AUSTRALIAN ENERGY REGULATOR

Transmission Network Service Providers

Electricity Regulatory Report for 2006/07

August 2008

TNSP Electricity Regulatory Report 2006/07

Foreword

The role of the Australian Energy Regulator

The Australian Energy Regulator (AER) was established on 1 July 2005, as part of the energy reform process undertaken by the Ministerial Council on Energy (MCE). The purpose of establishing a single national energy regulator is to reduce regulatory costs and uncertainty to business, and to allow both the gas and electricity markets to develop, as much as possible, within a consistent regulatory framework.

The AER is responsible for regulating the revenues associated with the non-contestable elements of the electricity transmission services provided by transmission network service providers (TNSPs) in the National Electricity Market (NEM). The AER also has responsibility for monitoring the electricity wholesale market, including responsibility for monitoring and reporting on compliance and enforcing the National Electricity Law (NEL) and the National Electricity Rules (NER).

In 2008, the AER formally assumed responsibility for the economic regulation of electricity distribution. This will begin with the determination of revenues and prices for NSW and ACT distribution businesses for the 2009-14 period, the review of which will commence in mid 2008. In future years, the AER will extend its current transmission reports to also encompass the performance of DNSPs. The responsibility for gas transmission and gas distribution transferred to the AER, with the enactment of the new National Gas law and National Gas Rules, on 1 July 2008.

This report

This report covers the performance of nine TNSPs for the 2006/07 regulatory year: ElectraNet, EnergyAustralia, Murraylink, Directlink, Powerlink, SP AusNet, Transend, TransGrid and VENCorp.

The report provides an overview of the operating environment of the transmission businesses and summarises their performance against the financial assumptions and service standards underlying their respective revenue determinations.

While caution should be exercised in drawing conclusions from a single year's data, there are some emerging trends after five years of reporting TNSP performance:

- capital expenditure – aggregate actual spending over the past five years was close to $3.2 billion and was almost 23 per cent higher than forecast for 2006/07.

- value of networks – reflecting this continued investment in infrastructure, the aggregate value of the TNSPs' regulatory assets now stands at almost $11.7 billion.

- operating and maintenance expenditure – TNSPs have been spending close to forecast levels with aggregate spending over the past five years approaching $1.8 billion and marginally below that forecast in the AER's revenue determinations

- service standards – most TNSPs continue to exceed the reliability standards specified in their revenue determinations, with incentive payments totalling almost $3.9 million for the 2006 calendar year.

Feedback

I hope that this report will provide interested parties with information to enable critical evaluation of TNSPs' performance under their existing revenue determinations. I encourage you to read this report and provide feedback to the AER.

Steve Edwell
Chairman

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Glossary

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
EBIT	earnings before interest and taxes
GWh	Gigawatt hours
IRG	Information Requirements Guidelines
kV	kilovolt
MAR	maximum allowed revenue
MCC	Marginal Cost of Constraints
MW	Megawatts
MWh	Megawatt hour
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
NER	National Electricity Rules
NPAT	net profit after taxes
opex	operating and maintenance expenditure
PI Scheme	performance incentive scheme
PS	prescribed services
RAB	regulatory asset base
Regulatory compendium	*Compendium of Electricity Transmission Regulatory Guidelines*, AER, August 2005
SKM	Sinclair Knight Merz
SRP	*Statement of Principles for the Regulation of Electricity Transmission Revenues*, ACCC, December 2004
TCC	Total Cost of Constraints
TNSP	transmission network service provider

Summary

The objective of this report is to review the performance of TNSPs regulated by the AER and provide stakeholders with access to comparative data on the financial performance of TNSPs, including comparisons with the forecasts incorporated in the regulatory revenue determination decisions.

Information regarding the following TNSPs is included in this report:

- ElectraNet
- EnergyAustralia
- Powerlink
- SP AusNet
- Transend
- TransGrid
- VENCorp
- Murraylink
- Directlink.

Transmission network services providers including interconnectors Murraylink and Directlink regulated by the AER are required to provide certified annual statements containing details of their financial performance. This information is submitted in accordance with the AER's Information Requirements Guidelines[1].

Service quality information is submitted in accordance with the AER's Service Standards Guidelines. The AER has so far applied the service standards regime to seven transmission entities. The 2007 calendar year will be the first year that the AER's service standards regime applies to Powerlink. SP AusNet and ElectraNet have participated since the 2003 calendar year, while TransGrid, EnergyAustralia, Transend and Murraylink have participated since the 2004 calendar year.

[1] Note these guidelines (as well as the service standard guidelines) have now been superseded because of the new chapter 6A of the NER. This report has been largely compiled using these previous guidelines as they applied to the 2006-07 reporting year.

This report is structured as follows:

- Chapter 1 overviews the AER's methodology for setting revenue determinations and its information gathering functions under the NER.
- Chapter 2 describes the physical characteristics of each TNSP's network.
- Chapter 3 sets out the industry's overall performance and each TNSP's financial performance.
- Chapter 4 provides details of each TNSPs' maximum allowed revenue.
- Chapters 5 and 6 overview capital expenditure (capex) and operating expenditure (opex) including information on variations between actual expenditure and that forecast in the TNSPs' revenue determinations.
- Chapter 7 sets out information on service standards for the TNSPs.

Revenue determination outcomes

Table A compares the actual revenue and expenditure outcomes against the forecast maximum allowed revenue (MAR), which mainly reflects opex and capex allowances in the TNSPs' revenue determination decisions. The summary figures are presented to provide an overall view of the average variations from forecast amounts. However, the outcomes for individual TNSPs may differ markedly from the average due to the influence of regional factors, and should be assessed in that context. In addition, these individual variations do not necessarily raise regulatory concerns provided they do not constitute systemic under or over-spending, and should be examined over the full five year period of the revenue determination for each TNSP before any conclusions are drawn.

Table A: **TNSPs' revenue determination outcomes, 2006/07**

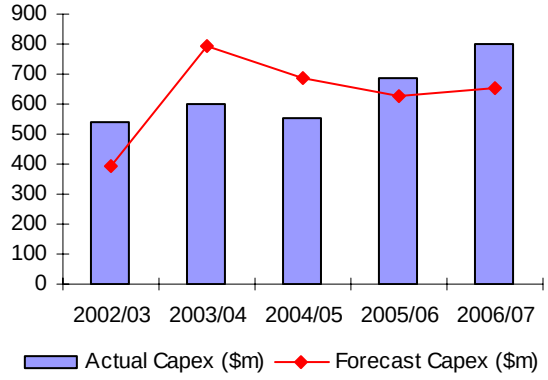
	Actual $m	Forecast $m	Difference $m	%
Revenue*	1733.7	1710.9	22.8	1.3
Opex**	415.7	428.4	-12.7	-3.0
Capex*	797.6	650.5	147.1	22.6

Source: 2006/07 Regulatory Accounts and the ACCC's/AER's revenue determination decisions.
*Aggregate figures exclude VENCorp

**Excludes grid support

Figures A and B illustrate the TNSPs' aggregate actual capex and opex (in real terms) against the forecasts contained in their revenue determinations.

Figure A: **Aggregate actual and forecast capex, 2002/03 – 2006/07***

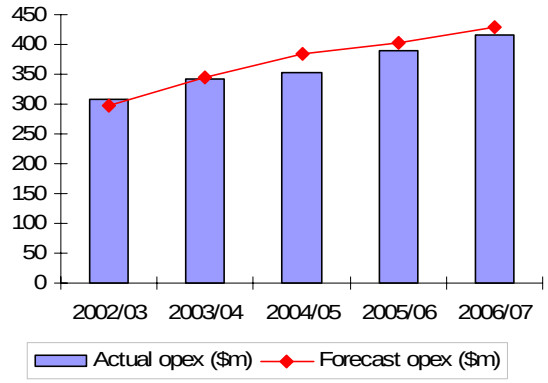


*Transend commenced reporting data for inclusion in this report from 2003/04. Murraylink and Directlink do not have a capex allowance in their revenue determination.

Figure A shows that actual aggregate capex was greater than forecast for the last two financial years. Over the past five years aggregate actual capex has exceeded $3.2 billion (real terms 2006/07) as TNSPs upgrade and extend their networks to meet demand and reliability requirements.

In addition, figure A shows that actual aggregate capex was 22.6 per cent above forecast capex for the 2006-07 financial year. This was 12.7 per cent higher than the previous financial year. Each TNSP's contribution to the overall difference is discussed in Chapter 5.

Figure B: **Aggregate actual and forecast opex, 2002/03 – 2006/07***



*Transend commenced reporting data for inclusion in this report from 2003/04. Murraylink commenced reporting data from 2004/05. Opex figures exclude grid support.

Figure B shows that aggregate actual opex was 3.5 per cent lower than forecast in 2006/07. However, some TNSP's opex varied substantially from the amount forecast in their revenue determinations, and this is discussed further in Chapter 6.

Table B compares the TNSPs' capex and opex as a percentage of their regulatory asset base (RAB). The data demonstrates that expenditure as a percentage of RAB varied amongst the TNSPs, particularly the capex ratio. These variances may be explained by key drivers of expenditure such as load growth and the ageing of assets which can vary significantly among individual TNSPs. The differences in the network characteristics of individual TNSPs is discussed in further detail in Chapter 2.

Table B: **TNSP expenditure as a proportion of RAB 2006/07**

	Average RAB ($m)	Opex/Average RAB Ratio* (%)	Capex/Average RAB Ratio** (%)
ElectraNet	1,032.4	4.6	7.5
EnergyAustralia	617.1	4.5	6.4
Powerlink	3,164.5	3.5	8.2
SP AusNet	1,995.8	3.0	5.5
Transend	728.3	5.1	13.4
TransGrid	3,684.3	3.3	5.8
Murraylink	121.7	3.0	-
Directlink	111.1	2.5	-

*Opex/Ave RAB Ratios for ElectraNet, Powerlink and Transend exclude grid support. Opex/Ave RAB ratio for
SP AusNet does not include network planning which is undertaken in Victoria by VENCorp.
**Due to the regulatory arrangements in Victoria, SP AusNet's capex does not include augmentation work. VENCorp does not have a RAB as it does not own transmission assets. Murraylink and Directlink do not have a capex allowance as part of their revenue determination.

A detailed summary of each TNSP's performance financial outcome for the 2006/07 financial year can be found in Appendix A.

Service standards performance

The service performance regime is aimed at deterring TNSPs from cutting costs that would reduce service standards. The service standards guidelines are forward-looking and use targets based on historical performance to compare future performance by a TNSP within a regulatory period. Following the measurement of performance against established targets, a TNSP's MAR can be adjusted by the prescribed amount. Therefore, the service standard guidelines provide TNSPs with a financial incentive to improve service performance and financial penalties for deterioration in service performance. These financial incentives and penalties affect the TNSP's annual revenue calculation.

During 2006, the AER conducted its fourth service standards compliance review. The AER engaged PB Associates to audit the performance reports provided by EnergyAustralia and Sinclair Knight Merz (SKM) to audit the performance reports provided by all remaining TNSPs. This review included seven TNSPs. Powerlink was not included as it does not commence reporting performance against its service standards until 1 July 2007.

Figure and table C shows the financial incentive based on performance outcomes for each relevant TNSP for the 2003, 2004, 2005 and 2006 calendar years.

Figure C: **Performance incentive/penalties outcomes 2006**

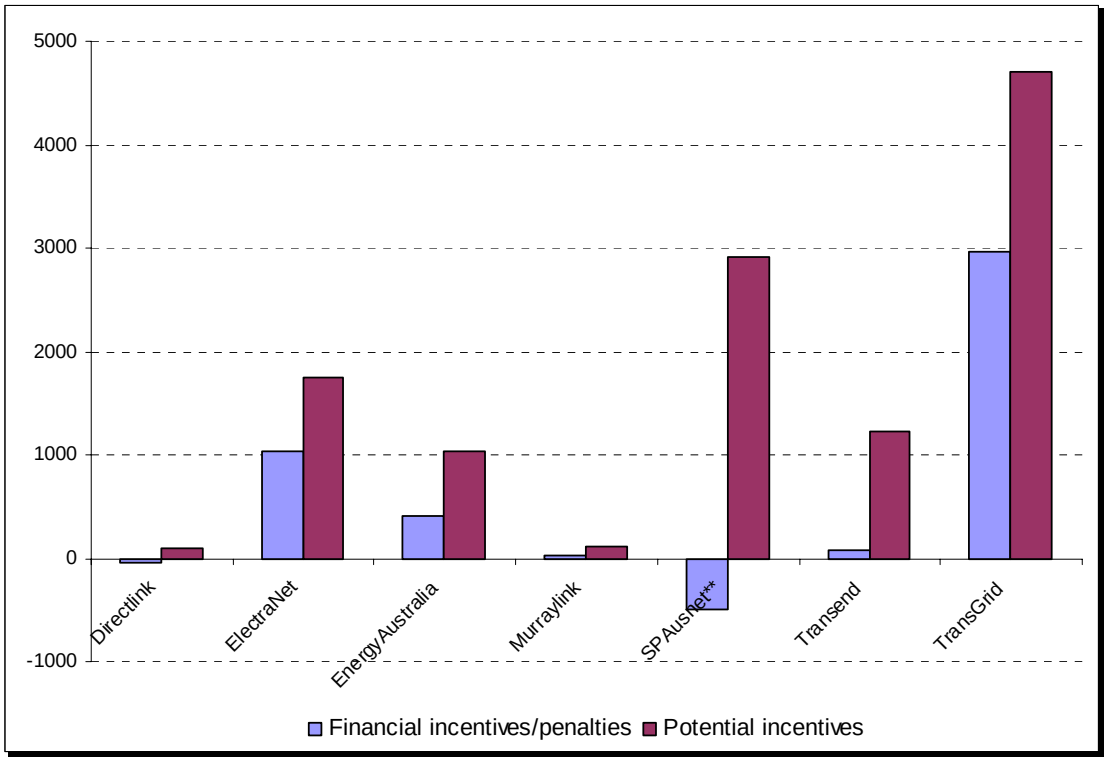


Table C: **Financial Incentives/penalties for 2003 – 2006**

	2006 calendar year ($000s)	2006 s-factor* %	2005 calendar year ($000s)	2005 s-factor* %	2004 calendar year ($000s)	2004 s-factor* %	2003 calendar year ($000s)	2003 s-factor* %
Directlink	-49.7	-0.54	n/a	n/a	n/a	n/a	n/a	n/a
ElectraNet	1,028.4	0.59	1,168.9	0.71	997.7	0.63	1,118.7	0.74
EnergyAustralia	400.6	0.39	637.5	0.67	456.4	1.00	n/a	n/a
Murraylink	22.8	0.21	-19.6	-0.15	-87.8	-0.80	n/a	n/a
SPAusNet**	-496.3	-0.17	272.7	0.09	609.8	0.22	-75.0	-0.03
Transend	73.5	0.06	207.6	0.19	573.9	0.55	n/a	n/a
TransGrid	2,966.2	0.63	3,115.0	0.70	2,007.3	0.93	n/a	n/a

*Financial incentives are capped at ± 1.0% of each TNSP's MAR for that year, except in the case of SP AusNet. For example, an s-factor of 0.50 would result in a financial incentive of 0.5% of the TNSP's MAR, or half of the potential maximum financial incentive available under the PI Scheme.

**SP AusNet's financial incentive for the 2003-2008 regulatory control period is capped at + 0.5% of its MAR, as SP AusNet is also required to comply with the Victorian Government's performance incentive regime administered by VENCorp.

A detailed summary of each TNSPs performance outcome for the 2006 calendar year can be found in Appendix B. Complete TNSP performance reports for 2003 – 2006 (for participating TNSPs) can be found on the AER website (www.aer.gov.au).

1 Introduction

1.1 Scope of the report

This report provides stakeholders and interested parties with information and comparative data on expenditure and service levels of TNSPs. In particular, it details overall financial performance, capex and opex outcomes and service standards performance. A comparison of the financial and operational performance levels achieved by the TNSPs must allow for basic differences between networks such as the diverse geographical and other environmental factors.

The AER's objective in monitoring and publishing the performance of TNSPs is to increase accountability for performance through greater transparency. In particular, the AER considers that there are significant benefits in publishing information it collects, including:

- facilitating informed public input into future decisions by the AER
- allowing public scrutiny of performance against revenue determinations
- enhancing transparency of the regulatory process and the outcomes that are generated.

The AER is aware that there are valid confidentiality concerns held by TNSPs which must be recognised. These concerns have been assessed against the overall benefits of publication. TNSPs have all been given the opportunity to comment on the information shown in this report, and have given their permission for the information to be published.

1.2 Sources of information

The report draws upon information from the following sources:

- annual regulatory financial statements and service standards data provided by the TNSPs in accordance with the AER's Information Guidelines
- revenue determination applications made by the TNSPs
- annual statutory reports and reviews published by the TNSPs
- current revenue determinations made by the AER (and previously by the ACCC).

1.3 The AER's role

The AER is responsible for the economic regulation of networks as well as compliance monitoring, reporting and enforcement in the NEM. In carrying out these functions, the AER collects a wide range of regulatory, financial and operational information from TNSPs each year. This is done for a variety of reasons, including:

- monitoring compliance with revenue determinations
- identifying cross-subsidisation of costs between the regulated and unregulated parts of the TNSP's business
- using the information as an input for setting future revenue determinations
- monitoring performance against the performance incentive scheme
- assessing whether the national electricity objective is being achieved through regulation and the revenue determination in particular.

1.4 Collection of data under the information requirements guidelines

TNSPs are required to submit certified annual financial statements to the AER accordance with the AER's Information Requirements Guidelines (IRG). The IRG contain information templates which provide the source data for this report.

The types of information collected may be categorised as:

- Financial information – mainly sourced from the TNSP's income statement and balance sheet prepared in accordance with the relevant accounting standards. This information is presented in Chapter 3 and Appendix A of the report and has been submitted by TNSPs in accordance with the AER's guidelines. While the AER's PTRM will provide much of the ongoing data for future revenue determinations, this information is useful in providing a general guide for assessing progress in achieving the national electricity objective between regulatory reviews, and identifying areas of interest that may need to be explored during upcoming revenue determination processes
- Revenue determination related information – actual revenue, opex and capex outcomes are gathered and compared to the underlying forecasts contained in the TNSP's revenue determination (adjusted for actual CPI) made by the ACCC/AER. This information is presented in Chapters 4, 5 and 6 of the report. TNSPs are able to comment on the reasons for any variances between actual and forecast figures.

This information should be read as a whole and, when combined with the service standards data in the report, is intended to present an overall picture of the TNSPs' performance.

1.5 Presentation of data

The following points should be taken into account when considering the data presented in this report:

- Capex - there are two alternatives under which capex data may be reported by TNSPs:

  - on an as-commissioned basis: the expenditure is not reported until the project is completed or commissioned (i.e. in operation) or
  - on an as-incurred basis: the expenditure is reported on a progressive basis as it is made or incurred by the TNSP.

- Opex – some TNSPs' opex allowances include an amount for network or grid support. Grid support figures are shown separately from opex in the report as it is essentially a substitute for capex and volatile in nature. This change enhances the comparability of TNSPs' opex outcomes.

- Forecast figures – throughout the report, where forecast figures are compared with actual outcomes (eg. revenue, capex, opex), forecast figures have been taken from final ACCC/AER decisions and adjusted for March quarter CPI figures for the later year of the relevant period.[2]

- Regulatory framework – there have been changes in recent years to the regulatory framework under which TNSPs' revenue determinations are set. For example, the ex ante approach to determining capex allowances was introduced in the ACCC's Statement of Regulatory Principles (SRP) (released December 2004 and adopted by the AER in 2005). This approach has since been formalised in the chapter 6A of the National Electricity Rules (NER).

- The calculations that appear in this report, such as the financial indicators and operating ratios detailed in Chapter 3, are made by the AER and not the TNSPs. The AER uses data provided by the TNSPs in the calculations.

1.6 Comments from interested parties

Comments from interested parties regarding the contents and format of the report are welcomed and can be submitted via email to aerinquiry@aer.gov.au, or by mail to:

Chris Pattas
General Manager
Network Regulation South
Australian Energy Regulator
GPO Box 520
Melbourne Victoria 3001

[2] For example, forecast MAR for the period 2006/07 is adjusted for March quarter 2007 CPI. Note that SP AusNet's forecast figures have been adjusted for December quarter CPI figures. CPI data is taken from the ABS website (www.abs.gov.au).

2 Network characteristics

2.1 The National Electricity Market

The national electricity market consists of six interconnected state based regional markets: South Australia, New South Wales (including the Australian Capital Territory), Victoria, Queensland, Tasmania and the Snowy region. Tasmania is linked to the mainland via the Basslink interconnector, an undersea cable.

The NEM can be divided into four distinct sections: generation, transmission, distribution, and retail. These sections are described below.

- **Generation** encompasses all the electricity generators.

- **Transmission**: the transmission network is a high voltage power network, used for the transmission of electricity from generators to the distribution networks and large electricity customers.

- **Distribution**: distribution networks distribute the transmitted electricity to end users in population centres. Distribution networks consist of network assets distributing electricity at nominal voltages of up to 66 kV.

- **Retail** concerns the sale of electricity to customers. Electricity retailers buy electricity from generators to sell it to customers. Retailers also need to incorporate the costs of transmission and distribution into the prices they charge.

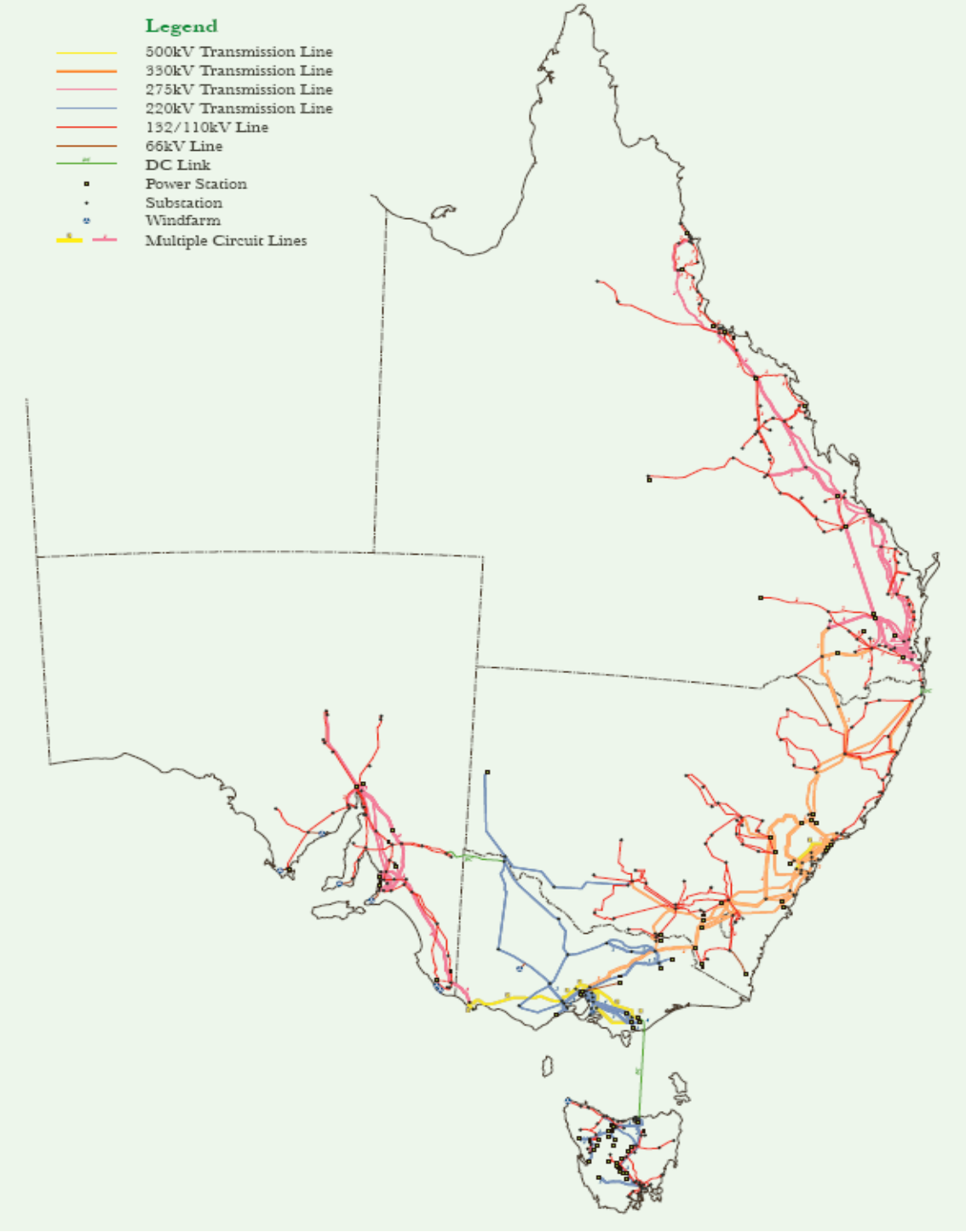
This report focuses on the performance of the transmission section of the market and the TNSPs that provide the transmission services.

Under the NER, the transmission network consists of network assets transmitting electricity at 220 kV and above, plus assets operating between 66 kV and 220 kV as long as they operate in parallel and provide support to the network. The transmission network contains 41,525 km of cable transporting 233,000 GWh of electricity. The transmission network carries electricity across six states and territories including the ACT, NSW, QLD, SA, TAS and VIC.

In accordance with the state origins of the NEM, the majority of states retain a single transmission entity that plans, owns and operates the high voltage transmission network. South Australia and Victoria are exceptions to differing degrees. In South Australia, ElectraNet owns and operates the transmission system. The Electricity Supply Industry Planning Council (ESIPC) assists in planning electricity supply in South Australia, however its scope is limited to making recommendations to the South Australian Government and the Essential Services Commission of South Australia (ESCOSA). In Victoria, VENCorp is the planner for the shared transmission network. In its capacity as transmission planner, it is responsible for directing augmentations to the transmission network but it does not own any transmission assets. Rather, SP AusNet, a publicly listed company, owns the transmission assets and is responsible for their ongoing maintenance and operation.

The NEM also includes a number of cross-jurisdictional interconnectors. The Basslink interconnector connects the Tasmanian and Victorian networks. The AER regulates two interconnectors: Murraylink and Direct link. Murraylink connects the Victorian and South Australian networks. Directlink connects the Queensland and NSW networks.

Chart 1: **Electricity transmission networks in the NEM**[3]



[3] *Source:* NEMMCO, *Annual Report 2007*, p.7.

2.2 The Transmission Network Service Providers

2.2.1 ElectraNet (South Australia)

ElectraNet is owned by a consortium comprising of three private entities and the Queensland government. It owns, operates and manages the South Australian electricity transmission network. ElectraNet's network spans more than 1000 km, from the Victorian border near Mount Gambier to Port Lincoln on the Eyre Peninsula. ElectraNet operates radial extensions of over 200 km each from the main network to Leigh Creek, the Yorke Peninsula and Woomera. It connects major generation sources at Port Augusta, Torrens Island and the eastern states via the Heywood and Murraylink interconnectors. Additional generation sources are connected in the south-east of the state and on the Eyre and Yorke Peninsulas. ElectraNet's network also connects to ETSA Utilities' distribution business and 6 directly connected industrial customers.

ElectraNet operates 5676 circuit km of transmission lines and cables, with nominal voltages of 275 kV, 132 kV and 66 kV. Further, it operates and maintains 76 substations, which include 131 transformers comprising of 8,828 MVA of installed capacity and 387 circuit breaker bays throughout South Australia. Transmission from the main network to country areas of South Australia is via long radial 132 kV lines.

The South Australian transmission network is characterised by long distances, a low energy density and a small customer base compared with other states. The demand profile is peaky mainly due to air conditioning load over summer, with the top 25 per cent of demand being present for only 3 per cent of the time.

2.2.2 Powerlink (Queensland)

Powerlink is a Queensland government owned corporation. It owns, develops, operates and maintains the Queensland electricity transmission network. Powerlink's network spans more than 1700 km, from Cairns in far north Queensland to the New South Wales border in the south. It connects to 12 generators, 3 distribution (Ergon energy, Energex and Country Energy) businesses and 7 directly connected industrial customers. Powerlink's network also connects to the rest of the NEM via the Queensland – NSW interconnector.

Powerlink operates 12,132 circuit km of transmission lines and cables, with nominal voltages of 330 kV, 275 kV, 132 kV, 110 kV and 66 kV. Further, it operates and maintains 102 substations which include 170 transformers comprising of 25,177 MVA of installed capacity throughout Queensland. Powerlink also operates 1,055 circuit breaker bays, 79 capacitor banks, 20 shunt reactors and 14 static var compensators.

The Queensland transmission network is characterised by long distances, high and constant loading and faces high demand growth that is much greater than other states. Due to the constant hot and humid summer climate in Queensland, peak summer demand conditions occurs for the entire summer period (November – March) and not just for a few days as occurs in the southern states.

2.2.3 SP AusNet (Victoria)

SP AusNet is Victoria's largest utility company, providing electricity transmission, gas distribution and electricity distribution services. SP AusNet is publicly listed on the Australian and Singapore Stock Exchanges and Singapore Power International Pte Ltd, a wholly-owned subsidiary of Singapore Power, owns a 51 per cent interest in SP AusNet and public investors own the remaining 49 per cent.

The network is built around a 500 kV backbone running from the major generating source in the Latrobe Valley, through Melbourne and across the southern part of the state to Heywood near the South Australian border. The network provides key physical links in the NEM, connecting with networks in South Australia, New South Wales and Tasmania. The network consists of 6,553 km of cable, running at voltages of 500kV, 330kV, 275kV and 220kV and incorporates 44 switching and transformation facilities throughout Victoria. In 2006-07, SP AusNet had a maximum demand of 9,062 MW.

2.2.4 VENCorp (Victoria)

During the privatisation of the Victorian transmission network, the Victorian Government established a separate entity under government ownership to plan and direct augmentations to the shared transmission network, known as the Victorian Energy Networks Corporation (VENCorp). While VENCorp is deemed to be a TNSP under the NER, it does not own the network assets itself. These assets are predominantly owned and operated by SP AusNet.

VENCorp operates on a full cost recovery not-for-profit basis, recovering its costs through transmission use of system charges. VENCorp also plays a major role in the gas market in Victoria.

2.2.5 Transend (Tasmania)

Transend is a public corporation that owns and operates the electricity transmission system in Tasmania. It owns 47 substations and 9 switching stations operating at voltages of 220 kV and 110 kV. The total line length of Transend's Network is 3645 km.

Over 90 per cent of the generation in Tasmania is hydro generation and characterised by a comparatively large number of small generators, which are widely dispersed. Tasmania's generators are usually energy constrained rather than capacity constrained. Hydro generation's variable nature (with a requirement for more transmission network to deliver the same amount of electricity to customers) has also been a major contributor to the evolution of the network. World heritage status in some areas contributes to increased transmission costs.

When the Basslink interconnector linked Tasmania to mainland Australia in April 2006, Tasmania joined the NEM. The Basslink interconnector operates between Loy Yang substation in Gippsland and George Town substation in Tasmania and transfers energy at 500 MW continuously in either direction and up to 630 MW export from Tasmania for limited periods. Since the instillation of the Basslink interconnector, maximum demand in the Transend network has increased to 2,415 MW.

2.2.6 TransGrid (New South Wales)

TransGrid is a New South Wales government owned corporation. It owns, operates and manages the New South Wales electricity transmission network and is responsible for planning and developing that network. TransGrid's network stretches along the east coast of Australia from Queensland to Victoria, then inland to Broken Hill, making it the backbone of the NEM. It connects major generation sources in the Central Coast, Hunter Valley, Lithgow area and Snowy Mountains, and is interconnected with the Victorian and Queensland networks. TransGrid's network also connects to 4 distribution businesses and 3 directly connected industrial customers.

TransGrid operates 12489 circuit km of transmission lines and cables, with nominal voltages of 500 kV, 330 kV, 220 kV, 132 kV and 66 kV. Further, it operates and maintains 82 substations which include 202 transformers comprising of 32,970 MVA of installed capacity throughout New South Wales.

The New South Wales transmission network facilitates inter-state electricity trading and plays a central in the NEM as a result of both its geographic location and the flexible generation plants located in New South Wales. At times of high demand, Queensland and Victoria can rely on imports from New South Wales, and export power to New South Wales at other times.

2.2.7 EnergyAustralia (New South Wales)

EnergyAustralia is a New South Wales government owned corporation. It owns, and operates an electricity distribution network that extends from Waterfall in Sydney's south to north of Newcastle and extends in a north westerly direction to Scone and Barry. EnergyAustralia's network also contains a small proportion of high voltage transmission assets within parts of the Sydney, Central Coast and Newcastle areas. Around 12 per cent of its network is classified as transmission assets, and are operated in parallel and in support of the TransGrid transmission network.

EnergyAustralia operates 903.3 circuit km of transmission lines and cables with nominal voltages of 132 kV and 66 kV. Its transmission network largely comprises of underground cables and overhead feeders, with associated exit assets, in the Sydney metropolitan area.

2.2.8 Murraylink (Victoria/South Australia)

Murraylink is an interconnector linking the Victorian and South Australian regions of the NEM. Murraylink is owned by APA Group. On 18 October 2002, the ACCC received an application from the Murraylink Transmission Company (MTC) to convert its market network service to a regulated network service. The AER accepted Murraylink's application and issued a revenue determination for Murraylink covering a period from 2003-2013.

Murraylink consists of approximately 180 km of transmission line, with the majority of the cable being underground, and a converter terminal station at either end (to convert the direct current flow to/from alternating current, compatible with the transmission networks in Victoria and South Australia). At any given time Murraylink, is capable of delivering 220 MW.

2.2.9 Directlink (Queensland/New South Wales)

Directlink is a privately owned electricity transmission asset with a total nominal rated capacity of 180 MW that connects the Queensland and New South Wales regions of the NEM. It came into operation in July 2000 as an un-regulated interconnector and consists of 63 km of underground cables that transfer power between Terranora and Mullumbimby.

In May 2004, Directlink applied to become a regulated interconnector. The AER approved the application and Directlink converted to regulated status in March 2006. Directlink is owned by the APA Group.

2.2.10 TNSP ownership

Table 2.1: **Summary of TNSP ownership**

State	Entity	Ownership
VIC	VENCorp	State government owned
	SP AusNet	Publicly listed company, 51% owned by Singapore Power International Pte Ltd.
SA	ElectraNet	Privately owned corporation, major shareholders include: ▪ Harold Street Holdings, a subsidiary of Powerlink Queensland ▪ YTL Power Investments ▪ Hastings Funds Management ▪ Macquarie Specialised Management Limited
VIC/SA	Murraylink	APA Group
TAS	Transend Networks Ltd	State government owned
NSW	TransGrid (includes ACT)	State government owned
	EnergyAustralia	State government owned
NSW/QLD	Directlink	APA Group
QLD	Powerlink Qld	State government owned

2.3 Significant differences between TNSPs

The circumstances in which TNSPs deliver their services differ dramatically. The following list provides examples of factors that affect the configuration, cost and operation of the transmission network and result in differences between individual TNSPs. The factors in this list need to be considered when comparing the performance of different TNSPs.

- The *age and quality of the capital stock* – a number of TNSPs manage assets approaching 60 years of age. To maintain network reliability these assets require additional maintenance until they are replaced or upgraded.

- *Government regulations* – companies which must control noise emissions may face higher average costs than those which do not. World heritage status of certain regions contributes to increased transmission costs.

- *Environmental factors* – companies in regions with high temperatures or a greater propensity to electrical storms may have to take more precautions than those in more temperate areas. Companies operating in terrain with access difficulties, such as mountainous regions will incur larger costs than those in more accessible terrain.

- The *number, density, load factor and size distribution of customers* – companies which have a higher load factor or customer density may have lower average cost than those companies which do not. Companies which have to transmit over larger distances may have higher costs than those operating in relatively compact geography.

- The *mix of assets* owned and operated – the boundary to the distribution network (in particular voltage level) determines whether a TNSP is a pure transmission network or also an owner of sub-transmission assets. A transmission network with many low voltage connection assets (such as 11 kV and 22 kV equipment) may have higher costs relative to a higher-voltage transmission network.

- The *volume of services* provided – a company carrying smaller volumes may have a higher average cost than where economies of scale exist.

- *Type of generation* – TNSPs with a high reliance on hydro generation need to be able to accommodate the variable availability of hydro generation.

- The *scope of services* provided – in Victoria, a separate entity incurs the costs of network planning.

- The *quality of services* provided – a company which offers *n-2* reliability may have a higher average cost than a company which offers *n-1* reliability.

2.4 Network data

2.4.1 Comparison Between TNSPs

This section summarises some of the differences between TNSPs. Electricity transmission networks are highly capital intensive and can cover great distances. Figures 2.1 and 2.2 compare the differing line lengths and asset bases of the transmission networks.

Figure 2.1: **Comparison of line length (kms)**

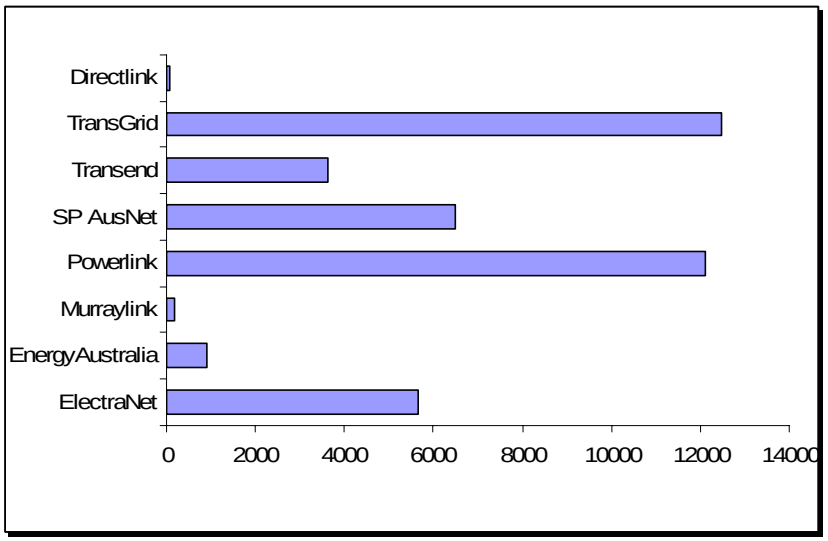


Figure 2.1 shows that the TNSPs vary in size greatly. This size difference reflects difficulties inherent in comparing their performance. The asset values and associated costs also vary greatly between the different TNSPs as demonstrated in the figure 2.2 below.

Figure 2.2: **Comparison of RABs ($m)**

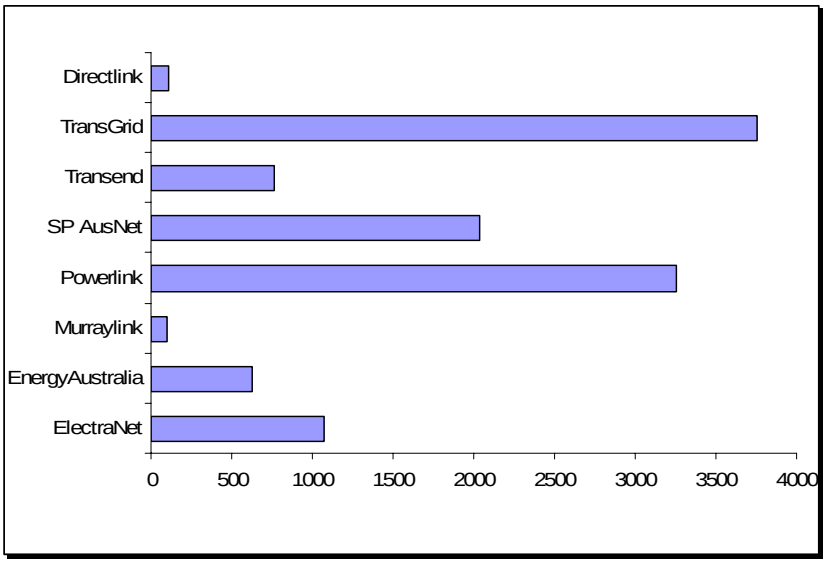


Figure 2.2 demonstrates that there is some correlation between line length and the value of regulatory assets, and assumes the relative asset mix (eg. lines, substations etc) remain relatively constant over time.

The usage of the transmission lines mainly depends upon the characteristics of the individual transmission networks. Energy Australia, which maintains part of the NSW transmission network, delivers the most electricity for each km of transmission line. This is because EnergyAustralia's network is located in a densely populated area. ElectraNet, which maintains the vast South Australian transmission network, delivers the least electricity per km of transmission line.

2.4.2 Demand in the NEM

Maximum demand varies throughout the year with peak loads typically occurring for only short periods on hot summer working days. Meeting maximum demand is a costly exercise due to the capital investment required to maintain sufficient capacity to

meet growing peak demand for short periods of time. In Tasmania, demand falls over the summer period and climbs during the winter period when demand for heating increases. Maximum demand is particularly volatile in NSW and Victoria while Queensland experiences a sustained period of high demand during summer. South Australia's demand by contrast is the peakiest in the NEM. Victoria's electricity demand is also affected by the amount of gas used for cooking and heating which is higher than in other states.

Maximum demand

General economic growth drives growth in the maximum demand for electricity. The increasing use of electrical goods, particularly air conditioners in the summer period, coupled with industrial demand for electricity results in increasing maximum demand for electricity.

Table 2.2 below shows the change in maximum demand from 2002/03 to 2006/07. The data shows that maximum demand has continued to increase in 2006/07 compared to 2005/06, with Transend again showing a significant rise for a second year in a row. Interestingly, maximum demand has been consistently rising over the period for all TNSPs, suggesting increasing air-conditioning usage.

Table 2.2: **Percentage change in maximum demand from the previous year, 2002/03 – 2006/07**

	2002/03	2003/04	2004/05	2005/06	2006/07
ElectraNet	n/a	-6.7	2.0	10.5	-0.1
EnergyAustralia	1.0	2.3	2.2	3.4	0.4
Powerlink	1.1	12.0	3.8	0.8	3.5
SP AusNet	n/a	4.5	-0.4	2.3	3.8
Transend	n/a	n/a	5.2	17.4*	15.6
TransGrid	2.2	1.2	5.2	1.3	1.3

- The large increase in maximum demand is due to the Basslink interconnector

2.4.3 Electricity delivered

Table 2.3 shows a mixture of increased general electricity usage in some jurisdictions, and a decreased usage in others from the last financial year. This contrasts with the period from 2004/05 to 2005/06, where electricity usage across the NEM increased reflecting increased industrial and domestic electricity usage. The increased use of air conditioning is reflected in data on electricity delivered as well as maximum demand.

Table 2.3: **Percentage change in electricity transmitted from the previous year, 2002/03 – 2006/07**

	2002/03	2003/04[a]	2004/05	2005/06	2006/07
ElectraNet	n/a	-1.4	-1.6	5.9	4.1
EnergyAustralia	1.0	2.6	11.4[b]	3.1	0.9
Powerlink[4]	2.0	5.8	1.2	3.4	0.1
SP AusNet	n/a	-6.5	1.0	10.6	3.1
Transend	n/a	n/a	0.8	6.6	5.7
TransGrid	-3.4	2.9	-0.6	4.4	8.1

[a] Data gathered from annual report
[b] From 2004/05, the energy delivered to Hydro Aluminium, BHP, and Country Energy has been included in EnergyAustralia's calculations (previously these loads had been excluded). This represents about 11% of the total load.

[4] From March 2006, electricity transmitted excludes Terranora (NSW) load due to change in NEMMCO definitions.

3 Financial indicators

This chapter describes the financial performance of the regulated TNSPs in 2006/07 and compares their performance against previous years. Appendix A provides a summary of key items and financial indicators derived from TNSPs' income statements and balance sheets.

The AER sets revenue determinations for regulated TNSPs. These businesses have a consistent and relatively predictable cash flow which is independent of seasonal fluctuations and volume changes. This cash flow supports the TNSPs' operations and planned capital investments and may also service debt.

Key factors in determining TNSPs' profits include capex and opex. As the TNSPs' regulatory asset bases grow, the depreciation expense will also increase and can affect reported profit and return on equity.

3.1.1 Financial ratios

The ratios used by the AER to assess TNSPs' financial performance are set out in the table below and relate to prescribed services (PS) where indicated. They are well accepted accounting ratios and have been adopted by the AER on this basis.

Financial ratio	Description	Calculation
Return on Equity (ROE)	Measures the firm's profitability and allows investors to compare returns for investments with similar risk profiles.	$\frac{\text{Net Profit After Tax}}{\text{Average Equity}}$
Return on Assets (ROA)	Measures the efficiency of the use of the business' assets in producing operating profit.	$\frac{\text{Earnings before Interest and Tax (PS)}}{\text{Average Regulatory Asset Base}}$
Gearing	The percentage of the firm's funding which is attributed to debt.	$\frac{\text{Debt}}{\text{(Debt + Equity)}}$
Interest cover	Measures whether a firm's earnings can cover its gross interest expense.	$\frac{\text{Earnings before Interest and Tax (PS)}}{\text{Gross Interest Expense}}$

In businesses that own more than one regulated network and may pay tax and hold debt at the corporate level, any allocation of tax or debt to an underlying line of business will be somewhat arbitrary as this allocation is done only for regulatory accounts not statutory accounts (eg, SP AusNet). Therefore, care must be taken when assessing the financial ratios and measures for these businesses.

In this report:

- ROE is calculated using net profit after tax (NPAT) and average equity as measured for the whole of a TNSP's business.
- ROA and interest cover are calculated using prescribed earnings before interest and tax (EBIT) and the average regulatory asset base (RAB) associated with the prescribed services provided by the TNSP. The prescribed services provided by the TNSP typically account for 90 per cent of the total revenue of a TNSP.

3.1.2 Aggregate TNSP performance

The table below shows which TNSPs have contributed to the aggregate TNSP performance indicators, as reported in this regulatory report.

Table 3.1: **TNSPs included in aggregate financial indicators**

	AER Report				
	2002/03	2003/04	2004/05	2005/06	2006/07
Directlink					✓
ElectraNet	✓	✓	✓	✓	✓
Energy Australia	✓	✓	✓	✓	✓
Murraylink			✓	✓	✓
Powerlink	✓	✓	✓	✓	✓
SP AusNet	✓	✓	✓	✓	✓
Transend		✓	✓	✓	✓
TransGrid	✓	✓	✓	✓	✓
VENCorp	✓	✓	✓	✓	✓

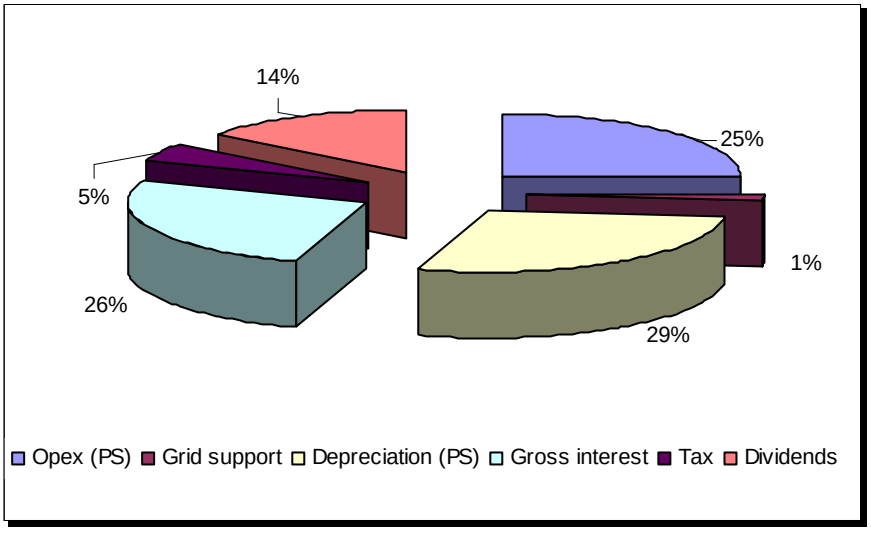
Aggregate TNSP performance is reported below. It should be noted that:

- Opex, grid support and depreciation relate to prescribed services only
- Gross interest, tax and dividends are aggregated figures relating to both prescribed and other services.

Table 3.2: **TNSPs' aggregate financial performance**

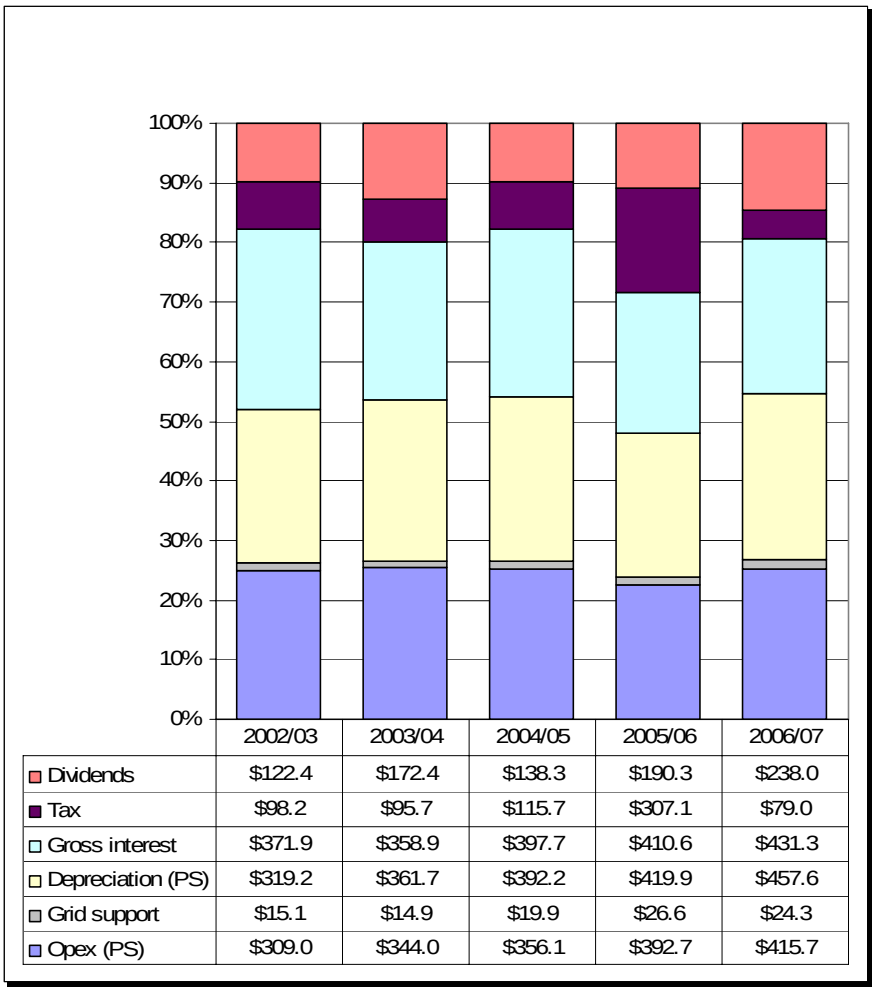
	2005/06	2006/07
Income statement	$ million	$ million
Transmission revenue (PS)	1,613.8	1,733.7
Operating expenditure (PS)	392.7	415.7
Grid support (PS)	26.6	24.3
Depreciation (PS)	419.9	457.6
Earnings before interests and tax (EBIT, PS)	784.6	807.7
Gross interest expense (aggregate)	410.6	431.3
Tax (aggregate)	307.1	79.0
Net profit after tax (aggregate)	208.2	425.0
Dividends (aggregate)	190.3	238.0
Balance sheet		
Closing RAB (PS)	11,026.6	11,730.0
Total assets (aggregate)	13,330.7	14,345.8
Total debt (aggregate)	6,028.8	6,474.2
Total liabilities (aggregate)	8,151.7	8,709.4
Total equity (aggregate)	5,179.0	5,723.9.2

Figure 3.1: **TNSPs' aggregate financial performance 2006/07**



This graph shows the various reported components of TNSPs' expenses. Notably, aggregate tax expense has reduced closer to historical levels from the high in 2005/06 which was due to SP AusNet's increased income tax expense.

Figure 3.2 **TNSPs' aggregate financial performance 2002/03- 2006/07 ($nominal, m)**



	2002/03	2003/04	2004/05	2005/06	2006/07
Dividends	$122.4	$172.4	$138.3	$190.3	$238.0
Tax	$98.2	$95.7	$115.7	$307.1	$79.0
Gross interest	$371.9	$358.9	$397.7	$410.6	$431.3
Depreciation (PS)	$319.2	$361.7	$392.2	$419.9	$457.6
Grid support	$15.1	$14.9	$19.9	$26.6	$24.3
Opex (PS)	$309.0	$344.0	$356.1	$392.7	$415.7

Figure 3.2 shows the change in the dividends paid to shareholders which may be a result of increased net profit after tax from both prescribed and other services.

3.2 Individual TNSP performance

A business' operating environment has a direct impact on its financial performance. The following pages provide snapshots of individual TNSPs' performances.

3.2.1 ElectraNet

ElectraNet's earnings before interest and tax remained steady in 2006-07 after declining slightly in 2005-06. In 2006-07 ElectraNet made a net loss and did not pay a dividend. ElectraNet's gearing ratio reached 73.5 per cent of equity in 2006-07. Interest coverage has also been relatively stable over this period.

Figure 3.3: **EBIT (PS) $million**

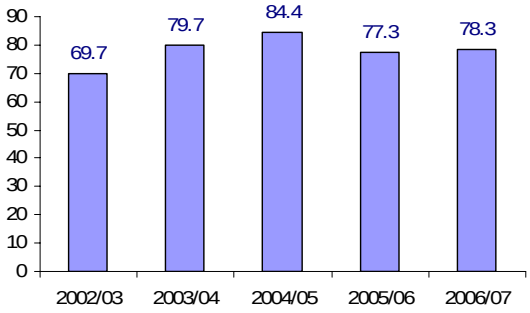


Figure 3.4: **NPAT $million**

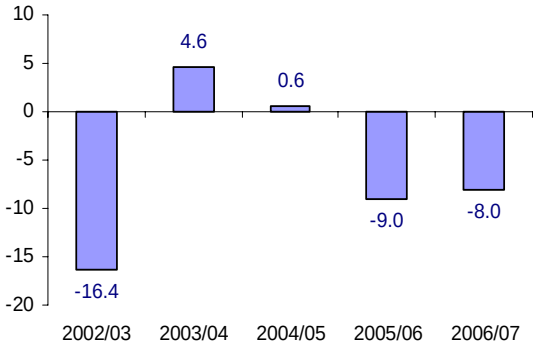


Figure 3.5: **ROE**

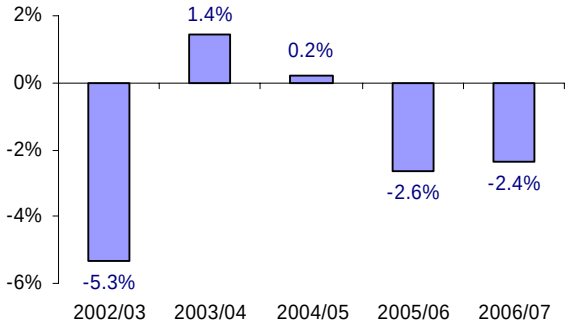


Figure 3.6: **ROA (PS)**

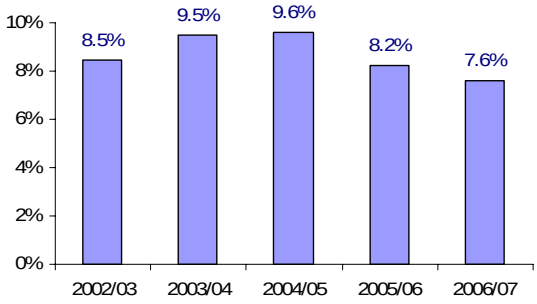


Figure 3.7: **Gearing ratio**

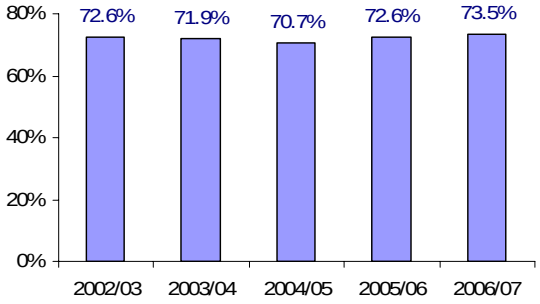
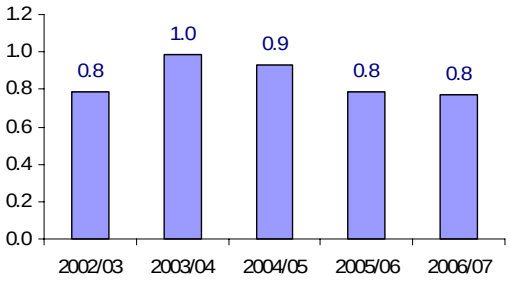


Figure 3.8: **Interest cover times**



3.2.2 EnergyAustralia

EnergyAustralia's earnings before interest and tax have increased consistently since 2002-03. In 2006-07, net profit after tax increased after a decline in 2005-06. Dividend payments have also trended upwards in each year since 2002-03. EnergyAustralia's gearing ratio increased to 65.1 per cent of equity in 2006-07 while interest coverage has increased from 1.3 to 2.7 times in the last five years.

Figure 3.9: **EBIT (PS) $million**

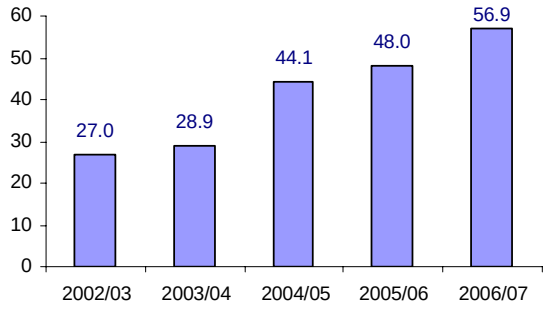


Figure 3.10: **NPAT $million**

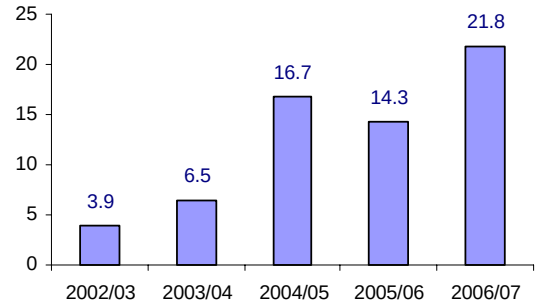


Figure 3.11: **Dividends $million**

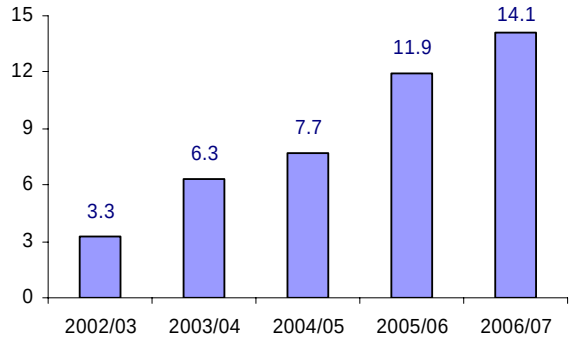


Figure 3.12: **ROE**

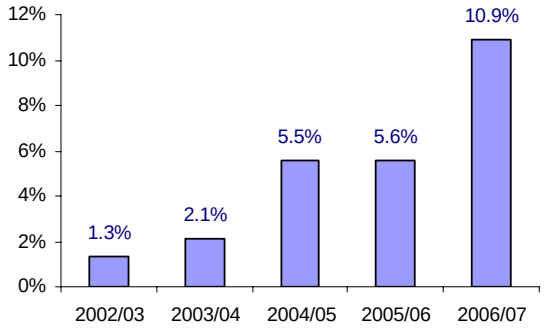


Figure 3.13: **ROA (PS)**

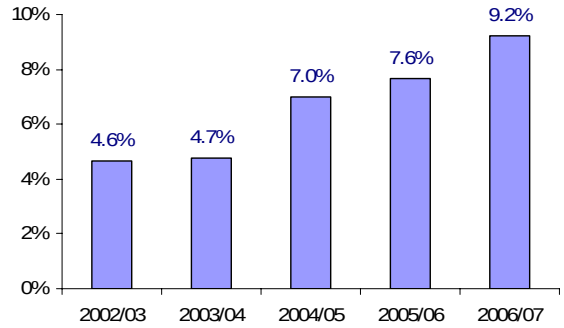


Figure 3.14: **Gearing ratio**

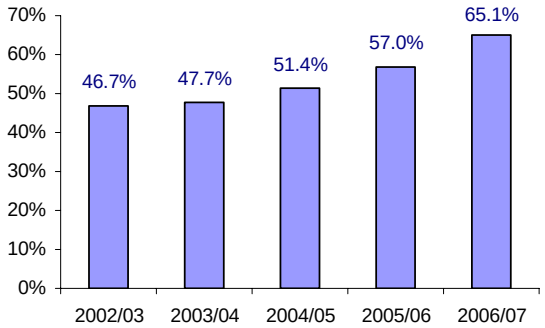
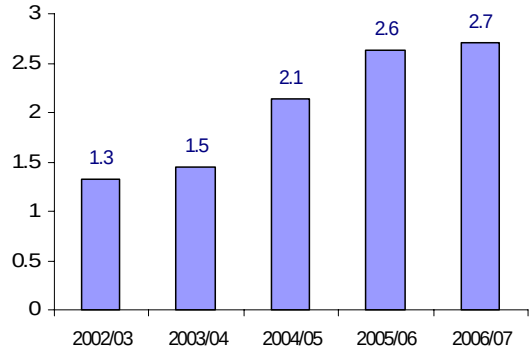


Figure 3.15: **Interest cover times**



3.2.3 Powerlink

Powerlink's earnings before interest and tax have increased consistently since 2002-03. In 2006-07 net profit after tax declined but remained above its level in 2004-05. Dividends payments by Powerlink also declined slightly in 2006-07 but are above the level recorded in 2004-05. Powerlink's gearing ratio has increased progressively over the five year period as its capex program continues to grow, and is now at 55.4 per cent of debt plus equity. Powerlink's interest coverage has declined and is now 2.1 times as Powerlink continues to fund its capex program.

Figure 3.16: **EBIT (PS) $million**

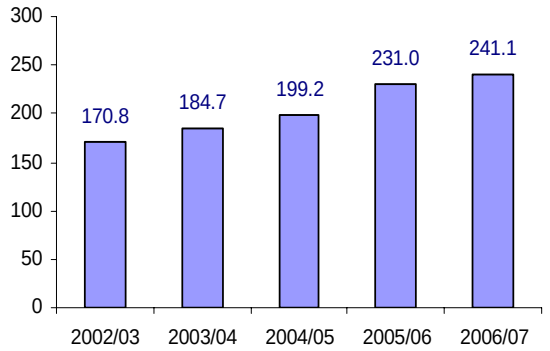


Figure 3.17: **NPAT $million**

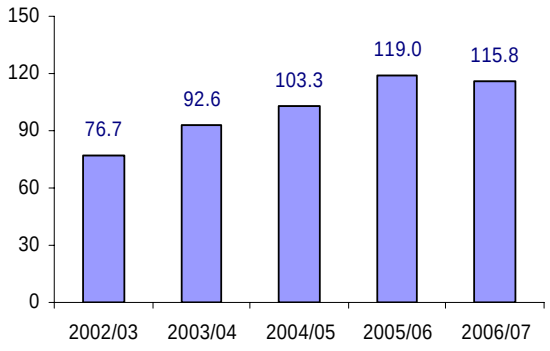


Figure 3.18: **Dividends $million**

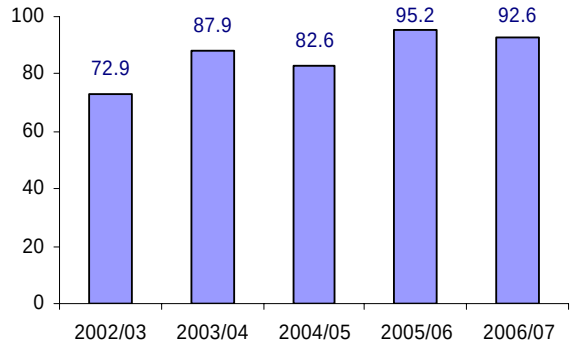


Figure 3.19: **ROE**

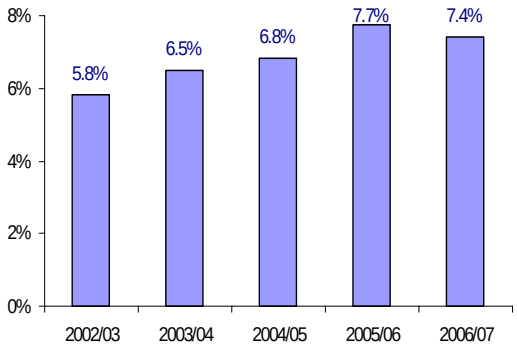


Figure 3.20: **ROA (PS)**

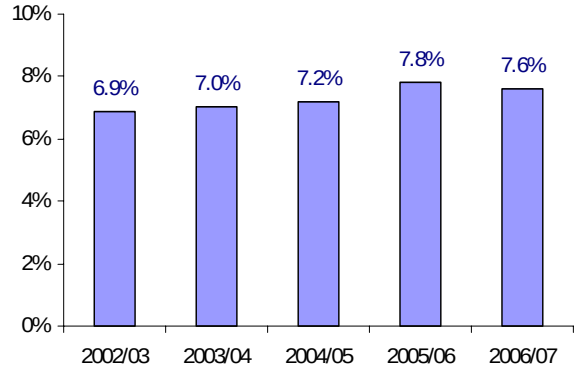


Figure 3.21: **Gearing ratio**

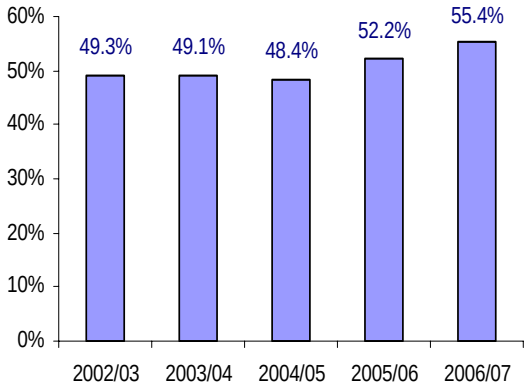
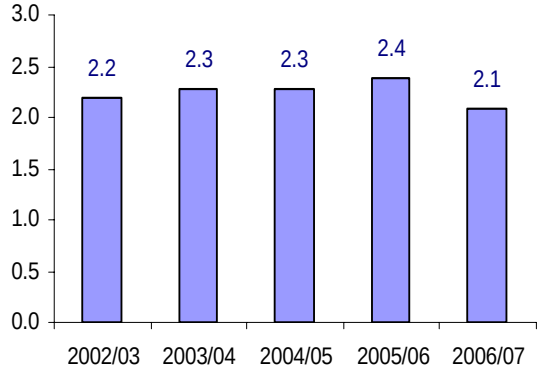


Figure 3.22: **Interest cover times**



3.2.4 SP AusNet

SP AusNet's earnings before interest and tax have decreased since 2004/05 and recorded $156.3 million for 2006-07. Net profit after tax has fluctuated in recent years and reached a high of $150 million for this financial year. In 2006/07, SP AusNet also made its first dividend payment of $41.1 million. SP AusNet's gearing ratio has decreased slightly over the past three years and is now at 59.2 per cent of equity. Over the period, SP AusNet's interest coverage has remained steady at around 1.9 times.

Figure 3.23: **EBIT (PS) $million**

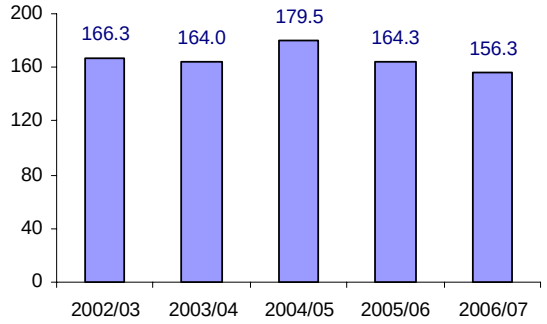


Figure 3.24: **NPAT $million**

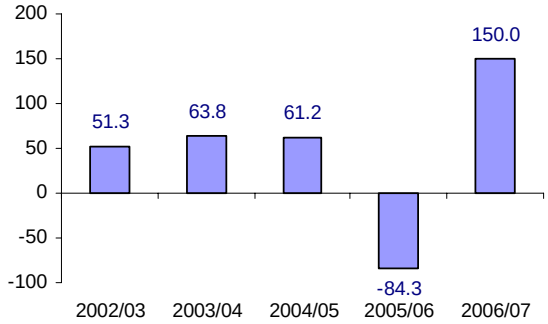


Figure 3.25: **Dividends $million**

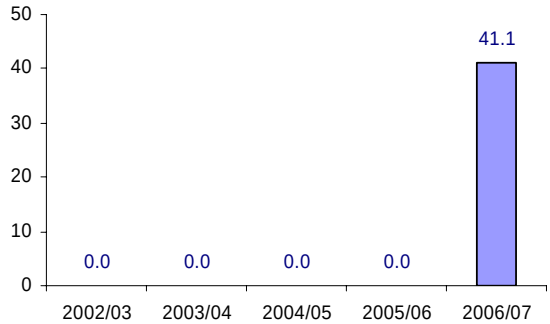


Figure 3.26: **ROE**

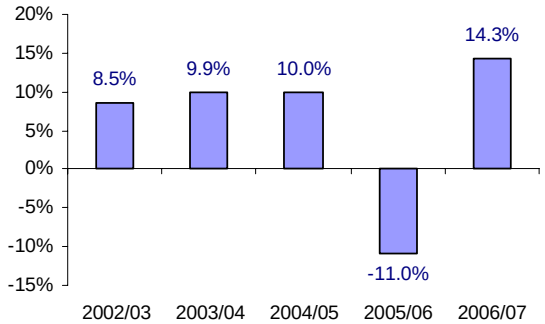


Figure 3.27: **ROA (PS)**

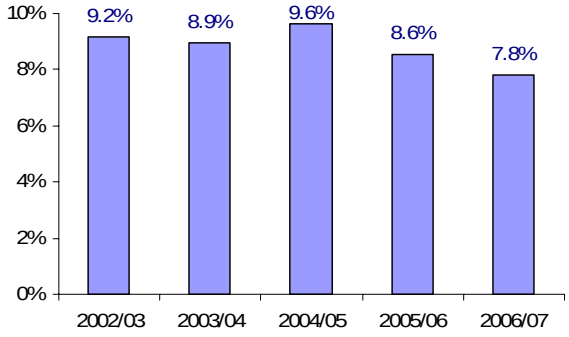


Figure 3.28: **Gearing ratio**

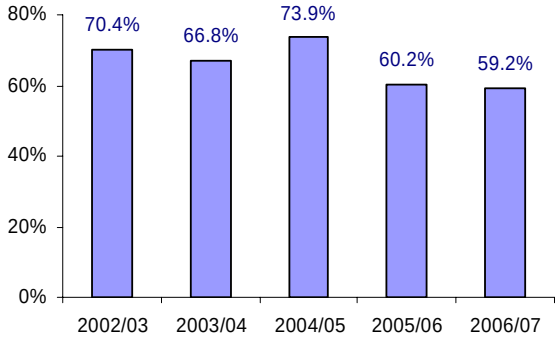
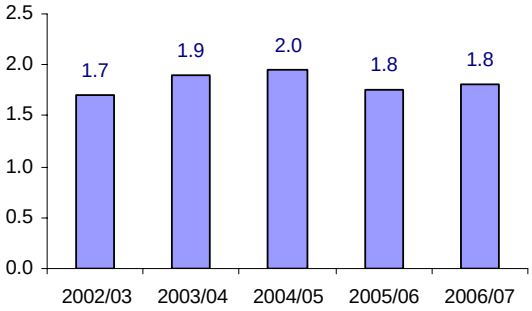


Figure 3.29: **Interest cover times**



3.2.5 Transend

Transend's earnings before interest and tax increased by $6m in 2006-07, though net profit after tax decreased to $21.1 million. Dividends paid by Transend continue to grow reaching at $18.8 million in 2006-07. Transend's gearing ratio remains relatively low and has decreased slightly to 13.4 per cent compared to the previous year. Since 2004-05, Transend's interest coverage has trended downwards and is now at 7.9 times.

Figure 3.30: **EBIT (PS) $million**

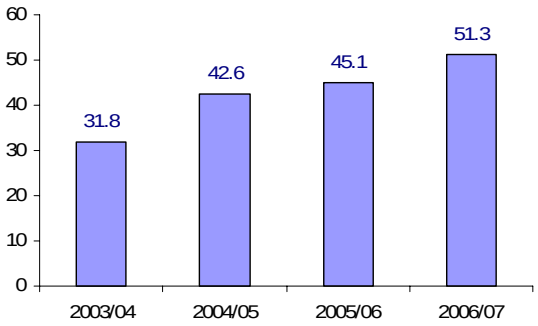


Figure 3.31: **NPAT $million**

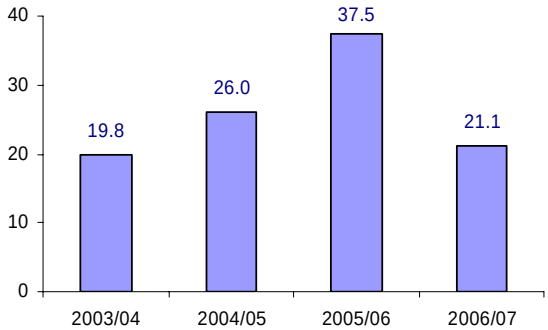


Figure 3.32: **Dividends $million**

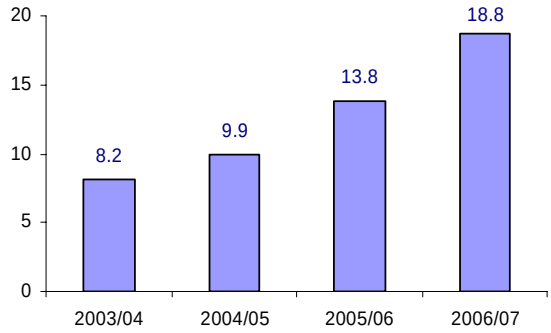


Figure 3.33: **ROE**

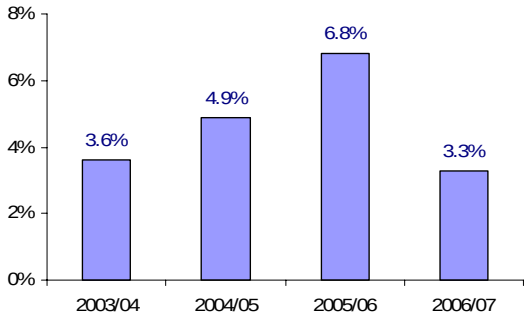


Figure 3.34: **ROA (PS)**

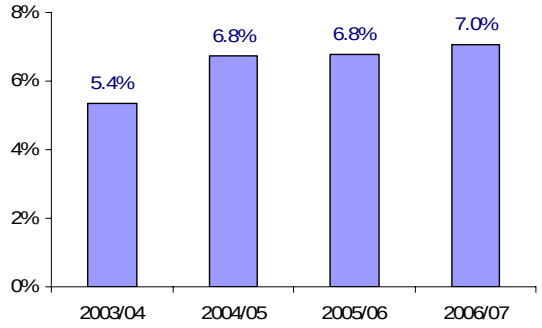


Figure 3.35: **Gearing ratio**

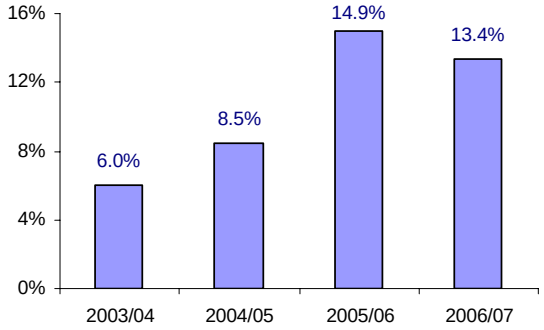
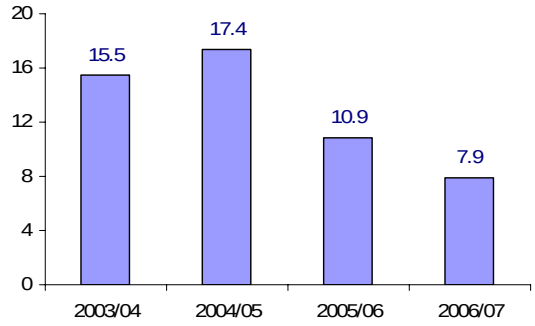


Figure 3.36: **Interest cover times**



3.2.6 TransGrid

TransGrid's earnings before interest and tax have increased consistently since 2002-03. Net profit after tax decreased in 2006-07 compared to the previous financial year. Dividend payments have varied over the period but reached a new high of $71.5 million in 2006-07. TransGrid's gearing ratio has decreased over the last five years from 55 to 46 per cent while its ability to service debt in terms of interest coverage has remained steady at around 2 times.

Figure 3.37: **EBIT (PS) $million**

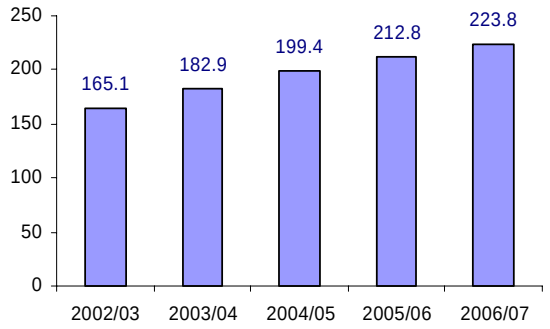


Figure 3.38: **NPAT $million**

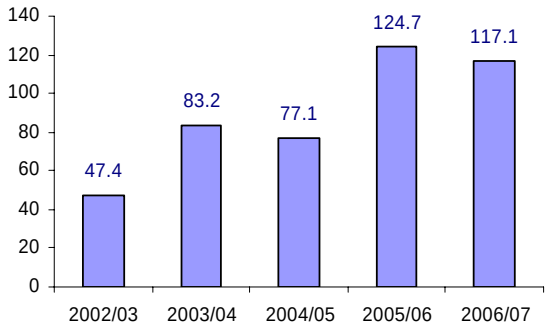


Figure 3.39: **Dividends $million**

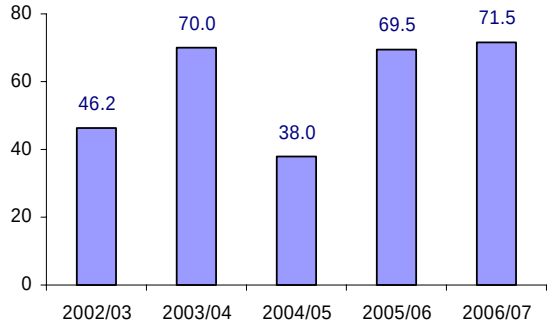


Figure 3.40: **ROE**

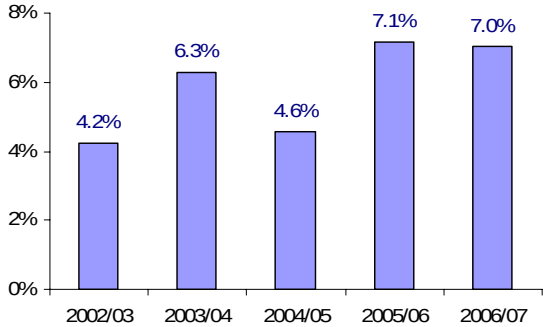


Figure 3.41: **ROA (PS)**

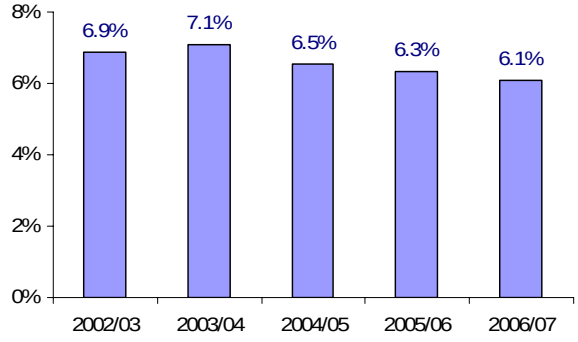


Figure 3.42: **Gearing ratio**

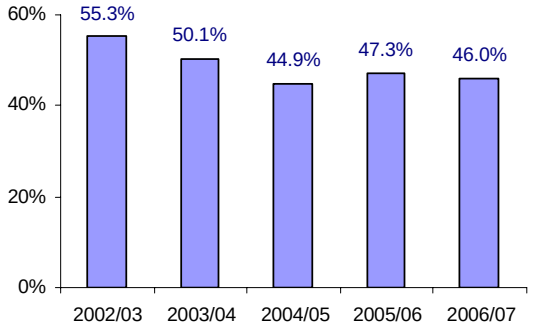
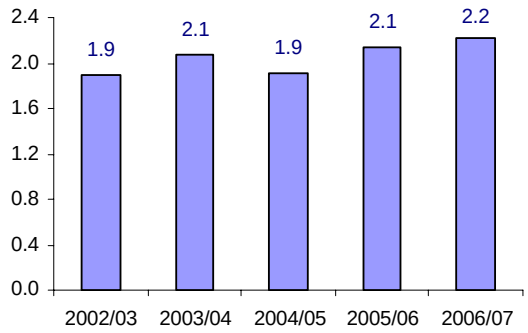


Figure 3.43: **Interest cover times**



3.2.7 MurrayLink

MurrayLink's earnings before interest and tax have remained relatively steady over the last three financial years while net profit after tax has increased.

3.2.8 Directlink

Directlink provided data to the AER for the first time in 2006-07 and therefore no comparison with past performance can be made.

4 Revenue

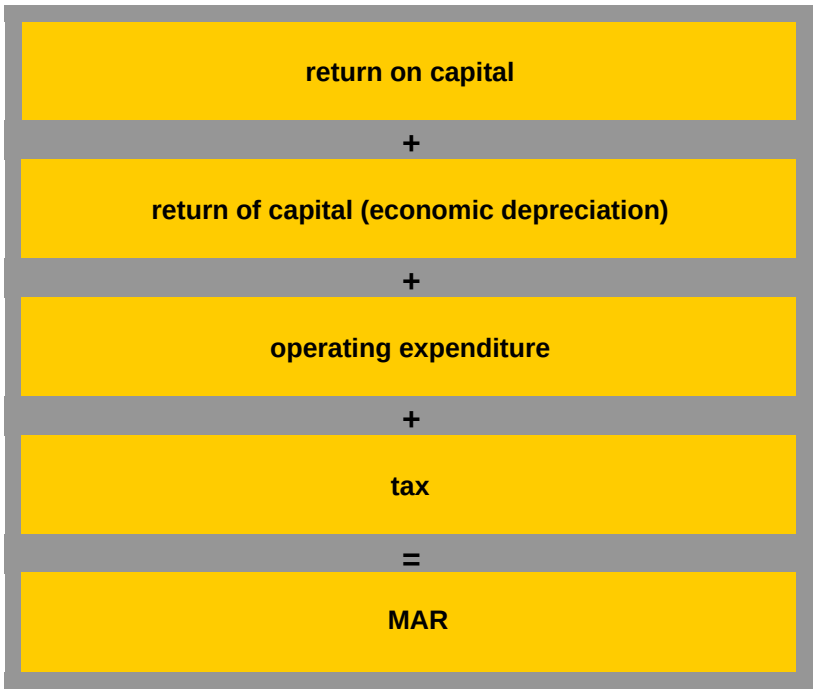
4.1 Introduction

The AER is responsible for regulating the revenues associated with non-contestable elements of the electricity transmission services provided by TNSPs.

Chapter 6A of the NER sets out the regulatory framework and the process the AER applies to determine a TNSP's revenue determination.

In determining the revenue[5] for each year of the regulatory period, the AER adopts the accrual building block approach which requires that the MAR is calculated as the sum of the return on capital, the return of capital, an allowance for operating and maintenance expenditure (opex) and an income tax allowance. The TNSP then uses the MAR to determine transmission prices (tariffs) in accordance with the NER and the AER's pricing guidelines.

Figure 4.1: **The revenue building blocks**



A TNSP's revenue allowance can vary over the regulatory period. As part of the revenue reset process, a TNSP's MAR is determined using a forecast inflation rate for

[5] It should be noted that the escalated MAR may be above or below actual revenues due to other components of prescribed revenues.

the duration of the regulatory period. The MAR is adjusted annually for actual CPI to preserve the real value of the revenue stream. This adjustment explains some of discrepancies between forecast and actual revenue reported by TNSPs. Payments and penalties awarded under the service standards performance incentive scheme, also affect revenue. Additionally, certain unexpected costs that the AER allows TNSPs to pass onto customers can create differences between the actual revenue and the MAR.

This chapter presents the TNSPs' reported revenues compared with MAR forecasts included in revenue determinations made by the ACCC/AER.

Forecast figures for MAR have been taken from final ACCC/AER decisions and adjusted for March quarter CPI figures for the later year of the relevant period.[6]

4.2 Aggregate and comparative TNSP performance

Due to the capital intensive nature of electricity transmission businesses the regulatory asset base (RAB) is the single biggest determinant of the quantum of revenue received by a TNSP. TNSPs receive a return on capital, which is expressed as:

RAB * [weighted average cost of capital (WACC)]

This represents the minimum return a TNSP can expect to earn on its assets to compensate it for its past investment and to provide an incentive to reinvest in the business. The return on capital plus the return of capital (depreciation) represents about 70 per cent of the TNSPs' notional revenue requirement. It therefore has a significant impact on the financial outcomes for a TNSP and ultimately on end-user prices. Opex constitutes around 25 per cent of TNSPs' revenue and the income tax allowance comprises the remainder.

Efficiency incentives are incorporated into the building block model through service standards, opex incentive schemes and capex incentive schemes. These incentive mechanisms aim to foster efficient investment and operating practices within the electricity transmission industry.

Table 4.1 shows the actual and forecast aggregate revenue of the TNSPs (excluding VENCorp). Since 2002/03 the difference between actual and forecast aggregate revenue has grown from -0.4 per cent to 1.3 per cent. The difference was greatest in 2006/07 (being 1.3 per cent). During the period 2002/03 to 2006/07 aggregate actual revenue has grown at an average rate of 10.3 per cent, and the overall average difference between total aggregate actual and forecast revenue was just 1 per cent.

[6] For example, forecast MAR for the period 2006/07 is adjusted for March quarter 2007 CPI. CPI data is taken from the ABS website (www.abs.gov.au).

Table 4.1: **Aggregate actual prescribed revenue and forecast MAR, 2002/03 – 2006/07 ($nominal,m)**

	2002/03	2003/04	2004/05	2005/06	2006/07	Total
Actual prescribed revenue	1,227.4	1,382.7	1,508.3	1,613.8	1,733.7	6,238.5
Forecast MAR	1,231.9	1,373.0	1,498.4	1,598.9	1,710.9	6,181.2
Difference ($m)	-4.5	9.7	9.9	14.8	22.8	57.2
Difference (%)	-0.4	0.7	0.7	0.9	1.3	1.0

Note 1: The total column reflects only TNSPs that reported in each year's regulatory report.
Note 2: VENCorp data has not been included in the aggregate MAR figures in table 4.1.

Figure 4.2 shows total TNSP revenue, which is equivalent to total transmission charges for transmitting electricity along the transmission networks. In 2006/07 aggregate TNSP revenue was $1.7 billion (excluding VENCorp), an increase of $119.9 million (or 7.4 per cent) from the previous year and around 1.3 per cent greater than forecast. Chart 4.1 shows the steady increase in revenue earned by regulated TNSPs over the five-year period from 2002/03 to 2006/07. During that period, Transend joined the NEM and became regulated by the AER. In addition, Murraylink and Directlink successfully applied to become regulated TNSPs.

Figure 4.2: **Actual prescribed revenue ($nominal, m), 2002/03 – 2006/07**

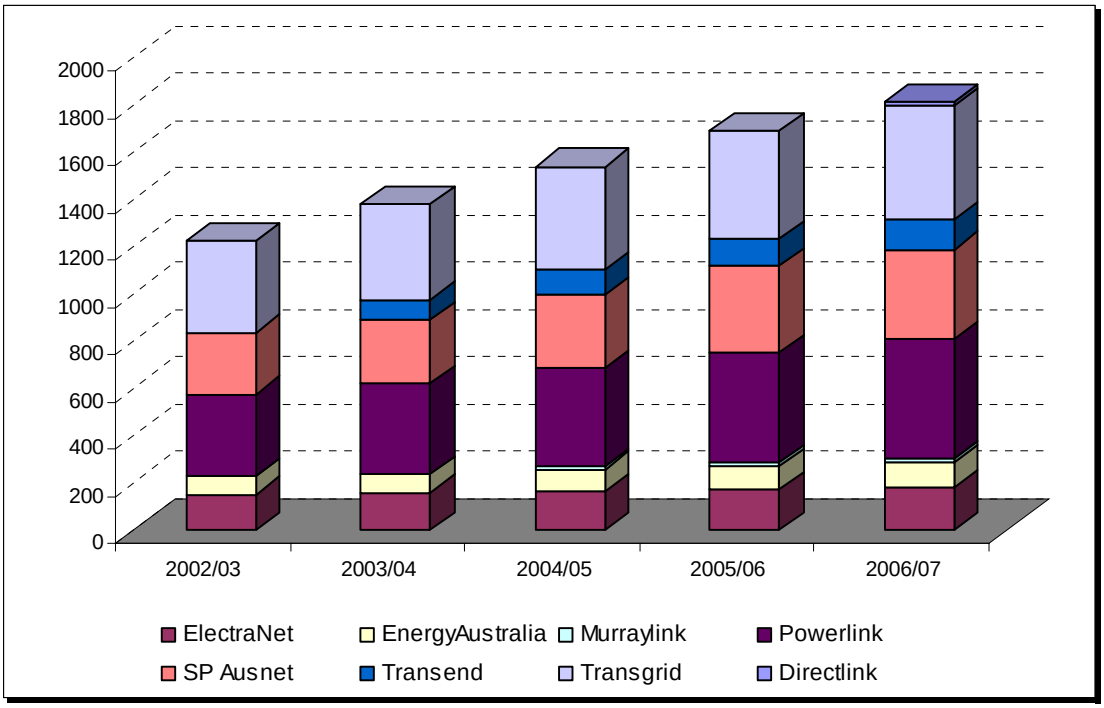
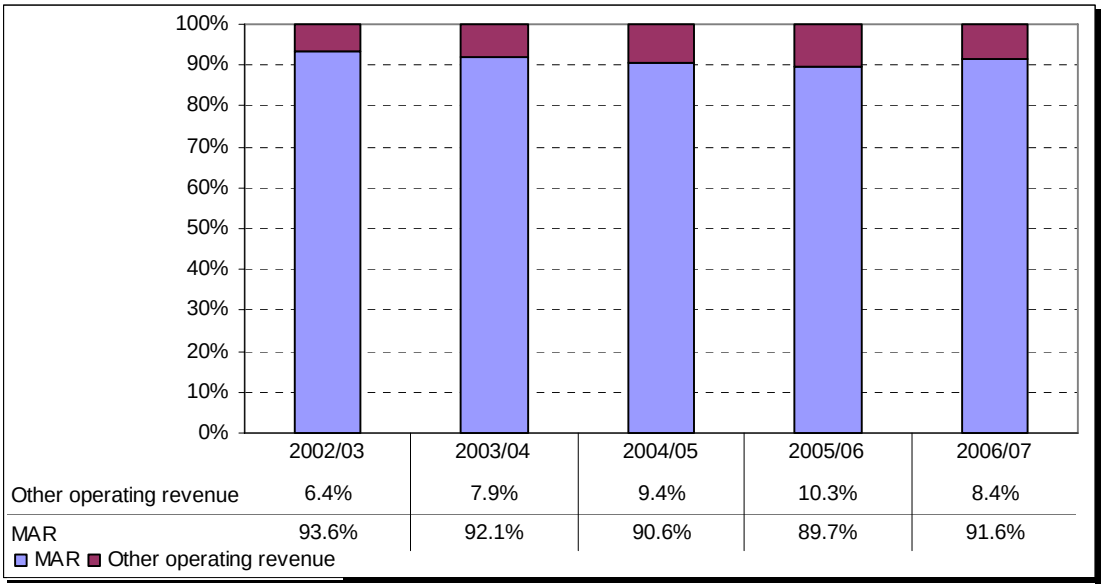


Figure 4.3 shows TNSPs aggregate actual revenue as a percentage of total operating revenue. In 2006-07 aggregate total revenue of all the TNSPs (excluding VENCorp) was $1.9 billion, of which 91.6 per cent (or $1.7 billion) related to prescribed revenue.

Figure 4.3: **Actual revenue as percentage of total revenue, 2002/03 – 2006/07***



*Revenue for EnergyAustralia is from Prescribed Services (Electricity Transmission) only.

TNSPs can earn unregulated revenue in a number of ways. These include revenue earned by renting line space to telecommunications companies for optic fibre cabling and by providing connection services for other businesses.

4.2.1 Comparative TNSP performance

Figure 4.4**:** **Difference between actual revenue and forecast MAR, 2006/07**

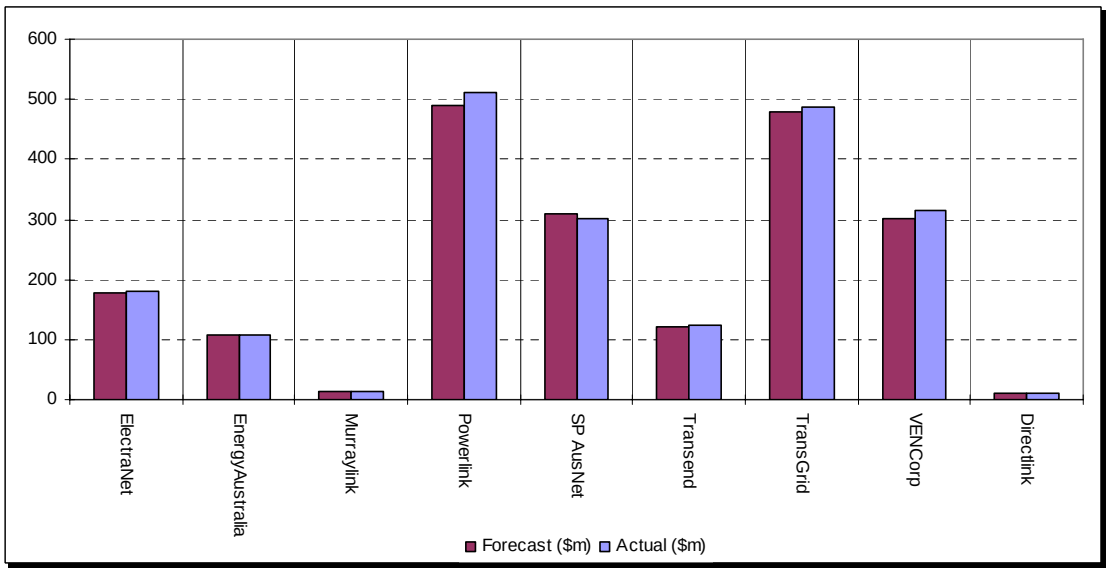
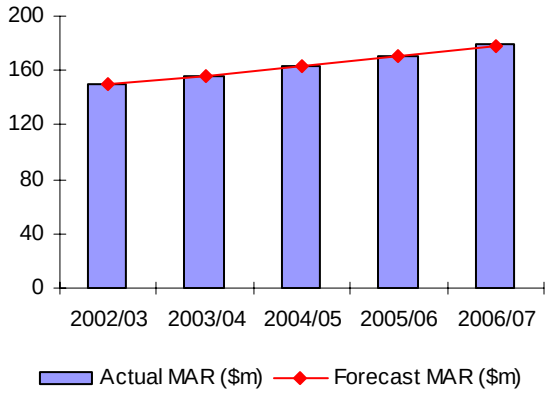


Figure 4.4 shows the relative percentage difference between individual TNSPs forecast MAR and actual revenue for 2006/07. The difference between forecast and actual revenue for most TNSPs over the period was within a narrow range of +/- 5 per cent.

4.3 TNSP revenue outcomes

4.3.1 ElectraNet

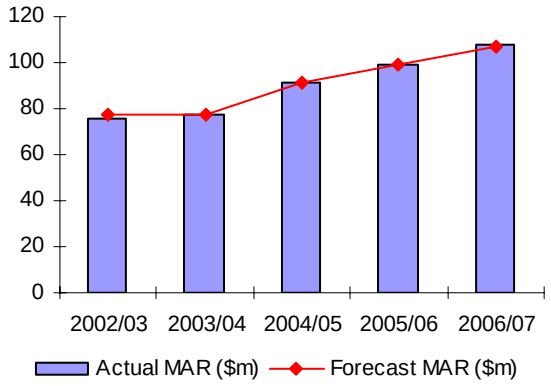
Figure 4.5: **Actual and forecast MAR**



In 2006-07 ElectraNet's actual revenue was $179.1 million, which is above the forecast revenue of $178.3 million. Actual revenue in 2006/07 was $7.9 million (or 5.0 per cent) higher than the previous financial year's figure of $170.4 million.

4.3.2 EnergyAustralia

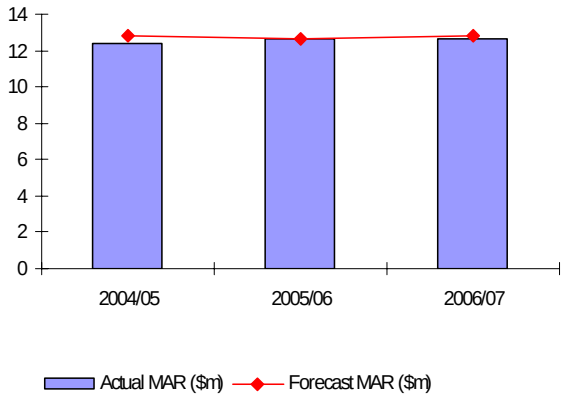
Figure 4.6: **Actual and forecast MAR**



EnergyAustralia's actual revenue in 2006/07 was $107.6 million, above the forecast revenue of $106.8 million. Actual revenue in 2006/07 was $8.6 million (or 8.7 per cent) higher than the previous financial year's figure of $99.0 million.

4.3.3 Murraylink

Figure 4.7: **Actual and forecast MAR**

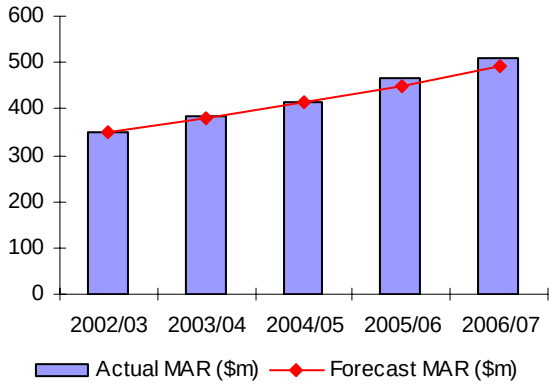


In 2006/07 Murraylink transitioned from reporting on a calendar year basis to reporting on a financial year basis. Because of this change, Murraylink's regulatory accounts reported performance for the period from 1 Jan 2006 to 30 June 2007. This incorporated 18 months of regulatory data. To provide a meaningful comparison between years the Murraylink data has been adjusted accordingly.

Murraylink's approximated actual revenue of $12.7 million was $0.1 million less than the forecast MAR for 2006/07 and was equal to the actual (and forecast) MAR for the previous year.

4.3.4 Powerlink

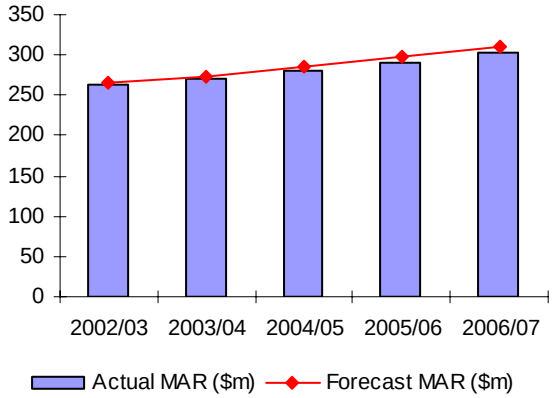
Figure 4.8: **Actual and forecast MAR**



Powerlink's revenue was $510.5 million in 2006/07, $19.8 million (or 4.0 per cent) above the forecast figure of $490.7m. Actual revenue increased around 9.5% over the financial year.

4.3.5 SP AusNet

Figure 4.9: **Actual and forecast MAR**

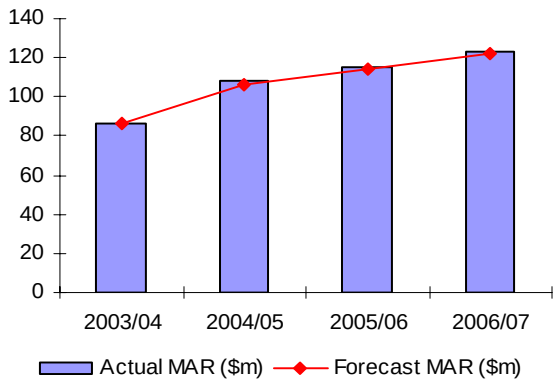


SP AusNet's actual revenue for the 2006/07 financial year was $302.0 million, approximately $7.7 million (or 2.5 per cent) lower than forecast of $309.8 (this figure excludes the pass through of easement land tax to allow comparison with the forecast MAR).

Actual revenue in 2006/07 was $10.7 million (or 3.7 per cent) higher than the previous financial year's figure of $291.3 million.

4.3.6 Transend

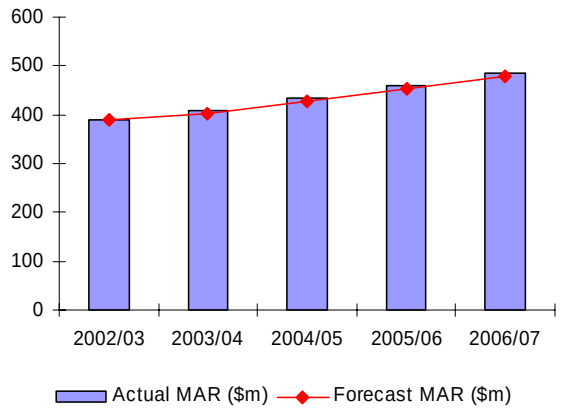
Figure 4.10: **Actual and forecast MAR**



In 2006/07 Transend's actual revenue of $123.3 million was $1.6 million above the forecast figure of $121.7 million. Actual revenue in 2006/07 was $8.3 million (or 7.2 per cent) higher than the previous financial year.

4.3.7 TransGrid

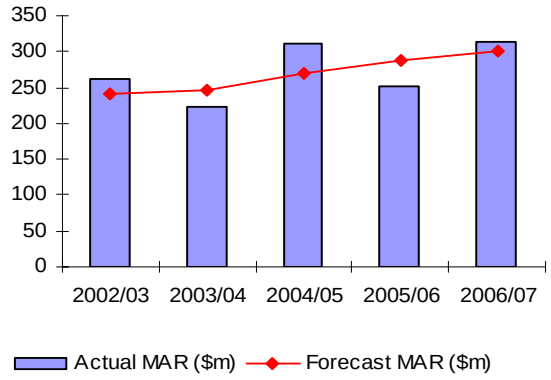
Figure 4.11: **Actual and forecast MAR**



TranGrid's actual revenue of $486.5 million in 2006/07 was 1.6 per cent above forecast revenue of $478.9 million. Actual revenue in 2006/07 was $27.1 million (or and 5.9 per cent higher than the previous financial year's figure of $459.5.

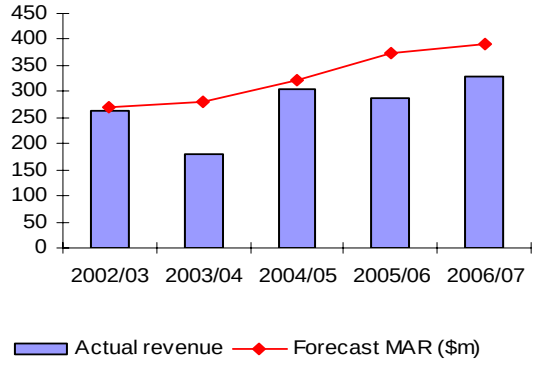
4.3.8 VENCorp

Figure 4.12: **Actual and forecast MAR**



VENCorp's revenue of $314.3 million for the 2006/07 financial year was $13.0 million (or 4.3 per cent) above the forecast revenue of $301.3 million. In 2005/06, the actual revenue of $250.6 million was $37.8 million (or 13.1 per cent) below the forecast figure of $288.4 million.[7]

Figure 4.13: **Actual and forecast MAR (adjusted)**



[7] The annual amount of the easement land tax pass-through has been excluded from VENCorp's actual revenue for the years 2005/06 and 2006/07 to allow like-for-like comparison with VENCorp's forecast MAR.

In 2004/05 and 2005/06 VENCorp received an increase in its revenue requirements due to the Victorian easement land tax and the conversion of the Murraylink interconnector from an unregulated to a regulated TNSP. This is reflected in the difference between VENCorp's regulated revenue and VENCorp's actual revenue. If the passthrough is taken into account, the actual revenue is much lower than the allowed regulated revenue, reflected in chart 4.13.

4.3.9 Directlink

The 2006-07 financial year was the first year in which the AER set Directlink a revenue determination. Directlink's revenue in 2006-07 was $12 million, which was slightly greater than their forecast revenue of $11.9 million.

5 Capital expenditure

The capex regulatory framework involves the AER setting an efficient capex allowance at the start of the regulatory period that is intended to cover a TNSP's expected investments including augmentation, replacement, refurbishment and business support. This is as an ex-ante allowance as it involves the AER forming a view on the efficiency of a TNSP's proposed investment program at the start of the regulatory period. The TNSP then determines which capital investments (projects) it will undertake within this allowance, subject to service level considerations. The objective of the ex-ante allowance is to provide certainty and a strong incentive for efficient investment. The requirement that the capex allowance is efficient reflects the provisions in the NER. It should be noted, however, that Transend continues to operate under an ex-post capex approach until its next regulatory determination.

As part of the capex incentive framework, should a TNSP spend less than the allowance set by the AER, it retains the benefit of that lower expenditure (both the return on and of capital) for the remainder of the regulatory period. Conversely, should a TNSP exceed the allowance set by the AER it would forgo both return on and of capital associated with the overspend for the remainder of the regulatory period.

The following chapter provides specific information on TNSPs' capex performance. Forecast figures for capex have been taken from final ACCC/AER decisions and adjusted for March quarter CPI figures for the later year of the relevant period.[8]

It should be noted that there are three general exclusions from the aggregate capex measures:

- Murraylink is a DC interconnector between Victoria and South Australia. It commenced operating in October 2002 and the majority of its assets are underground. No capex is forecast during its current regulatory period (2003/13) and therefore is not included in this chapter.

- Direclink is an interconnector between NSW and Queensland. No capex is forecast during its current regulatory period (2006/15) and therefore is not included in this chapter.

- VENCorp's accounts are structured to reflect the regulatory arrangements, under which it does not own, build or maintain electricity transmission assets in its own name. However, it does pay augmentation charges under network services agreements to successful tenderers who build/own/operate additions to the transmission network in Victoria. VENCorp's augmentation payments for 2006/07 were $18.1 million, compared to forecast expenditure of $28.8 million (this means that users were charged this lower actual figure). VENCorp is not included in the aggregate measures of capex below.

[8] For example, forecast capex for the period 2006/07 is adjusted for March quarter 2007 CPI. Note that SP AusNet's forecast capex figures have been adjusted for December quarter CPI figures to take account of its different financial year. CPI data is taken from the ABS website (www.abs.gov.au).

Presented below in figures 5.3 and 5.4 are key ratios of capex/average RAB and capex/energy transmitted.

Figure 5.1 **TNSP capital expenditure, 2002/03 to 2006/07**

Difference from forecast

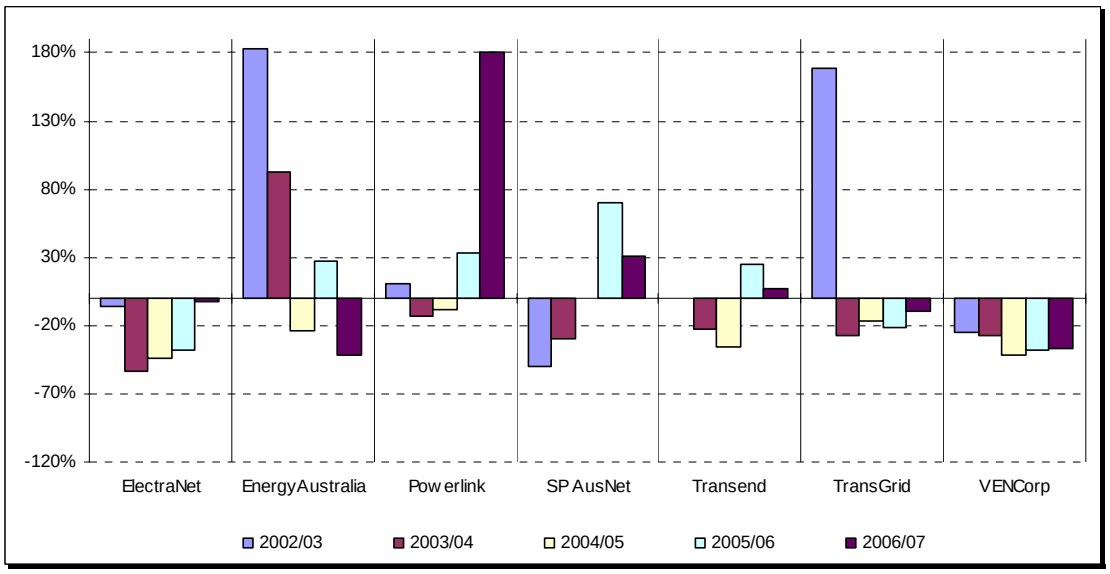
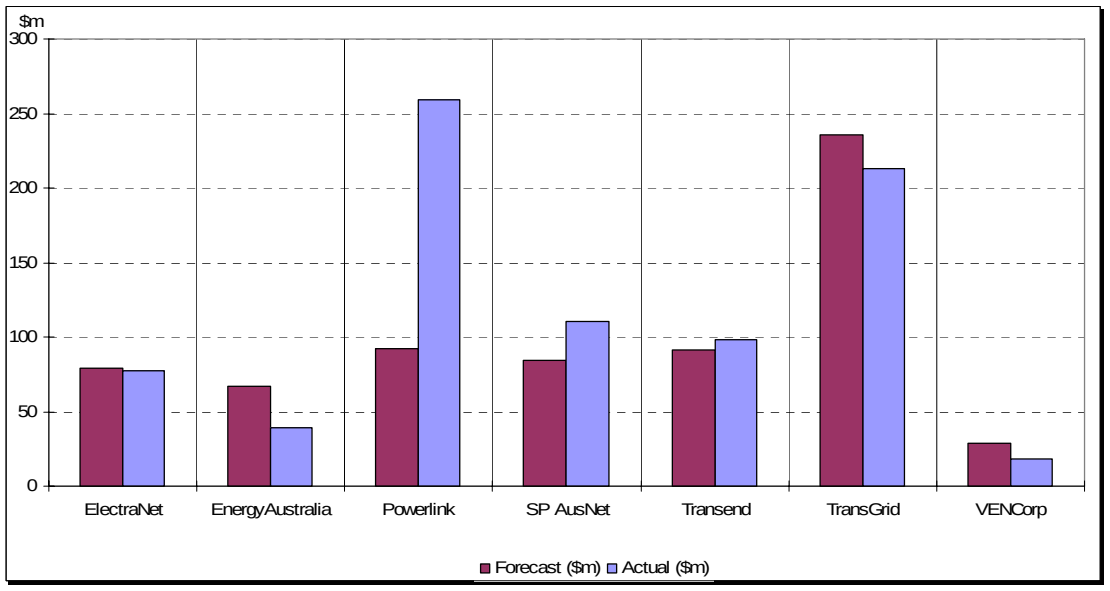


Figure 5.2 **TNSP capital expenditure 2006/07**

Actual versus forecast



5.1 Capital expenditure comparisons

Comparisons of capex are more difficult to interpret than opex comparisons as different TNSPs will face different demand growth rates, have systems with differing ages with older systems requiring more replacement capex, and have different reliability performances which may or may not be considered adequate to meet

customer expectations and valuations. Given these considerations, comparisons of capex need to be interpreted with caution.

Figure 5.3: **Capital expenditure as proportion of average RAB 2006/07**

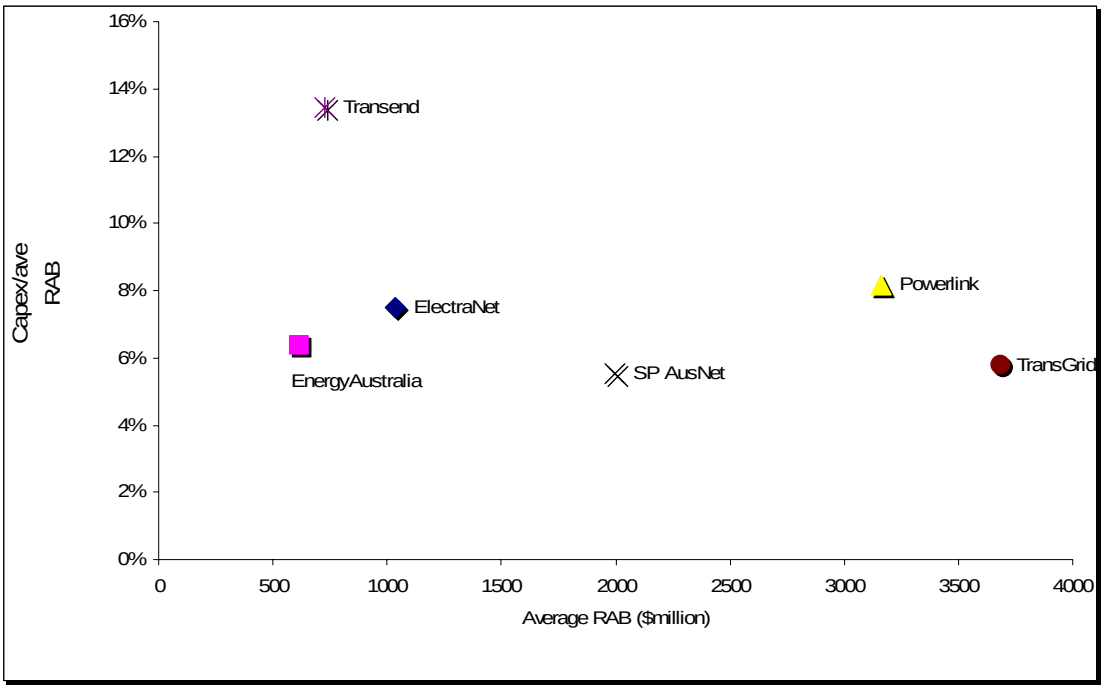
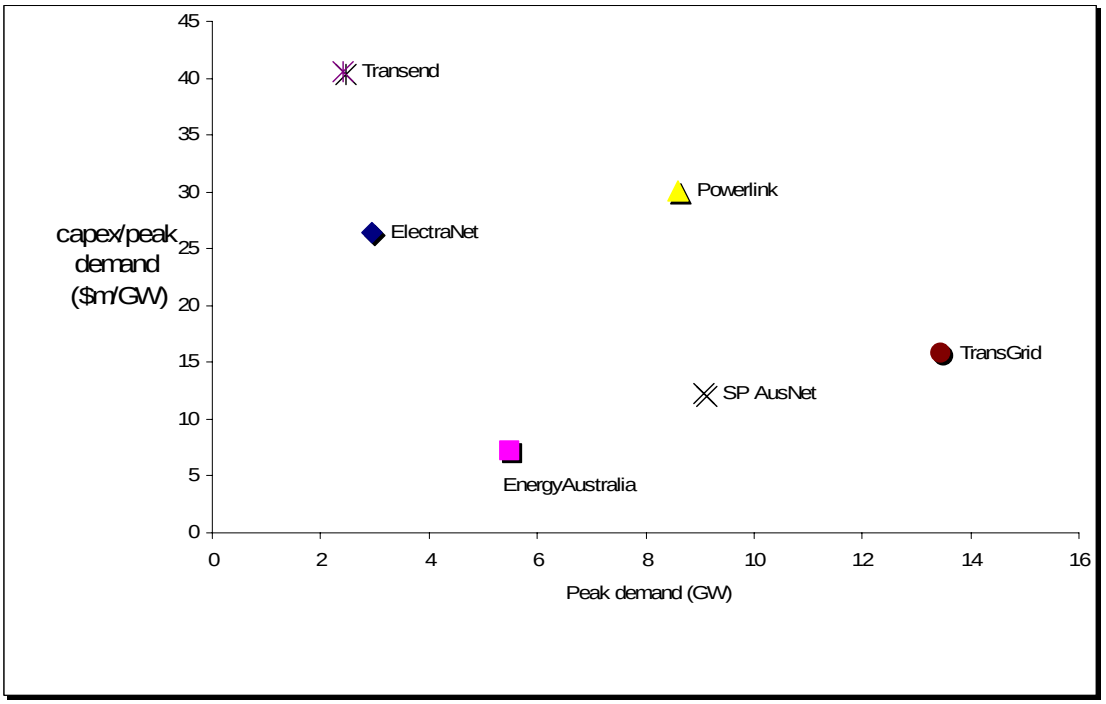


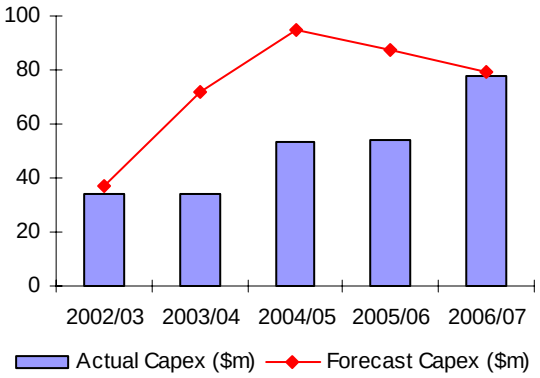
Figure 5.4: **Capital expenditure/peak demand $m/GW 2006/07**



5.2 TNSP capital expenditure outcomes

5.2.1 ElectraNet

Figure 5.5: **Actual and forecast capex**



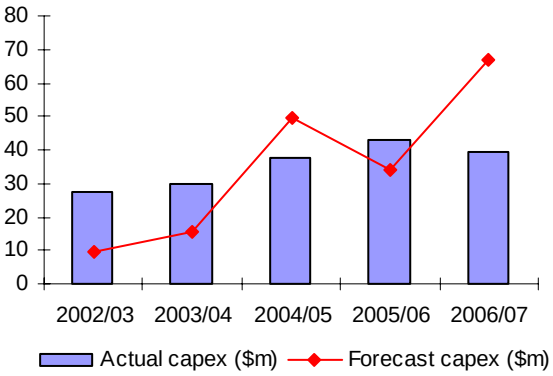
ElectraNet's actual capex for the 2007 financial year of $77.5 million was 2.3 per cent (or $1.8 million) lower than forecast.

Actual capex increased significantly from last year's figure of $54.4 million.

Regarding 2006/07, ElectraNet commented that expenditure was in line with forecast. ElectraNet has managed changing investment drivers causing delay and deferral of major projects in earlier years to be on track to deliver the five and a half year capex allowance provided by the ACCC by the end of June 2008.

5.2.2 EnergyAustralia

Figure 5.6: **Actual and forecast capex**

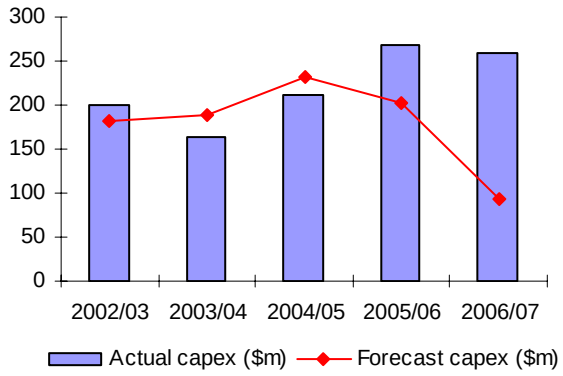


EnergyAustralia's actual capex for the 2007 financial year of $39.4 million was 41.2 per cent (or $27.6 million) lower than forecast. EnergyAustralia commented that his variance was primarily as a result of changes in two significant projects:

- Replacement of feeders 908/909 across Botany Bay involving significant technical, environmental and procurement issues which have led to delays in the project
- In the case of the 132kV Hunter development joint planning revealed that a more efficient alternative became possible which replaced the proposed project with a new 330kV/132kV Bulk Supply point at Tomago to be constructed by TransGrid and associated connection works to be constructed by EnergyAustralia

5.2.3 Powerlink

Figure 5.7: **Actual and forecast capex**

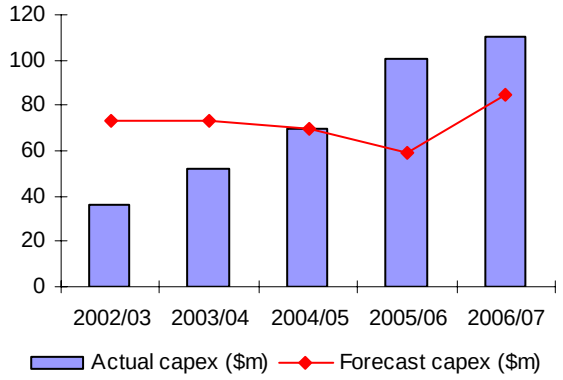


Powerlink's actual capex (i.e. capitalisations) for the 2007 financial year of $258.9 million was 180 per cent (or $166.5 million) higher than forecast.

For 2006/07, Powerlink has commented that high demand in Queensland (higher than the rest of the NEM) and an environment of high input costs – materials, labour resources and contractor margins – have resulted in higher than forecast capitalisations for 2006/07.

5.2.4 SP AusNet

Figure 5.8: **Actual and forecast capex**[9]



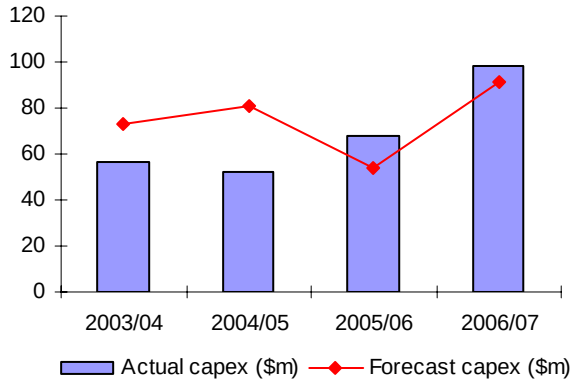
SP AusNet's actual capex for the 2007 financial year of $110.6 million was 30.8 per cent (or $26 million) higher than forecast.

SP AusNet commented that it is on track to complete the majority of the capex program forecast in 2002 for the regulatory period ending in 2007/08. Nonetheless, the completed program has not been identical to that approved in the 2002 Decision as priorities, problems and solutions have changed. In particular, increased in-service capex in 2006/07 reflects completion of many of the twelve major station switchyard replacement/refurbishment projects that were at the core of the current program.

[9] SP AusNet's capex allowance only covers replacement and refurbishment capex – i.e. capex to update the existing network. Expansion (augmentation) of the Victorian network is planned and commissioned by VENCorp.

5.2.5 Transend

Figure 5.9: **Actual and forecast capex**



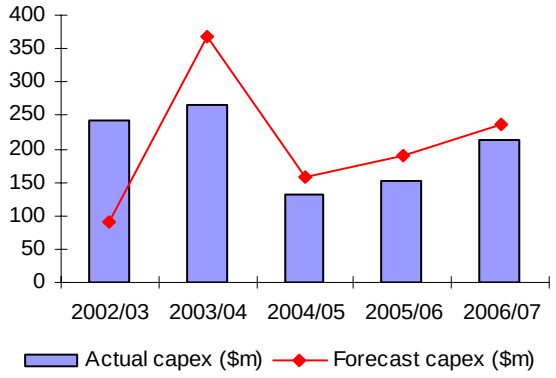
Transend's actual capex for the 2007 financial year of $97.9 million was 7 per cent (or $6.6 million) higher than forecast.

Transend has advised that the figures reflect the value of commissioned capex rather than actual expenditure. Transend has actually continued to increase capex, however differences between the actual and forecast figures as detailed reflect that some significant works are still in progress.

Regarding 2006/07, Transend commented that the higher commissioned capex is due to deferral of work program because of Basslink and NEM entry and increase in costs due to escalations and inflation.

5.2.6 TransGrid

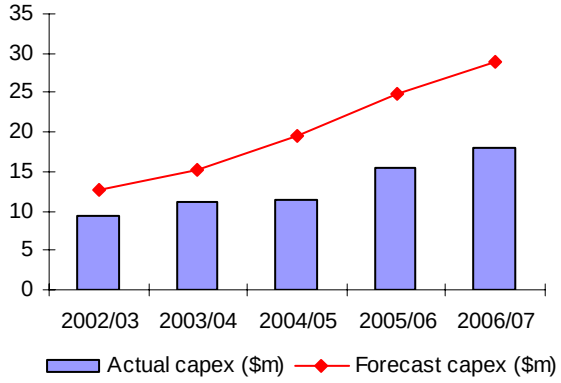
Figure 5.10: **Actual and forecast capex**



Transgrid's actual capex for the 2007 financial year of $213.4 million was 7.2 per cent (or $6.6 million) lower than forecast.

5.2.7 VENCorp

Figure 5.11: **Actual and forecast augmentation expenditure**



VENCorp's actual augmentation expenditure for the 2007 financial year of $18.1 million was 37.2 per cent (or $10.7 million) lower than forecast.

Unlike other TNSPs, VENCorp is a not-for-profit organisation. Therefore, VENCorp only recovers an amount which is equivalent to its actual expenditure and any under expenditure is retained by Victorian customers.

6 Operating and maintenance expenditure

This chapter discusses TNSPs' opex which typically includes wages and salaries, leasing costs, transmission asset maintenance costs, service contract expenses paid to third parties and other input costs related to the provision of prescribed transmission services.

The AER's regulatory approach seeks to foster efficient opex practices and includes incentives to reduce actual opex and improve service standards while meeting statutory reliability obligations. Opex targets are set for each TNSP at the time of its revenue determination. The targets are based on an assessment of realistic efficiency gains, which can be achieved against forecast future demand for services and other technical obligations. TNSPs are allowed to retain any 'underspend' in meeting the opex targets to provide greater incentives for efficient network operation. In particular, the Efficiency Benefit Sharing Scheme allows TNSPs to retain opex efficiency savings during the current regulatory period and shares these with transmission customers in the following regulatory period.

Differences in TNSPs' opex performance may be due to factors such as customer load profile and density, asset age profile, network design, jurisdictional regulatory obligations, topography and climate.

The following chapter provides specific information on TNSPs' opex performance. Forecast figures for opex have been taken from final ACCC/AER decisions and adjusted for March quarter CPI figures for the later year of the relevant period.[10]

In considering the reported opex data, the following points should be noted:

- Transend data is available from 2003/04 financial year.
- Murraylink data is available from 2004/05 financial year.
- Directlink data is available from 2006/07 financial year.
- Grid support costs are not included in opex data.

The opex performance of TNSPs over the period 2002/03 to 2006/07 is shown in the following graphs.

[10] For example, forecast opex for the period 2006/07 is adjusted for March quarter 2007 CPI. SP AusNet's forecast opex has been adjusted using December quarter CPI whereas the other TNSPs' forecast opex has been adjusted using March quarter CPI. CPI data has been sourced from the ABS website (www.abs.gov.au).

Figure 6.1 **TNSPs prescribed operating expenditure, 2002/03 to 2006/07**

Difference from forecast

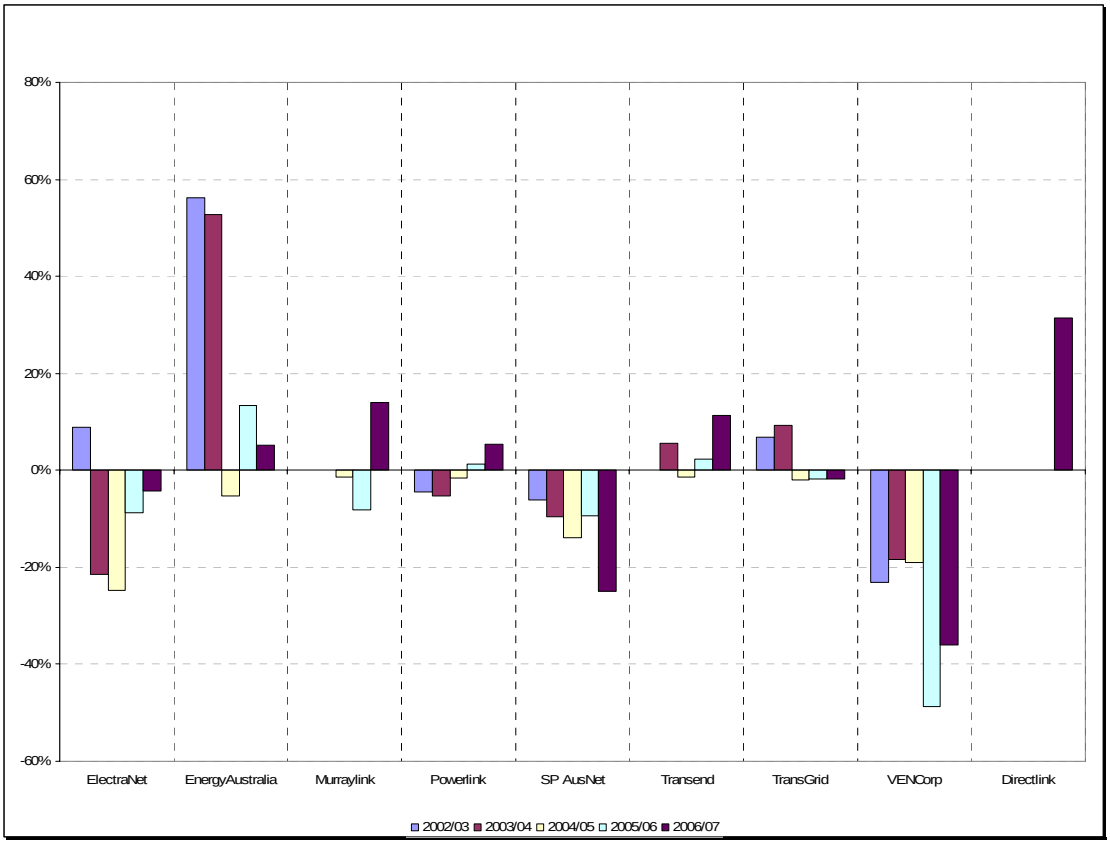
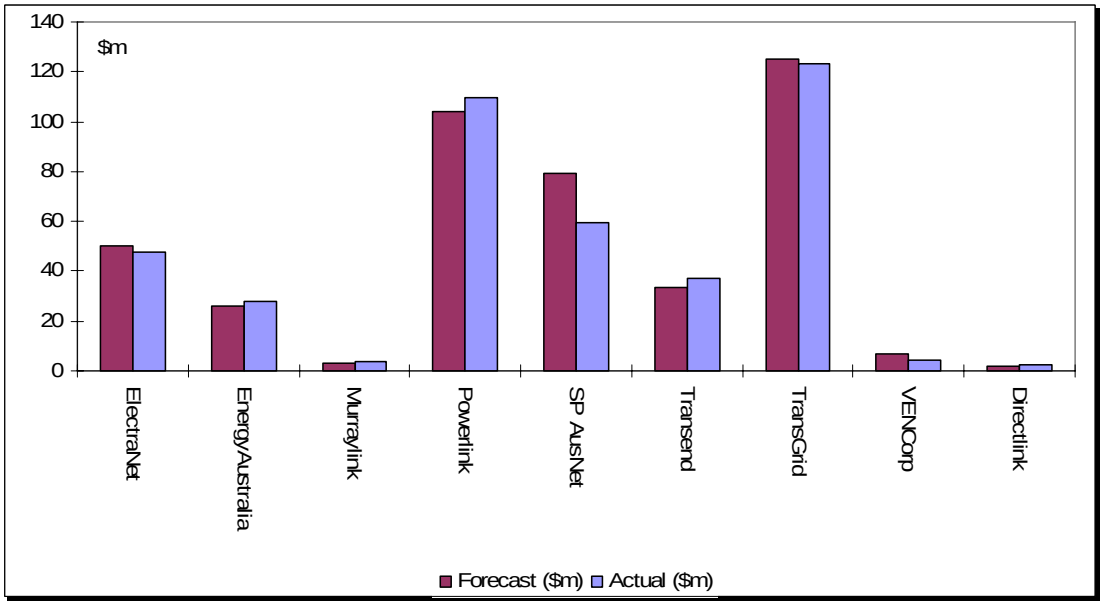


Figure 6.2 **TNSP prescribed operating expenditure 2006/07 – actual versus forecast**



6.1 Operating expenditure comparisons

In order to consider differences in both business size and business conditions, TNSPs' opex were plotted against the key cost drivers such as size (expressed by average RAB value, length of network, number of substations, MW of peak load and GWh of energy transmitted) and load density (expressed in peak load per km of network and peak load per substation).

Figure 6.3 shows opex as a proportion of average RAB value plotted against average RAB value for each of the sample transmission companies. As might be expected, the indicative trend is for opex (as a proportion of average RAB value) to decrease as the asset base increases. This is likely to reflect the fixed costs of operations and maintenance, and hence the economies of scale available to the larger businesses.

Figure 6.3: **Prescribed operating expenditure as proportion of average RAB 2006/07**

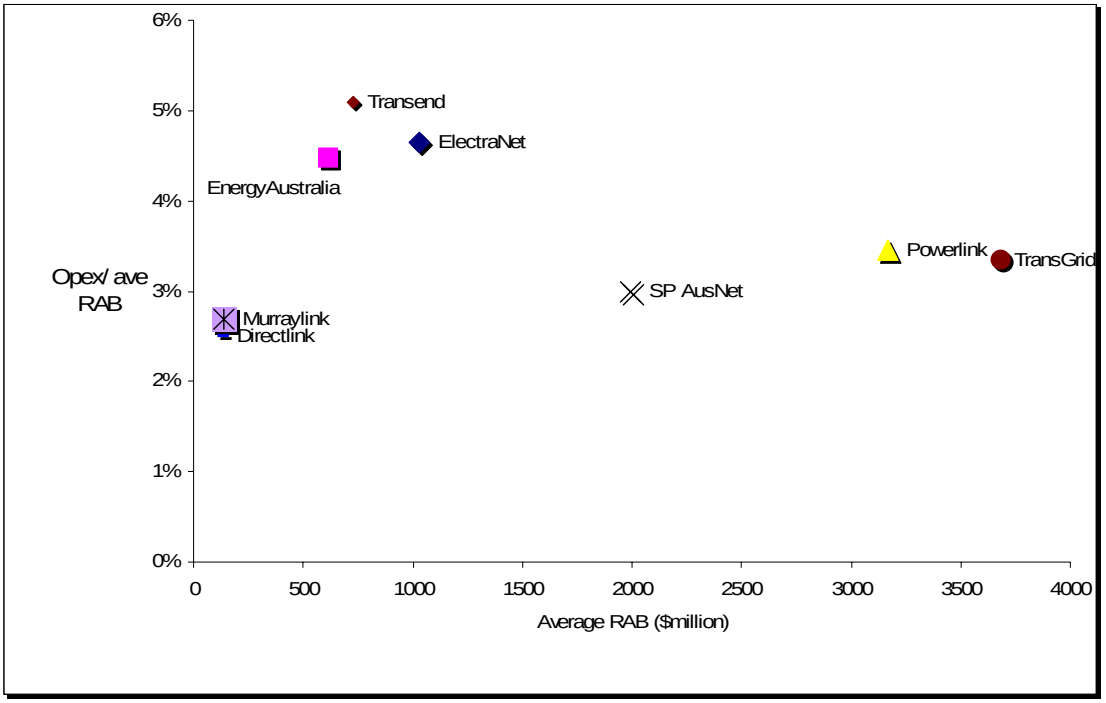
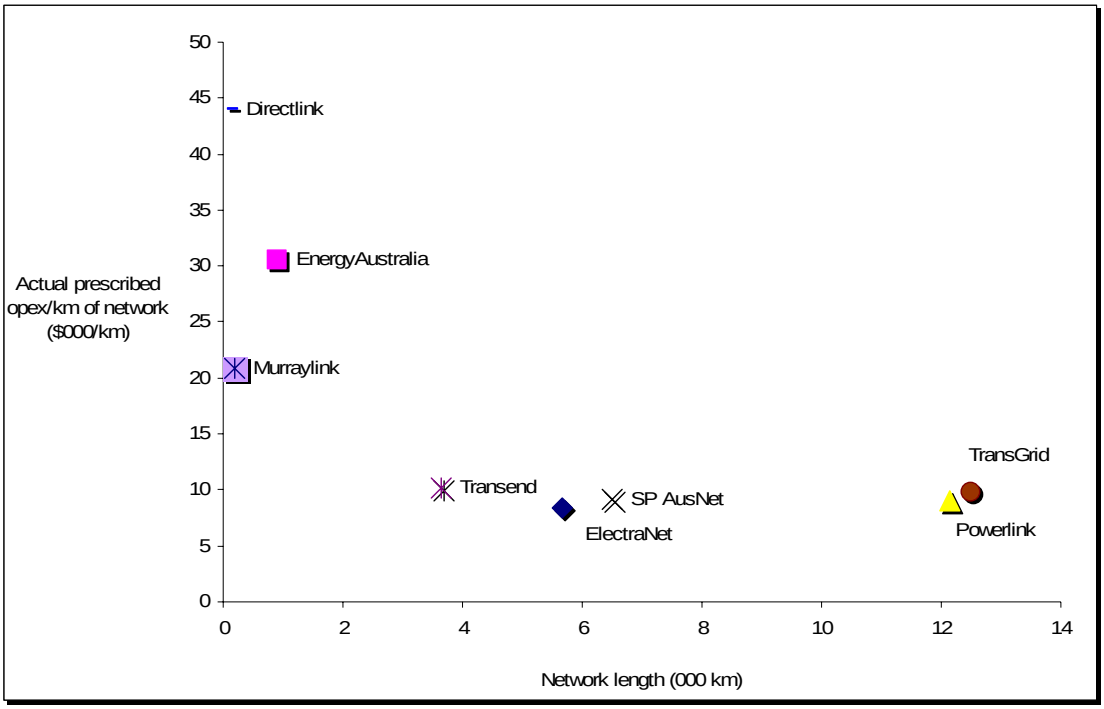


Figure 6.4 shows opex as a function of network length (circuit km of line). This, again, reflects the fixed costs of operations and maintenance, and hence the economies of scale available to the larger businesses.

Figure 6.4**: Prescribed operating expenditure as a function of network length 2006/07**

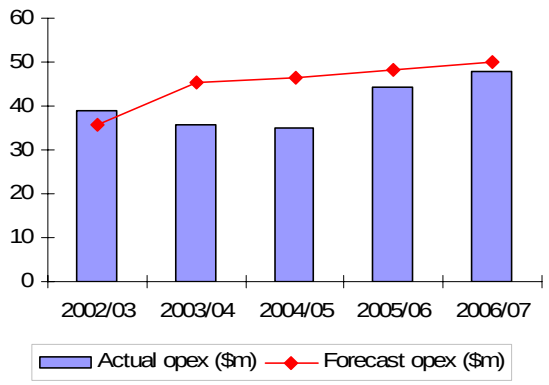


6.2 TNSP operating expenditure outcomes

The individual TNSP performance for 2006/07 is described below. Grid support costs have not been included in TNSP's opex as these costs substitute for augmentation capex and can vary significantly from year to year.

6.2.1 ElectraNet

Figure 6.5: **Actual and forecast opex**



ElectraNet's actual opex for the 2007 financial year of $48.0 million was 4.3 per cent (or $2.2 million) lower than forecast.

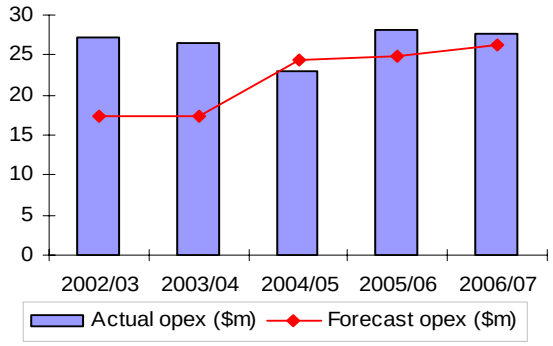
Actual opex increased significantly over last year's figure of $44.2 million.

Grid support costs have not been included in ElectraNet's opex.

Regarding 2006/07, ElectraNet commented that expenditure has increased over the prior year due to a staged introduction of a new maintenance regime to address the risks associated with a growing number of assets reaching the end of their useful lives.

6.2.2 EnergyAustralia

Figure 6.6: **Actual and forecast opex**



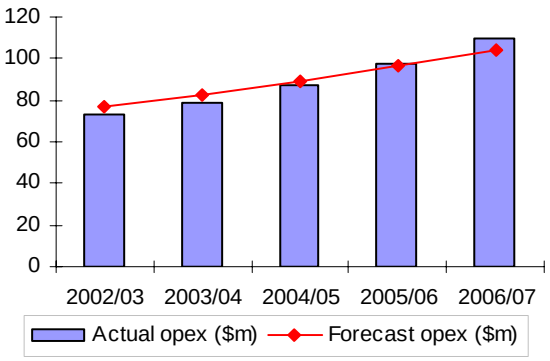
EnergyAustralia's actual opex for the 2007 financial year was $27.6 million and 5.2 per cent (or $1.4 million) higher than forecast.

EnergyAustralia commented that the 2007 operating costs are higher as a result of:

- Labour and materials costs increasing above the 2.5% allowance for general inflation; and
- An increase in the intake of apprentices to provide sufficient skilled resources to meet future needs.

6.2.3 Powerlink

Figure 6.7: **Actual and forecast opex**

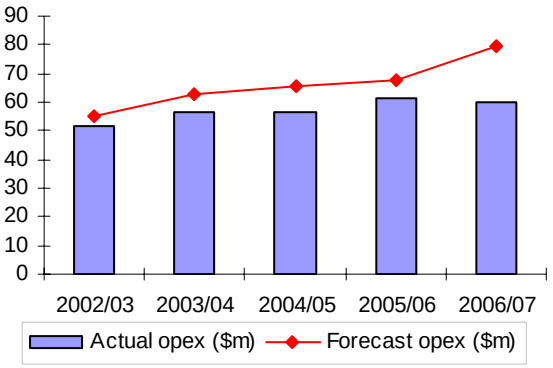


Powerlink's actual opex for the 2007 financial year was $109.5 million and 5.4 per cent (or $5.6 million) higher than forecast.

Regarding 2006/07, Powerlink commented that as is the case with capital works, an environment of high input costs and increasing legislative obligations have contributed to increasing operating costs.

6.2.4 SP AusNet

Figure 6.8: **Actual and forecast opex**

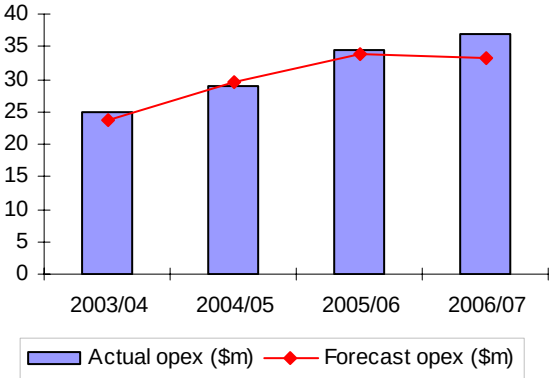


SP AusNet's actual opex for the 2007 financial year was $59.7 million and 24.9 per cent (or $19.8 million) lower than forecast. This figure excludes easement land tax expense

SP AusNet commented that opex costs fell in this year as the benefits of the merger with the distribution businesses also owned by SP AusNet impacted for the full year.

6.2.5 Transend

Figure 6.9: **Actual and forecast opex**



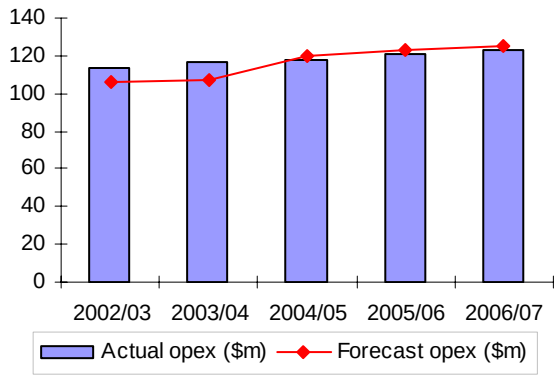
Transend's actual opex for the 2007 financial year was $37 million and 11.4 per cent (or $3.8 million) higher than forecast.

Grid support costs have not been included in Transend's opex.

Regarding 2006/07, Transend commented that the higher than forecasts result is mainly due to wages growth and inflation.

6.2.6 TransGrid

Figure 6.10: **Actual and forecast opex**



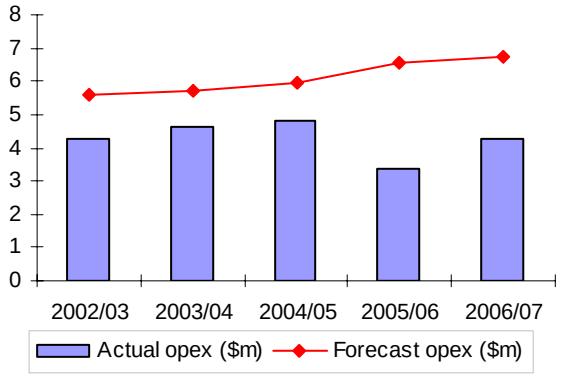
TransGrid's actual opex for the 2007 financial year was $123.1 million and 1.8 per cent (or $2.3 million) lower than forecast.

TransGrid incurred grid support costs for the first time in the 2006/07 financial year. These costs have not been included in TransGrid's opex.

There was a significant increase in the difference between actual and forecast opex during 2006/07.

6.2.7 VENCorp

Figure 6.11: **Actual and forecast opex**



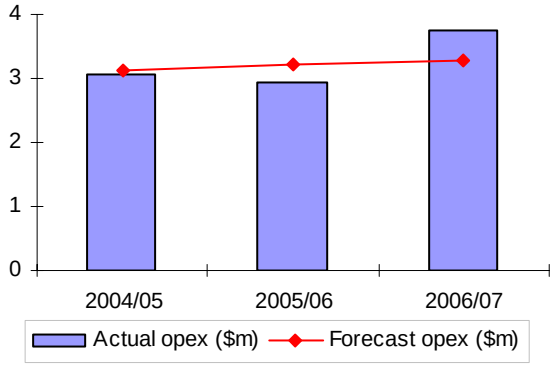
VENCorp's actual opex for the 2007 financial year was $4.3 million and 35.8 per cent (or $2.4 million) lower than forecast.

VENCorp is a not-for-profit organisation and only recovers amounts equivalent to its actual expenditures. Any under-expenditure on the Maximum Allowable Revenue is retained by Victorian transmission customers.

VENCorp's actual opex has consistently been below the forecast figure.

6.2.8 Murraylink

Figure 6.12: **Actual and forecast opex**



Murraylink's actual opex for the 2007 financial year of $3.7 million was 14.0 per cent (or $0.5 million) higher than forecast.

6.2.9 Directlink

Directlink's actual opex for the 2007 financial year was $2.8 million.

Directlink provided data to the AER for the first time in 2006/07, and so no comparison with historical performance is available.

7 Service standards

7.1 Background

In accordance with the provisions of the NER, the AER is required to determine each TNSP's revenue cap. Under a revenue cap, TNSPs are unable to increase their revenue above the MAR. The only way a TNSP can increase its profits for regulated activities is by reducing its costs. While such cost reductions could occur from improved efficiency, they could also result from reducing service quality or increasing service risk, which would impose costs on other market participants. The AER's service standards performance regime provides an incentive to address this potential decline in service levels.

The ACCC published service standards guidelines (the guidelines) on 12 November 2003 and the AER adopted these guidelines in August 2005. In August 2007 the AER published the first version of the Service Target Performance Incentive Scheme (STPIS). This first version of the STPIS was largely based on the existing guidelines, but included amendments to ensure that it complied with new NER requirements. The STPIS replaces the service standards guidelines, however the August '07 version of the STPIS does not apply to TNSPs until the commencement of their next regulatory control periods and as at 30 June 2007 there were no TNSPs reporting against it. The first proposed STPIS, which was published in January 2007, applies to both ElectraNet and SP AusNet during their regulatory control periods commencing 1 April 2008 and 1 July 2008 respectively.

The AER has since published a version two of the STPIS which incorporates a market impact parameter. This version of the STPIS will apply to Transend and TransGrid during their next regulatory control periods (due to commence on 1 July 2009), however only TransGrid will be subject to the new market impact parameter because of the lack of sufficient data for Transend.

7.2 Service performance regime

The service performance regime is aimed at deterring TNSPs from cutting costs that would reduce service standards. The service standard guidelines are forward-looking and use targets based on historical performance to compare future performance by a TNSP within a regulatory period. Following the measurement of performance against established targets, a TNSP's MAR can be adjusted by the prescribed amount. Therefore, the service standards guidelines provide TNSPs with a financial incentive to improve service performance and financial penalties for deterioration in service performance. These financial incentives and penalties affect the TNSPs annual revenue calculation. The service standards guidelines also ensures that TNSPs consider how their network operations are valued in the NEM. There are three core performance parameters applying to TNSPs:

- transmission circuit availability

- average outage duration
- loss of supply event frequency

As mentioned above, the AER has recently released the STPIS incorporating a market impact parameter, however this parameter does not currently apply to any TNSPs subject to a service performance regime.

The service performance regime uses the TNSP's historical performance as a target for future performance. The AER also takes into account the impact of planned capex on performance. The performance targets are set in each revenue determination decision and extend for the duration of the regulatory period. Performance targets and the weighting of performance parameters are based on factors unique to each TNSP and therefore, vary between individual TNSPs.

The financial incentive or penalty is calculated using the formula set out in the STPIS (or guidelines) and in each TNSP's revenue cap decision. This formula applies a weighting to each performance parameter. To date the financial incentive (or penalty) has been limited to one per cent of each TNSPs MAR for the relevant calendar year. However, the STPIS published by the AER in March 2008, which includes a market impact parameter, provides that the maximum revenue increment that a TNSP may earn against its parameters and values under the market impact component is 2 per cent of the TNSP's maximum allowed revenue for the relevant calendar year.

7.2.1 Exclusions

To maintain the integrity and appropriate balance of performance incentives the service standards guidelines permit TNSPs to exclude certain categories of events. The nature and number of excludable events differs between TNSPs.[11] An event may be excluded if it was outside of the TNSP's control or the event resulted from the actions of a third party. All TNSPs are permitted to exclude 'force majeure' events from their performance calculations provided the AER is satisfied that each event satisfies the appropriate definition.

When considering the classification of an event as being force majeure, the AER will consider the following:[12]

- was it unforeseeable and its impact extraordinary, uncontrollable and not manageable
- does this event occur frequently and if so how did the impact of the particular event differ
- could the TNSP, in practice, have prevented the impact of the event though not necessarily the event itself
- could the TNSP have effectively reduced the impact of the event by adopting better practices.

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[11] See Appendix B for details of exclusions in 2006.

[12] AER, Compendium of Electricity Transmission Regulatory Guidelines, August 2005, Schedule 2, pg 49

7.2.2 Market Impact Transparency Report

To assess the possibility of further refining incentives relating to the impact of transmission constraints, a service standards working group was formed in 2003. The working group's efforts led to the development of indicators of the market impact of transmission congestion and subsequently the release of version two of the STPIS, which incorporates a market impact parameter. The AER has also released reports on TNSP's performance against the marginal cost of constraints (MCC), outage cost of constraints (OCC) and total cost of constraints (TCC) indicators for the 2003–04, 2004–05, 2005–06, 2006–07 financial years.

7.3 Implementation of the service performance regime

The service performance regime for 2006 was implemented through TNSP revenue determinations set under clause 6.2.4(b) of the NER (as it applied to the 2006 calendar year). In setting a revenue determination, clause 6.2.4(c) requires the AER to take into account the TNSP's revenue requirement, having regard for, amongst other things, the service standards applicable to the TNSP.

The AER has so far applied the service performance regime to the following transmission entities:

- Directlink
- ElectraNet
- EnergyAustralia
- Murraylink
- Powerlink[13]
- SP AusNet
- Transend
- TransGrid

The service performance regime measures performance based on calendar year rather than financial year. This results in a three to six-month lag between service standards performance being measured and the financial incentive being added to or subtracted from the MAR based on a July-June financial year.[14] This allows sufficient time for the data submitted by TNSPs to be audited and the resultant financial incentive or penalty to be included in the following financial year's MAR.

7.4 Annual Compliance Review

TNSPs are required under the revenue cap decisions and the service standards guidelines to report their service standards performance each year to the AER. The AER reviews each report to ensure that the reporting of performance, treatment of exclusions and proposed incentives by TNSPs comply with the service standards guidelines and their respective revenue cap decisions. At the conclusion of the review process, the AER notifies all relevant TNSPs of their performance outcome and financial incentive or penalty for that year.

[13] Powerlink reported its first performance against its service standards from 1 July 2007
[14] SP AusNet is the exception as they operate under a Singapore financial year (April-March)

7.5 Summary of Performance 2006

During 2006, the AER conducted its fourth service standards compliance review. The AER engaged PB Associates to audit the performance reports provided by EnergyAustralia and Sinclair Knight Merz (SKM) to audit the performance reports provided by all remaining TNSPs. This review included seven TNSPs. Powerlink was not included as it did not commence reporting performance against its service standards until 1 July 2007[15].

Table 7.1 shows the financial incentive based on performance outcomes for each relevant TNSP for the 2003, 2004, 2005 and 2006 calendar years.

Table 7.1 **Financial Incentives for 2003 – 2006**

	2006 calendar year ($000s)	2006 s-factor* %	2005 calendar year ($000s)	2005 s-factor* %	2004 calendar year ($000s)	2004 s-factor* %	2003 calendar year ($000s)	2003 s-factor* %
Directlink	(49.7)	(0.54)	NA	NA	NA	NA	NA	NA
ElectraNet	1,028.4	0.59	1,168.9	0.71	997.7	0.63	1,118.7	0.74
EnergyAustralia	400.6	0.39	637.5	0.67	456.4	1.00	N/A	N/A
Murraylink	22.8	0.21	(19.6)	(0.15)	(87.8)	(0.80)	N/A	N/A
SPAusNet **	(496.3)	(0.17)	272.7	0.09	609.8	0.22	(75.0)	(0.03)
Transend	73.5	0.06	207.6	0.19	573.9	0.55	N/A	N/A
TransGrid	2,966.2	0.63	3,115.0	0.70	2,007.3	0.93	N/A	N/A

*Financial incentives are capped at ± 1.0% of each TNSP's MAR for that year, except in the case of SP AusNet. For example, an s-factor of 0.50 would result in a financial incentive of 0.5% of the TNSP's MAR, or half of the potential maximum financial incentive available under the PI Scheme.
**SP AusNet's financial incentive for its current regulatory control period is capped at + 0.5% of its MAR, as SP AusNet is also required to comply with the Victorian Government's performance incentive regime administered by VENCorp.

A detailed summary of each TNSPs performance outcome for the 2006 calendar year can be found in Appendix B. Complete TNSP performance reports for 2003 – 2006 as well as 2007 (for applicable TNSPs) can be found on the AER website (www.aer.gov.au).

7.5.1 Regulatory Report and Service Standards

Service standards data has been included in three previous Regulatory Reports to date: the 2002–03, 2004–05 and the 2005–06 reports. This data was omitted from the 2003-04 Regulatory Report due to the disparity between the service standards and regulatory reporting periods affecting the availability of performance data. For the 2007 calendar year, service standards data is available for each TNSP at **www.aer.gov.au.**

[15] It should be noted that the AER has since undertaken the 2007 calendar year service standards compliance review and documents relating to this review are available on the AER website (www.aer.gov.au).

Appendix A: Summary of key data and indicators

A.1 ElectraNet

	2002/03	2003/04	2004/05	2005/06	2006/07
Income statement ($nominal, m)					
Transmission revenue (PS)	150.2	156.5	163.9	170.4	179.1
Opex (PS)	38.9	35.6	34.8	44.2	48.0
Grid support	4.4	3.7	4.6	4.2	5.0
Depreciation (PS)	38.5	37.6	40.2	44.6	47.1
EBIT (PS)	69.7	79.7	84.4	77.3	78.3
Balance sheet ($nominal, m)					
Closing RAB	821.9	861.6	893.8	989.3	1,075.4
Total assets	1,174.5	1,220.3	1,250.7	1,372.9	1,403.0
Total debt (excl. SN)	817.5	837.7	843.7	876.4	946.4
Total liabilities (excl. SN)	865.4	893.4	901.1	1,041.4	1,061.0
Total equity (inc. SN)*	309.1	327.0	349.6	331.5	342.0
Financial indicators					
Return on equity	-5.3%	1.4%	0.2%	-2.6%	-2.4%
Return on assets - PS	8.5%	9.5%	9.6%	8.2%	7.6%
Gearing ratio	72.6%	71.9%	70.7%	72.6%	73.5%
EBIT(PS)/Gross interest exp	0.8x	1.0x	0.9x	0.8x	0.8x
Non financial information					
Line length (km)	5,579	5,579	5,663	5,611	5,611
Maximum demand (MW)	2,794	2,607	2,659	2,938	2,942
Electricity transmitted (GWh)	12,511	12,336	12,137	12,856	12,331

*ElectraNet advise that credit rating agencies generally treat its shareholder notes (SN) as equity rather than debt for the purposes of determining its credit rating.

A.2 EnergyAustralia

	2002/03	2003/04	2004/05	2005/06	2006/07
Income statement ($nominal, m)					
Transmission revenue (PS)	75.8	77.2	91.3	99.0	107.6
Opex (PS)	27.1	26.5	23.0	28.1	27.6
Depreciation (PS)	21.9	21.4	24.6	23.7	24.0
EBIT (PS)	27.0	28.9	44.1	48.0	56.9
Balance sheet ($nominal, m)					
Closing RAB	603.6	615.5	646.4	609.3	624.8
Total assets	630.2	646.3	674.4	650.9	672.6
Total debt	270.2	280.7	312.6	286.0	342.8
Total liabilities	321.5	338.6	378.8	435.1	488.7
Total equity	308.7	307.7	295.6	215.8	183.9
Financial indicators					
Return on equity	1.3%	2.1%	5.5%	5.6%	10.9%
Return on assets - PS	4.6%	4.7%	7.0%	7.6%	9.2%
Gearing ratio	46.7%	47.7%	51.4%	57.0%	65.1%
EBIT(PS)/Gross interest exp	1.3x	1.5x	2.1x	2.6x	2.7x
Non financial information					
Line length (km)	1,040	1,040	1,040	899.3	903.3
Maximum demand (MW)	5,051	5,165	5,280	5,460	5,484
Electricity transmitted (GWh)	26,862	27,563	30,713	31,669	31,947

A.3 Powerlink

	2002/03	2003/04	2004/05	2005/06	2006/07
Income statement ($nominal, m)					
Transmission revenue (PS)	348.8	383.7	416.2	466.0	510.5
Opex (PS)	73.2	78.3	87.5	97.3	109.5
Grid support	10.7	11.2	15.3	21.5	18.8
Depreciation (PS)	99.1	105.8	114.0	124.4	143.90
EBIT (PS)	170.8	184.7	199.2	231.0	241.1
Balance sheet ($nominal, m)					
Closing RAB	2,577.0	2,683.9	2,840.9	3,070.3	3,258.8
Total assets	3,050.5	3,203.3	3,370.0	3,684.6	4,214.9
Total debt	1,351.8	1,412.4	1,469.3	1,645.3	2,006.9
Total liabilities	1,658.4	1,738.0	1,802.3	2,175.8	2,598.3
Total equity	1,392.2	1,465.3	1,567.7	1,508.7	1,616.7
Financial indicators					
Return on equity	5.8%	6.5%	6.8%	7.7%	7.4%
Return on assets - PS	6.9%	7.0%	7.2%	7.8%	7.6%
Gearing ratio	49.3%	49.1%	48.4%	52.2%	55.4%
EBIT(PS)/Gross interest exp	2.2x	2.3x	2.3x	2.4x	2.1x
Non financial information					
Line length (km)	11,441	11,516	11,902	11,939	12,132
Maximum demand (MW)	7,081	7,934	8,232	8,295	8,589
Electricity transmitted (GWh)	43,120	45,625	46,170	47,734	47,750

A.4 SP AusNet

	2002/03	2003/04	2004/05	2005/06	2006/07
Income statement ($nominal, m)					
Transmission revenue (PS)	262.7	271.5	281.2	291.3	302.0
Opex (PS)	51.7	56.8	56.5	61.5	59.7
Depreciation (PS)	51.7	55.8	56.8	63.4	65.7
EBIT (PS)	166.3	164.0	179.5	164.3	156.3
Balance sheet ($nominal, m)					
Closing RAB	1,812.8	1,841.2	1,880.4	1,959.1	2,032.4
Total assets	2,245.1	2,287.3	2,335.8	2,945.2	3,083.9
Total debt	1,432.8	1,375.7	1,529.1	1,505.8	1,606.8
Total liabilities	1,830.6	1,809.1	1,796.4	1,948.2	1,976.3
Total equity	603.3	685.0	539.5	997.0	1,107.6
Financial indicators					
Return on equity	8.5%	9.9%	10.0%	-11.0%	14.3%
Return on assets - PS	9.2%	8.9%	9.6%	8.6%	7.8%
Gearing ratio	70.4%	66.8%	73.9%	60.2%	59.2%
EBIT(PS)/Gross interest exp	1.7x	1.9x	2.0x	1.8x	1.8x
Non financial information					
Line length (km)	6,553	6,553	6,553	6,553	6,553
Maximum demand (MW)	8,203	8,572	8,535	8,730	9,062
Electricity transmitted (GWh)	48,124	45,006	45,467	50,267	51,821

A.5 VENCorp

	2002/03	2003/04	2004/05	2005/06	2006/07
Income statement ($nominal, m)					
Transmission revenue	261.8	222.2	312.3	250.6	314.3
Less network charges	229.2	239.0	292.3	263.2	273.9
Total electricity transmission revenue	32.6	-16.8	20.0	-12.6	40.4
Other revenue	1.4	1.2	2.2	4.1	2.4
Total revenue	34.0	-15.6	22.2	-8.5	42.8
Less expenses (opex)	4.3	4.7	4.8	3.4	4.3
Net result for period	29.7	-20.3	17.4	-11.8	38.5
Balance sheet ($nominal, m)					
Current assets	51.7	29.4	51.6	39.6	80.6
Non-current assets	0.3	0.2	0.1	0.1	0.1
Total assets	52.0	29.5	51.7	39.7	80.7
Current liabilities	24.9	22.6	27.4	28.4	30.9
Non-current liabilities	0.5	0.6	0.5	0.0	0.0
Total liabilities	25.4	23.2	27.9	28.4	30.9
Net assets	26.6	6.3	23.8	11.3	49.8
Stakeholders funds					
Contributed capital	0.0	0.0	0.0	0.0	0.0
Accumulated surplus	26.6	6.3	23.8	11.3	49.8

A.6 Transend

	2003/04	2004/05	2005/06	2006/07
Income statement ($nominal, m)				
Transmission revenue (PS)	85.9	108.0	115.0	123.3
Opex (PS)	25.0	29.0	34.5	37.0
Depreciation (PS)	29.4	33.8	34.1	33.9
EBIT (PS)	31.8	42.6	45.1	51.3
Balance sheet ($nominal, m)				
Closing RAB	615.8	644.4	689.8	768.1
Total assets	648.6	697.7	782.2	1,129.8
Total debt	35.1	52.9	92.8	118.1
Total liabilities	97.0	125.7	253.7	365.2
Total equity	551.7	572.0	528.5	764.6
Financial indicators				
Return on equity	3.6%	4.9%	6.8%	3.3%
Return on assets - PS	5.4%	6.8%	6.8%	7.0%
Gearing ratio	6.0%	8.5%	14.9%	13.4%
EBIT(PS)/Gross interest exp	15.5x	17.4x	10.9x	7.9x
Non financial information				
Line length (km)	3,537	3,580	3,580	3,645
Maximum demand (MW)	1,691	1,780	2,089*	2,415
Electricity transmitted (GWh)	10,187	10,730	10,945*	11,565

* The large increase in maximum demand is due to Basslink interconnector

A.7 TransGrid

	2002/03	2003/04	2004/05	2005/06	2006/07
Income statement ($nominal, m)					
Transmission revenue (PS)	389.9	407.8	435.3	459.5	486.5
Opex (PS)	113.8	117.0	117.3	120.7	123.1
Depreciation (PS)	108.0	111.7	118.5	126.0	134.6
EBIT (PS)	165.1	182.9	199.4	212.8	223.8
Balance sheet ($nominal, m)					
Closing RAB	2,427.1	2,726.6	3,102.2	3,611.0	3,757.6
Total assets	2,807.4	3,383.4	3,732.6	3,750.0	3,929.0
Total debt	1,388.7	1,523.6	1,519.7	1,455.3	1,453.5
Total liabilities	1,684.0	1,866.9	1,864.7	2,129.5	2,219.9
Total equity	1,123.5	1,516.4	1,867.9	1,620.5	1,709.1
Financial indicators					
Return on equity	4.2%	6.3%	4.6%	7.1%	7.0%
Return on assets - PS	6.9%	7.1%	6.5%	6.3%	6.1%
Gearing ratio	55.3%	50.1%	44.9%	47.3%	46.0%
EBIT(PS)/Gross interest exp	1.9x	2.1x	1.9x	2.1x	2.2x
Non financial information					
Line length (km)	12,420	12,446	12,485	12,480	12,489
Maximum demand (MW)	12,332	12,476	13,126	13,292	13,458
Electricity transmitted (GWh)	67,744	69,736	69,338	72,383	78,226

A.8 Murraylink

	2004	2005	2006
Income statement ($nominal, m)			
Transmission revenue (PS)	12.4	12.7	12.7
Opex (PS)	3.1	2.9	3.7
Depreciation (PS)	4.3	3.7	3.7
Balance sheet ($nominal, m)			
Closing RAB	100.1	97.9	102.5
Total assets	174.9	144.9	137.5
Non financial information			
Line length (km)	180	180	180
Maximum demand (MW)	n/a	n/a	n/a
Electricity transmitted (GWh)	n/a	n/a	n/a

A.9 Directlink

	2006/07
Income statement ($nominal, m)	
Transmission revenue (PS)	12.0
Opex (PS)	2.8
Depreciation (PS)	4.6
Balance sheet ($nominal, m)	
Closing RAB	110.3
Total assets	111.6
Non financial information	
Line length (km)	63
Maximum demand (MW)	n/a
Electricity transmitted (GWh)	n/a

Appendix B: Service standards performance 2006

Since the formulation of the service standards guidelines (the guidelines), seven TNSPs have had service standards and performance incentives included in their revenue determination decisions. The AER has conducted a service standards performance review of TNSPs since 2003. In 2007, the AER conducted its performance review for the 2006 calendar year, a detailed summary of each TNSP's performance is outlined below.

B.1 Directlink

Introduction

On 7 March 2007, Directlink Joint Venturers (Directlink) submitted its first annual performance report for the 2006 calendar year. It reported an s-factor of -0.54 per cent resulting in a penalty of $49 673.

Performance measures

The performance measures which apply to Directlink are outlined in its revenue determination decision.[16] They are:

- Scheduled circuit availability
- Forced outage circuit availability – peak periods
- Forced outage circuit availability – off-peak periods

Table B1 shows Directlink's performance against these measures for 2006 and the resulting financial incentive.

Exclusions

Directlink proposed three exclusions from its 2006 performance. Two exclusions involved TransGrid's inter-trip system creating outages and were proposed as third party exclusions. The third involved a transformer failure at the Bungalore substation requiring off-site repairs. Directlink considered the transformer failure outage, which extended into the 2007 calendar year fell under the definition of force majeure.

Consultant's report

The AER engaged SKM to audit Directlink's performance report and found the following:

- Regarding the two third party inter-trips, SKM found TransGrid did not have a record of these events on their recording system and SKM was unable to determine

[16] AER, *Decision Directlink Joint Venturers' application for conversion and revenue determination*, 3 March 2006.

the cause of the outages. SKM recommended that these two outages not be excluded from Directlink's 2006 performance data.

- SKM considered that the transformer failure met the definition of force majeure as detailed in Directlink's revenue determination decision, however it considered that the force majeure definition was not consistent with the definition applied to other TNSP's. SKM recommended that the event be included for the first 14 days and excluded thereafter (ie cap the event at 14 days).

SKM recalculated Directlink's s-factors based on its recommendations and determined an s-factor of -0.54per cent. The s-factor calculation did not change as Directlink's performance was below the collar for the affected measures.

AER's conclusions

The AER did not accept SKM's recommendation to cap Directlink's Bungalora transformer failure at 14 days, however it would review this decision if a similar event occurs in the future.

The AER endorsed the use of an s-factor of -0.54 per cent resulting in a financial penalty of $49,673 to apply to Directlink's MAR for financial year 2007-08. In reaching this conclusion, the AER considered the revenue determination decision, guidelines, SKM's advice and Directlink's annual performance report.

Table B1: **Measures, results and incentives**

Performance indicator	Break even	2006
Planned circuit energy availability (%)	99.45	99.75
Forced outage circuit availability in peak periods (%)	99.23	95.12
Forced outage energy availability in off-peak periods (%)	99.23	96.95
s-factor (%)	0	-0.54
Net financial incentive ($000)	0	-49.7

B.2 ElectraNet

Introduction

On 2 February 2007, ElectraNet submitted its annual performance report for the 2006 calendar year. It reported an s-factor of 0.59 per cent resulting in a financial incentive of $1,028,373. This result was less than ElectraNet's 2005 service standards performance, but was still above its performance targets.

Performance measures

The performance measures which apply to ElectraNet are outlined in its revenue determination decision.[17] They are:

- transmission circuit availability
- frequency of loss of supply events
    - greater than 0.2 system minutes
    - greater than 1.0 system minutes
- average outage duration

Table B2 shows ElectraNet's performance against these measures for 2006 and the resulting financial incentive.

Exclusions

ElectraNet proposed to exclude the following from its 2006 performance:

- major line works
- switching for operational control
- outages involving three third party events.

ElectraNet did not propose any force majeure events during the period.

Consultant's report

The AER engaged Sinclair Knight Merz (SKM) to audit ElectraNet's performance report. SKM considered that:

- the ElectraNet performance report was free from material errors and was submitted in accordance with the service standards guidelines
- the recording system used by ElectraNet to capture outage data was accurate and reliable
- the application of exclusions was in accordance with ElectraNet's defined exclusions and historical calculation of performance.

SKM recommended that:

- the s-factor calculation of 0.59 per cent be accepted as free from material errors
- the Yorke Peninsula and Kanmantoo outages be excluded from ElectraNet's performance as they met the third party inter-trip definition

[17] ACCC, *Decision South Australian transmission network revenue determination 2003-2007/08*, 11 December 2002.

- the major capital works be capped at 14 days as this was consistent with the transmission line availability calculation applied in previous reviews.

AER's conclusions

The AER had no objections to the exclusions proposed by ElectraNet. The AER considered an increase of $1,028,373 to ElectraNet's revenue in the 2007–08 year, based on an s-factor of 0.59 per cent, would comply with its revenue determination decision. In reaching this conclusion, the AER considered the revenue determination decision, guidelines, SKM's advice and ElectraNet's annual performance report.

Table B2: **Measures, results and incentives**

Performance indicator	Break even	2004	2005	2006
Transmission line availability (%)	99.25	99.38	99.57	99.42
Frequency of lost supply events > 0.2 minutes	5-6	7	0	4
Frequency of lost supply events >1.0 minutes	2	0	0	0
Average outage duration (minutes)	100-110	48.92	110.35	88.46
s-factor (%)	0	0.63	0.71	0.59
Net financial incentive ($000)	0	997.7	1 168.9	1 028.4

B.3 EnergyAustralia

Introduction

On 31 January 2007, EnergyAustralia submitted its annual performance report for the 2006 calendar year. EnergyAustralia reported an s-factor of 0.39 per cent and proposed an incentive bonus of $400,564 to be recovered in the 2007-08 financial year. This result was less than EnergyAustralia's 2005 service standards performance, but was still above its performance target.

Performance measures

EnergyAustralia is subject to one financial incentive performance measure, transmission circuit (feeder) availability, as outlined in EnergyAustralia's transmission revenue determination decision.[18]

Table B3 shows EnergyAustralia's performance against transmission circuit (feeder) availability for 2006 and the resulting financial incentive based on its performance.

EnergyAustralia is also required to report performance data on a number of other performance measures.

[18] ACCC, *Decision NSW and ACT transmission network revenue determination – EnergyAustralia 2004-05 to 2008-09*, 27 April 2005.

Exclusions

EnergyAustralia did not propose any exclusion events for the 2006 calendar year.

Consultant's report

The AER engaged PB Associates (PB) to audit EnergyAustralia's performance report for the 2006 calendar year.

PB found that the incentivised measure, transmission circuit (feeder) availability was correctly calculated. PB also checked the calculation of the s-factor and found it to be in accordance with EnergyAustralia's revenue determination decision.

PB found that the data for the majority of the remaining seven non-incentivised measures was acceptable. However it requested additional data from EnergyAustralia to verify the two loss of supply measures.

PB noted that EnergyAustralia had improved the accuracy of its reporting of service performance when compared to 2005. However, SCADA data is manually extracted twice yearly and the accuracy of reporting is dependant on the accurate labelling of data and diligence in the manual extraction process. PB found that the performance data had been manually extracted from the information sources with a high degree of accuracy. It considered that EnergyAustralia had complied with its reporting obligations.

PB recommended the AER apply an s-factor of 0.39 per cent to EnergyAustralia in respect of its incentivised measure for 2006.

AER's conclusions

The AER considered an increase of $400,564 to EnergyAustralia's revenue in the 2007-08 year, based on an s-factor of 0.39per cent, would comply with its revenue determination decision. In reaching this conclusion, the AER considered the revenue determination decision, guidelines, PB's advice and EnergyAustralia's report on service standards.

Table B3: **Measures, results and incentives**

Performance indicator	Break even	2004[#]	2005	2006
Transmission feeder availability (%)	96.96	98.57	98.30	97.74
s-factor (%)	0	1	0.67	0.39
Net financial incentive ($000)	0	456.3	639.5	400.6

This only represents a financial incentive for performance over the period 1 July 2004 to 31 December 2004 because EnergyAustralia's regulatory period commenced on 1 July 2004.

B.4 Murraylink

On 29 January 2007, Murraylink submitted its annual performance report for the 2006 calendar year. It calculated a bonus of $26,762 to be recovered in the 2007-08 financial year using an s-factor of 0.21 per cent. The results represent a significant improvement in performance compared to 2005.

Performance measures

The performance measures applying to Murraylink under its revenue determination decision[19] are:

- total circuit availability
- forced outage circuit availability in peak periods
- forced outage energy availability in off-peak periods.

Table B4 shows Murraylink's performance against these measures for 2006 and the resulting financial incentive.

Exclusions

Murraylink proposed to exclude 10 planned and 23 forced outages due to third party events and one forced outage (affecting both the peak and off-peak periods) under the force majeure definition in 2006. The proposed exclusion under the force majeure definition involved the tripping of the Red Cliffs converter station due to heavy smoke associated with a bushfire in western Victoria.

Consultant's report

The AER engaged SKM to audit Murraylink's performance report. SKM considered Murraylink's performance report to be free from material errors and was submitted in accordance with the service standards guidelines. It found that Murraylink had correctly calculated the performance results for the three availability measures based on its 2003 revenue determination decision. SKM also noted that Murraylink had correctly applied the equations specified in its revenue determination decision to calculate its net financial incentive.

SKM did not accept the exclusion of one proposed peak period forced outage (occurring on the 28 November 2006) because the event did not result in a forced outage; rather it created a constraint in power delivery and therefore did not fit the definition of an outage. It noted that the event lasted for six minutes and had no material effect on the performance data.

SKM recommended that the AER:

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19 *Decision Murraylink Transmission Company application for conversion and maximum allowed revenue*, ACCC, 1 October 2003.

- accept the proposed exclusions for the planned outages
- accept the proposed exclusions for the forced outages (with the exception of the event of 28 November 2006)
- review the recording and reporting arrangements currently in place for Murraylink, ElectraNet, SP AusNet and TransGrid to allow for more complete reporting of forced outage events
- apply an s-factor of 0.212 per cent.

AER's conclusions

The AER found that Murraylink had reported accurately and in a manner consistent with the guidelines and its revenue determination decision.

The AER considered that an s-factor of 0.212 per cent should apply for the 2006 calendar year resulting in a bonus of $26,824 to apply in the 2007-08 financial year.[20]

Table B4: **Measures, results and incentives**

Performance indicator	Break even	2004	2005	2006
Planned circuit energy availability (%)	99.17	99.27	98.18	99.11
Forced outage circuit availability in peak periods (%)	99.48	98.88	99.63	99.76
Forced outage energy availability in off-peak periods (%)	99.34	99.38	99.72	99.91
s-factor (%)	0	(-0.80)	(-0.15)	0.212
Net financial incentive ($000)	0	(87.7)	(19.6)	22.8

B.5 SP AusNet

Introduction

On 31 January 2007, SP AusNet submitted its annual performance report for the 2006 calendar year. SP AusNet calculated a net financial penalty of $496,298 using an s-factor of -0.17 per cent applied to its annual regulated revenue.

Performance measures

The performance measures applying to SP AusNet under its revenue determination decision[21] are:

[20] The AER conducted a review of Murraylink's service standards performance calculation for the 2006 calendar year and found that it had incorrectly advised Murraylink that it should apply an s-factor of 0.179 per cent resulting in a bonus of $22 645. Murraylink has been advised of this error.

[21] ACCC, *Decision Victorian transmission network revenue determinations 2003-2008*, 11 December 2002.

- circuit availability
    - total
    - peak critical
    - peak non-critical
    - intermediate critical
    - intermediate non-critical
- frequency of loss of supply events
    - greater than 0.05 system minutes
    - greater than 0.30 system minutes
- average outage duration
    - lines
    - transformers

Table B5 shows SP AusNet's performance against these measures for 2006 and the resulting financial incentive.

Exclusions

SP AusNet proposed that shunt reactor outages be excluded from the intermediate non-critical measure. Shunt reactors are used to balance the transmission system when electrical demand is low. Therefore it is considered prudent to remove shunt reactors from service during periods of peak or intermediate demand when they are not in use.

SP AusNet also proposed to exclude 16 outage events caused by bushfires in December 2006 as force majeure events.

Consultant's report

The AER engaged SKM to audit SP AusNet's performance for 2006. SKM considered that:

- SP AusNet's performance report was free from material errors and in accordance with the requirements of the AER service standards guidelines
- the recording system used by SP AusNet to capture the details for outages was accurate and reliable

- the application of exclusions was generally in accordance with the historical calculation of performance.

SKM identified a number of areas where the accuracy and integrity of reporting could be improved. SKM recommended that SP AusNet develop and refine its processes to ensure new assets are categorised correctly and implement a process to keep the categorisation of assets up to date.

SKM recommended that the AER:

- accept SP AusNet's proposed s-factor of -0.17 stating that it considered it to be free from material errors

- exclude the shunt reactor outages on the basis that it was good industry practice.

AER's conclusions

The AER considered SP AusNet's proposed exclusions for the outages caused by the December 2006 bushfires. Given the scale, area affected and the number of fires, the AER concluded that it was beyond the reasonable control of SP AusNet and consistent with the definition of 'force majeure' events contained in SP AusNet's revenue determination decision. The AER agreed with the exclusion of these events from SP AusNet's 2006 performance data.

The AER also concluded that the ongoing exclusion of the shunt reactors from peak and intermediate times was appropriate and consistent with the AER's previous compliance review findings.

Based on its performance in 2006, the AER endorsed the use of an s-factor of -0.17 per cent resulting in a penalty of $496,300 to be applied in the 2007-08 financial year.

Table B5: **Measures, results and incentives**

Performance indicator	Break even	2004	2005	2006
Total circuit availability (%)	99.20	99.27	99.34	99.25
Peak critical circuit availability (%)	99.90	99.97	99.94	99.88
Peak non-critical circuit availability (%)	99.85	99.57	99.86	99.79
Intermediate critical circuit availability (%)	99.85	99.80	99.75	99.54
Intermediate non-critical circuit availability (%)	99.75	99.39	98.21	98.97
Frequency of lost supply events > 0.05 minutes*	2	2	5	5
Frequency of lost supply events > 0.30 minutes*	1	0	2	2
Average outage duration – lines (hours)	10	2.73	7.54	30.93
Average outage duration – transformers (hours)	10	4.86	6.64	7.18

s-factor (%)	0	0.22	0.09	-0.17
Net financial incentive ($000)	0	609.75	272.70	-496.30

* These measures were reported but did not contribute to the final financial outcome of SP AusNet.

B.6 Transend Networks

On 1 February 2007, Transend submitted its annual performance report. Transend reported an s-factor of 0.06 per cent and an incentive bonus of $73,499. This result was less than Transend's 2005, but was still above its performance targets for three of its four measures.

Performance measures

The following performance measures apply to Transend under its revenue determination decision: [22]

- circuit availability
    - transmission line
    - transformer
- frequency of loss of supply events
    - greater than 0.1 system minutes
    - greater than 2.0 system minutes.

Table B6 shows Transend's performance against these measures for 2006 and the resulting financial incentive based on its performance.

Exclusions

Transend proposed to exclude three events or categories of events from its 2006 performance including:

- the effect of halting transmission line switching during the rescue of two miners in Beaconsfield
- transmission circuit outages planned to coincide with generator outages and work on generator/distributor connection assets that occurred whilst Hydro Tasmania worked on generation and connection assets
- a loss of supply event on 23 May 2006 due to the activities of Hydo Tasmania and Basslink.

[22] ACCC, *Decision Tasmanian transmission network revenue determinations 2004-2008/09*, 10 December 2003.

Consultant's report

The AER engaged SKM to audit Transend's performance report. SKM advised that Transend's performance report was free from material errors and was submitted in accordance with the guidelines. It found that Transend's recording system used to capture details for outages was accurate and reliable.

SKM considered that the outages associated with the Beaconsfield mine rescue met the definition of force majeure and therefore should be excluded from the transmission circuit availability measure. Regarding the generator shared outages, SKM formed the view that scheduling transmission outages to coincide with other stakeholder planned outages reflected sound maintenance practice provided Transend's outages did not extend beyond the time required by other parties. SKM recommended that the outages on 23 May 2006 be excluded as third party events.

SKM recommended Transend's performance incentive bonus be calculated using an s-factor of 0.06 per cent.

AER's conclusions

The AER accepted Transend's proposed outage exclusions. While it agreed that scheduling planned maintenance to coincide with generator maintenance was appropriate, it noted that in future audits Transend would be required to provide additional supporting evidence to demonstrate that the length of each outage did not extend beyond that required by the generator.

The AER considered an increase of $73,500 to Transend's revenue in the 2007-08 year, based on an s-factor of 0.06 per cent, would comply with its revenue determination decision. In reaching this conclusion, the AER considered the revenue determination decision, guidelines, SKM's advice and Transend's report on service standards.

Table B6: **Measures, results and incentives**

Performance indicator	Break even	2004	2005	2006
Transmission line availability (%)	99.10 to 99.20	99.34	98.67	99.21
Transformer circuit availability (%)	99.00 to 99.10	99.31	99.20	98.80
Frequency of lost supply events > 0.1 minutes	13 to 16	18	13	16
Frequency of lost supply events >2.0 minutes	2 to 3	0	0	1
s-factor (%)	0	0.55	0.19	0.06
Net financial incentive ($000)	0	573.9	207.6	73.5

B.7 TransGrid

Introduction

On 29 January 2007, TransGrid submitted its annual performance report for 2006. TransGrid reported an s-factor of 0.63 per cent and a resulting financial bonus of $2,956,430. This result was less than TransGrid's 2005 service performance, but was still above most of its performance targets.

Performance measures

The performance measures implemented for TransGrid are defined in its final revenue determination decision. [23] These are:

- circuit availability
    - transmission
    - transformer
    - reactive plant
- frequency of lost supply events
    - greater than 0.05 system minutes and less than or equal to 0.40 system minutes
    - greater than 0.40 system minutes
- average outage duration

Table B7 shows TransGrid's performance against these measures for 2006 and the resulting financial incentive.

Exclusions

TransGrid proposed a number of exclusions from its 2006 performance including:

- an outage in the Junee area due to a bushfire which resulted in the replacement of eight wooden poles
- eight forced and emergency outages affecting transmission line availability that TransGrid considered met the AER's definition of third party outages and one affecting transformer availability (these outages also affected average outage restoration time)
- repairs to a cable damaged in 2005 (emergency repairs were conducted to one phase in 2005, repairs to the remaining phases were postponed until after the summer peak and were conducted in October 2006). During the 2005 performance audit,

[23] ACCC, *Decision NSW and ACT transmission network revenue determination – TransGrid 2004-05 to 2008-09*, 27 April 2005.

SKM recommended (and the AER accepted) that the impact of this event on the circuit availability measure, should be capped at 14 days.

Consultant's report

The AER engaged SKM to audit TransGrid's performance during 2006. SKM reviewed the exclusions proposed by TransGrid and agreed that all the events should be excluded from TransGrid's 2006 performance calculation.

SKM noted that both it and the AER conducted research into the events surrounding the bushfire in the Junee area. A bushfire does not automatically constitute force majeure, however SKM considered it to be an extraordinary event and that it should be excluded from TransGrid's 2006 performance.

Based on its analysis, SKM recommended that TransGrid's performance incentive bonus should be calculated using an s-factor of 0.63 per cent.

AER's conclusions

The AER conducted research into the events surrounding the outage resulting from the bush fire in the Junee area and came to the conclusion that it fell within the definition of force majeure. However the AER noted that it was the responsibility of TransGrid to provide sufficient supporting documentation if it wished to claim similar exclusions in the future.

The AER endorsed a bonus of $2,966,196 to be recovered by TransGrid in the 2007-08 financial year. The bonus was based on an s-factor of 0.63 per cent. In reaching this conclusion, the AER considered the revenue determination decision, guidelines, SKM's advice and TransGrid's report on service standards.

Table B7: **Measures, results and incentives**

Performance indicator	Break even	2004#	2005	2006
Transmission circuit availability (%)	99.50	99.72	99.57	99.57
Transformer availability (%)	99.00	99.30	98.90	98.84
Reactive plant availability (%)	98.60	99.47	99.64	98.92
Frequency of lost supply events >0.05 minutes	5	0	1	2
Frequency of lost supply events >0.4 minutes	1	0	0	0
Average outage duration (minutes)	1500	936.84	716.73	812
s-factor (%)	0	0.93	0.70	0.63
Net financial incentive ($000)	0	2 007.3	3 115.0	2 966.2

This only represents a financial incentive for performance over the period 1 July 2004 to 31 December 2004 because TransGrid's regulatory period commenced on 1 July 2004.