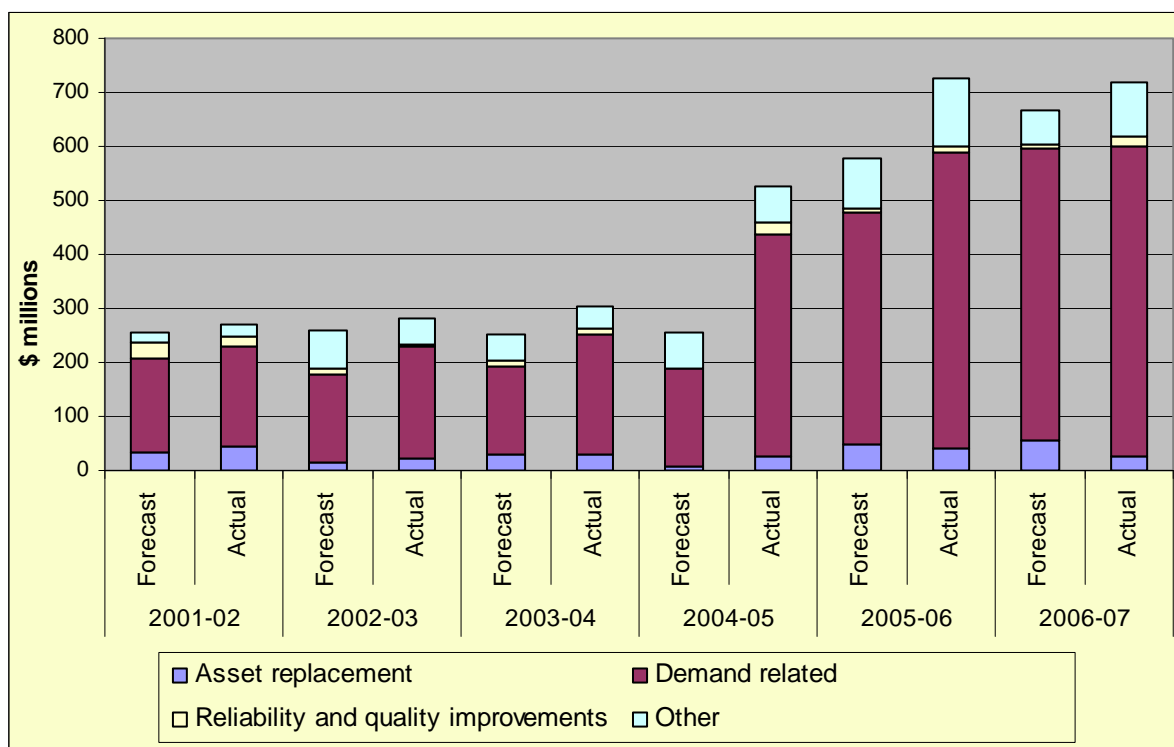
Energex’s operating and maintenance expenditure increased by \$40.4 million (17.3 per cent) during 2006-07 to be \$4 million (1.5 per cent) higher than forecast. The increase in expenditure reflected a number of factors, including higher than forecast expenditure on vegetation management, recoverable works, network operation and costs associated with the introduction of FRC.

This is the second year in a row that Energex’s operating and maintenance expenditure has exceeded its forecast expenditure. Apart from the costs associated with the introduction of FRC, the higher expenditure largely reflects Energex’s response to the Government’s EDSD Review, which reported in July 2004.

### 2.3 Capital Expenditure

Figure 3 shows network capital expenditure in aggregate and by purpose reported by Energex for 2001-02 to 2006-07, compared with the forecast capital expenditure included in the 2001 and 2005 Final Determinations.

**Figure 3: Energex capital expenditure – 2001-02 to 2006-07**



Energex’s capital expenditure has been significantly higher in the last three years compared with previous levels. This primarily reflects Energex’s response to the EDSD Review. In particular, the EDSD Review highlighted the extent of over-utilisation of the Energex network due to past underinvestment and the need to reduce utilisation to more sustainable levels. The Authority’s 2005 Final Determination concluded that a large quantity of capital expenditure was required to address this over-utilisation and cope with the expected future growth in electricity demand on the network.

Capital expenditure was \$51.3 million (7.7 per cent) higher than forecast during 2006-07. The higher capital expenditure reflected the following factors:

- demand-related capital expenditure was 6.0 per cent higher than forecast reflecting increased commercial and industrial customer activity and continued high levels of sub-division and high-rise building activity;
- reliability/quality improvement expenditure was 110.7 per cent higher than forecast as a result of increased expenditure on specialised programs to improve reliability and performance to meet minimum service standards. Programs included installation of re-closers, line fault indicators and protection upgrades; and
- other expenditure (primarily expenditure on non-system assets) was 56.3 per cent higher than forecast. Vehicle fleet expenditure of \$33.7 million was almost double that forecast (\$18.7 million), land and buildings expenditure of \$21.5 million was four times that forecast (\$5.2 million) and tools and equipment expenditure of \$18.3 million was over five times that forecast (\$3.4 million). Energex attributed the increased expenditure primarily to increased staff numbers required to complete the expanded program of capital works.

In addition, expenditure of \$4.9 million was incurred on non-system assets in relation to Project JET, a joint initiative of both Energex and Ergon Energy aimed at combining and integrating a number of administrative functions such as Asset Management, Works Management, Human Resources and Payroll, Finance, Health, Safety and Environment and Logistics.

The increases in capital expenditure were partially offset by lower than forecast expenditure in the asset replacement and “other” expenditure categories. This lower expenditure largely reflected delays in this work in order to undertake capital expenditure in higher priority areas such as demand related expenditure.

### 3. SERVICE QUALITY PERFORMANCE

This section summarises the service quality performance of the revenue cap regulated business segment of Energex. The information is for the year ended 30 June 2007 and is drawn from Energex's quarterly and annual service quality reports for 2006-07. These reports were submitted in accordance with the Authority's *Electricity Distribution: Service Quality Reporting Guidelines (Version 2.0)*.

The Authority commenced posting service quality reports provided by the DNSPs on its website with the September quarter 2002 reports (released February 2003). Due to the improved reporting requirements for service quality data incorporated in Version 2.0 of the Guidelines, historical information (prior to 1 July 2005) for some measures may not be directly comparable with more recent information.

The service quality measures the DNSPs are required to report against fall into three broad groups – reliability measures, quality of supply measures and customer service measures.

Reliability measures provide information about interruptions to electricity supply. Interruptions can occur because of problems with generation, transmission or distribution. Distribution interruptions may be planned or unplanned, and unplanned interruptions will at times be due to events that are beyond the control of the DNSPs, such as severe storms. A DNSP's performance is best indicated by the duration and frequency of planned and unplanned interruptions that are due to distribution network problems within the distributor's control; although lengthy and frequent interruptions due to other influences may indicate a need for improved risk management measures on the part of the distributors. Reliability data for worst performing feeders highlights pockets of the network where customers experience relatively poor service quality.

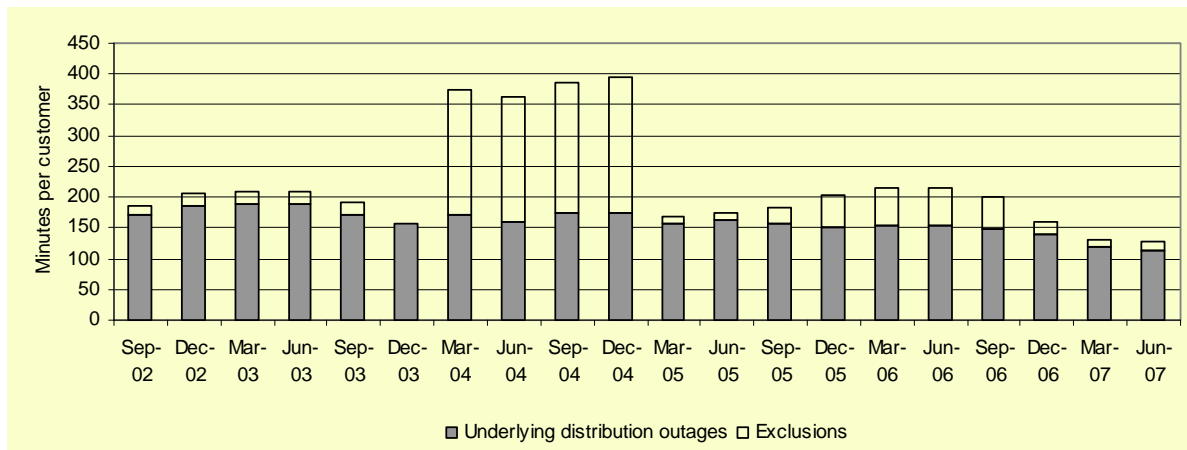
Quality of supply measures are intended to indicate problems with the nature of electricity supply, such as low or high voltage levels, based on customers reporting symptoms that are typically associated with such problems. For example, low supply voltage would be evidenced by complaints relating to light dimming or motor starting problems.

Customer service measures provide information about how customers' problems, enquiries and requests for services are handled.

#### 3.1 Reliability Measures

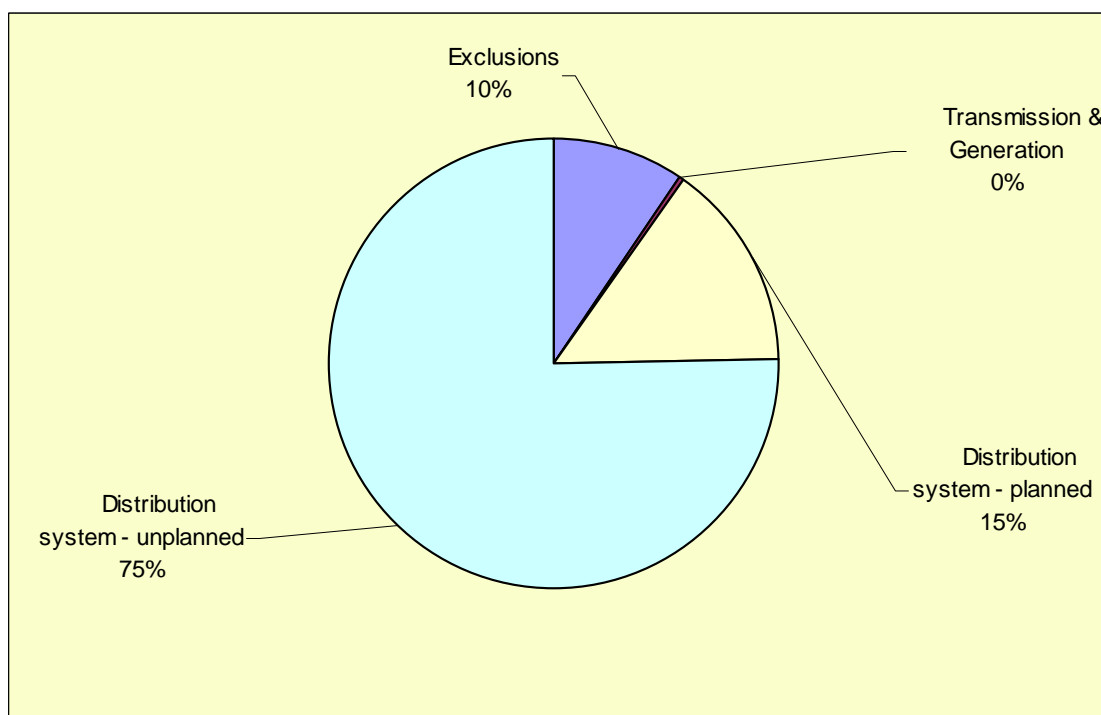
During 2006-07, Energex customers on average experienced 1.42 distribution-related interruptions leaving them without power for a total of 126.5 minutes. As shown in Figure 4, there was a gradual improvement in the duration of outages over the course of the year. The spike in the total level of outages in 2004 was the result of severe storms that hit Energex's network in January 2004.

**Figure 4: Average duration of outages per customer for the 12 months to end of quarter**



Unplanned interruptions arising in the distribution network (of which excluded weather-related events are a sub-component) accounted for most (85 per cent) of the average 126.5 minutes that Energex customers were without electricity supply during 2006-07, as shown in Figure 5. Planned interruptions in the distribution network accounted for the remaining 15 per cent of outages.

**Figure 5: Energex duration of interruptions during 2006-07, by source**



Interruptions arising in the distribution network after the removal of excluded events can be disaggregated according to geographic categories – that is, Central Business District (CBD), Urban and Short Rural.<sup>2</sup> As shown in Table 6, there were significant differences in the level of reliability across Energex’s network by geographic category. However, all customers experienced consistent reductions in the duration of interruptions during 2006-07.

<sup>2</sup> Energex does not have any feeders that meet the definition of Long Rural.

**Table 6: Energex duration of distribution-related interruptions by network type (minutes) after removal of exclusion events for the 12 months to end of quarter**

	<i>JUN 2006</i>	<i>SEP 2006</i>	<i>DEC 2006</i>	<i>MAR 2007</i>	<i>JUN 2007</i>
Total distribution system	154.8	149.5	138.4	119.9	114.3
CBD	3.9	3.7	1.5	0.1	0.0
Urban	103.8	99.7	98.1	88.5	80.2
Short Rural	306.4	294.4	253.7	203.7	202.7

*Quarter by Quarter Reliability*

As shown in Table 7, Energex's performance was significantly worse during the December and March quarters (the storm season). While the removal of excluded events smoothes these variations in reliability performance between quarters, it does not entirely remove seasonal fluctuations.

**Table 7: Energex average number and duration of distribution-related interruptions per customer**

	<i>SEP 2006</i>	<i>DEC 2006</i>	<i>MAR 2007</i>	<i>JUN 2007</i>
Average number of interruptions per customer (SAIFI) <b>before</b> excluded events	0.29	0.45	0.39	0.30
Average number of interruptions per customer (SAIFI) <b>after</b> excluded events	0.29	0.43	0.39	0.27
Average duration of each interruption (CAIDI) <b>before</b> excluded events - minutes	76.2	115.4	79.6	74.3
Average duration of each interruption (CAIDI) <b>after</b> excluded events - minutes	76.2	93.4	79.6	79.7
Duration of all interruptions per customer (SAIDI) <b>before</b> excluded events – minutes	21.7	52.3	31.1	21.7
Duration of all interruptions per customer (SAIDI) <b>after</b> excluded events – minutes	21.7	40.4	31.1	21.6

*Reliability of Worst Performing Feeders*

The reliability of Energex's worst performing feeders generally improved in 2006-07 compared to 2005-06, as shown in Table 8.

**Table 8: Energex range of average number and duration of distribution-related interruptions per customer for 10 worst performing feeders**

	2002-03	2003-04	2004-05	2005-06	2006-07
Average number of interruptions per customer (SAIFI) <b>before</b> excluded events					
Urban	3.0 – 9.8	1.6 – 9.0	1.3 – 6.6	1.1 – 10.0	1.0 - 6.0
Short Rural	3.2 – 11.9	3.7 – 13.6	4.1 – 10.7	4.4 – 13.6	3.7 - 11.6
Duration of all interruptions per customer (SAIDI) <b>before</b> excluded events – hours					
Urban	12.6 – 23.5	31.0 – 49.3	8.7 – 14.6	7.2 – 13.8	6.3 - 15.0
Short Rural	15.0 – 32.0	36.3 – 48.2	16.3 – 25.8	15.7 – 49.2	8.0 - 16.5

*Note - There are no feeders in the CBD as the network in this area is enmeshed.*

In 2006-07, Energex's 10 worst performing urban feeders supplied electricity to 12,229 customers, equivalent to 1.4 per cent of Energex's urban customer base. On average, these customers experienced between 1.0 and 6.0 distribution-related interruptions, without adjusting the data for exclusions, leaving them without power for between 6.3 hours and 15 hours. Only one of the worst performing urban feeders in 2006-07 was amongst the 10 worst performing feeders in 2005-06.

In 2006-07, Energex's 10 worst performing short rural feeders supplied electricity to 14,868 customers, equivalent to 4.8 per cent of Energex's short rural customer base. On average, these customers experienced between 3.7 and 11.6 distribution-related interruptions, without adjusting the data for exclusions, leaving them without power for between eight hours and 16.5 hours, the lowest range recorded to date. Only one of the worst performing short rural feeders in 2006-07 was amongst the 10 worst performing feeders in 2005-06.

### 3.2 Quality of Supply Measures

The total number of technical quality of supply complaints received by Energex decreased from 1,839 in 2005-06 to 1,504 in 2006-07, reflecting an improvement in Energex's quality of supply. As shown in Table 9, the majority of the complaints in 2006-07 were related to minor voltage dips, which can cause flickering lights, and low supply voltage, which can cause light dimming and motor starting problems.

**Table 9: Energex quality of supply complaints – categorised according to symptoms**

	<i>SEP 2006</i>	<i>DEC 2006</i>	<i>MAR 2007</i>	<i>JUN 2007</i>	<i>TOTAL</i>
Total quality of supply complaints	397	329	437	341	1,504
Voltage dips – minor	152	117	150	112	531
Low supply voltage	121	108	151	86	466
Voltage swell	74	66	71	97	308
TV or radio interference	34	25	36	34	129
Voltage dips – severe	6	0	0	0	6
Noises from appliances or lights	1	5	15	5	26
Voltage spike	9	8	14	7	38
Other complaints	0	0	0	0	0
Waveform distortion or unbalance	0	0	0	0	0

The average time taken to investigate and resolve a technical quality of supply complaint declined 44.4 per cent from an average of 39 days in June quarter 2006 to approximately 27 days in June quarter 2007.

As shown in Table 10, a majority of the technical quality of supply complaints in 2006-07 were caused by network initiated restrictions (for example, faulty network equipment, network interference by Energex), as in previous years.

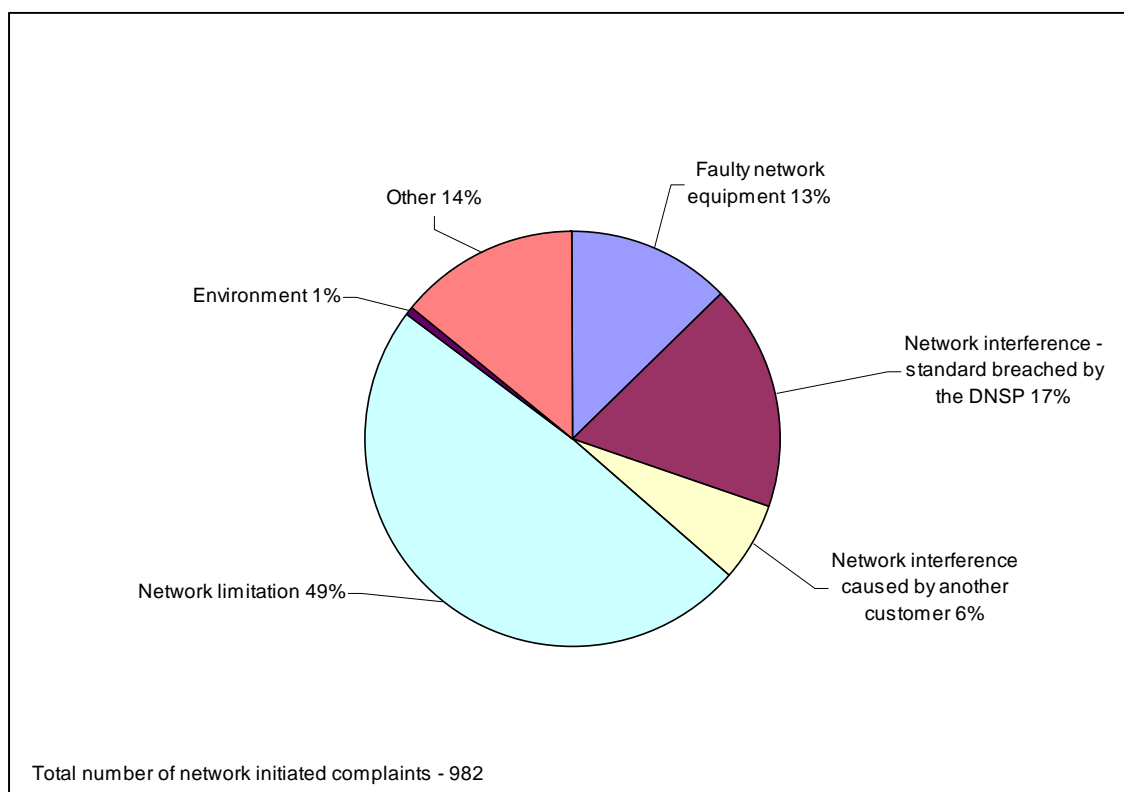
**Table 10: Energex quality of supply complaints – possible causes**

	<i>2003-04</i>	<i>2004-05</i>	<i>2005-06</i>	<i>2006-07</i>
Network initiated quality of supply complaints	1,479	1,134	1811	1544
Quality of supply complaints initiated on the customer side of the meter	243	294	210	206
Quality of supply complaints for which no cause was found	572	206	391	356

*Note – the summation of the above categories of possible causes for quality of supply complaints do not equal the total of the four quarterly quality of supply complaints as listed in Table 11 due to the removal of possible double entries and misclassified complaints.*

As shown in Figure 6, network-initiated complaints can be further broken down into sub-categories, of which limitations in the distribution network accounted for 49 per cent of the total. These are defined as problems which required Energex to invest in its network to resolve. For example, by increasing network capacity, upgrading plant or altering control settings.

Interference to the network arising from the operation of equipment by Energex (17 per cent) and faulty network equipment (13 per cent) explained most of the remaining network-related quality of supply complaints. There were no major changes in the composition of the network-initiated complaints in 2006-07.

**Figure 6: Energex – causes of network initiated quality of supply complaints**

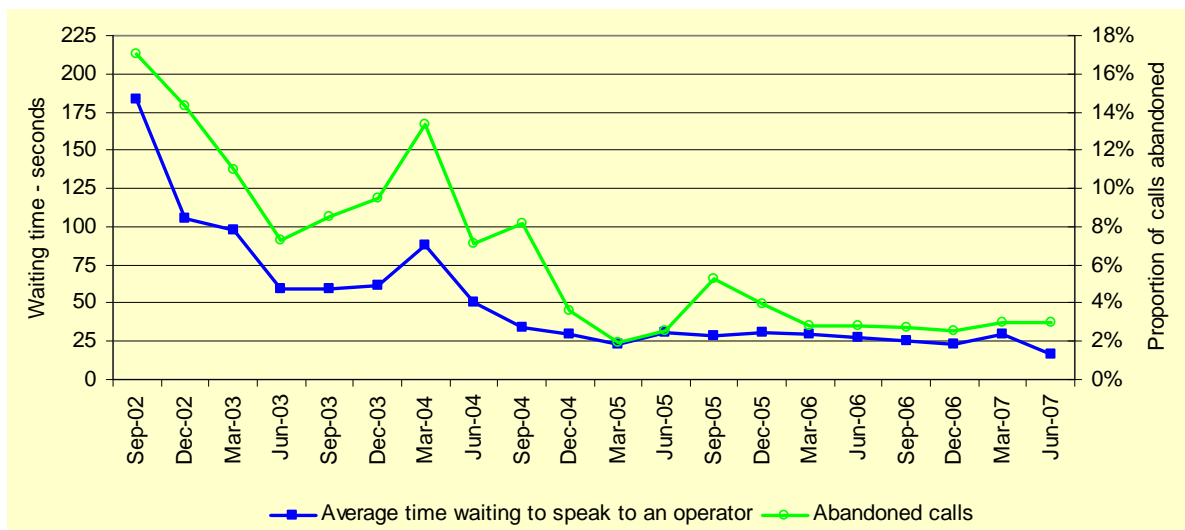
### 3.3 Customer Service Measures

Energex's performance against a range of customer service measures was mixed during 2006-07.

Figure 7 shows the length of time that Energex's customers had to wait, on average, to speak to an operator when calling the call centre in 2006-07. This measure showed steady improvement during 2006-07 with the best performance on record for this measure of 16 second recorded in the June quarter 2007. Prior to 2006-07, this measure had continually improved from 183 seconds recorded in the September quarter 2002, excepting a 'blip' in the March quarter 2004 related to the severe storms and outages that placed significant pressure on the call centre at that time

The percentage of calls abandoned deteriorated slightly from 2.8 per cent in the June quarter 2006 to 3.0 per cent in the June quarter 2007, as shown in Figure 7. However, this result still represents a significant improvement from the peak of 17 per cent of calls that were abandoned in the September quarter 2002. The improvement in this measure since the March quarter 2004 reflects measures taken by Energex to increase the capacity of its call centre following the congestion caused by the severe storms in the March quarter 2004.

**Figure 7: Energex average time waiting to speak to an operator and percentage of abandoned calls.**



As shown in Table 11, the number of complaints that Energex received regarding the reliability of supply in 2006-07 decreased significantly in the June quarter 2007, to a level close to the lowest on record (51 complaints), which occurred in the September quarter 2004. The number of reliability complaints is typically higher in the storm season quarters (December and March). However, because Energex changed the reporting of this measure in the March quarter 2005, historical comparisons are no longer reliable. The way Energex had previously been reporting complaints resulted in complaints being under-reported.

A new requirement of the Authority’s revised Service Quality Reporting Guidelines is the inclusion of complaints relating to momentary interruptions to supply as a sub-category of reliability complaints. This was the first year that Energex could provide a complete record of momentary interruption complaints, as shown in Table 11. The momentary interruption complaints are also included in the total number of reliability complaints.

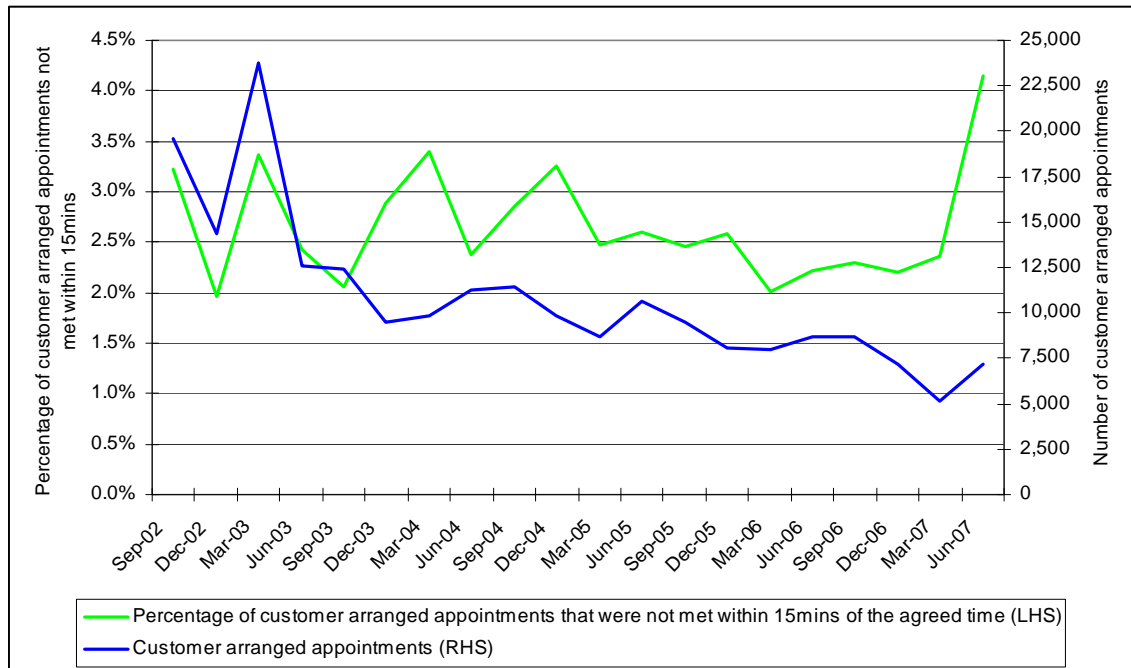
**Table 11: Energex number of reliability complaints**

	SEP 2006	DEC 2006	MAR 2007	JUN 2007	TOTAL
Number of reliability complaints	68	104	113	59	344
Momentary interruption complaints	4	13	12	6	35

Figure 8 shows fluctuations in the proportion of customer appointments that were not met by Energex within 15 minutes of the agreed time. There was a significant spike in the June quarter 2007 with the proportion of customer appointments not met within 15 minutes deteriorating to 4.1 per cent, the worst result on record. Energex advised that the increase was due to a new scheduling and despatch system being implemented at this time and the associated training of staff.

The total number of customer-arranged appointments also spiked in the June quarter 2007 (7,159), although this number was still below the total number of appointments in the June quarter 2006 (8,730) The number of customer-arranged appointments has generally declined over the past four years.

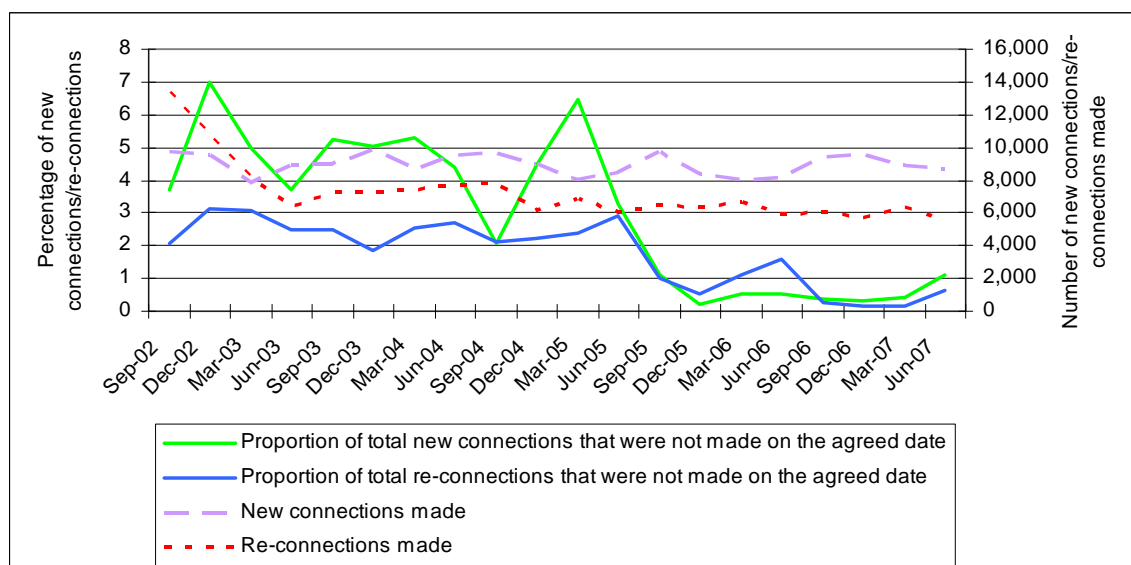
**Figure 8: Energex appointment punctuality**



As shown in Figure 9, the proportion of total new supply connections that Energex failed to make by the agreed date fell during the first three quarters of 2006-07 but recorded a steep rise to 1.1 per cent in the June quarter 2007. Despite the rise in the final quarter of 2006-07, the result for this measure was still near record best results.

While also increasing in the June quarter 2007, the proportion of total re-connections of supply that were not made on the agreed date generally improved during 2006-07. The best performance on record for this measure was recorded in March quarter 2007 when only 0.1 per cent of re-connections were not made by the agreed date.

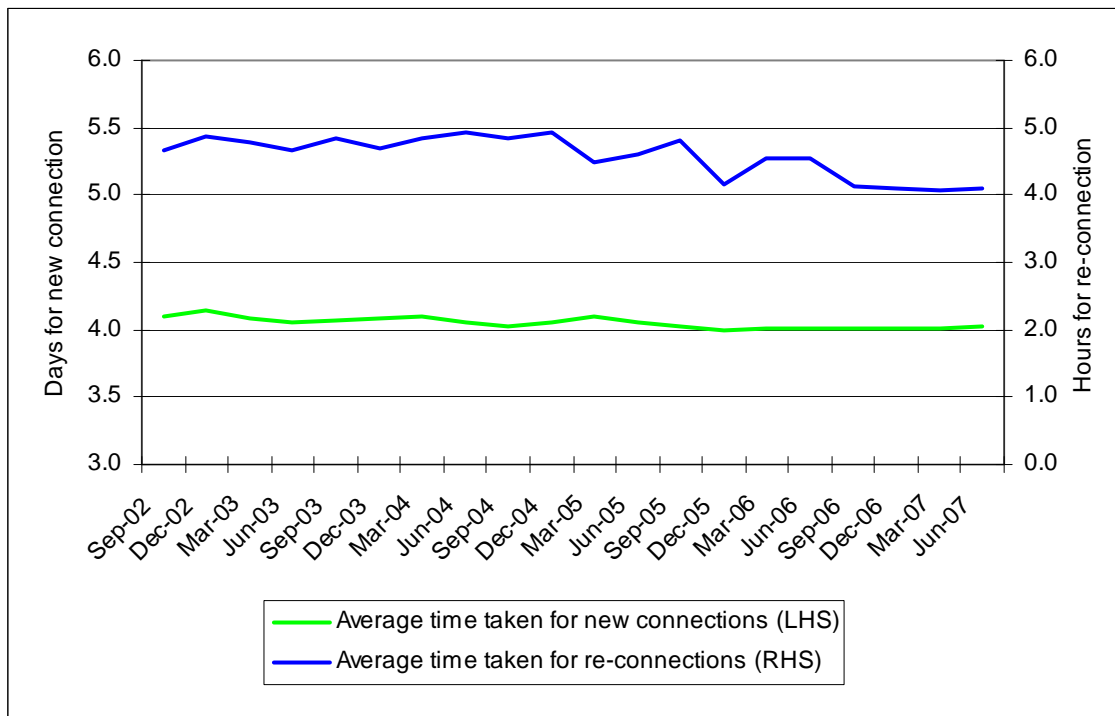
**Figure 9: Energex number of new and re-connections made, proportion of new connections and re-connections not made on the agreed date**



As shown in Figure 10, the average length of time that customers had to wait for a new connection to the network has varied little over the last five years, at around four days, despite significant variation in the number of new connections made (see Figure 9).

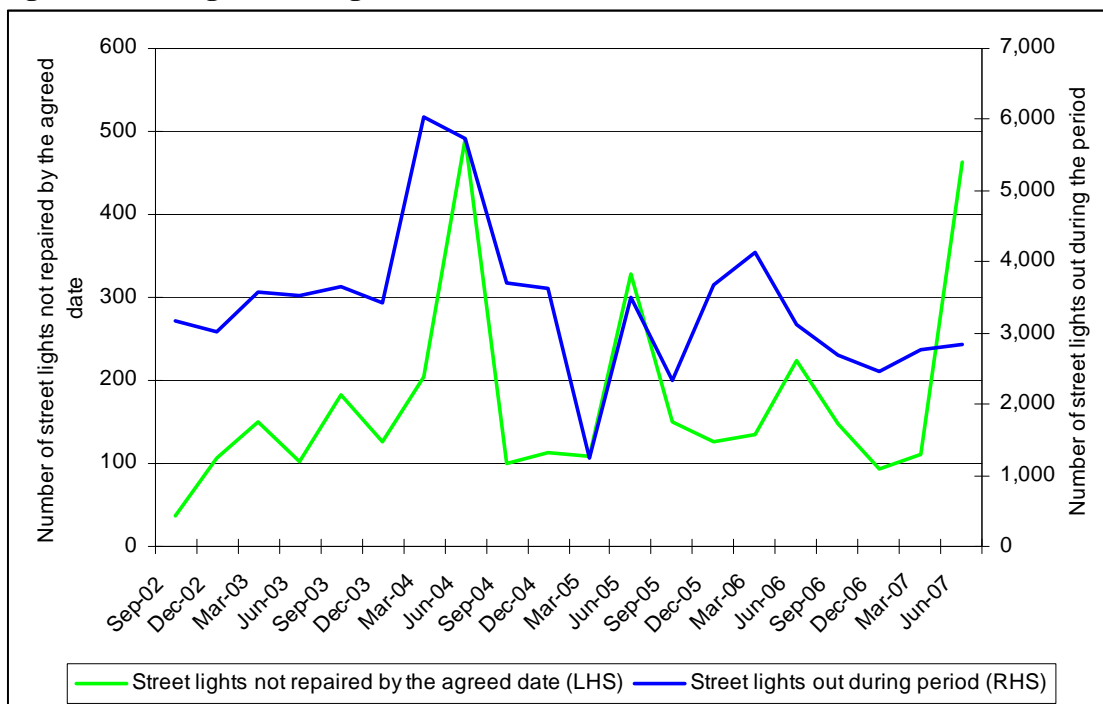
The average time that customers had to wait to be re-connected was also stable at 4.1 hours during 2006-07.

**Figure 10: Energex average time taken for new connections and re-connections**



The number of Energex’s street lights reported as being out has been quite variable, as shown in Figure 11. In 2006-07, the number of streetlights reported out was on average 19 per cent lower than in 2005-06. The number of street lights not repaired by the agreed date initially fell during 2006-07 but increased significantly in the June quarter 2007 during the winter period.

**Figure 11: Energex street light maintenance**



The average time taken to repair faulty street lights was four days in the June quarter 2007 compared to five days in the June quarter 2006. This measure has varied between three days and five days since reporting began under the Guidelines.

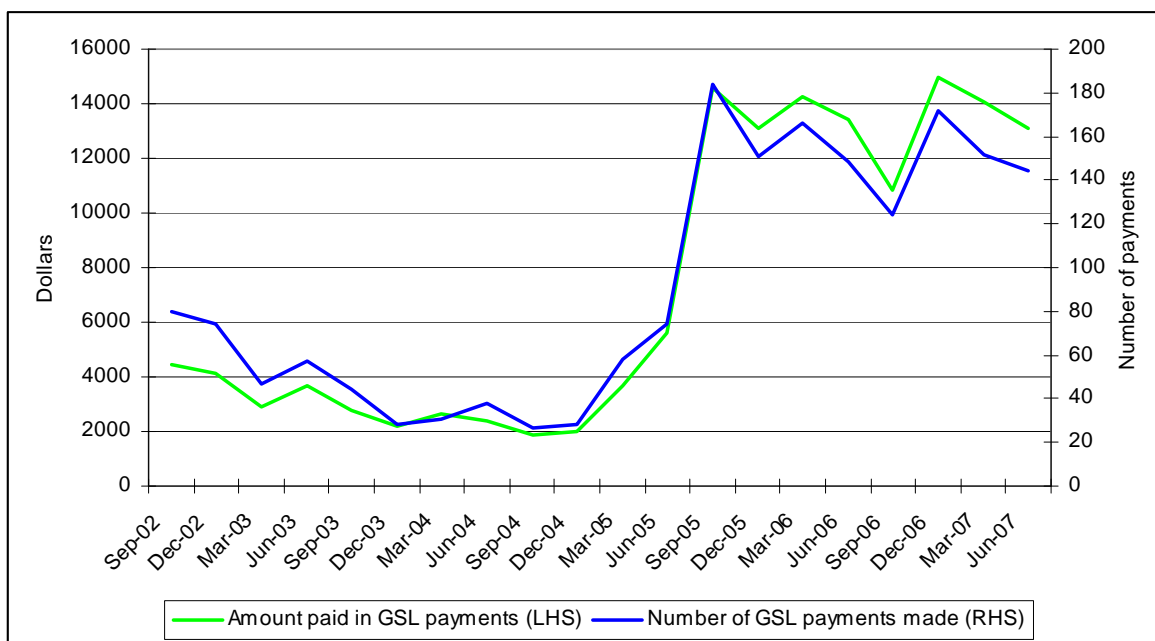
**Table 12: Energex average time taken to repair faulty street lights**

	JUN 2006	SEP 2006	DEC 2006	MAR 2007	JUN 2007
Average number of days taken to repair street lights	5	5	5	4	4

The number of Guaranteed Service Level (GSL) payments per quarter and the amounts paid for GSLs per quarter both fluctuated significantly during 2006-07 compared to 2005-06 (see Figure 12). The total number of GSL payments fell from 649 in 2005-06 to 592 in 2006-07, while the total amount of GSL payments fell from \$55,380 in 2005-06 to \$52,980 in 2006-07.

The rapid increase in quarterly GSL payments during 2005-06 was due to the introduction of a GSL scheme mandated by the Queensland Government from 1 January 2005. Prior to 1 January 2005, GSLs were voluntary payments made by the distributors to customers that reported instances where the distributors had not met self-imposed service quality standards.

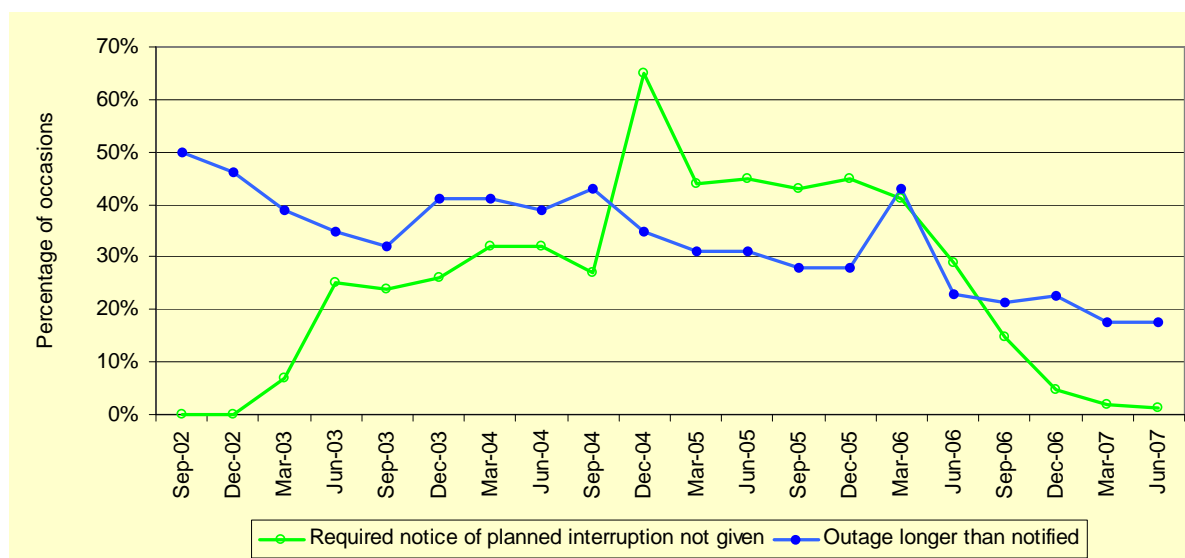
**Figure 12: Energex guaranteed service level payments**



The proportion of occasions on which the required notice of a planned interruption to supply was not given declined significantly during 2006-07 from 29 per cent in the June quarter 2006 to 1.4 per cent in the June quarter 2007 (see Figure 13). Energex stated that the large increase in this measure for the December quarter 2004 was due to problems it encountered after changing the process for recording planned interruptions.

The proportion of occasions on which the duration of a planned interruption exceeded the time specified in the notification was at a record low of 17.5 per cent during the March and June quarters of 2007 (see Figure 13).

**Figure 13: Energex notification of commencement and duration of planned interruptions**



The basis for reporting customer service complaints was changed in the Authority’s revised Service Quality Reporting Guidelines (August 2005). As a result, it is not possible to compare results from September quarter 2005 with earlier results. In addition, Energex commenced

reporting complaints about meter reading from the March quarter 2006. This caused another break in the series.

As shown in Table 13, meter reading complaints were the single biggest cause of complaints during 2006-07. The timeliness of service delivery and complaints regarding trees interfering with power lines were other important causes of complaints during 2006-07.

**Table 13: Energex complaint resolution – reasons for complaints**

	<i>SEP 2006</i>	<i>DEC 2006</i>	<i>MAR 2007</i>	<i>JUN 2007</i>	<i>TOTAL</i>
Total number of complaints	1,754	1,858	2,565	2,724	8,901
Meter reading complaints	889	937	1,607	1,721	5,154
Timeliness of service delivery	212	230	258	294	794
Trees	129	159	179	167	634
General complaints	119	150	159	144	572
Staff behaviour	101	108	89	153	451
Damage to property	112	114	92	101	419
Condition of worksite	79	64	82	47	272
Poles	25	34	36	20	115
Streetlights	20	24	29	24	97
Driving	29	20	16	24	89
Vehicles	26	12	13	20	71
Transformers	13	6	5	9	33

The percentage of complaints resolved within 20 days was 96.7 per cent during 2006-07. The average time taken to resolve complaints fell from three days in the June quarter 2006 to two days in the June quarter 2007.

The number of repeat complaints peaked at nine in the December quarter 2006 before dropping significantly to three in the June quarter 2007. The average time taken to resolve repeat complaints fluctuated over 2006-07, peaking in the December quarter 2006 at 22 days before declining to 13 days in the June quarter 2007.

## APPENDIX A

## FINANCIAL DATA TABLES – 2001-02 to 2006-07

Table A1: Aggregate financial information – Energex (\$ million (nominal))

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Revenue</b>						
Forecast sales	467.3	497.0	523.6	545.7	626.8*	692.1*
Actual sales	468.4	505.1	535.9	551.1	652.7*	715.1*
<b>Expenditure</b>						
Forecast operating and maintenance expenditure	161.7	168.9	176.4	184.2	225.9	270.5
Actual operating and maintenance expenditure						
Operating expenditure	49.7	15.1	13.0	19.2	70.5	85.4
Maintenance expenditure	80.5	105.9	122.4	151.0	163.6	189.1
Total	130.2	121.0	135.4	170.2	234.1	274.5
Forecast depreciation	157.0	165.3	173.1	179.9	225.9	240.8
Actual depreciation	130.6	156.7	163.7	167.6	211.1	235.4
Total expenditure (forecast)	318.7	334.2	349.5	364.1	451.8	511.3
Total expenditure (actual)	260.8	277.7	299.1	337.8	445.2	509.9
<b>Customer contributions</b>						
Forecast	23.3	24.0	24.6	25.1	35.9	39.2
Actual	23.9	24.8	45.8	40.8	38.8	47.2
<b>Tax paid</b>						
Forecast					7.6	6.5
Actual					24.0	6.6
<b>Capital expenditure</b>						
Forecast	254.3	257.9	253.3	256.0	578.7	667.6
Actual	270.6	281.7	302.9	526.5	725.0	718.9
<b>Fixed assets</b>						
Forecast	3,020.4	3,176.7	3,323.8	3,469.7	4,823.6	5,424.6
Actual	2,977.6	3,169.9	3,313.3	4,371.9	5,022.8	5,608.4
<b>Energy Sales (million MWh)</b>						
Actual	17.2	17.8	19.0	19.7	20.8	21.1
<b>Number of customers</b>						
Actual	1,105,100	1,129,940	1,160,112	1,190,237	1,217,193	1,248,510

\* Includes network and non-network services

**Table A2: Revenue – Energex (\$ million (nominal))**

<i>Revenue source*</i>	<i>2001-02</i>	<i>2002-03</i>	<i>2003-04</i>	<i>2004-05</i>	<i>2005-06</i>	<i>2006-07</i>
Sales						
Network services (excl public lighting)	468.4	505.1	515.0	531.6	607.5	658.4
Public lighting	n/a	n/a	20.9	19.5	25.2	29.1
Total network services	468.4	505.1	535.9	551.1	632.7	687.5
TUOS pass-through	126.0	160.0	166.0	175.0	187.0	194.5
Non Network Services	9.4	14.2	11.7	7.7	20.0	27.6
Total services	603.8	679.3	713.6	733.8	839.7	
Capital contributions	23.9	24.8	45.8	40.8	38.8	47.2
Profit from sale of assets	1.1	1.2	0.4	(0.6)	0.2	1.0
Proceeds from sale of assets	6.3	12.9	6.5	3.7	5.0	9.6
Book value of assets sold	5.2	11.7	6.1	4.3	4.8	8.6
Other revenue	2.3	2.4	2.1	1.7	2.2	16.8

\* *May not sum due to rounding.*

**Table A3: Operating and maintenance expenditure - Energex (\$ million (nominal))**

<b><i>Expenditure*</i></b>	
Operating expenditure	
Meter reading	12.0
Customer service	10.8
Advertising and marketing	2.4
Full retail contestability	3.2
Other –	
Network Operations	17.8
Recoverable works	27.1
Other	13.1
Total	85.4
Public street lighting	0
Total operating expenditure	85.4
Network maintenance expenditure	
Inspection	17.3
Maintenance and repair	92.7
Vegetation management	64.3
Emergency Response	4.3
Other	0
Total	178.5
Public street lighting	10.5
Total maintenance expenditure	189.1
<b>Total operating and maintenance expenditure</b>	<b>274.5</b>

\* *May not sum due to rounding.*

**Table A4: Depreciation – Energex (\$ million (nominal))**

<i>Asset*</i>	
System Assets:	
overhead sub-transmission lines	10.5
underground sub-transmission lines	17.7
overhead distribution lines	29.3
underground distribution lines	23.4
distribution equipment	4.8
substation bays	15.6
substation establishment	2.5
substation switchgear	0.4
zone transformers	10.3
distribution transformers	23.5
low voltage services	4.9
meters	9.2
communications	2.0
street lighting	21.6
buildings	4.3
easements	0
land	0
Non-System Assets:	
communications	0.1
control centre -SCADA	4.0
IT systems	24.6
office furniture and equipment	0.4
motor vehicles	22.9
research and development	0
buildings	1.4
easements	0
land	0
<b>Total</b>	<b>233.3</b>

\* May not sum due to rounding.

**Table A5: Expected and remaining lives of assets - Energex**

<i>Asset</i>	<i>Expected weighted average economic life (weighted by optimised replacement cost (ORC)) (years)</i>	<i>Weighted average remaining economic life (weighted by ORC) (years)</i>
System Assets:		
overhead sub-transmission lines	41	31
underground sub-transmission lines	53	41
overhead distribution lines	35	26
underground distribution lines	61	50
distribution equipment	35	30
substation bays	43	33
substation establishment	37	29
substation switchgear	40	30
zone transformers	40	34
distribution transformers	35	27
low voltage services	35	29
meters	25	17
communications	29	24
street lighting	20	14
buildings	40	37
easements	-	-
land	-	-
Non-System Assets:		
communications	7	5
control centre -SCADA	12	3
IT systems	5	3
office furniture and equipment	7	4
motor vehicles	8	7
research and development	5	0
buildings	40	34
easements	-	-
land	-	-

**Table A6: Asset values – Energex (\$ million (nominal))**

<i>Asset*</i>	
System Assets:	
overhead sub-transmission lines	239.2
underground sub-transmission lines	388.3
overhead distribution lines	770.6
underground distribution lines	1,156,164
distribution equipment	75,429
substation bays	483.3
substation establishment	74.5
substation switchgear	11.0
zone transformers	303.9
distribution transformers	719.5
low voltage services	137.9
meters	128.9
communications	25.9
street lighting	242.1
buildings	167.3
easements	75.7
land	146.9
Non-System Assets:	
communications	0.2
control centre -SCADA	8.6
IT systems	27.6
office furniture and equipment	0.7
motor vehicles	115.5
research and development	0
buildings	50.4
easements	0
land	29.6
Work in progress	229.2
<b>Total</b>	<b>5,608.4</b>

\* *May not sum due to rounding.*

**Table A7: Capital Expenditure and additions – Energex (\$ million (nominal))**

<i>Capital expenditure*</i>	
System Assets:	
overhead sub-transmission lines	22.7
underground sub-transmission lines	77.1
overhead distribution lines	83.8
underground distribution lines	144.5
distribution equipment	12.5
substation bays	37.6
substation establishment	12.7
substation switchgear	2.5
zone transformers	49.9
distribution transformers	82.9
low voltage services	44.8
meters	0.3
communications	1.6
street lighting	20.5
buildings	15.2
easements	1.5
land	14.0
Non-System Assets:	
communications	0
control centre -SCADA	0
IT systems	20.8
office furniture and equipment	0.3
motor vehicles	52.0
research and development	0
buildings	21.5
easements	0
land	0
<b>Total</b>	<b>718.9</b>

\* May not sum due to rounding.

**Table A8: Capital expenditure by purpose – Energex (\$ million (nominal))**

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<i>Capital expenditure</i>	
Asset replacement	27.6
Demand related	572.5
Reliability and quality improvements	17.7
Other	101.1
<b>Total</b>	<b>718.9</b>

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**Table A9: Related party transactions – Energex (\$ million (nominal))**

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<i>Transaction</i>	
Total value of related party transactions	23.9

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