



**Transmission Network Service Providers
Electricity Performance Report for 2007/08**

October 2009

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Glossary

| | |
|--------|--|
| ACCC | Australian Competition and Consumer Commission |
| AEMC | Australian Energy Market Commission |
| AEMO | Australian Energy Market Operator |
| AER | Australian Energy Regulator |
| capex | capital expenditure |
| EBIT | Earnings before interest and tax |
| GWh | Gigawatt hours |
| 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 |
| STPIS | Service targets performance incentive scheme |
| PS | prescribed services |
| RAB | regulatory asset base |
| 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 |

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. In future years, the AER will extend its current transmission reports to also encompass the performance of distribution network services providers (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.

The AER will assume responsibility for non-price retail and distribution related functions once relevant legislation and rules, currently in preparation, are enacted.

The electricity performance report for transmission network service providers (TNSPs) in the National Electricity Market was released today. The 2007/08 report is an important step to improving the transparency of the financial and operational performance of transmission businesses in the National Electricity Market. The report provides revenue, profit, expenditure and service standards information on each TNSP for the 2007/08 financial year.

TNSPs covered in this report were Directlink, ElectraNet, EnergyAustralia, Murraylink, Powerlink, SP AusNet, Transend, TransGrid and VENCORP.

While caution should be exercised in drawing conclusions from a single year's data, there are some emerging trends in TNSPs performance:

- capital expenditure – continued to trend upwards, primarily reflecting the continuation of investments by TNSPs to upgrade and replace ageing networks to meet network performance requirements. Total capital expenditure over the past five years has exceeded \$4 billion, and was 7.8 per cent higher than forecast for the 2007/08 financial year.
- value of networks – reflecting this continued investment in infrastructure, the aggregate value of the TNSPs' regulatory assets now stands at almost \$12.5 billion

- operating and maintenance expenditure – stands at almost \$1.9 billion during the past five years. The operating results also show that the sector remains financially healthy.
- service standards – most TNSPs continue to exceed the reliability standards specified in their revenue determinations, with incentive payments totalling almost \$10 million for the 2008 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

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 guidelines.

Service quality information is submitted in accordance with the AER's service standards guidelines.

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 provides details of each TNSPs' maximum allowed revenue.
- Chapter 4 sets out the industry's overall performance and each TNSP's financial performance.
- 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.

Transmission determinations outcomes

Table A compares the actual revenue and expenditure outcomes against the forecast maximum allowed revenue (MAR), which mainly reflects opex and returns on the regulatory asset base (including capex allowances) in the TNSPs' transmission determinations. 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' transmission determinations outcomes, 2007/08

| | Actual \$m | Forecast \$m | Difference \$m | % |
|----------|---------------|-----------------|-------------------|--------|
| Revenue* | 1,828.4 | 1,828.9 | (0.4) | (0.02) |
| Capex* | 1,426.6 | 1,323.2 | 103.4 | 7.82 |
| Opex** | 431.7 | 441.6 | (9.9) | (2.25) |

Source: 2007/08 Regulatory Accounts and the ACCC's/AER's transmission determinations.

*Aggregate figures exclude VENCORP. Forecast revenue does not include network support pass through and service standard incentives schemes.

**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, 2003/04 – 2007/08

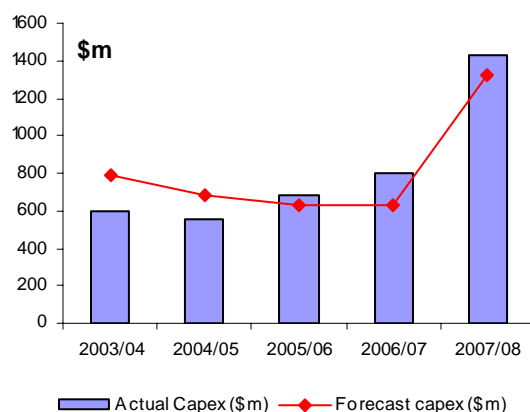


Figure A shows that actual aggregate capex was greater than forecast for the last three financial years. Over the past five years aggregate actual capex has exceeded \$4 billion (real terms 2007/08) as TNSPs upgrade and extend their networks to meet demand and reliability requirements.

In addition, figure A shows that actual aggregate capex was 7.82 cent higher than forecast capex for the 2007/08 financial year. Actual capex was also 79 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, 2003/04 – 2007/08**

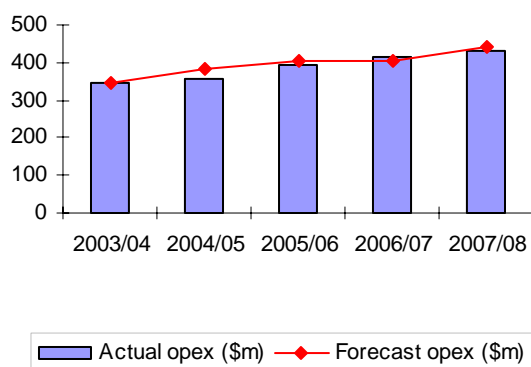


Figure B shows that aggregate actual opex was 2.25 cent lower than forecast in 2007/08.

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 characteristics¹ of individual TNSPs is discussed in further detail in chapter 2.

Table B: **TNSP expenditure as a proportion of average RAB 2007/08**

| | Average RAB (\$m) | Opex/Average RAB Ratio* (%) | Capex/Average RAB Ratio** (%) |
|-----------------|-------------------|-----------------------------|-------------------------------|
| ElectraNet | 1,136.0 | 3.9 | 14.8 |
| EnergyAustralia | 669.6 | 5.6 | 15.3 |
| Powerlink | 3,581.3 | 3.3 | 18.6 |
| SP AusNet | 2,080.8 | 2.7 | 5.5 |
| Transend | 787.9 | 5.5 | 7.6 |
| TransGrid | 3,566.6 | 3.4 | 8.9 |
| Murraylink | 102.3 | 3.2 | - |
| Directlink | 108.5 | 1.3 | - |

*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.

¹ It should be noted that for EnergyAustralia, this only relates to its transmission assets which accounts for a small percentage of its total asset base.

A detailed summary of each TNSP's performance financial outcome for the 2007/08 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 control 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.

Table C shows the financial incentive based on performance outcomes for each relevant TNSP for the 2004-2008 calendar years.

Table C: **Financial incentives/penalties for 2004 – 2008**

| | 2004 calendar year | 2005 calendar year | 2006 calendar year | 2007 calendar year | 2008 calendar year |
|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | (\$000s) | (\$000s) | (\$000s) | (\$000s) | (\$000s) |
| Directlink | - | | (49.7) | (74.9) | (122.5) |
| ElectraNet | 997.7 | 1,168.9 | 1,028.4 | 504.0 | (190.6) |
| EnergyAustralia | 456.4 | 637.5 | 400.6 | (149.9) | 900.5 |
| Murraylink | (87.8) | (19.6) | 22.6** | (40.5) | 89.9 |
| Powerlink | - | - | - | 2,197.2 | 3,034.8 |
| SP AusNet * | 609.8 | 272.7 | (496.3) | 195.4 | 2,910.7 |
| Transend | 573.9 | 207.6 | 73.5 | 707.6 | 1,151.2 |
| TransGrid | 2,007.3 | 3,115.0 | 2,966.2 | 575.1 | 1,711.8 |

Financial incentives are capped at ± 1.0 per cent of each TNSP's MAR for that year. For example, an s-factor of 0.50 would result in a financial incentive of 0.5 per cent of the TNSP's MAR, or half of the potential maximum financial incentive available under the service standards performance incentive scheme.

*SP AusNet's financial incentive in its previous regulatory control period was capped at + 0.5 per cent of its MAR. In 2008, SP AusNet transitioned into a new regulatory period, and its financial incentive is now capped at +1.0 per cent.

**Note this value should have been \$26,762

A detailed summary of each TNSPs performance outcome for the 2007 and 2008 calendar years can be found in Chapter 7. Complete TNSP performance reports for 2004 – 2008 (for participating TNSPs) can be found on the AER website (www.aer.gov.au).

1 Introduction

1.1 Scope of the report

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

The AER's objective in monitoring and publishing the performance of TNSPs is to increase the accountability for performance through greater transparency. In particular, the AER's performance report aims to:

- facilitate informed public input into future decisions by the AER
- allow public scrutiny of performance against revenue determinations
- enhance 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 where necessary have provided their permission for the information to be published.

1.2 Priorities and objectives of performance reporting

In March 2009, the AER published its statement of approach to the priorities and objectives of electricity transmission network service provider performance reports.² The AER considers that the appropriate objectives in publishing network performance reports are to provide transparency, and maintain accountability to provide an incentive to increase performance.

1.2.1 Provide transparency

The performance reporting of TNSPs promotes transparency and understanding in the AER's decisions, and in the TNSP's investment and expenditure decisions.

Without transparent reporting of the outcomes of the regulatory process, it may be more difficult to discern whether the national electricity objective in the NEL, of efficient investment in and efficient operation of electricity systems is being achieved. Information on the price, quality, reliability and security of supply of electricity allows customers and other stakeholders to have meaningful input into the regulatory process.

² AER, *Priorities and objectives of electricity transmission network service provider performance reports, Statement of Approach*, March 2009.

1.2.2 Maintain accountability to provide an incentive to increase performance

The public reporting of performance information increases the accountability of TNSPs to customers and other market participants for their performance.

Accountability will help to ensure that the overall goals of the network businesses are in line with the national electricity objective. This will provide TNSPs with an incentive to increase their service performance while maintaining efficient investment levels in their networks.

1.3 Priorities of TNSP performance reporting

In order to achieve these objectives the priorities of TNSP performance reporting are to:

- report on service performance
- report on compliance with the TNSP's approved cost allocation methodology (CAM)
- report the profitability of TNSPs
- report on performance against and compliance with revenue determinations in a format that allows for comparison between different jurisdictions and regulatory control periods
- report information in a format that can be utilised for future revenue determinations, to reduce information asymmetry and make the revenue reset process more streamlined
- assess whether the national electricity objective is being achieved.

1.4 Sources of information

The report draws upon information from the following sources:

- annual regulatory financial statements and service standards performance data provided by the TNSPs in accordance with the AER's transmission information guidelines
- revenue proposals 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).

1.5 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 annually. 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 service target performance incentive scheme (STPIS)
- assessing whether the national electricity objective is being achieved through regulation and the revenue determination in particular.

1.6 Collection of data under the information guidelines

TNSPs are required to submit certified annual financial statements to the AER in accordance with the AER's information guidelines. The guidelines 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 4 and appendix A of this performance 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 assessing compliance and 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 3, 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.

1.7 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.
- 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 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 4, are made by the AER and not TNSPs. The AER uses data provided by the TNSPs in the calculations.

1.8 Comments from interested parties

Comments from interested parties regarding this report are welcomed and can be submitted via email to aer inquiry@aer.gov.au, or by mail to:

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GPO Box 520
Melbourne Victoria 3001

2 Network characteristics

2.1 The National Electricity Market

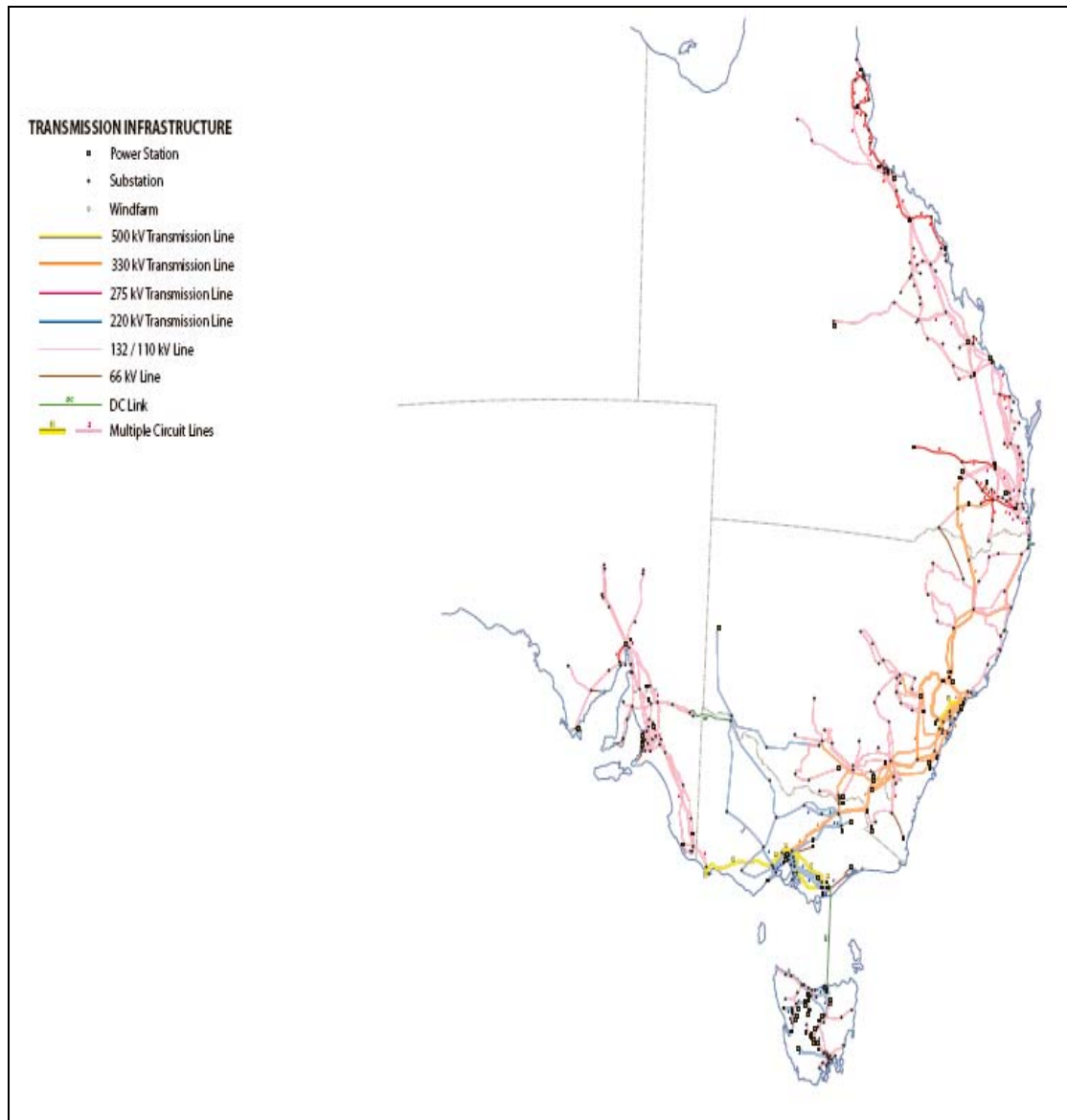
The national electricity market (NEM) consists of five interconnected state-based regional markets: South Australia, New South Wales (including the Australian Capital Territory), Victoria, Queensland, and Tasmania. The NEM includes a number of cross-jurisdictional interconnectors, including Basslink, a 290 kilometres undersea cable which connects the Tasmanian and Victorian networks. The AER regulates two interconnectors: Murraylink, which connects the Victorian and South Australian networks, and Directlink, which connects the Queensland and New South Wales networks.

On 1 July 2009, the Australian Energy Market Operator (AEMO) became responsible for managing and operating the NEM in accordance with the National Electricity Rules. In particular, it manages the spot market and transmission elements of the physical power system to ensure that electricity supply and demand are balanced in each of the NEM's five regions. Previously, the National Electricity Market Management Company (NEMMCO) undertook these roles.

In most jurisdictions the network owner plans and operates the high voltage transmission system. Independent bodies have played a planning role in South Australia and Victoria. In South Australia, the Electricity Supply Industry Planning Council (ESIPC) has assisted in planning electricity supply, by making recommendations to the South Australian Government and the Essential Services Commission of South Australia (ESCOSA). In Victoria, VENCORP has planned the transmission network and been responsible for directing network augmentations. These roles were transferred from ESIPC and VENCORP to AEMO on 1 July 2009.

In addition to undertaking these existing functions, AEMO will undertake the role of National Transmission Planner, and will publish the National Transmission Network Development Plan (NTNDP) annually. The NTNDP will outline the long-term, efficient development of the national power system with a focus on national transmission flow paths. While the NTNDP does not bind network business to specific investment decisions, it is expected to influence network planning. Aside from its new roles in electricity, AEMO acquired VENCORP's previous role as system operator and planner in the Victorian gas market. It also became the gas market operator in other jurisdictions, replacing the Gas Market Company and the Retail Energy Market Company.

Chart 1: Electricity networks in the NEM³



³ NEMMCO, *An introduction to Australia's National Electricity Market*, June 2008, p.29.

Summary of statistics

The following table provides a summary of the key TNSP network statistics. Detailed analysis and discussion follows throughout this report.

Table 2.1: **Key TNSP statistics**

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---------|---------|---------|---------|---------|
| Regulatory asset base – closing (\$ nominal m) | | | | | |
| ElectraNet | 861.6 | 893.8 | 989.3 | 1,075.4 | 1,196.6 |
| EnergyAustralia | 615.5 | 646.4 | 609.3 | 624.8 | 714.4 |
| Powerlink | 2,683.9 | 2,840.9 | 3,070.3 | 3,258.8 | 3,903.8 |
| SP AusNet | 1,841.2 | 1,880.4 | 1,959.1 | 2,032.4 | 2,129.2 |
| Transend | 615.8 | 644.4 | 689.8 | 768.1 | 807.7 |
| TransGrid | 2,726.6 | 3,103.9 | 3,228.8 | 3,397.9 | 3,735.3 |
| Murraylink | - | 100.1 | 97.9 | 102.5 | 102.5 |
| Directlink | - | - | - | 110.3 | 106.7 |
| Revenue – PS actual (\$ nominal m) | | | | | |
| ElectraNet | 156.5 | 163.9 | 170.4 | 179.1 | 186.8 |
| EnergyAustralia | 77.2 | 91.3 | 99.0 | 107.6 | 115.9 |
| Powerlink | 383.7 | 416.2 | 466.0 | 510.5 | 536.8 |
| SP AusNet | 271.5 | 281.2 | 291.3 | 302.0 | 313.2 |
| Transend | 85.9 | 108.0 | 115.0 | 123.3 | 130.1 |
| TransGrid | 407.8 | 435.3 | 459.5 | 486.5 | 520.4 |
| Murraylink | - | 12.4 | 12.7 | 12.7 | 13.0 |
| Directlink | - | - | - | 12.0 | 12.1 |
| Line length (km) | | | | | |
| ElectraNet | 5,579 | 5,663 | 5,611 | 5,676 | 5,620 |
| EnergyAustralia | 1,040 | 899.3 | 903.3 | 903.3 | 885.0 |
| Powerlink | 11,516 | 11,902 | 11,939 | 12,132 | 12,671 |
| SP AusNet | 6,553 | 6,553 | 6,553 | 6,553 | 6,553 |
| Transend | 3,537 | 3,580 | 3,580 | 3,645 | 3,650 |
| TransGrid | 12,446 | 12,485 | 12,480 | 12,489 | 12,442 |
| Murraylink | 180 | 180 | 180 | 180 | 180 |
| Directlink | - | - | - | 63 | 63 |
| Maximum demand (MW) | | | | | |
| ElectraNet | 2,607 | 2,659 | 2,938 | 2,934 | 3,172 |
| EnergyAustralia | 5,165 | 5,280 | 5,460 | 5,484 | 5,683 |
| Powerlink | 7,934 | 8,232 | 8,295 | 8,589 | 8,082 |
| SP AusNet | 8,572 | 8,535 | 8,730 | 9,062 | 9,850 |
| Transend | 1,691 | 1,780 | 2,089 | 2,415 | 2,332 |
| TransGrid | 1,2476 | 13,126 | 13,292 | 13,458 | 12,954 |
| Murraylink | 220 | 220 | 220 | 220 | 220 |
| Directlink | - | - | - | 180 | 180 |
| Electricity transmitted (GWh) | | | | | |
| ElectraNet | 12,336 | 12,137 | 12,857 | 13,381 | 13,734 |
| EnergyAustralia | 27,563 | 30,713 | 31,669 | 31,947 | 32,007 |
| Powerlink | 45,625 | 46,170 | 47,734 | 47,750 | 48,576 |
| SP AusNet | 45,006 | 45,467 | 50,267 | 51,821 | 51,927 |
| Transend | 10,187 | 10,730 | 10,945 | 11,565 | 11,298 |
| TransGrid | 69,736 | 69,338 | 72,383 | 78,226 | 76,359 |

Figure 2.3(a) plots each TNSP's maximum demand (in MW 000's) against line length (km) and shows a positive correlation between the two factors. Figure 2.3 (b) plots each TNSP's peak maximum demand (peak load as a proportion of line length) against line length. Peak load density is generally around one for six of the eight TNSPs. AER analysis indicate that this trend has remained relatively constant since 2004/05. EnergyAustralia's high capacity relative to line length reflects its relatively small transmission network, which operates in parallel with TransGrid's transmission network and provides transmission services to the densely populated area of Sydney as well as the central coast and Newcastle. Figure 2.3 (a) and (b) perhaps reflects the need for a greater number of energy sources to provide electricity to larger loads. These energy sources may be located over longer distances from load centres.

Figure 2.3(a): **Maximum demand (MW 000's) vs km line length 2007/08**

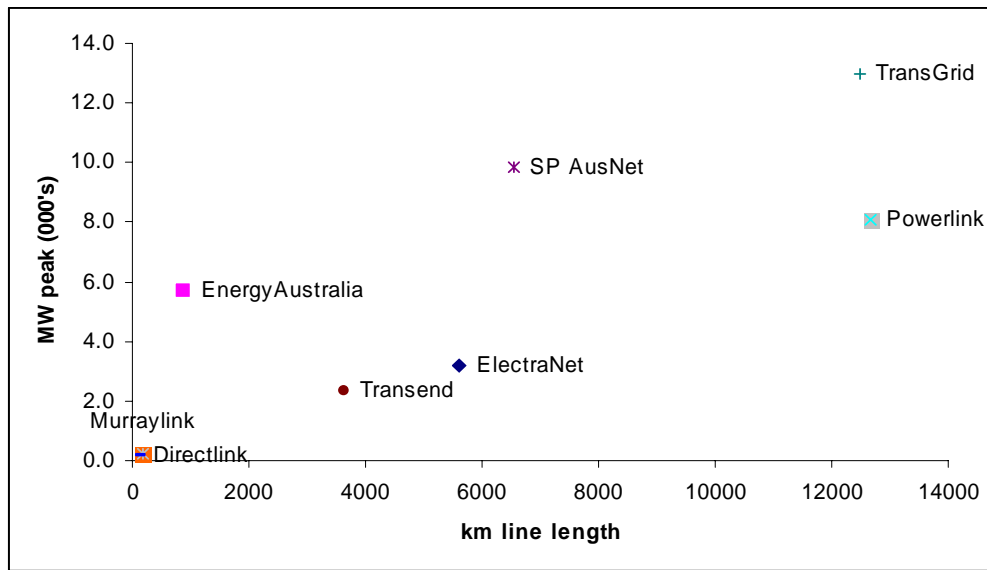


Figure 2.3(b): **Maximum demand as a proportion of line length 2007/08**

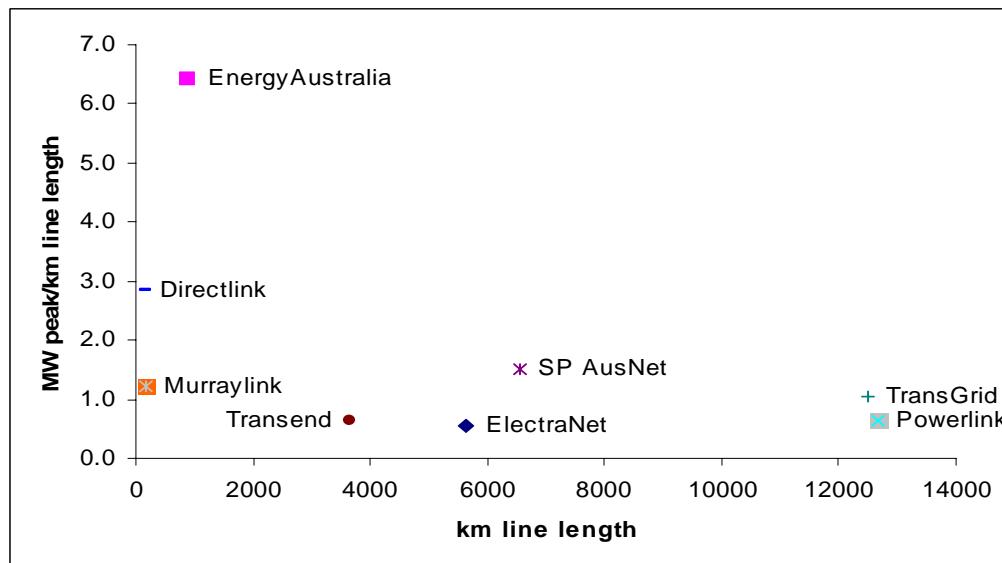
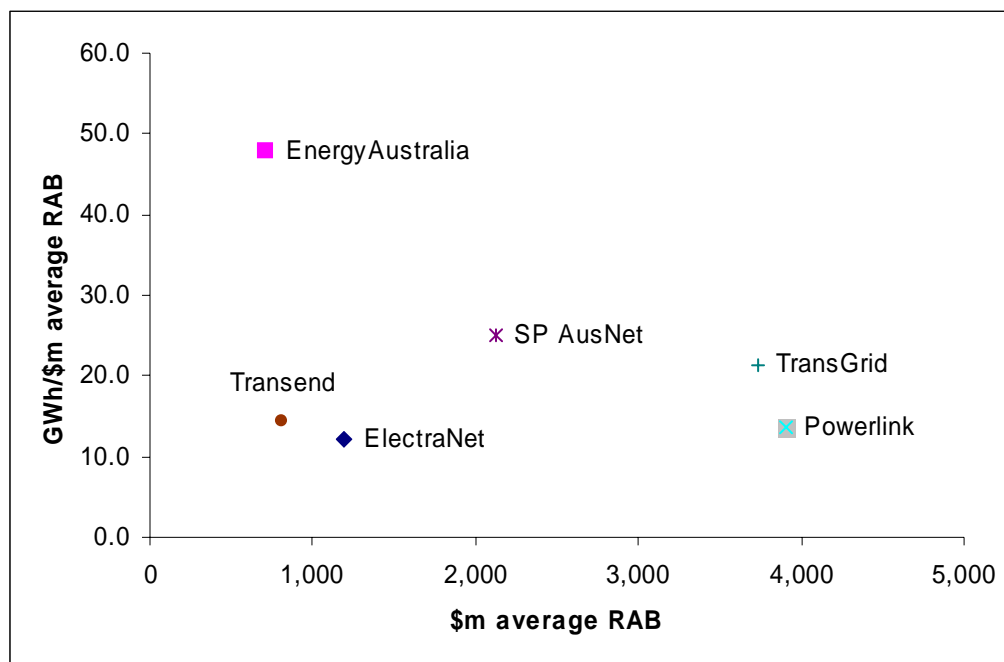


Figure 2.4 plots electricity transmitted (GWh) as a proportion of average RAB (\$ million) against average RAB for the TNSPs in the NEM (minus the two interconnectors). Except EnergyAustralia whose transmission network operates in parallel with Transgrid's network as previously discussed, electricity transmitted as a proportion of average RAB appears to be in a range centred around 20GWh/\$m RAB.⁴

Figure 2.4: Electricity transmitted as a proportion of average RAB 2007/08



The following sections summarise the TNSPs' network characteristics.

2.2 The Transmission Network Service Providers

2.2.1 ElectraNet (South Australia)

ElectraNet is owned by a consortium 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 kilometres, from the Victorian border near Mount Gambier to Port Lincoln on the Eyre Peninsula. ElectraNet operates radial extensions of over 200 kilometres 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. Wind energy is a growing source of generation in South Australia. ElectraNet's network also connects to ETSA Utilities' distribution business and 8 directly connected industrial customers.

⁴ AER analysis not included here indicates that this trend has remained relatively constant since at least 2004/05.

ElectraNet operates 5,700 circuit kilometres of transmission lines and cables, with nominal voltages of 275 kV, 132 kV and 66 kV. Further, it operates and maintains 76 substations and switchyards. Transmission from the main network to country areas of South Australia is via long radial 132 kV lines. With approximately 35 per cent of its transmission assets being 40-60 years old, ElectraNet has one of the oldest networks in Australia.⁵

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 high mainly due to air conditioning load over summer period.

2.2.2 EnergyAustralia (New South Wales)

EnergyAustralia is a New South Wales government owned corporation. It owns, and operates an electricity distribution network that covers an area of 22,275 square kilometres⁶ and 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 (EnergyAustralia operates 903.3 circuit km of transmission lines and cables with nominal voltages of 132 kV and 66 kV). EnergyAustralia's transmission network is jointly planned with Transgrid and is operated in parallel and in support of the TransGrid transmission network.

EnergyAustralia's total company assets exceed \$7.9 billion and total revenues exceed \$3.0 billion.⁷ Within these totals, EnergyAustralia reported a closing RAB for transmission assets of \$714.4 million and regulated revenues from transmission services of \$115.9 million for the financial year 2007/08.

2.2.3 Powerlink (Queensland)

Powerlink is a Queensland government owned corporation. It owns, develops, operates and maintains the Queensland electricity transmission network. Powerlink's \$4.6 billion transmission network spans more than 1,700 kilometres, from Cairns in far north Queensland to the New South Wales border in the south.⁸ It connects to 22 customers comprising generators, distribution businesses (primarily Ergon Energy and Energex, but also Country Energy in northern NSW) and directly connected major loads. Powerlink's network connects to the rest of the NEM via the Queensland – NSW interconnector and the Directlink interconnector.

Powerlink operates 12,671 circuit km of transmission lines and cables (the highest among the TNSPs in the NEM), with nominal voltages of 330 kV, 275 kV, 132 kV, 110 kV and 66 kV. Further, it operates and maintains 105 substations which include 175 transformers comprising of 25,555.5 MVar of installed capacity throughout Queensland. Powerlink also operates 1,092 circuit breakers, 84 capacitor banks, 21 shunt reactors and 15 static Var compensators.

⁵ ElectraNet, *ElectraNet transmission network revenue proposal – volume 1, 1 July 2008 to 30 June 2013*, 31 May 2007, p.5.

⁶ EnergyAustralia, *2007/08 Network performance report*, 31 October 2008, p.3.

⁷ EnergyAustralia, *Annual report 2007/08*, 31 October 2008 p.5.

⁸ Powerlink, *Annual report 2007/08*, p.4.

The Queensland transmission network is characterised by long distances. Queensland is one of the most decentralised states in the NEM with electricity networks servicing low load density cities, towns and industrial areas.⁹ 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.

As shown in table 2.1, Powerlink had the highest RAB (\$3,904 million) and highest revenue (\$537 million) of all TNSPs in the NEM in 2007/08.

2.2.4 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. Singapore Power International Pte Ltd, a wholly-owned subsidiary of Singapore Power, owns a 51 per cent interest in SP AusNet. 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 kilometres of cable, running at voltages of 500kV, 330kV, 275kV, 220kV and 66kV. Many of SP AusNet's assets were installed during the 1960s and 1970s. SP AusNet therefore anticipates an increasing need for asset replacement over the next decade.¹⁰

In 2007/08, SP AusNet had a maximum demand of 9,850 MW and transmitted 51,927 GWh. These figures are the second highest in the NEM.

2.2.5 VENCORP (Victoria)

VENCORP is a government-owned entity that plans and approves connections to the Victorian high voltage electricity transmission system, and directs augmentations to the shared transmission network. 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.

As noted earlier, AEMO will subsume the functions of VENCORP, among other functions. The AER will no longer regulate VENCORP's (or AEMO's) revenues as set out in NER schedule 6A.4.2

⁹ Powerlink, *Queensland transmission network revenue proposal for the period 1 July 2007 to 30 June 2012*, p.8.

¹⁰ SP AusNet, *Electricity transmission revenue proposal 2008/09 – 2013/14*, 31 March 2007, p.19.

2.2.6 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. A backbone network operating predominantly at 220 kV connects generators to major load centres, including major industrials, while a network operating predominantly at 110 kV connect generators to regional centres.¹¹ Transend's transmission system also includes sub-transmission assets that operate at voltages of 6.6 kV, 11 kV, 22 kV, 33 kV and 44 kV.¹² These are connected via substations to the distribution system.

Over 70 per cent of the generation in Tasmania is hydro generation with 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.

Tasmania is connected to mainland Australia via the Basslink interconnector which operates between Loy Yang substation in Gippsland and George Town substation in Tasmania. Basslink transfers energy at 480 MW import to Tasmania and up to 630 MW export from Tasmania for limited periods.

Aside from Murraylink and Directlink, Transend has the lowest maximum demand (2,332 MW) and shortest circuit kilometres (3,650 kilometres) among the TNSPs regulated by the AER.

Transend has a relatively high number of transmission connection points reflecting that the State has a relatively high number of generators, distribution connections and directly-connected industrial customers, and a Market Network Service Provider (MNSP), relative to the load served.

2.2.7 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 (in NSW and ACT) and 3 directly connected industrial customers.

TransGrid operates 12,486 circuit kilometres of transmission lines and cables - the second highest in the NEM – with nominal voltages of 500 kV, 330 kV, 220 kV, 132

¹¹ Transend, *Transend transmission revenue proposal for the regulatory control period 1 July 2009 to 30 June 2014*, 30 May 2008, p.18.

¹² Transend, *Transend transmission revenue proposal for the regulatory control period 1 July 2009 to 30 June 2014*, 30 May 2008, p.19.

kV and 66 kV. Transgrid also operates and maintains 83 substations and switching stations¹³ 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 role 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.

As shown in figures 2.1 and 2.2, TransGrid had the highest maximum demand (12,954 MW) and electricity transmission (76,359 GWh) in the NEM in 2007/08.

2.2.8 Murraylink

Murraylink was owned by the APA Group in 2007-8. In December 2008 ownership of Murraylink was transferred to Energy Infrastructure Investments, a company owned by Marubeni Corporation, Osaka Gas and APA. APA continues to manage and operate the asset.

Murraylink is an interconnector linking the Victorian and South Australian regions of the NEM. The interconnector came into operation in early October 2002. 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 kilometres of transmission line that transfers power between the Red Cliffs substation in Victoria and the Monash substation in South Australia 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). The majority of the cable is underground making it the world's longest underground power cable¹⁴. At any given time Murraylink, is capable of delivering 220 MW.

2.2.9 Directlink

Directlink was owned by the APA Group in 2007-8. In December 2008 ownership of Directlink was transferred to Energy Infrastructure Investments, a company owned by Marubeni Corporation, Osaka Gas and APA. APA continues to manage and operate the asset.

Directlink is an electricity transmission asset with a total nominal rated capacity of 180 MW that forms one of the links between the Queensland and New South Wales regions of the NEM. It consists of 63 kilometres of underground cables or cables laid

¹³ TransGrid, *Annual Report 2008*, p.7.

¹⁴ AER, *State of the Energy Market 2008*, p.118.

in galvanised steel and runs between Mullumbimby and Bungalora (80 kV DC) and between Bungalora and Terranora (110 kV DC).¹⁵

It came into operation in July 2000 as an un-regulated interconnector. 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 has the lowest maximum demand (180 MW) and circuit kilometres (63 km) among the TNSPs regulated by the AER.

¹⁵ Directlink, *Application for conversion to a prescribed service and a maximum allowable revenue for 2005-2014*, 6 May 2004, p.18.

3 Revenue

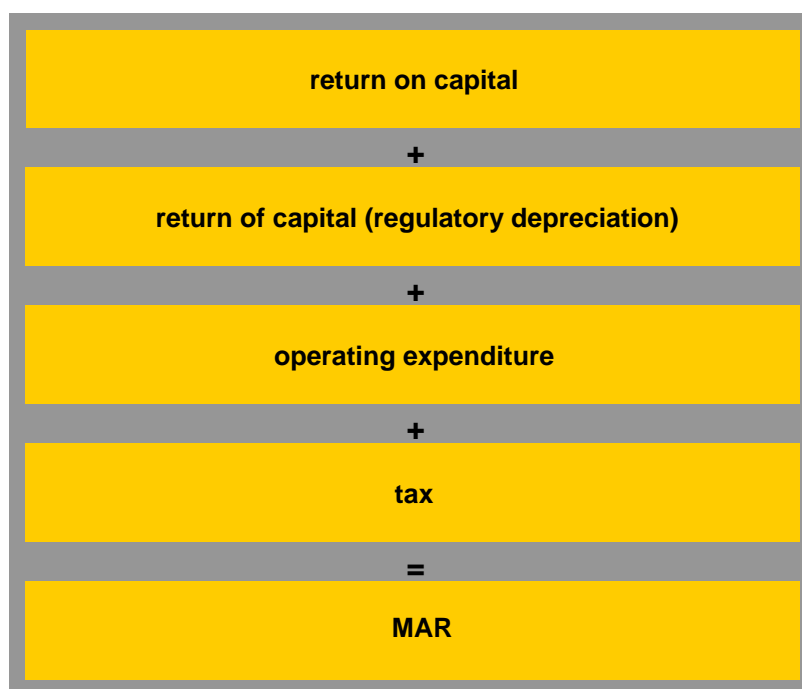
3.1 Introduction

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 revenue¹⁶ for each year of the regulatory period, the AER adopts the accrual building block approach which requires that the Maximum Allowed Revenue (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 3.1: **The revenue building blocks**



A TNSP's revenue allowance can vary over the regulatory control period. As part of the revenue determination process, a TNSP's MAR is determined using a forecast inflation rate for the duration of the regulatory control period. The MAR is adjusted annually for actual CPI to preserve the real value of the revenue stream. This adjustment may explain some of the 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 actual revenue and the forecast MAR.

¹⁶ It should be noted that the escalated MAR may be above or below actual revenues due to other components of prescribed revenues.

This chapter presents the TNSP's 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.¹⁷

3.2 Aggregate and comparative TNSP performance

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

$$\text{RAB} * [\text{weighted average cost of capital (WACC)}]$$

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 while the remaining amount is comprised of the income tax allowance.

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 3.1 shows the actual and forecast aggregate revenue of TNSPs (excluding VENCORP). Over the five-year period from 2003/04 to 2007/08, aggregate actual revenue has grown at an annual average of 8.1 per cent per annum. This growth partially reflects the inclusion of Murraylink in 2004/05 and Directlink in 2006/07 as regulated TNSPs. The overall average difference between total aggregate actual and forecast revenue between 2003/04 to 2007/08 was just 1.3 per cent (or \$102.0 million above forecast revenue).

Table 3.1: **Aggregate actual prescribed revenue and forecast MAR, 2003/04 – 2007/08 (\$nominal, m)**

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | Total |
|--|---------|---------|---------|---------|---------|-------|
|--|---------|---------|---------|---------|---------|-------|

¹⁷ For example, forecast MAR for the period 2007/08 is adjusted for March quarter 2008 CPI. CPI data is sourced from the ABS website (www.abs.gov.au).

| | | | | | | |
|----------------------------------|---------|---------|---------|---------|---------|--------|
| Actual prescribed revenue | 1,382.7 | 1,508.3 | 1,613.8 | 1,733.7 | 1,828.4 | 8066.9 |
| Forecast MAR | 1389.5 | 1502.2 | 1594.3 | 1713.7 | 1828.9 | 8028.6 |
| Difference (\$m) | (6.7) | 6.1 | 19.4 | 20.0 | (0.4) | 38.4 |
| Difference (%) | (0.49) | 0.41 | 1.22 | 1.17 | (0.02) | 1.3 |

Note 1: The total column reflects only TNSPs that reported in each year's performance report.

Note 2: VENCORP data has not been included in the aggregate MAR figures in table 3.1. Forecast MAR does not include Network support pass through or service target performance incentive scheme payments.

Figure 3.2 shows total TNSP revenue, which is equivalent to total transmission charges for transmitting electricity along the transmission networks. In 2007/08 aggregate TNSP revenue was \$1.8 billion (excluding VENCORP), an increase of \$94.7 million (or 5.5 per cent) from the previous financial year and around 1.2 per cent above forecast.

Figure 3.2: **Actual prescribed revenue (\$nominal, m) 2003/04 – 2007/08**

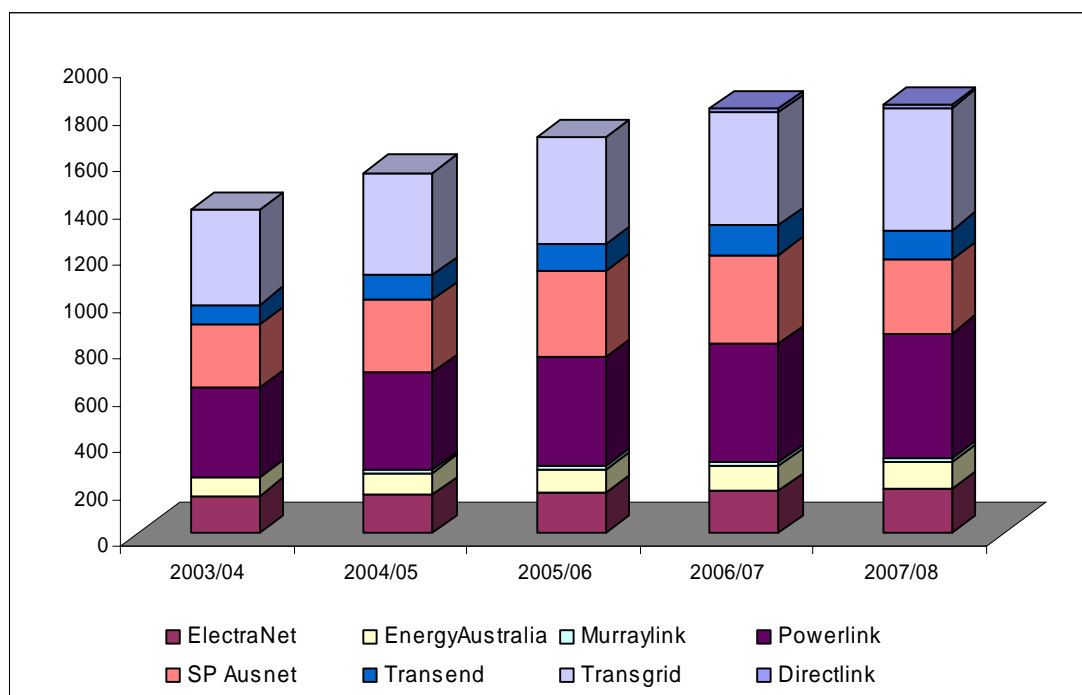
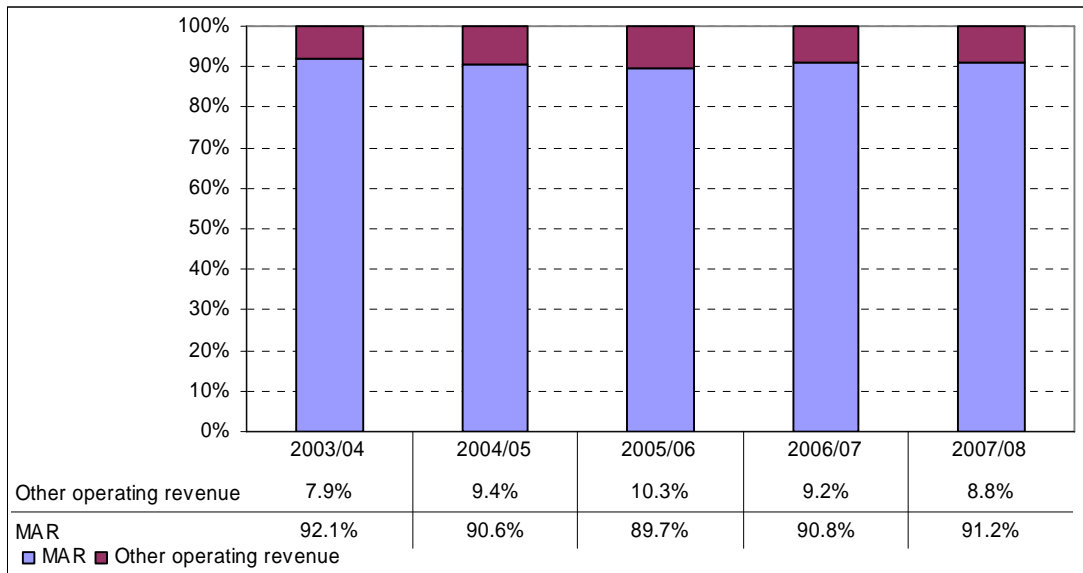


Figure 3.3 shows TNSPs aggregate actual revenue components as a percentage of total operating revenue. In 2007/08 aggregate total revenue of all the TNSPs (excluding VENCORP) was \$2.0 billion, of which 91.2 per cent (or \$1.8 billion) was derived from regulated services.

Figure 3.3: **Actual revenue as percentage of total revenue, 2003/04 – 2007/08***



*Excludes EnergyAustralia's distribution revenue

TNSPs can earn non-regulated 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.

3.2.1 Comparative TNSP performance

Figure 3.4: Difference between actual revenue and forecast MAR, 2007/08

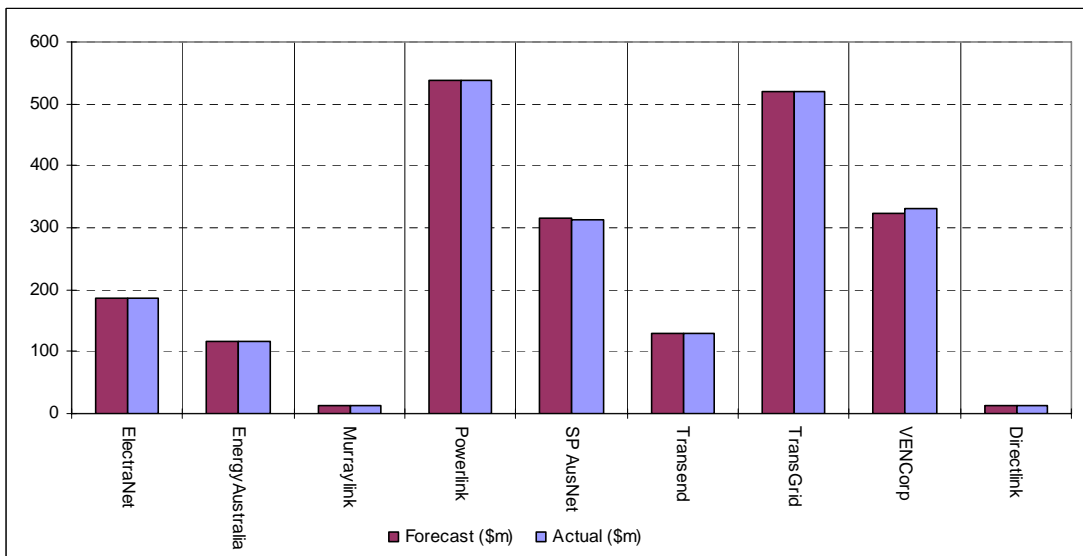
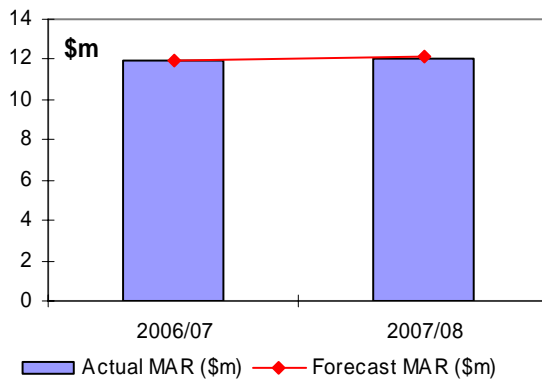


Figure 3.4 shows the difference between an individual TNSP's forecast MAR and actual revenue for 2007/08.

3.3 TNSP revenue outcomes

3.3.1 Directlink

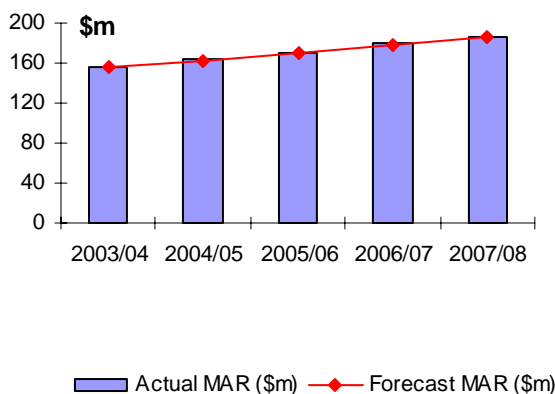
Figure 3.5: Actual and forecast MAR



Directlink's actual revenue in the 2007/08 financial year was \$12.1 million being the same as forecast. Actual revenue in 2007/08 was only marginally higher (less than one per cent) than the previous financial year's figure of \$12.0 million.

3.3.2 ElectraNet

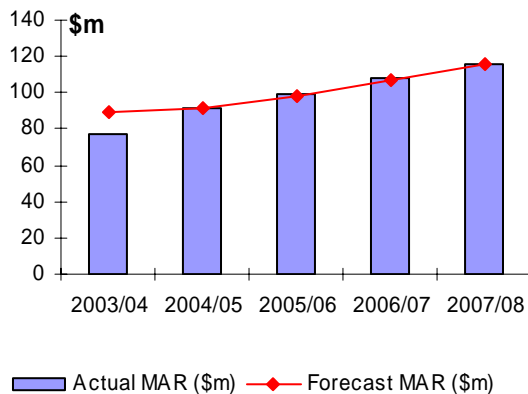
Figure 3.6: Actual and forecast MAR



In 2007/08 ElectraNet's actual revenue was \$186.8 million. This was 0.6 per cent or \$1 million above the forecast of \$185.8 million. Actual revenue in 2007/08 was \$7.8 million (or 4.3 per cent) above the previous financial year's figure of \$179.1 million.

3.3.3 EnergyAustralia

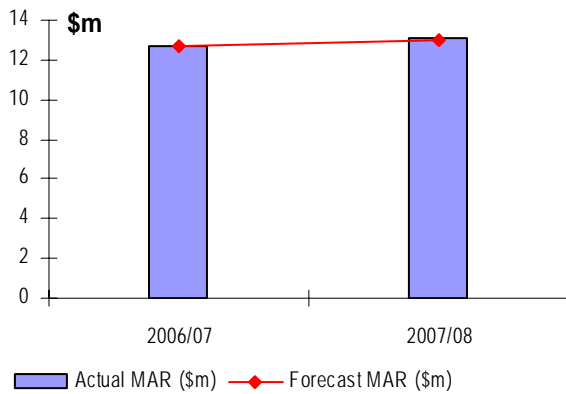
Figure 3.7: Actual and forecast MAR



EnergyAustralia's actual revenue in 2007/08 was \$115.9 million, which was 0.5 per cent above the forecast revenue of \$115.4 million. Actual revenue in 2007/08 was \$8.3 million (or 7.7 per cent) higher than the previous financial year's figure of \$107.6 million.

3.3.4 Murraylink

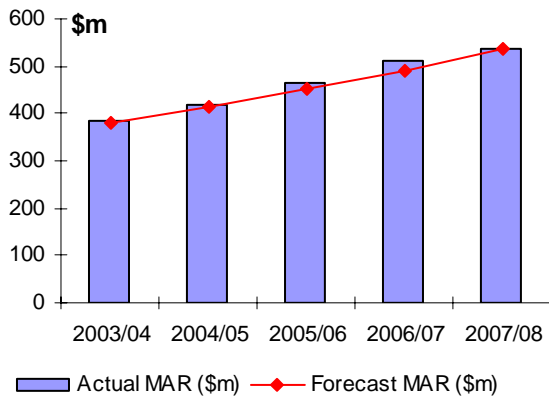
Figure 3.8: Actual and forecast MAR



Murraylink's actual revenue in the 2007/08 financial year was in line with its forecast of \$13.0 million. Actual revenue in 2007/08 was \$0.4 million more than the previous financial year's figure. Data collected prior to 2006/07 were based on a calendar year basis. As the back casting of financial information prior to 2006/07 were not possible, it has been excluded from this report as no appropriate longer-term comparisons can be made.

3.3.5 Powerlink

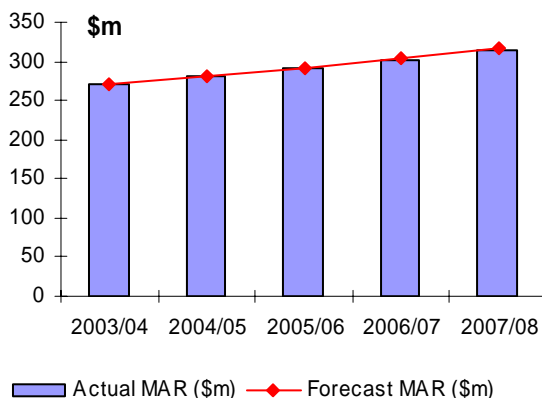
Figure 3.9: Actual and forecast MAR



In 2007/08 Powerlink's actual revenue was in line with its forecast of \$536.8 million.

3.3.6 SP AusNet

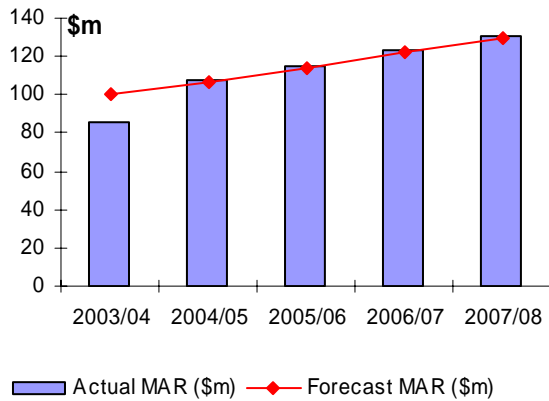
Figure 3.10: Actual and forecast MAR



SP AusNet's actual revenue in 2007/08 was \$313.2 million, which was 2.9 per cent lower than the forecast revenue of \$316.1 million (this figure excludes the pass through of easement land tax to allow comparison with the forecast MAR). Actual revenue in 2007/08 was \$11.2 million (or 3.7 per cent) higher than the previous financial year's figure of \$302.0 million.

3.3.7 Transend

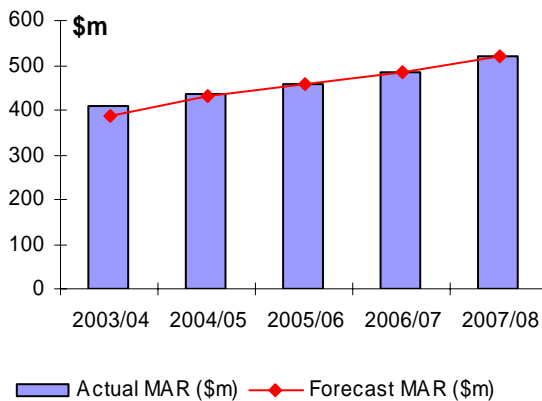
Figure 3.11: Actual and forecast MAR



In 2007/08 actual revenue was \$130.1 million, which was 0.2 per cent above the forecast revenue of \$129.9 million. Actual revenue in 2007/08 was \$6.8 million (or 5.5 per cent) higher than the previous financial year's figure of \$123.3 million.

3.3.8 TransGrid

Figure 3.12: Actual and forecast MAR



In 2007/08 TransGrid's actual revenue of \$520.4 million was 0.1 per cent (or \$0.7 million) above the forecast revenue of \$519.8 million¹⁸. TransGrid continued to demonstrate steady growth with an actual revenue¹⁹ in 2007/08 being \$33.9 million (or 7.0 per cent) higher than the previous financial year's figure of \$486.5 million.

3.3.9 VENCORP

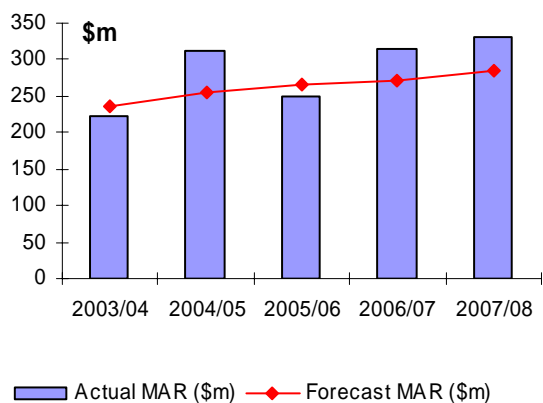
Figure 3.13: Actual and forecast MAR

VENCORP's actual revenue of \$330.0 million for the 2007/08 financial year was \$45.9 million (or 16.1 per cent) above the forecast revenue of \$284.1 million.²⁰ Actual revenue in 2007/08 was \$15.7 million (or 5.0 per cent) above the previous year's figure of \$314.3 million.

¹⁸ TransGrid's actual reported revenue excludes grid support receipts of \$6.18 million.

¹⁹ The increase in 2007/08 forecast revenue reflects the AER's 13 February 2007 decision to revoke and substitute the 2004/05 to 2008/09 revenue cap due to errors in establishing TransGrid's debt margin.

²⁰ The annual amount of the easement land tax pass-through has been excluded from VENCORP's actual revenue for the years between 2004/05 to 2007/08 to allow for like-for-like comparison with VENCORP's forecast MAR.



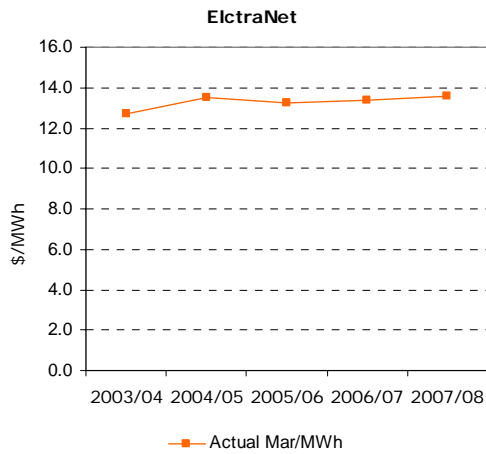
3.4 TNSP transmission charges outcomes

Figures 3.14 to 3.19 show the indicative price path of TNSPs’ actual transmission charges (expressed on a \$MAR/MWh basis) compared to the transmission charges that were forecast* based on the allowed revenues at the time of the regulator’s decision.

The movement in actual indicative prices for all TNSPs were generally very close to those forecast in the respective transmission determination. The differences that were evident appeared to be primarily due to actual revenue containing STPIS (s-factor) payments and network support pass throughs, which are not incorporated in the original revenue allowances by the regulator. It should be noted that transmission charges comprise about 10 per cent of retail prices in the NEM. The contribution of transmission to final retail prices varies between jurisdictions, customer types and locations.

3.4.1 ElectraNet

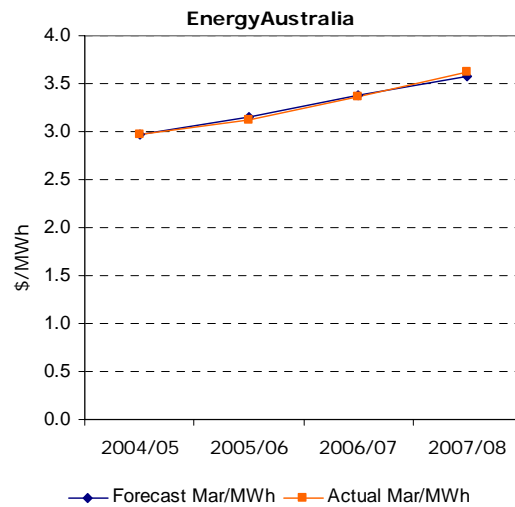
Figure 3.14: Price path from 2003/04 to 2007/08



*Forecast data for ElectraNet were not available in the 2003-2007/08 decision.

3.4.2 EnergyAustralia

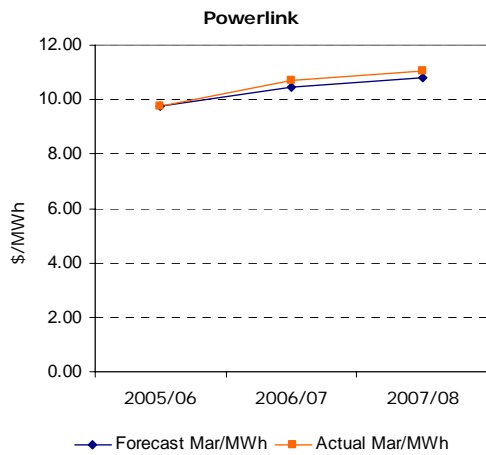
Figure 3.15: Price path from 2003/04 to 2007/08



*Forecast revenue was sourced from the ACCC's transmission revenue determination 2004-2009 and the forecast energy volumes were provided by EnergyAustralia in 2004, which were adjusted to account for EnergyAustralia's forecast losses. This adjustment ensures consistency between forecast and actual energy volumes.

3.4.3 Powerlink

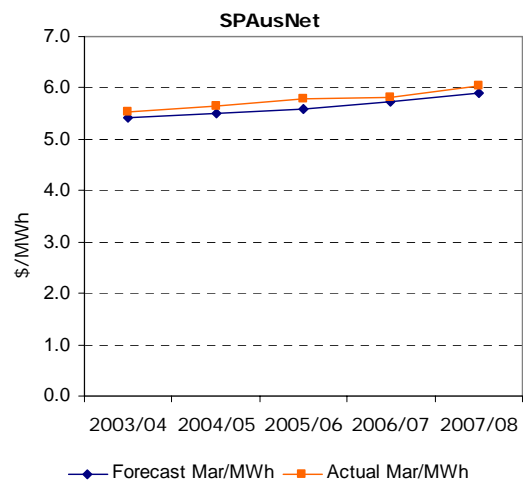
Figure 3.16: Price path from 2005/06 to 2007/08



* Forecast energy transmitted data sourced from Powerlink's Annual Planning Reports. Data prior to 2005/06 were not available.

3.4.4 SP AusNet

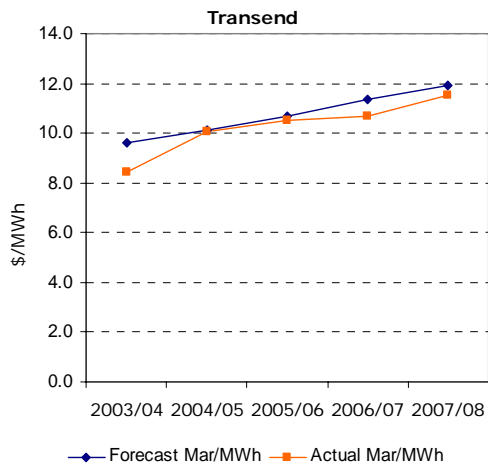
Figure 3.17: Price path from 2003/04 to 2007/08



*Forecast energy transmitted data sourced from the ACCC's Victorian Transmission Network Revenue Caps 2003-2008.

3.4.5 Transend

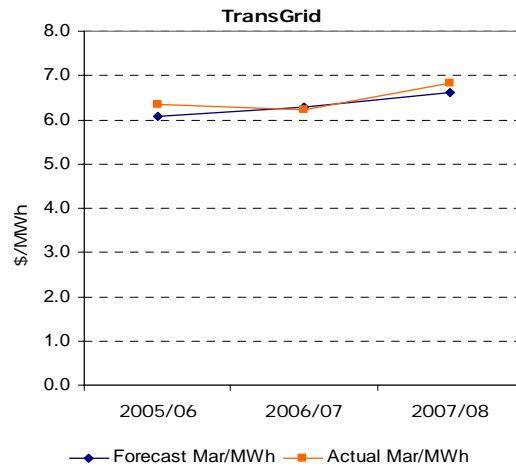
Figure 3.18: Price path from 2003/04 to 2007/08



*Forecast price path sourced from the ACCC's Tasmanian Transmission Network Revenue Cap 2004–2008/09.

3.4.6 TransGrid

Figure 3.19: Price path from 2005/06 to 2007/08



*Forecast energy transmitted data sourced from TransGrid's Application to the Australian Competition & Consumer Commission Revenue Reset Determination 1 July 2004 to 30 June 2009. The increase in the price ratios (%MAR/MWh) in 2007/08 was driven by the revocation of TransGrid's revenue cap to adjust for the CBA spectrum correction, and those reason outlined above.

4 Financial indicators

4.1 Introduction

This chapter describes the financial performance of TNSPs in the 2007/08 financial year and where appropriate compares their performance against previous financial years. Appendix A of this report provides a summary of key items and financial indicators derived from TNSPs' income statements and balance sheets.

Under the building block scheme, TNSPs are provided with a MAR which provides them with a consistent and relatively predictable cash flow - regardless 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.

4.1.1 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 widely accepted financial 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. | $\frac{\text{Debt}}{\text{Debt} + \text{Equity}}$ |
| Interest cover | Measures whether a firm's earnings can cover its gross interest expense. | $\frac{\text{Earnings before Interest and Tax (PS)}}{\text{Gross Interest Expense}}$ |

For businesses that own more than one regulated network, 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. The allocation is only done for regulatory accounts and 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 more than 90 per cent of the total revenue of a TNSP.

4.1.2 Aggregate TNSP performance

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

Table 4.1: TNSPs included in aggregate financial indicators

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|-----------------|---------|---------|---------|---------|---------|
| Directlink | | | | ✓ | ✓ |
| ElectraNet | ✓ | ✓ | ✓ | ✓ | ✓ |
| EnergyAustralia | ✓ | ✓ | ✓ | ✓ | ✓ |
| 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 4.2: **TNSPs' aggregate financial performance**

| | 2006/07 | 2007/08 |
|---|-------------------|-------------------|
| Income statement – Prescribed Services | \$ million | \$ million |
| Transmission revenue (PS) * | 1,733.7 | 1,828.4 |
| Operating expenditure (PS) | 415.8 | 431.7 |
| Grid support (PS) | 24.3 | 34.7 |
| Depreciation (PS) | 450.0 | 472.1 |
| Earnings before interests and tax (EBIT, PS) | 807.7 | 896.1 |
| Income statement – Aggregate ** | | |
| Gross interest expense (aggregate) | 431.3 | 494.3 |
| Tax (aggregate) | 79.0 | 141.7 |
| Net profit after tax (aggregate) | 417.8 | 316.0 |
| Dividends (aggregate) | 238.0 | 287.2 |
| Balance sheet | | |
| Closing RAB (PS) | 11,370.3 | 12,695.8 |
| Total assets (aggregate) | 14,682.3 | 16,198.6 |
| Total debt (aggregate) | 6,476.9 | 7,651.3 |
| Total liabilities (aggregate) | 8,709.4 | 10,403.6 |
| Total equity (aggregate) | 5,723.9 | 5,846.2 |

* Transmission revenue is from prescribed services network charges only.

** This information is not reported or requested at a prescribed services level and therefore aggregate figures can only be provided for these categories.

Figure 4.1: **TNSPs' aggregate financial performance 2007/08**

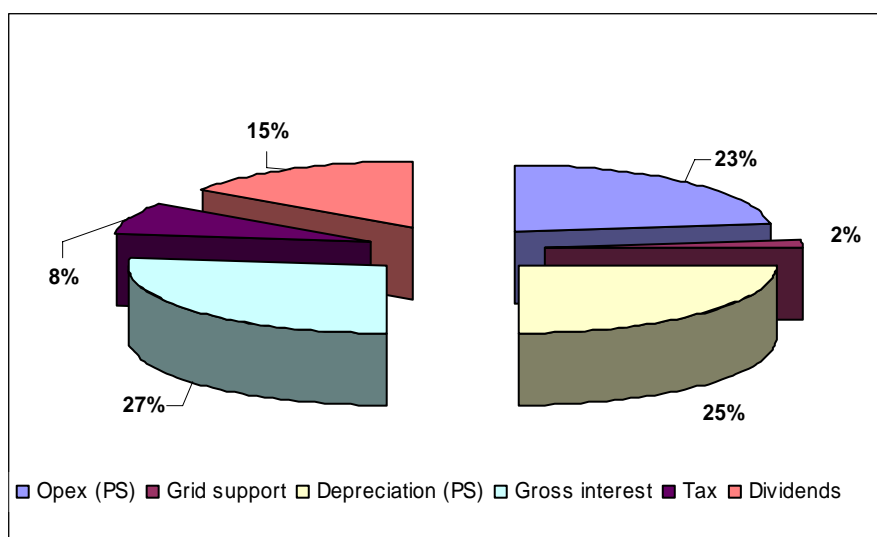


Figure 4.1 illustrates the various reported components of the TNSPs' expenses as a percentage of aggregate expenditure in 2007/08.

Figure 4.2: TNSPs' aggregate financial performance 2003/04 – 2007/08 (\$nominal, m)

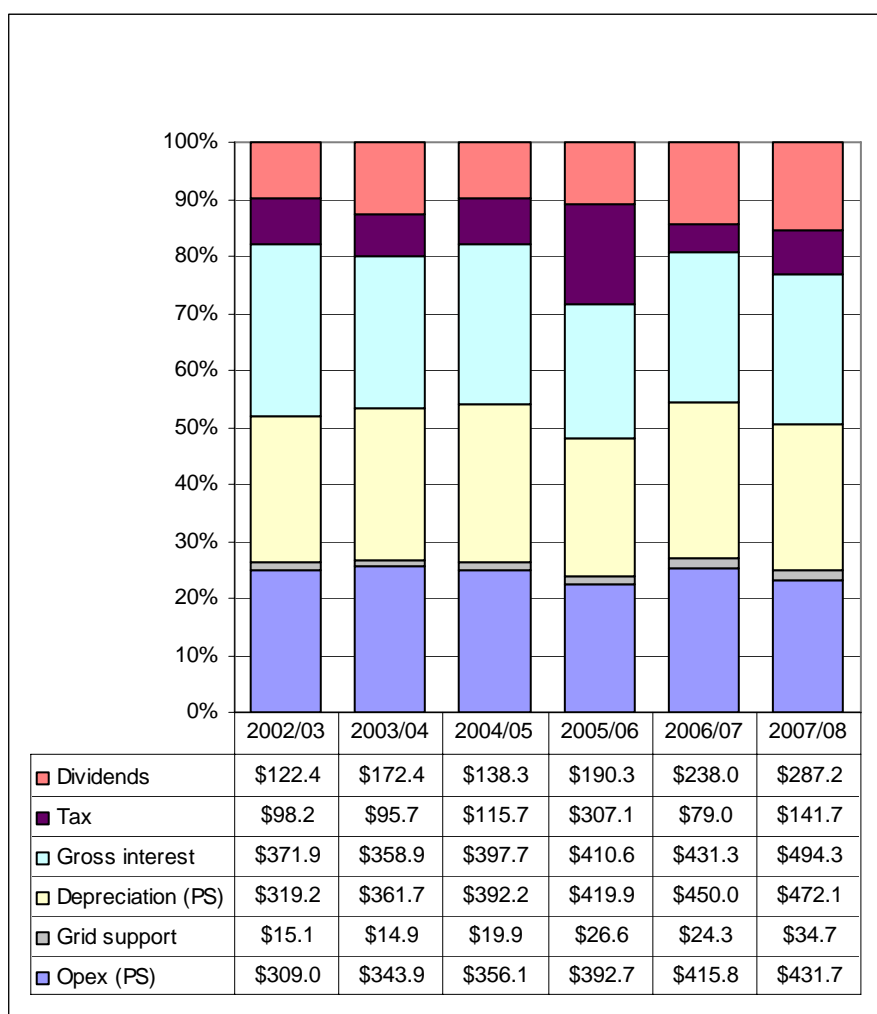


Figure 4.2 illustrates the various reported components of the TNSPs' expenses as an absolute dollar amount of aggregate expenditure by TNSPs. Aggregate expenditure increased in 2007/08 in all components with notable increases in gross interest and tax expenditure compared to the previous year.

4.2 Individual TNSP performance

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

4.2.1 ElectraNet

In 2007/08 ElectraNet's (figures 4.3 to 4.8) earnings before interest and tax increased to \$86.2 million. ElectraNet also recorded a net loss after tax of \$11.1 million. Return on equity was lower than the previous financial year whilst the return on assets remained steady at 7.6 per cent. Subsequently, ElectraNet's gearing ratio declined to 70.7 per cent of equity whilst interest coverage remained steady at 0.8 times.

From 2005/06 ElectraNet has recorded a net loss after tax. These losses were a result of high interest expenses and moderate depreciation and amortisation expense and

operating and maintenance expenditure. ElectraNet's gearing ratio and interest cover times has remained relatively constant since 2003/04.

Figure 4.3: EBIT (PS) \$million

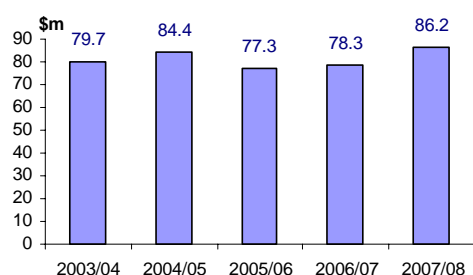


Figure 4.4: NPAT \$million

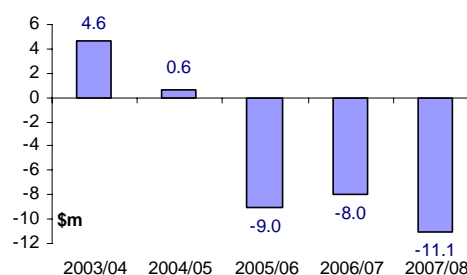


Figure 4.5: ROE

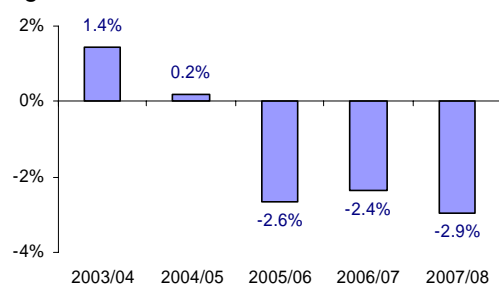


Figure 4.6: ROA (PS)

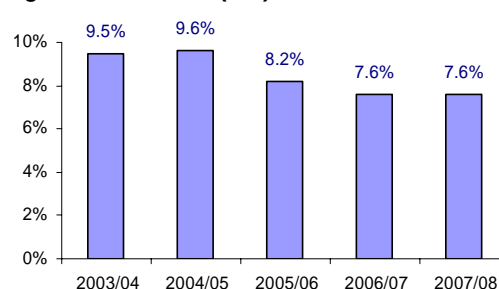


Figure 4.7: Gearing ratio

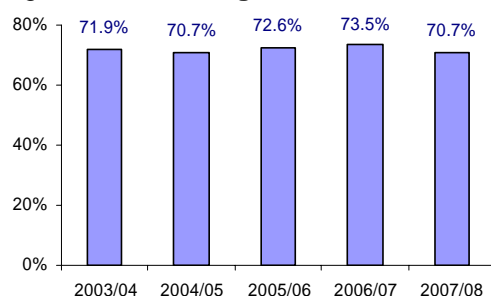
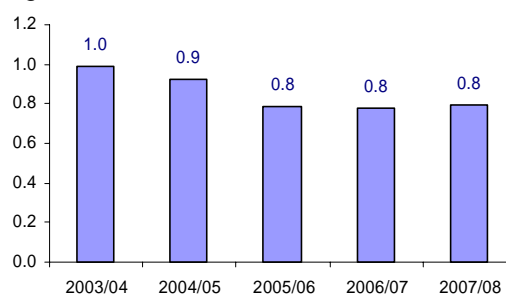


Figure 4.8: Interest cover times



4.2.2 EnergyAustralia

In 2007/08 EnergyAustralia's (figures 4.9 to 4.15) earnings before interest and tax and the net profit after tax declined to \$53.9 million and 17.8 million respectively. Return on assets and return on equity also trended downwards in 2007/08. Dividend payments made by EnergyAustralia remained steady at approximately \$14 million, whilst both the gearing ratio and interest coverage decreased marginally to 64.1 per cent 2.2 times respectively.

EnergyAustralia's NPAT has fluctuated over the five year period to 2007/08. Similar to other TNSPs, NPAT was influenced by the EnergyAustralia's interest expenses from liabilities and to smaller extent its depreciation and amortisation expenses and operation and maintenance expenditure. Dividends payments have shown an upward trend since 2003/04 and remained steady over 2006/07 and 2007/08.

EnergyAustralia's gearing ratio has trended upwards since 2003/04 due to an increased in its liabilities. Subsequent to the increase in liabilities the ability for EnergyAustralia to service its debt (interest coverage ratio) has also declined.

Figure 4.9: **EBIT (PS) \$million**

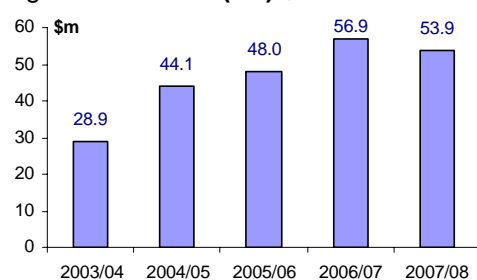


Figure 4.10: **NPAT \$million**

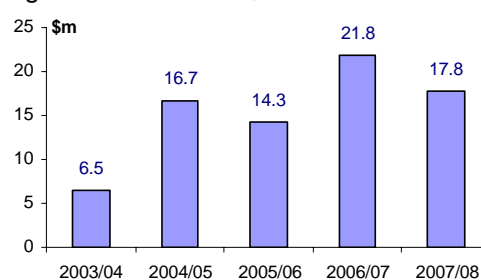


Figure 4.11: **Dividends \$million**

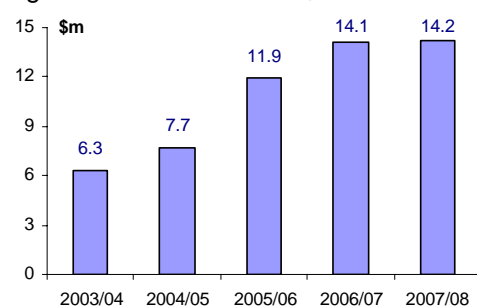


Figure 4.12: **ROE**

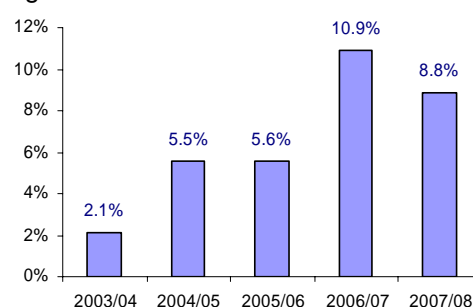


Figure 4.13: **ROA (PS)**

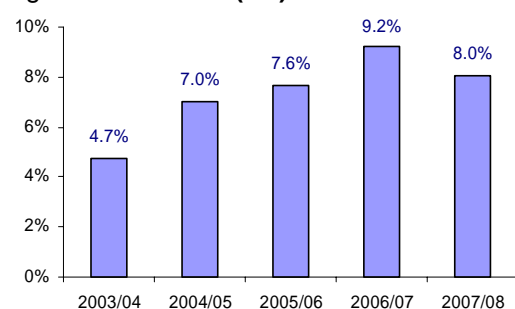


Figure 4.14: **Gearing ratio**

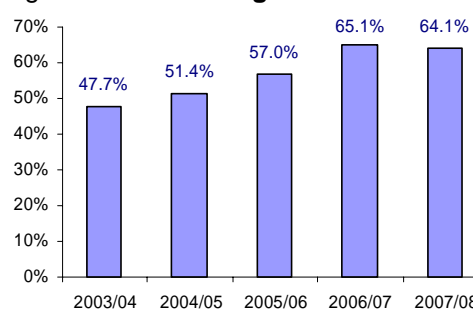
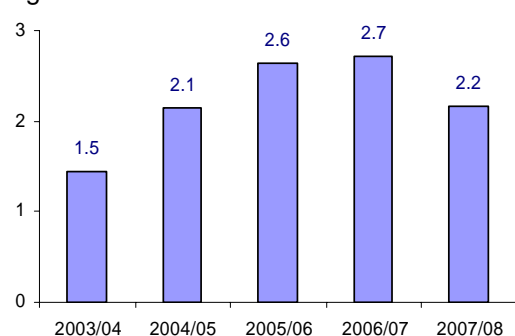


Figure 4.15: **Interest cover times**



4.2.3 Powerlink

Powerlink's (figures 4.16 to 4.22) earnings before interest and tax increased in 2007/08 to \$243.8 million whilst net profit after tax declined to \$103.1 million.²¹ Dividends payments decreased in 2007/08 to \$84.4 million while return on equity and

²¹ Powerlink's current regulatory control period began in 2007/08 which has contributed to the step changes reported for the 2007/08 financial year.

the return on assets fell to 6.1 per cent and 6.8 per cent respectively. Powerlink's gearing ratio increased to 58.9 per cent while interest coverage decreased to 1.7 times.

Powerlink's NPAT has fluctuated over the five year period to 2007/08. Similar to other TNSPs, NPAT was influenced by Powerlink's interest expenses and to smaller extent its depreciation and amortisation expenses. Dividend payments have remained relatively constant above 80 per cent of NPAT. Powerlink's gearing ratio has trended upwards since 2004/05 to support its increasing capital investment program. Consequently, the ability for Powerlink to service its debt (interest coverage ratio) has also declined.

Figure 4.16: EBIT (PS) \$million

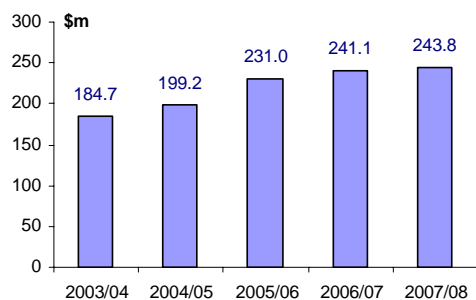


Figure 4.17: NPAT \$million

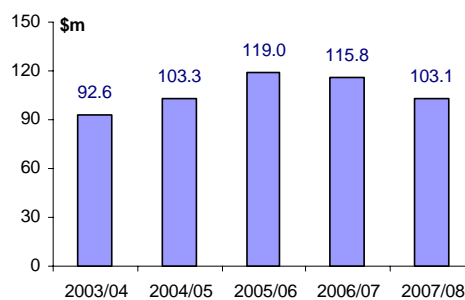


Figure 4.18: Dividends \$million

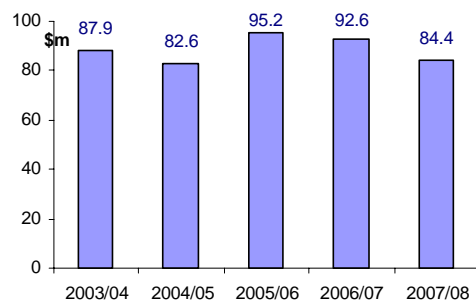


Figure 4.19: ROE

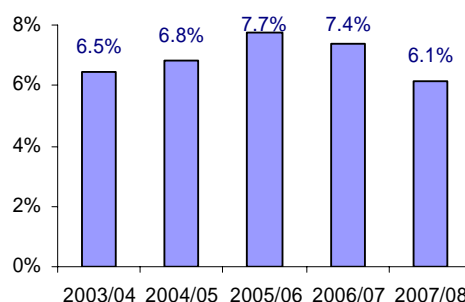


Figure 4.20: ROA (PS)

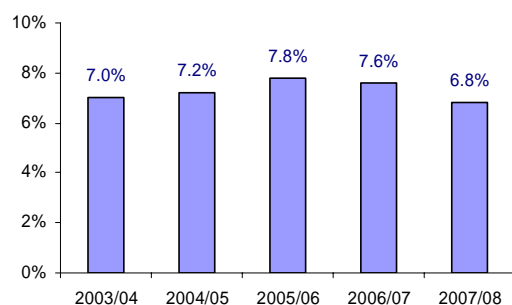


Figure 4.21: Gearing ratio

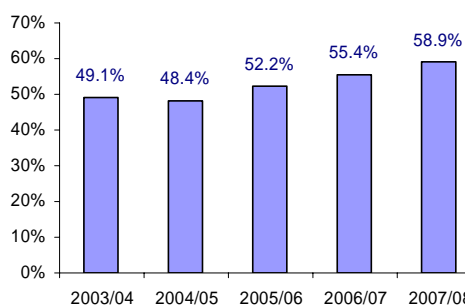
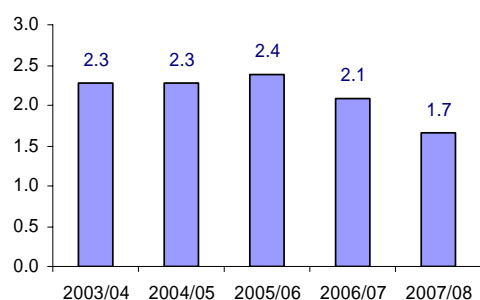


Figure 4.22: Interest cover times



4.2.4 SP AusNet

SP AusNet's (figures 4.23 to 4.29) earnings before interest and tax increased in 2007/08 to \$200.7 million whilst net profit after tax declined to \$82.7 million. SP AusNet retained 18.1 per cent of its NPAT while distributing \$67.7 million in dividends to shareholders. The return on equity declined from the previous financial year to 7.4 per cent whilst the return on assets experienced an increase rising to 9.6 per cent. In 2007/08 SP AusNet's gearing ratio increased marginally to 61.9 per cent while interest coverage rose to 2.0 times.

SP AusNet's NPAT has fluctuated over the five year period to 2007/08. Similar to other TNSPs, NPAT was influenced by the SP AusNet's interest expenses from liabilities and to smaller extent its depreciation and amortisation expenses and operation and maintenance expenditure. SP AusNet's gearing ratio has trended downwards over the past four years.

SP AusNet commented that this was influenced by the merger between SPI Powernet and TXU in 2004 which led to significant structural change within the business and a successful public offering of 49 per cent of the business in 2005/06. The gearing ratio also reflects SP AusNet's prudent management of debt. The ability for SP AusNet to service its debt (interest coverage ratio) has remained relatively stable over the five year period to 2007/08.

Figure 4.23: EBIT (PS) \$million

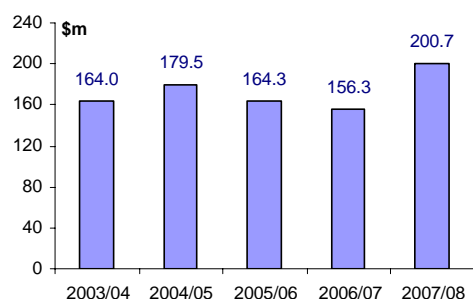


Figure 4.24: NPAT \$million

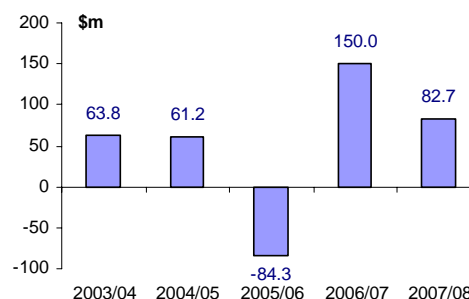


Figure 4.25: Dividends \$million

Figure 4.26: ROE

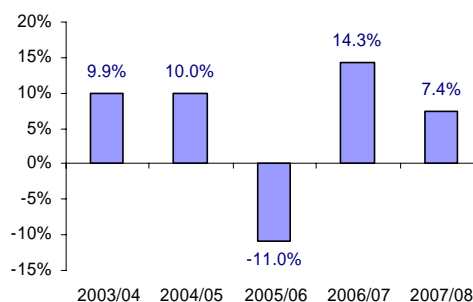
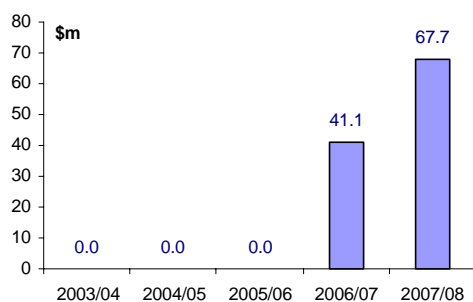


Figure 4.27: **ROA (PS)**

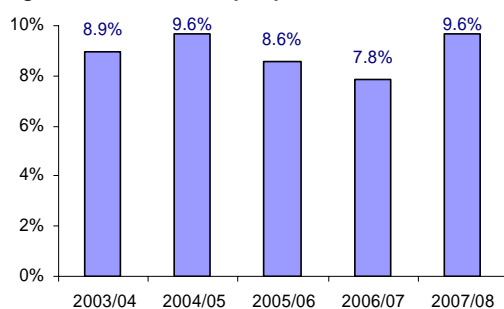


Figure 4.28: **Gearing ratio**

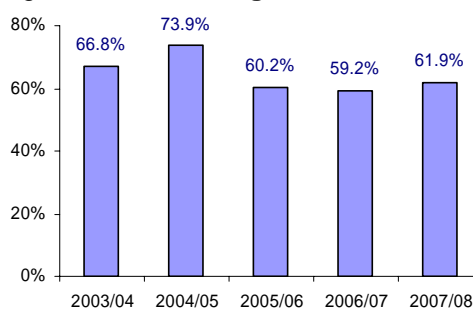
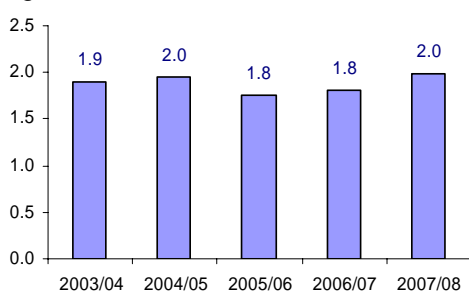


Figure 4.29: **Interest cover times**



4.2.5 Transend

In 2007/08 Transend (figures 4.30 to 4.36) recorded a decline in both earnings before interest and tax and net profit after tax, with results of \$46.3 million and \$18.7 million respectively. Dividends paid by Transend also declined in 2007/08 to \$15.0 million. Return on equity and the return on assets also recorded decreases compared to the previous financial year. Transend's gearing ratio increased significantly to 40.9 per cent whilst interest coverage decreased to 4.4 times as a result of increased borrowings as a result of a substantial return of equity to shareholders.

Transend's NPAT has fluctuated over the five year period to 2007/08. NPAT was influenced by Transend's interest and depreciation expenses and, unlike other TNSPs, Transend's operating and maintenance expenditure contributed to falling NPAT over time.

Figure 4.30: **EBIT (PS) \$million**

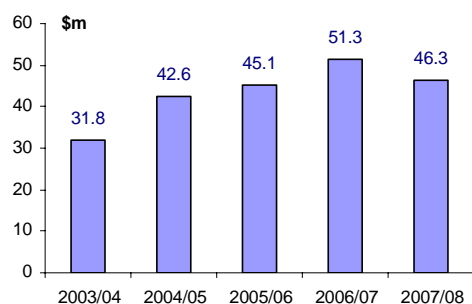


Figure 4.31: **NPAT \$million**

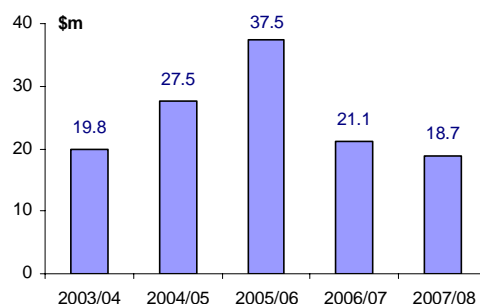


Figure 4.32: **Dividends \$million**

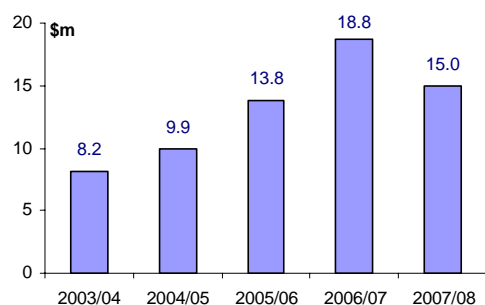


Figure 4.33: **ROE**

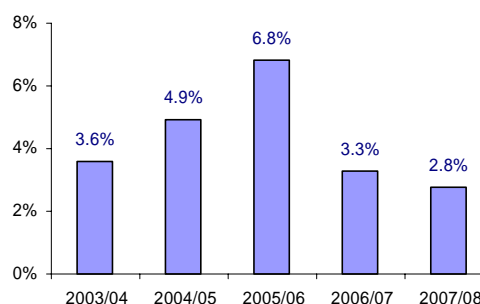


Figure 4.34: **ROA (PS)**

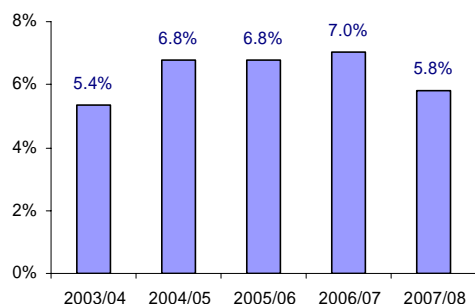


Figure 4.35: **Gearing ratio**

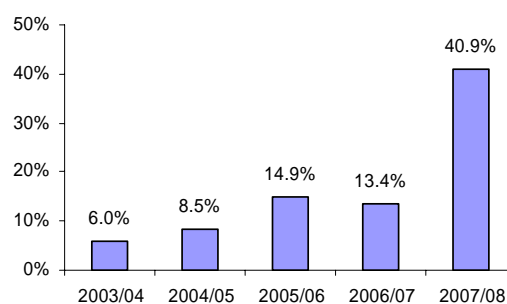
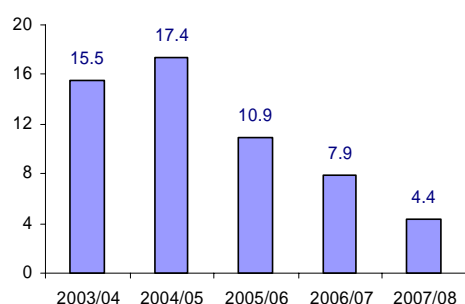


Figure 4.36 **Interest cover times**



4.2.6 TransGrid

TransGrid's (figure 4.37 to 4.43) earnings before interest and tax continued to grow reaching \$265.3 million in 2007/08. Net profit after tax recorded a decrease to \$104.7 million although dividend payments increased significantly from the previous year to \$105.9 million. Return on equity decreased to 6.1 per cent whilst the return on assets

demonstrated growth in 2007/08 to 7.7 per cent.²² TransGrid's gearing ratio recorded only a marginal increase in 2007/08 whilst interest coverage increased to 2.6 times.

TransGrid NPAT has fluctuated over the five year period to 2007/08. Unlike other TNSPs, NPAT was influenced by TransGrid's depreciation and amortisation costs and operation and maintenance expenditure and to a smaller extent interest expenses from liabilities. Due to the increase in revenue, the ability for TransGrid to service its debt (interest coverage ratio) has also increased.

Figure 4.37: EBIT (PS) \$million

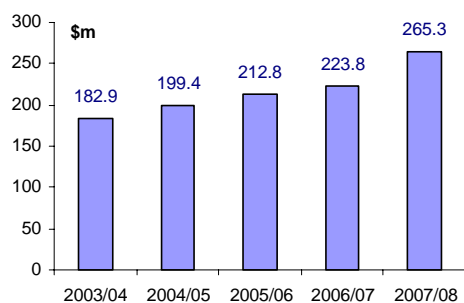


Figure 4.38: NPAT \$million

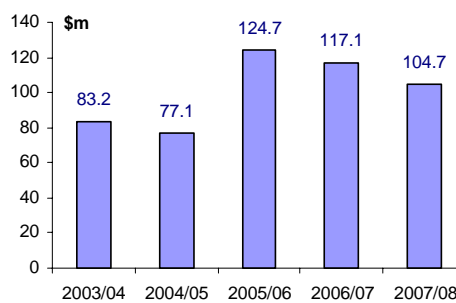


Figure 4.39: Dividends \$million

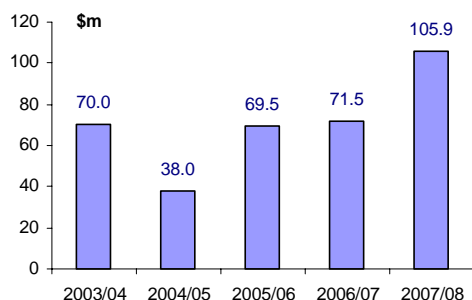


Figure 4.40: ROE

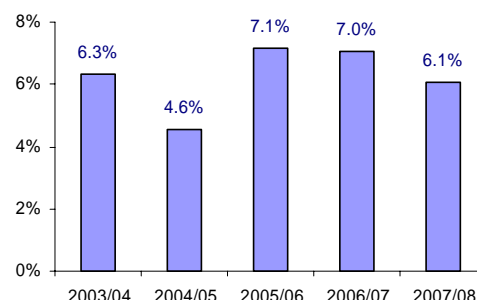


Figure 4.41: ROA (PS)

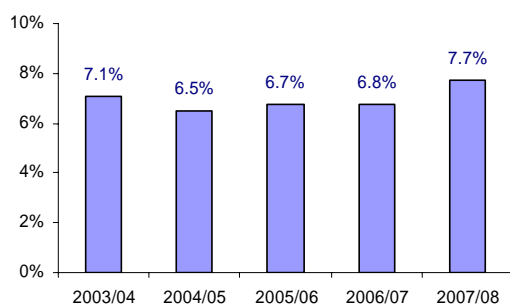


Figure 4.42: Gearing ratio

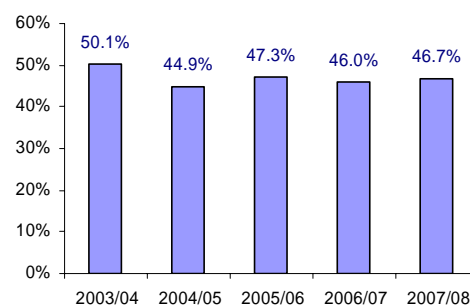
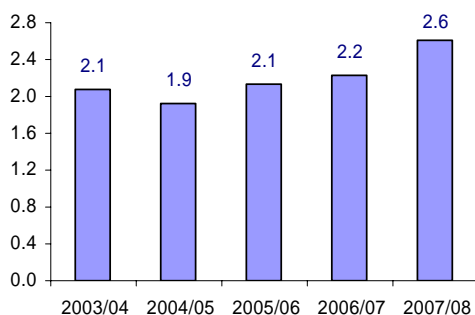


Figure 4.43: Interest cover times



²² This return on assets calculation utilises closing regulatory asset base values provided to the AER in TransGrid's revenue proposal which may differ to actual values.

5 Capital expenditure

The capital expenditure (capex) regulatory framework (ex-ante) outlined in the NER involves the AER setting an efficient capex allowance at the start of the regulatory control period that is intended to cover a TNSP's expected infrastructure investments. These investments include augmentation of the network, replacement of aging or redundant assets and investment in business support systems. 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 AER sets capex targets for each TNSP at the time of its revenue determination. In its revenue proposal, the TNSP is required to propose forecast capex for the following regulatory control period in order to achieve the capex objectives, which are to:

- meet the expected demand for prescribed transmission services over that period
- comply with all applicable regulatory obligations associated with the provision of prescribed transmission services
- maintain the quality, reliability and security of supply of prescribed transmission services, and
- maintain the reliability, safety and security of the transmission system through the supply of prescribed transmission services.²³

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 control period. Conversely, should a TNSP exceed the allowance set by the AER it would forgo both return on and of capital associated with the over expenditure for the remainder of the regulatory control 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.

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 (2003/4 to 2012/13) and therefore is not included in this chapter.
- Directlink is an interconnector between NSW and Queensland. No capex is forecast during its current regulatory period (2005/05 to 20014/15) and therefore is not included in this chapter.

²³ NER, clause 6A.6.7(a).

- 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.

5.1 Characteristics of electricity transmission capital expenditure

Electricity transmission networks are typically made up of large long lived assets. These assets require capex when they reach the end of their productive lives, or when the demand for electricity reaches levels that the current electricity network assets are unable to be safely managed. Additionally, transmission networks are often augmented to provide extra capacity to maintain a consistent supply of electricity for consumers.

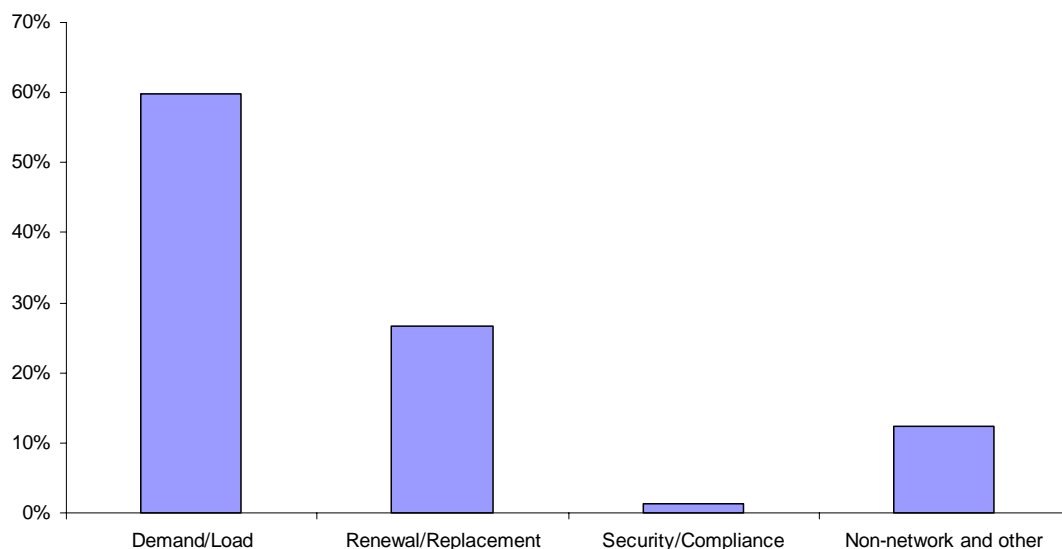
5.2 Drivers of capex

Generally TNSPs undertake capex for a few specific reasons, being:

- the replacement or renewal of aging assets.
- upgrading the network to cope with increased load.
- legal, environmental and statutory reasons.

TNSPs reported data on the reasons for undertaking capital expenditure in 2007/08 which are illustrated in figure 5.1 below.

Figure 5.1: **Capex by cost drivers, 2007/08 (percentage of total)**



As shown in figure 5.1, the primary driver for capital expenditure on transmission assets in 2007/08 was increased demand or load on the networks. Renewal and

replacement of network assets accounted for about 30 per cent of capex. Security and compliance capex requirements were minimal.

5.3 Other factors that affect capital expenditure

Network length, peak demand and the size of the regulatory asset base are all factors that can influence annual capex requirements. Networks must have a level of redundancy built into them in order to manage demand in peak periods. As networks have a maximum capacity that cannot be breached, capex is required to upgrade the network when maximum demand is expected to approach the maximum capacity. Network length is a factor that will also affect the capex requirements of networks. The longer the network is, the greater its capex requirements. Lastly, the size of the regulatory asset base will affect the annual capex requirement as it can be expected that networks of greater value will require more capex.

In comparing the efficiency of network capex a number of factors must be taken into consideration. As networks comprise of very long-lived assets, a true efficiency comparison would compare the networks over the life of those assets or over a very long time scale. It is not possible to compare the networks on a long time scale as changes in the structure of the market mean that a long data series is not available.

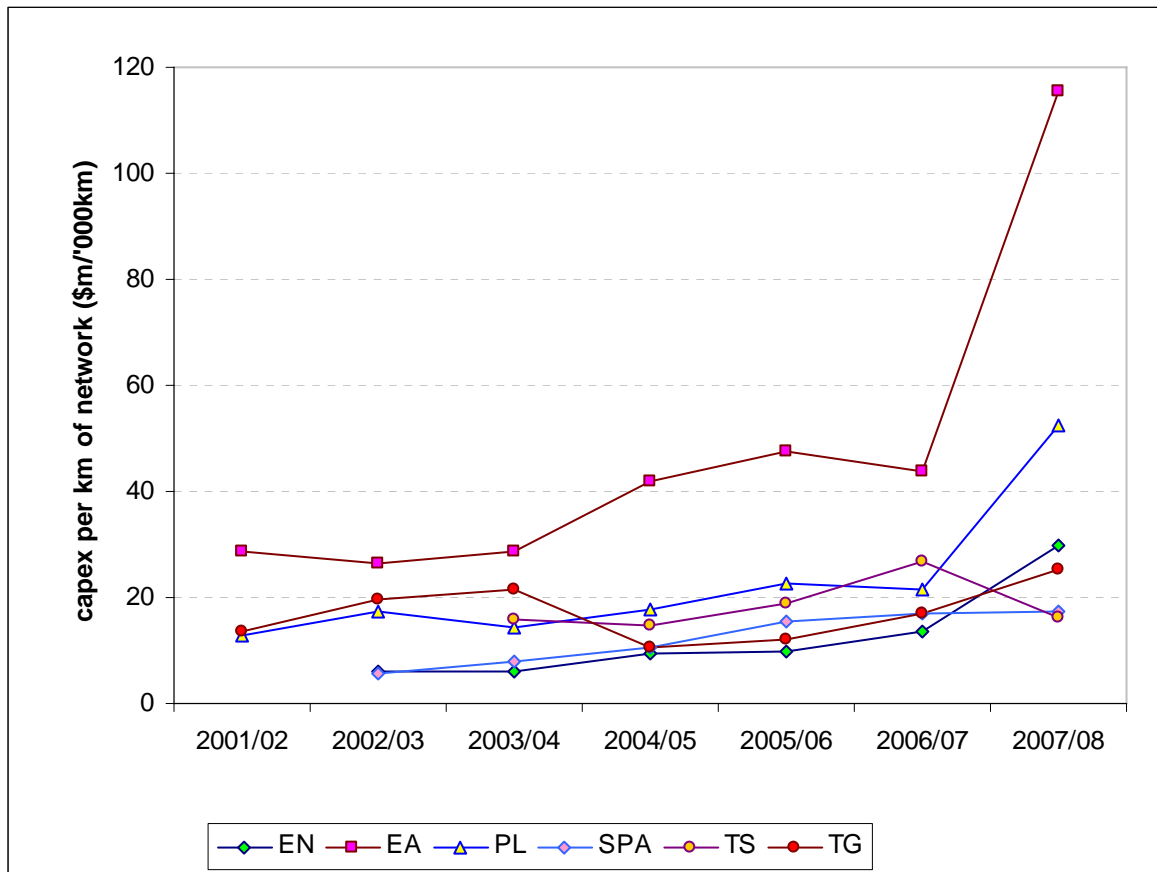
The tables below present a comparison of the networks based upon capex by line length, average RAB, and peak demand. Though solid conclusions cannot be drawn from the data series, some interesting observations can be made.

5.4 Capital expenditure and network length

Figure 5.2 shows that due to recent increases in capex, the ratios of some of the businesses have increased considerably. EnergyAustralia, Powerlink, and ElectraNet increased their capex expenditure in 2007/08 and as such have increased their ratios. EnergyAustralia's capex is particularly high per km of network because its network is only of a short length and located within the CBD of Sydney.

SP AusNet had the most consistent level of capex per km of network for the previous three regulatory years consistently reporting below \$20,000 per km of network. Interestingly, capex per km of line is similar for all of the networks other than EnergyAustralia and Powerlink. Historically, most transmission networks have invested around \$20,000 to \$30,000 per km of network.

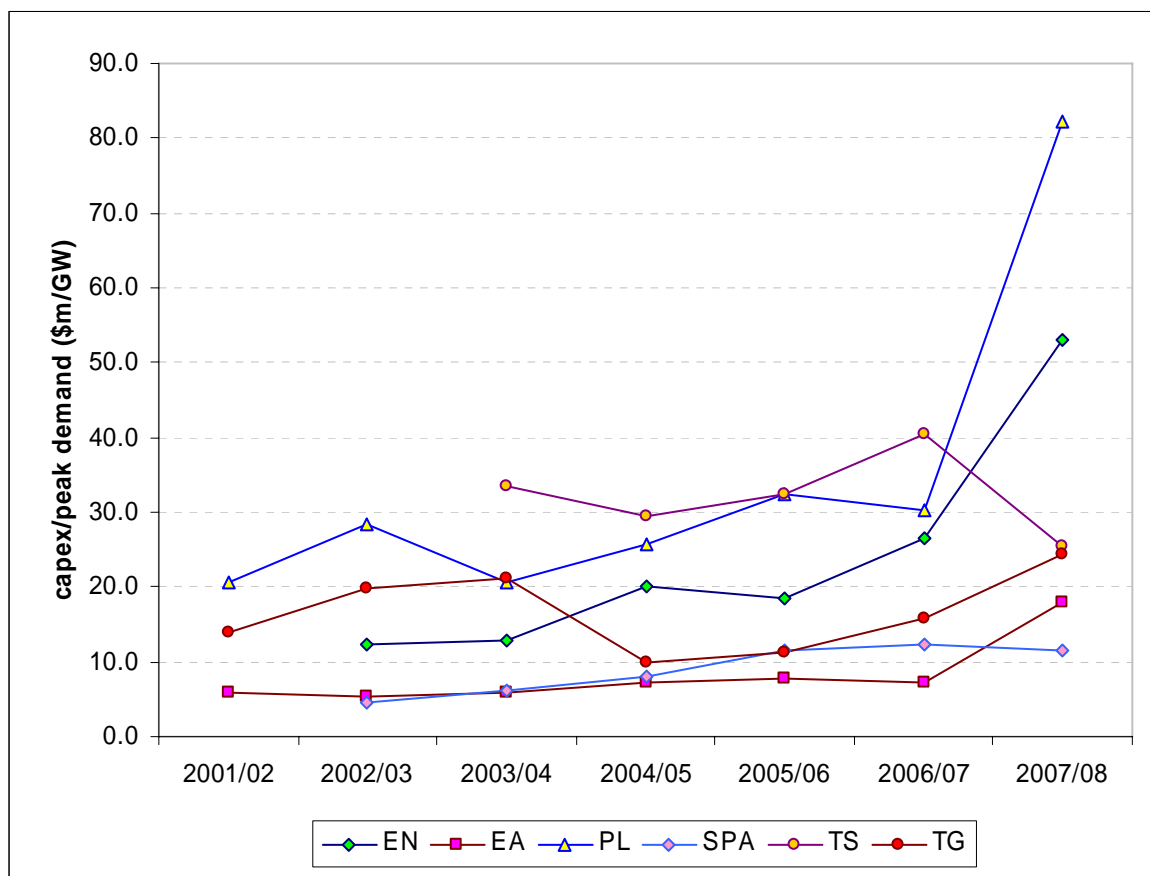
Figure 5.2: Capex as a proportion of line length 2001/02-2007/08



5.5 Peak demand

As discussed in the network characteristics chapter (chapter 2), Australian transmission networks face varying peak demands and are designed to manage this demand. As such, much of capital expenditure is in preparation for future peak demand. Figure 5.3 shows the ratio of capex spent to peak demand for the last seven years.

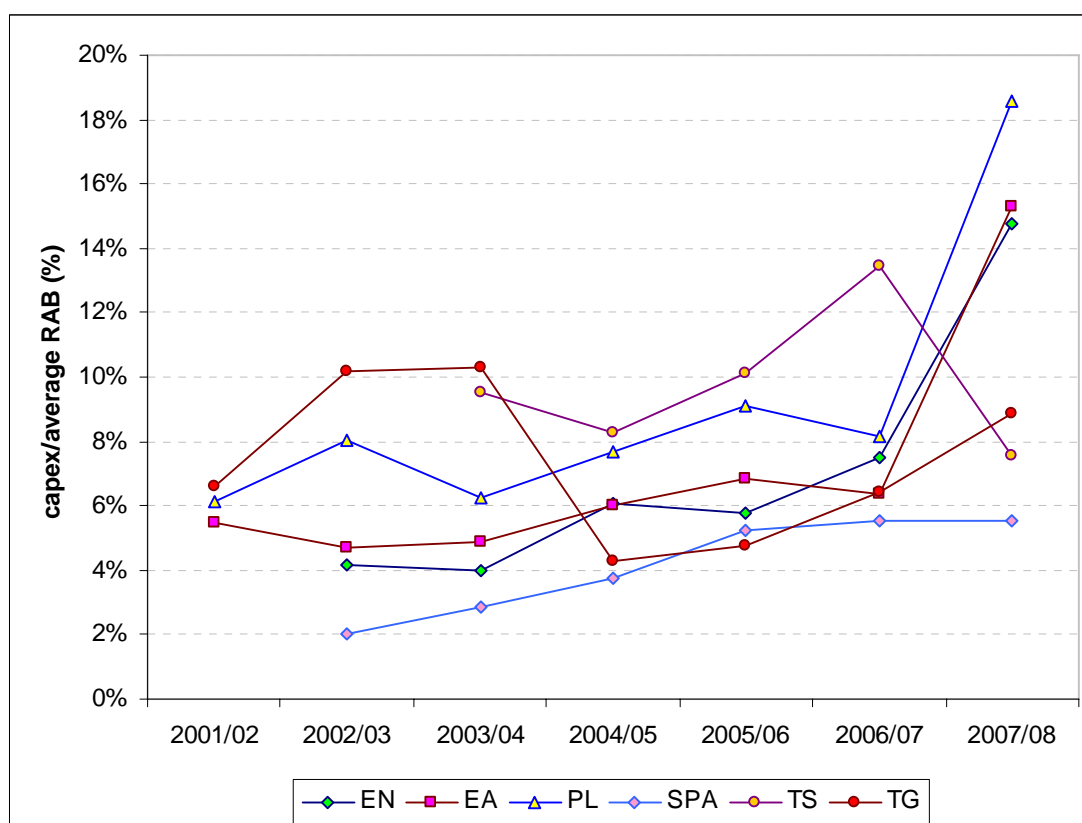
Figure 5.3: Capex per GW of peak demand 2001/02-2007/08



5.6 Regulated asset base

Figure 5.4 plots the ratio of capital expenditure as a proportion of the average RAB for the past seven years. Capex was between 2 and 20 per cent of the value of the average RAB. The average ratio for all the businesses between 2003/04 and 2007/08 has been 7.8 per cent.

Figure 5.4: Capex as a proportion of average RAB 2001/02-2007/08



5.7 Actual capital expenditure outcomes

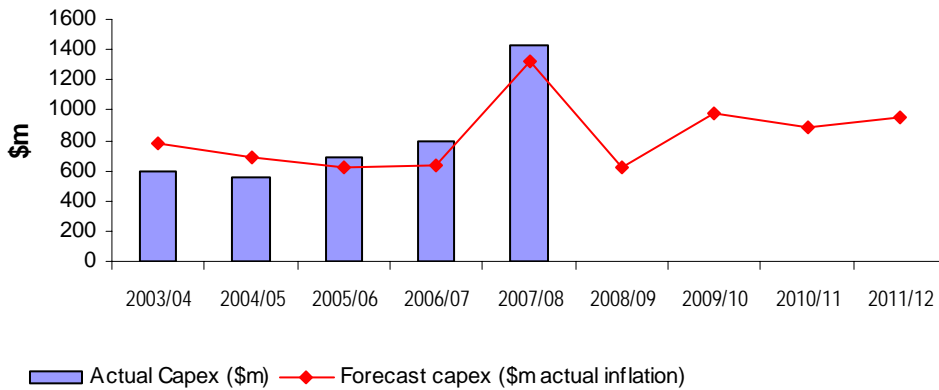
Actual aggregate capex for all TNSPs are represented in figure 5.5. In 2007/08 capex was \$1,426.6 million while forecast capex was \$1,323.2 million. In 2007/08 there appears to be a marked increase²⁴ in the total amount of capex undertaken. This can be partially attributed to the increase in the forecast capex requirements of 79 per cent. Also, actual capex was 7.82 per cent higher than the forecast amount.

Since 2004/05 capex has been steadily increasing. Forecast total capex has been around \$600 million between, 2002/03 and 2006/07. Forecast capex increased significantly in 2007/08. Actual capex for 2005-06 to 2007/08 was greater than forecast, following two years of capital expenditure being less than forecast.

Aggregate capex is set to decrease slightly (by 8 per cent) in 2008/09 and then increase in 2009/10. Much of the reason for the decrease in forecast capex is the reclassification of EnergyAustralia's assets as distribution assets for revenue determination purposes. Nonetheless the overall trend expected is that average capex will rise significantly compared to the 2003-07 period.

²⁴ The increase could also be due to the TNSPs capitalisation policy. Some TNSPs are on an "as commissioned basis" whilst other TNSPs are on an "as incurred basis".

Figure 5.5: **Aggregate forecast and actual capex for (\$m) 2003/04-2011/12**



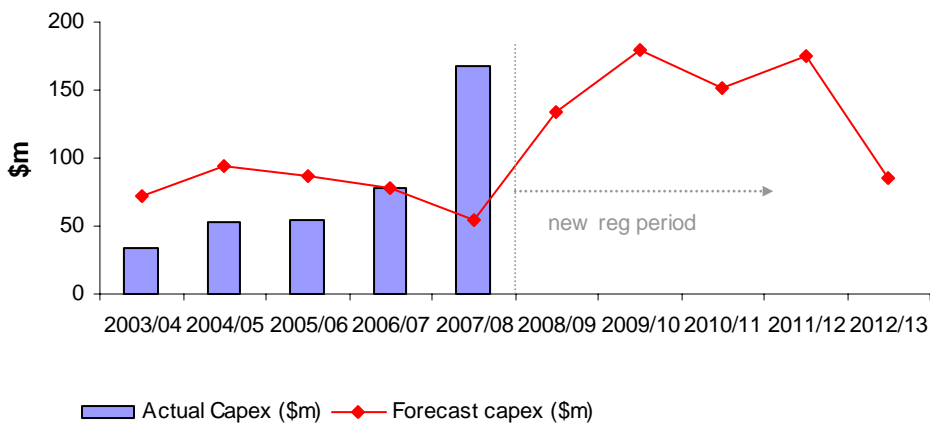
5.7.1 ElectraNet

ElectraNet spent \$168 million on capex in 2007/08 compared to the forecast of \$54 million. This was in contrast to capex in 2003/04-2006/07 which was generally below forecast levels. ElectraNet's capital expenditure in 2007/08 was more than forecast by the AER due to the capitalisation of a number of very large projects including:

- the Tungkillo substation
- the South East Snuggery 132kV transmission line and
- asset replacement in Cherry Gardens.

Between 2008/09 and 2011/12 ElectraNet is forecast to spend much more on capex than it has previously. The forecast capex for 2008/09 is 147 per cent higher than that forecast for 2007/08.

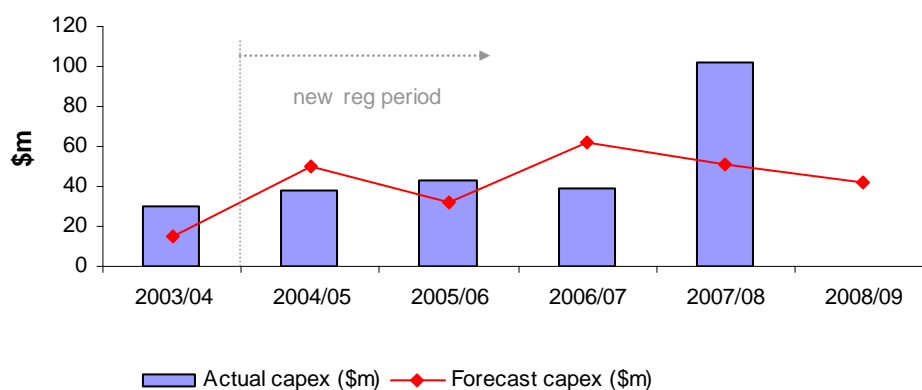
Figure 5.6: **Forecast and actual capex (\$m) 2003/04 – 2012/13**



5.7.2 EnergyAustralia

In the 2007/08 financial year EnergyAustralia spent \$102 million on capex. This was 101.6 per cent higher than the forecast of \$50.6 million²⁵. EnergyAustralia's actual capital expenditure for the 2007/08 financial year was higher than forecast mainly due to the acquisition of properties required for zone and sub-transmission developments.

Figure 5.7: **Forecast and actual capex (\$m) 2003/04-2008/09**

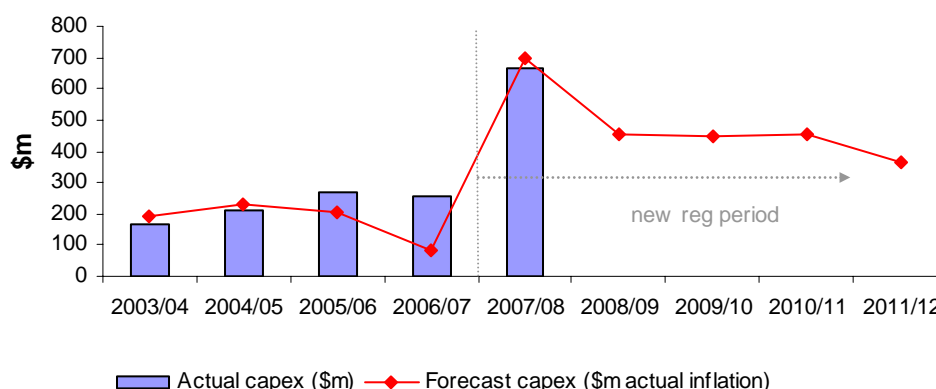


5.7.3 Powerlink

Powerlink spent \$665 million on capex in the 2007/08 financial year which was 3.9 per cent less than the forecast of \$699 million. Powerlink reported that the capex has primarily been on overhead lines.

In 2005/06 and 2006/07 Powerlink spent more than forecast on capex. In 2007/08 there is a noticeable increase in Powerlink's forecast and actual capex, corresponding to the start of a new regulatory period. Capex between 2008/09 and 2011/12 is forecast to be greater than that spent prior to 2007/08, but less than 2007/08. Powerlink began its new regulatory control period in 2007.

Figure 5.8: **Forecast and actual capex (\$m) 2003/04-2011/12**



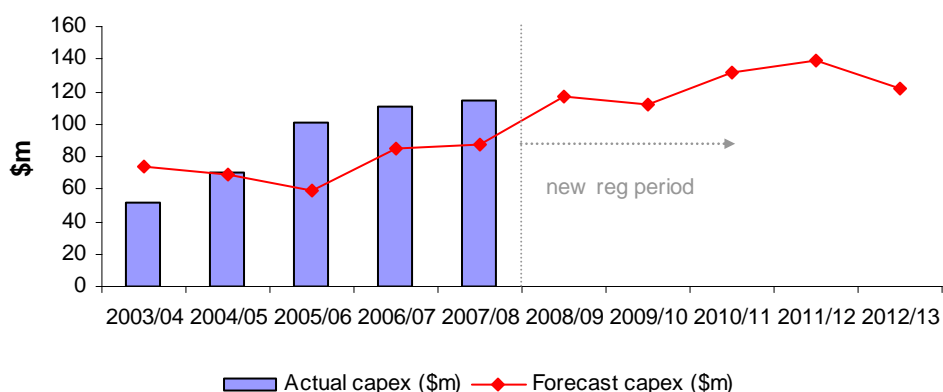
²⁵ Forecast capex for EnergyAustralia in 2007/08 was \$57.9 million. This included an allowance for contingent projects that were not triggered in 2007/08. The value of these contingent projects has been removed from the forecast.

5.7.4 SP AusNet

In 2007/08, SP AusNet spent \$115 million in capex. This was \$28 million (or 32 per cent) higher than the forecast amount of \$87 million. Most of the expenditure undertaken in 2007/08 was on switchgear and secondary systems. Forecast capex for SP AusNet, like that of most TNSPs, is set to increase in the next regulatory control period.

SP AusNet commented that actual capex for 2007/08 reflected the commissioning of works which formed part of the terminal station rebuild program and the completion of core works scheduled for the 2003/04- 2007/08 regulatory period. Augmentation capex has not been included in this report because augmentations are managed in Victoria by VENCORP (now AEMO). Where the augmentation is deemed contestable and procured through a competitive tender process, the assets remain outside of the RAB. Where the augmentation is deemed non-contestable and procured through SP AusNet (as augmentor of last resort), the assets are rolled into the RAB at the end of the regulatory period.

Figure 5.9: Forecast and actual capex (\$m) 2003/04/2012/13

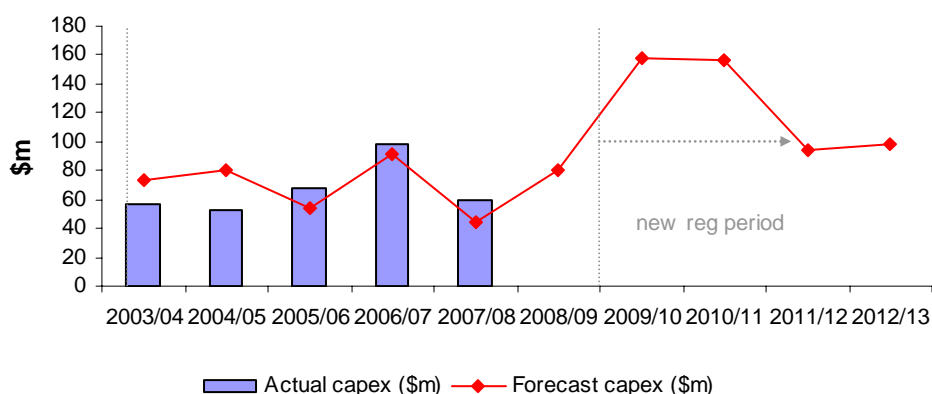


5.7.5 Transend

In 2007/08 Transend commissioned almost \$60 million in capex. This was 34.4 per cent higher than the forecast amount of \$44.4 million. Most of Transend’s expenditure for 2007/08 was on lines, cables and sub-stations.

Transend’s capex is set to increase significantly over the next few years. Transend’s regulatory regime transitions from an “as commissioned basis” in 2008/09 to an “as incurred basis” in 2009/10. Forecast commissioned capex in 2008/09 is 34 per cent higher than actual commissioned capex in 2007/08. Capex in 2009/10 is forecast to increase with a significant augmentation project underway in Southern Tasmania.

Figure 5.10: **Forecast and as commissioned capex (\$m) 2003/04-2012/13**

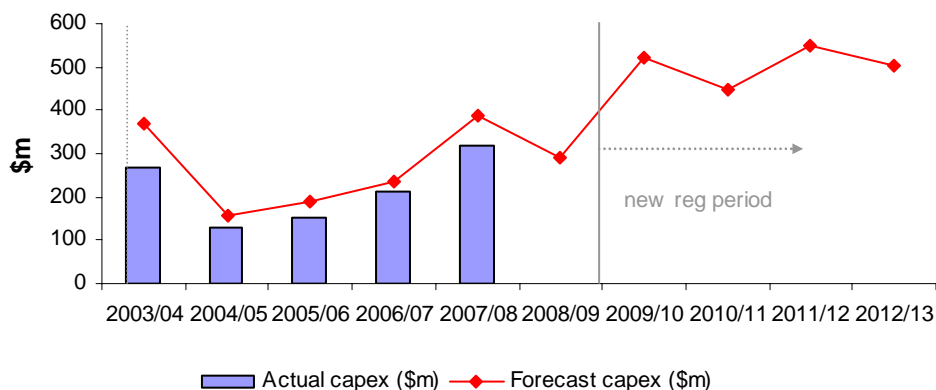


5.7.6 TransGrid

TransGrid’s capex for 2007/08 was higher than 2006/07 but below the forecast amount. Most of TransGrid’s \$317 million capex spend was for network augmentations. The majority of this was spent on transmission lines and cables as well as substations. Forecast capex for TransGrid in 2007/08 was \$389 million but actual capex was 18 per cent lower than forecast.

As shown in figure 5.11, TransGrid’s forecast capex requirements are set to decrease in 2008/09 and then increase in 2009/10.

Figure 5.11: **Forecast and actual capex (\$m) 2003/04-2012/13**



6 Operating expenditure

This chapter discusses TNSPs' operating and maintenance expenditure (opex) which typically includes wages and salaries, 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 sets opex targets for each TNSP at the time of its revenue determination. The AER's regulatory approach seeks to foster efficiency in operating and maintenance practices. It considers the potential for efficiency gains in operating costs taking into account expected demand growth and service standards.

TNSPs are allowed to retain any 'underspend' in meeting the opex targets to provide greater incentives for efficient network operation, in particular, through the Efficiency Benefit Sharing Scheme (EBSS).

In comparing TNSP opex, it is worth noting the factors that may contribute to variations in TNSPs' opex performance. These include differences in 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.²⁶

In considering the reported opex data, it should be noted that grid support costs are not included in opex data. The opex performance of TNSPs over the period 2003/04 to 2007/08 is summarised in figure 6.1.

²⁶ Note that 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 opex, 2003/04 to 2007/08**

Percentage difference from forecast

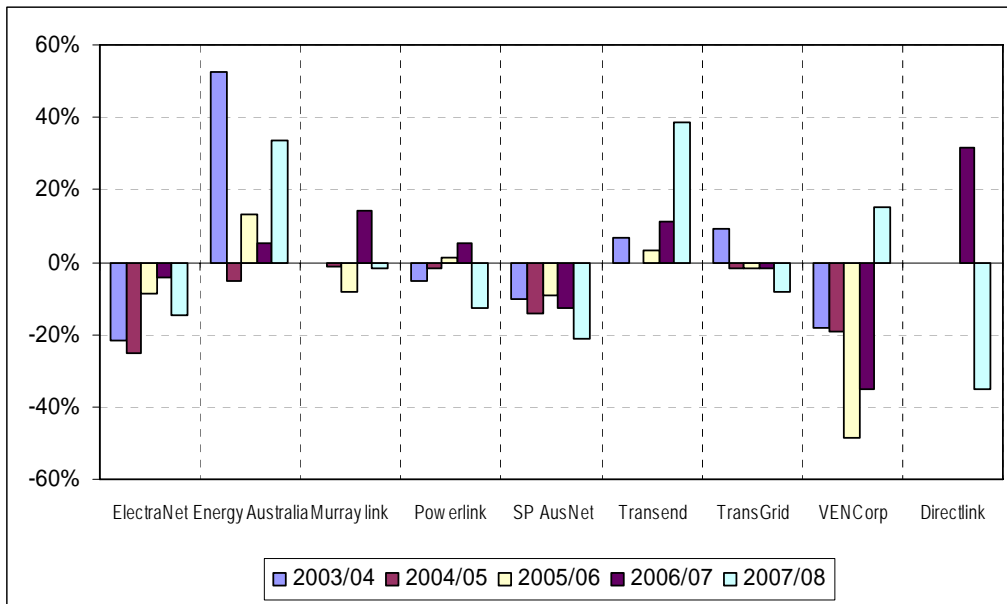


Figure 6.1 shows that, for the 2007/08 financial year, 6 out of 9 TNSPs underspent opex relative to the forecast opex with 4 of those being 10 per cent below forecast. EnergyAustralia and Transend both overspent on opex by over 30 per cent while VENCorp overspent by 15 per cent relative to forecast opex.

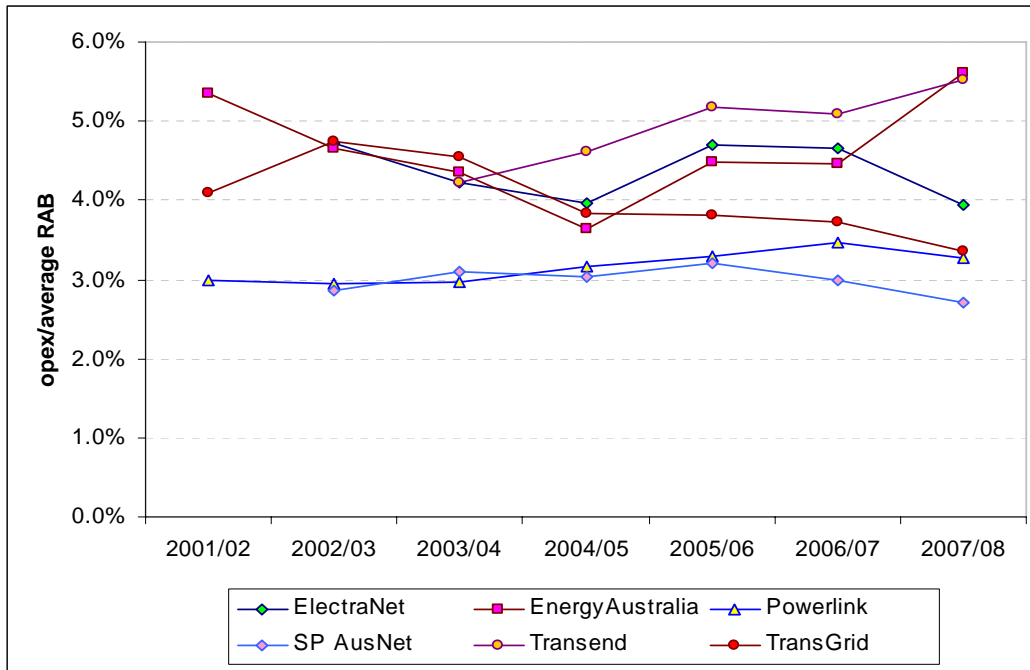
In order to consider differences in both business size and business conditions, the opex of TNSPs' were plotted against the key cost drivers such as size (expressed by average RAB value, length of network, MW of peak load and GWh of energy transmitted) and load density (expressed in peak load per km of network). The following sections provide a brief discussion on the relationship between operating expenditure to the RAB and line length.

6.1 Operating expenditure and the RAB

Figure 6.2 shows opex as a proportion of average RAB for the TNSPs (except Murraylink and Directlink) from 2001/02 to 2007/08. As might be expected, the indicative trend is for opex as a proportion of average RAB value to decrease as the asset base increases. In other words, the larger TNSPs generally exhibit lower opex to average RAB ratios (see table 2.1 for a summary of TNSP average RAB). This is likely to reflect the fixed costs of operations and maintenance, and hence the economies of scale available to the larger businesses.

In the years 2002/03 and 2004/05, TransGrid's opex as a proportion of average RAB increased such that it was in line with the smaller TNSPs (ElectraNet, EnergyAustralia and Transend). In the last 3 financial years, this ratio has decreased and was more comparable to the larger TNSPs, Powerlink and SP AusNet.

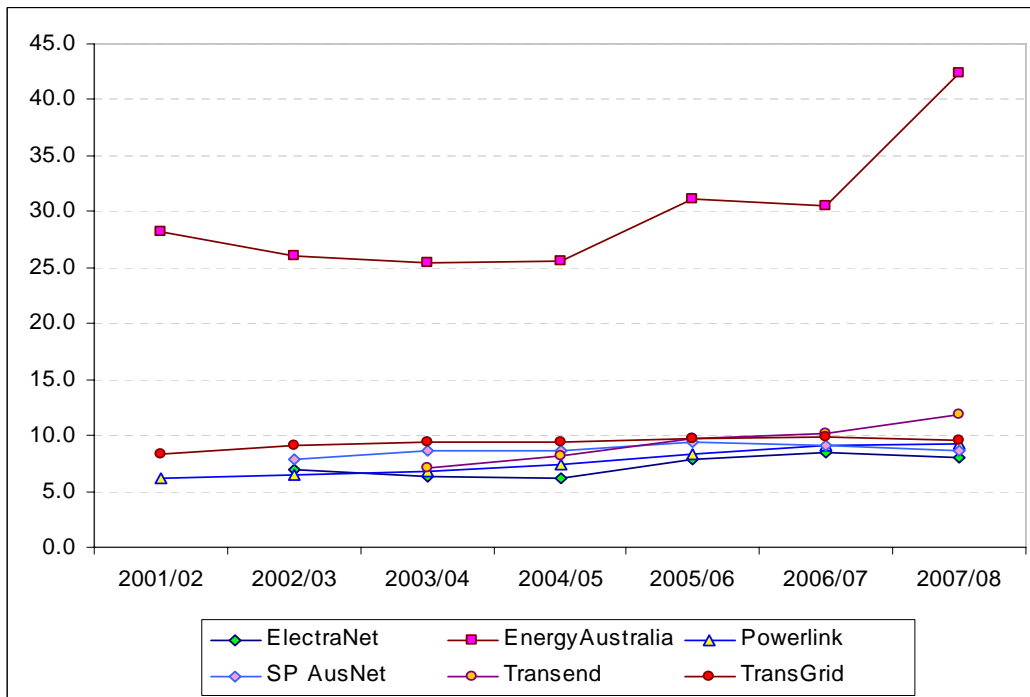
Figure 6.2 **Opex as proportion of average RAB 2001/02 – 2007/08**



6.2 Operating expenditure and line length

Figure 6.3 shows TNSPs' opex as a proportion of line length for all TNSPs (except Murraylink and Directlink) from 2001/02 to 2007/08. Excluding EnergyAustralia, the average ratio for opex (\$ million) per 000's km is 9.5. The ratio for EnergyAustralia in 2007/08 was 42.4.

Figure 6.3 Opex as proportion of line length 2001/02 – 2007/08

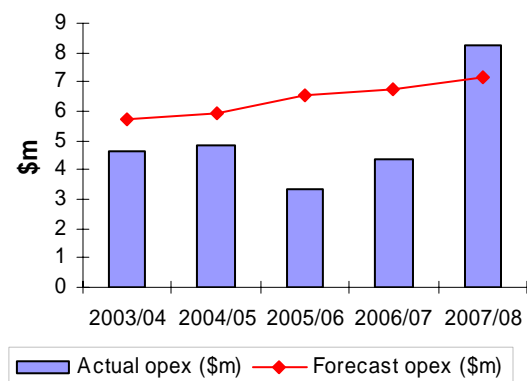


6.3 TNSP operating expenditure comparisons

The individual TNSP performance for 2007/08 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. Note that all opex figures are in nominal dollars.

VENCorp

Figure 6.4: Forecast and actual opex (\$m) 2003/04-2007/08

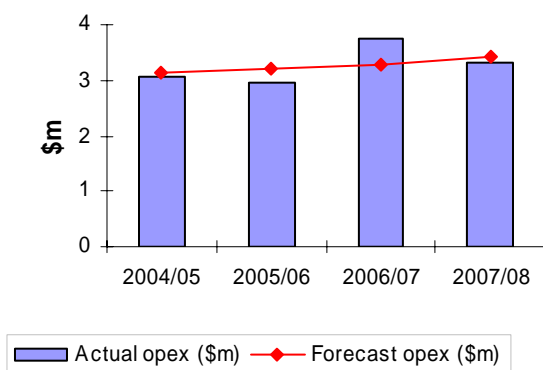


VENCorp's actual opex for the 2007/2008 financial year was \$8.3 million which was 15.0 per cent (or \$1.1 million) higher than forecast. VenCorp commented that this was predominantly due to the revaluation of VENCorp's defined benefit superannuation obligation.

VENCorp is a not-for-profit organisation and only recovers amounts equivalent to its actual expenditures. Any under-expenditure on the MAR is retained by Victorian transmission customers. Apart from 2007/08, VENCorp's actual opex has consistently been below the forecast figure in the past few years.

Murraylink

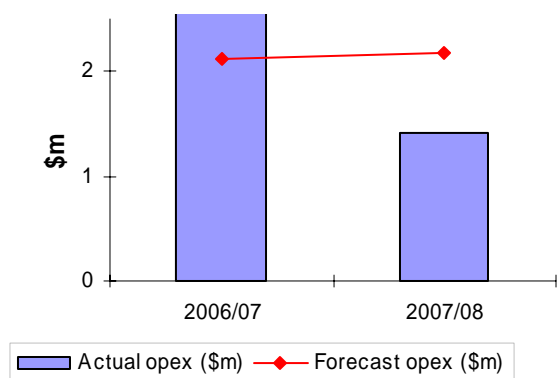
Figure 6.5: Forecast and actual opex (\$m) 2004/05-2007/08



Murraylink's 2007/2008 actual opex of \$3.3 million was 1.8 per cent (or \$0.1 million) lower than forecast.

Directlink

Figure 6.6: Forecast and actual opex (\$m) 2006/07-2007/08



Directlink’s actual opex for 2007/2008 was \$1.4 million which was 35.3 per cent (or \$0.8 million) lower than forecast.

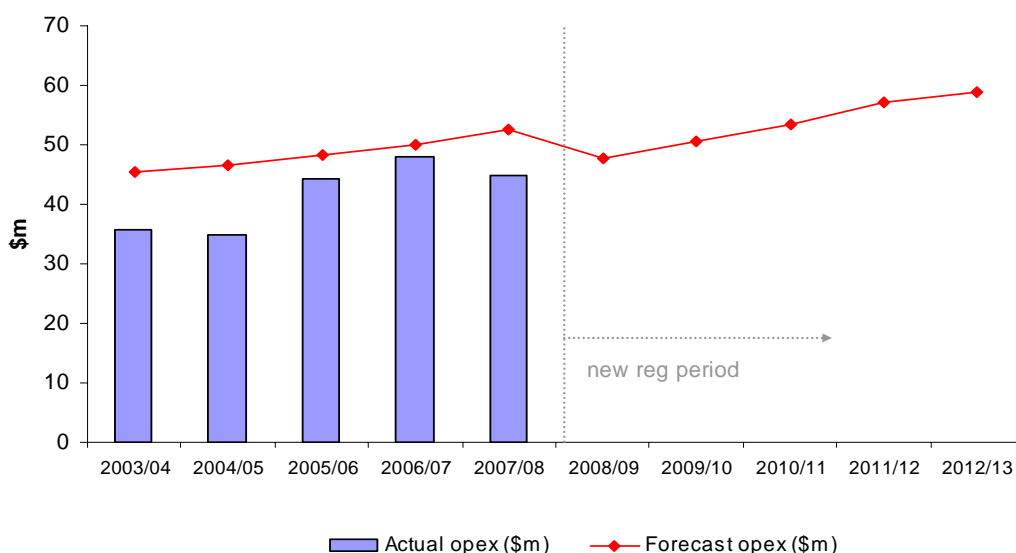
Directlink has informed the AER that this reduction in operating and maintenance expenditure appears to be partially due to a re-categorisation of some costs from “operating costs” to “other costs”. The reduction in operating costs is partially offset by the increase in “other costs”.

This re-categorisation may be partially due to the change in Directlink ownership that occurred on 28 February 2007.

The AER recently completed a series of transmission determinations for the major transmission networks in each jurisdiction. Figures 6.7 to 6.12 compare the actual and forecast opex paths of six TNSPs for the period between 2003/04 and 2007/08. These figures also plot the forecast opex up to 2012/13 to give an indication of the expected opex as set out in the relevant determinations. The dashed line in figures 6.7-6.12 indicates a new regulatory control period.

6.3.1 ElectraNet

Figure 6.7: Forecast and actual opex (\$m) 2003/04-2012/13

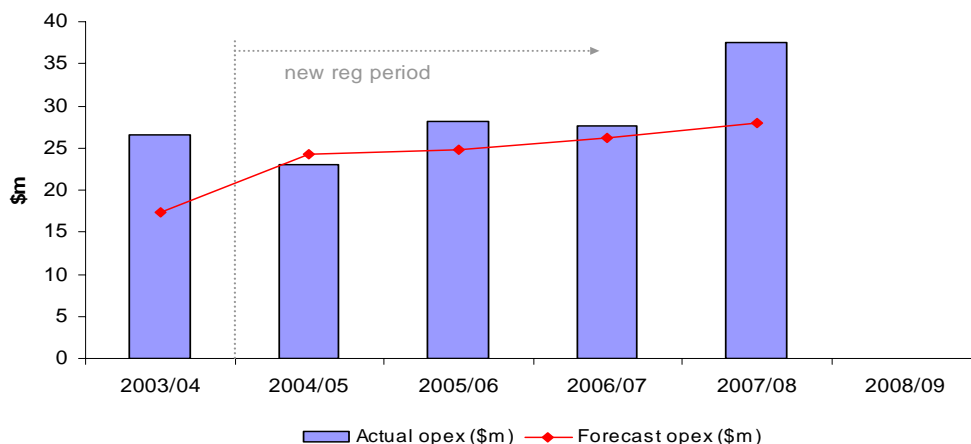


ElectraNet’s actual opex for 2007/2008 of \$44.9 million was 14.6 per cent (or \$7.7 million) lower than forecast. Actual opex decreased over last financial year’s figure of \$48.0 million (a decrease of 6.5 per cent).

ElectraNet is not expected to experience a step change in forecast opex going into its next regulatory control period. Opex is expected to be \$47.7 million in 2008/09 (which is a reduction of \$4.9 million or 9.3 per cent from the opex forecast for 2007/08). This is forecast to increase to \$58.7 million in 2012/13. The increased opex is driven largely by the condition of ElectraNet’s assets and the growth of the asset base over the next regulatory control period.²⁷

6.3.2 EnergyAustralia

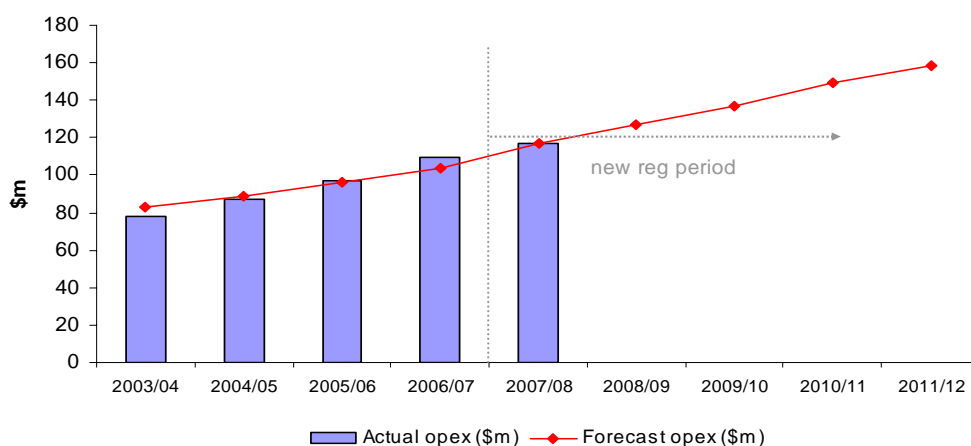
Figure 6.8: Forecast and actual opex (\$m) 2003/04-2008/09



EnergyAustralia’s actual opex for 2007/2008 was \$37.5 million which was 33.8 per cent (or \$9.5 million) higher than forecast. Actual opex increased significantly over the 2006/2007 financial year figure of \$27.6 million (a 35.9 per cent increase).

6.3.3 Powerlink

Figure 6.9: Forecast and actual opex (\$m) 2003/04-2011/12



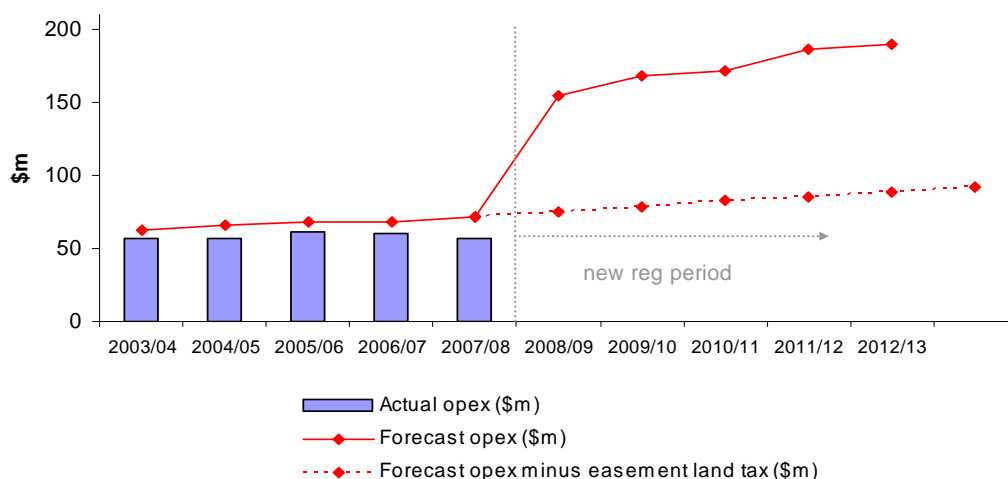
²⁷ AER, *Final decision: ElectraNet transmission determination 2008-09 to 2012-13*, 11 April 2008, p.vii.

Powerlink’s actual opex for 2007/2008 – the first year in its new regulatory control period – was \$116.8 million which was 0.4 per cent (or \$0.5 million) lower than the forecast of \$117.3 million, excluding debt raising cost opex allowances.

Opex is forecast to increase to \$158.6 million in 2011/12 excluding debt raising cost opex allowances.

6.3.4 SP AusNet

Figure 6.10: Forecast and actual opex (\$m) 2003/04-2012/13

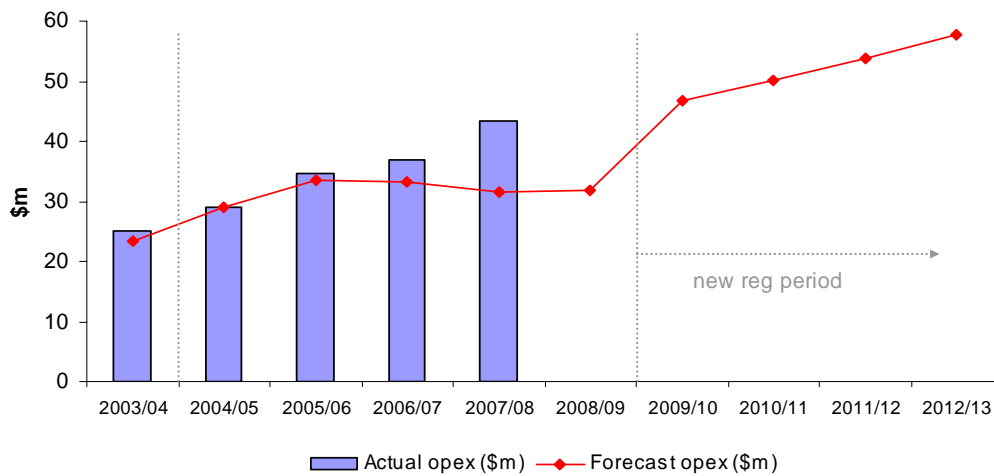


SP AusNet’s actual opex for the 2007/2008 financial year was \$56.3 million which is 21 per cent (or \$15.0 million) lower than forecast. When comparing actual and forecast opex between the different TNSPs, it should be noted that this figure excludes easement land tax expense as it may distort the outcome.

SP AusNet commented that it is expected to experience a step change in opex in the next regulatory period due to the inclusion of the Victorian easement land tax in the opex forecast and greater maintenance works for its aging assets. Figure 6.10 shows forecast opex for the next regulatory period with and without the allowance for easement land tax. While actual opex to date reflects the business's delivery of efficiency benefits associated with the merger of SP AusNet's distribution and transmission operations in 2004, SP AusNet expects its opex costs to trend upwards in future regulatory periods as it undertakes further asset works on aging assets.

6.3.5 Transend

Figure 6.11: Forecast and actual opex (\$m) 2003/04-2012/13

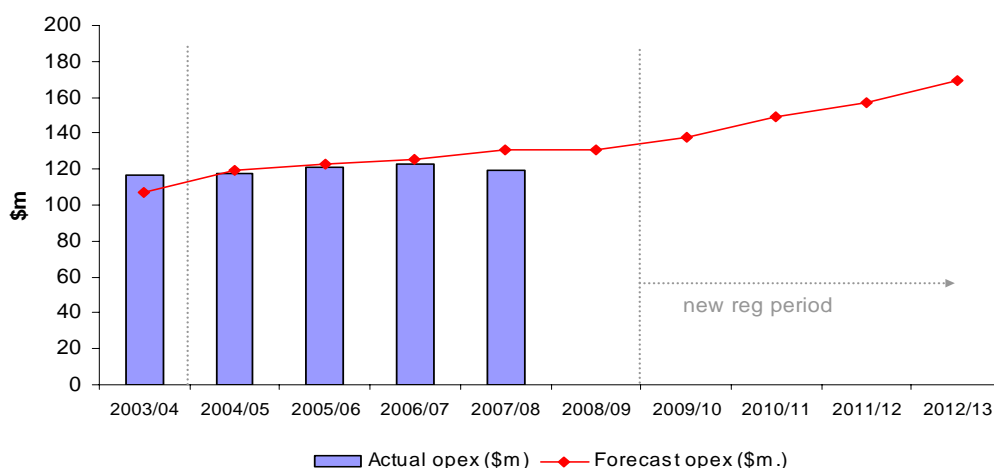


Transend’s actual opex for the 2007/2008 financial year was \$43.5 million which was 36.2 per cent (or \$11.6 million) higher than forecast.

Transend’s new regulatory control period will begin during the 2009/10 financial year. Forecast opex in the first year of the regulatory control period of \$46.8.million is \$15.0 million greater than that forecast for 2008/09. The increase in opex over the next regulatory control period is largely driven by re-setting the forecast based on Transend’s efficient revealed costs, together with a growing asset base, increased obligations, and input cost increases over the forthcoming regulatory control period.²⁸

6.3.6 TransGrid

Figure 6.12: Forecast and actual opex (\$m) 2003/04-2012/13



²⁸ AER, *Final decision: Transend transmission determination 2009-10 to 2013-14*, 28 April 2009, p.viii.

TransGrid's actual opex for the 2007/2008 financial year was \$119.7 million which was 8.2 per cent (or \$10.7 million) lower than forecast. In the first 3 years of the regulatory control period (2004/05 to 2006/07), TransGrid underspent on forecast opex by an average of \$2.3 million or 1.8 per cent.

TransGrid will begin a new regulatory control period in 2009/10. Expected opex for that year is \$138.0 million, and is expected to increase to \$173.8 million in 2012/13. This increase in opex is attributable to several key drivers including growth in the asset base over the next regulatory control period.²⁹

²⁹ AER, *Draft decision: TransGrid transmission determination 2009-10 to 2013-14*, 31 October 2008, p.xx.

7 Service Standards

7.1 Background

The revenue cap form of regulation is the principal means of providing incentives for efficient network investment and operation, while minimising the scope to exercise market power. It does this by remunerating network operators on the basis of periodic forecasts of the efficient costs of service provision, such that they retain a proportion of unanticipated cost reductions and absorb unanticipated cost increases.

The revenue cap is supported in this goal by the Service Target Performance Incentive Scheme (STPIS or scheme) which rewards businesses for increasing customer reliability and the Efficiency Benefit Sharing Scheme (EBSS) which rewards businesses for reducing costs, and capex incentive arrangements. These two schemes and arrangements operate to increase reliability and reduce costs respectively. The AER adopted the ACCC's service standards guidelines³⁰ in August 2005. The AER subsequently published the service target performance incentive scheme in August 2007 in accordance with the NER.

This performance report summarises the service performance of TNSPs in 2007 and 2008. For the 2007 reporting period, no TNSP was reporting against the STPIS released in August 2007. For the 2008 reporting period, only ElectraNet and SP AusNet commenced new regulatory periods and began reporting against the August 2007 STPIS.

The AER has also published a second version of the STPIS which incorporates a market impact parameter. This version of the STPIS applies to Transend and TransGrid during their current regulatory control periods which commenced on 1 July 2009, however only TransGrid will be subject to the new market impact parameter due to a lack of sufficient data for Transend.

7.2 Service performance regime

The STPIS outlines the AER's approach to setting a service target performance incentive within the transmission determination framework. The objectives of the scheme are to:

- contribute to the national electricity objective
- be consistent with the principles in the NER
- promote transparency in the information provided by a TNSP and AER decisions
- promote efficient TNSP capital and operating expenditure by balancing the incentive to reduce actual expenditure with the need to maintain and improve reliability for customers and minimise the market impact of transmission congestion.

³⁰ ACCC, *Decision – Statement of principles for the regulation of transmission revenues – service standards guidelines*, 2003.

The service standards performance regime is forward-looking and use targets based on historical performance to assess a TNSP's performance with a regulatory control period. Each TNSP's service performance is compared to their individual targets during the relevant regulatory control period. Service performance exceeding the targets results in a financial bonus to the TNSP, while performance which fails to reach the targets results in a financial penalty to the TNSP. A TNSP's MAR is then adjusted by including the financial bonus or penalty. Therefore, the service standard regime provides TNSPs with a financial incentive to improve service performance, and financial penalties for deterioration in service performance. There are three core performance parameters applying to TNSPs:

- transmission circuit availability
- average outage duration
- loss of supply event frequency.

The AER has recently released the STPIS incorporating a market impact parameter, however this parameter will only apply to TransGrid from July 2009.

The scheme 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 control 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 TNSPs revenue determination decision. This formula applies a weighting to each performance parameter. To date the financial incentive (or penalty) has been limited to 1 per cent of each TNSPs MAR for the relevant calendar year. However, the STPIS published by the AER in March 2008, which included 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 MAR for the relevant calendar year.

7.2.1 Exclusions

To maintain the integrity of performance incentives the services standards scheme permits TNSPs to exclude certain categories of events. The nature and number of excludable events differ between TNSPs. TNSPs generally gain exclusions for events caused by third parties and force majeure events. Each TNSP also has company specific exclusions which are generally expansions of the third party exclusion. All TNSPs are permitted to exclude these events from their performance calculations provided that the AER is satisfied that each event satisfies the appropriate definition.³¹

³¹ AER, Compendium of Electricity Transmission Regulatory Guidelines, August 2005, Schedule 2, p. 49.

When considering the classification of an event as being force majeure, the AER will consider the following:³²

- was it foreseeable 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.

7.3 Implementation of the service performance regime

The service performance regime for 2007 and 2008 was implemented through the TNSPs revenue determinations set under clause 6.2.4(b) of the NER. In setting a revenue determination, clause 6.2.4(c) requires the AER to take into account the TNSP's revenue requirement, having regard to 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
- SP AusNet
- Transend
- TransGrid.

The service performance regime measures performance based on calendar year rather than financial year. This result in a six-month lag between service standards performance being measured and the financial incentive being added or subtracted from the MAR based on a July-June financial year.³³ This allows sufficient time for

³² AER, *Compendium of Electricity Transmission Regulatory Guidelines*, August 2005, Schedule 2, pg. 49.

³³ SP AusNet is the exception as they operate under a Singapore financial year (April-March) and experience a three-month lag between service standards being measured and the financial incentives being factored into its MAR.

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 determination, the service standards guidelines, or STPIS 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 reporting regime and their respective revenue determination decisions. At the conclusion of the review process, the AER notifies all relevant TNSPs of their performance outcomes and financial incentive or penalty for that year.

7.5 Summary of service standards 2004-2008

Table 7.1 provides a summary of financial incentives based on performance outcomes for each relevant TNSP from 2004-2008.

Table 7.1: **Financial Incentives for 2004 – 2008**

| | 2004 | 2004 | 2005 | 2005 | 2006 | 2006 | 2007 | 2007 | 2008 | 2008 |
|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|---|----------|
| | calendar | | calendar | | calendar | | calendar | | calendar | |
| | year | | year | | year | | year | | year | |
| | s- | (\$000s) | s- | (\$000s) | s- | (\$000s) | s- | (\$000s) | s- | (\$000s) |
| | factor* | | factor* | | factor* | | factor* | | factor* | |
| | % | | % | | % | | % | | % | |
| Directlink | - | - | - | - | (0.54) | (49.7) | (0.62) | (74.9) | (1.0) | (122.5) |
| ElectraNet | 0.63 | 997.7 | 0.71 | 1,168.9 | 0.59 | 1,028.4 | 0.28 | 504.0 | 0.29 ^(a) (0.4) ^(b) | (190.6) |
| EnergyAustralia | 1.00 | 456.4 | 0.67 | 637.5 | 0.39 | 400.6 | (0.14) | (149.9) | 0.72 | 900.5 |
| Murraylink | 0.79 | (87.8) | 0.15 | (19.6) | 0.18 | 22.6*** | (0.32) | (40.5) | 0.69 | 89.9 |
| Powerlink | - | - | - | - | - | - | 0.82 | 2,197.2 | 0.53 | 3,034.8 |
| SP AusNet ** | 0.22 | 609.8 | 0.09 | 272.7 | (0.17) | (496.3) | 0.06 | 195.4 | 0.15 ^(c) 0.82 ^(d) | 2,910.7 |
| Transend | 0.55 | 573.9 | 0.19 | 207.6 | 0.06 | 73.5 | 0.57 | 707.6 | 0.85 | 1,151.2 |
| TransGrid | 0.93 | 2,007.3 | 0.70 | 3,115.0 | 0.63 | 2,966.2 | 0.12 | 575.1 | 0.31 | 1,711.8 |

*Financial incentives are capped at ± 1.0 per cent of each TNSP's MAR for that year. For example, an s-factor of 0.50 would result in a financial incentive of 0.5 per cent of the TNSP's MAR, or half of the potential maximum financial incentive available under the service standards performance incentive scheme.

**SP AusNet's financial incentive in its previous regulatory control period was capped at + 0.5 per cent of its MAR. In 2008, SP AusNet transitioned into a new regulatory period, and its financial incentive is now capped at +1.0 per cent.

***Note this value should have been \$26,762

(a) 2008 performance for the six months from January to June 2008.

(b) 2008 performance for the six months from July to December 2008.

(c) 2008 performance for the three months from January to March 2008.

(d) 2008 performance for the nine months from April to December 2008.

7.6 Performance report and service standards

Service standards data has been included in four previous regulatory reports (now called performance report) to date: the 2002–03, 2004–05, 2005–06 and the 2006–07 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. Service standards data for 2007 and 2008 are available for each TNSP at www.aer.gov.au.

7.7 Individual service standards TNSP performance

A detailed summary of each TNSP's service standard performance for the 2007 and 2008 calendar years is discussed below.

Directlink

On 10 April 2008, Directlink Joint Ventures (Directlink) submitted its annual service standards performance report for the 2007 calendar year. It reported an s-factor of -0.62 per cent, resulting in a financial penalty of \$74,928.

Directlink's performance report for the 2008 calendar year was submitted on 3 February 2009. It reported an s-factor of -1.0 per cent, resulting in a financial penalty of \$122,462. This result was less than Directlink's 2007 and 2006 results, and Directlink's lowest performance under the STPIS guidelines.

Performance measures

The performance measures which apply to Directlink are outlined in its revenue determination decision.³⁴ They are:

- scheduled circuit availability
- forced peak circuit availability
- forced off-peak circuit availability.

Table 7.2 shows Directlink's performance against these measures for the 2007 and 2008 calendar years, and the resulting financial incentives. In 2007, Directlink performed better on the scheduled circuit availability measure, but well below its targets for forced peak circuit availability and forced off-peak circuit availability.

In 2008 Directlink's service standards performance further declined, performing well below all its parameter performance targets.

Exclusions

Directlink proposed one third party outage exclusion from its 2007 performance data. Directlink claimed an outage for April 2007 affecting its off-peak circuit availability parameter.³⁵

³⁴ AER, *Decision Directlink Joint Venturers' application for conversion and revenue determination*, 3 March 2006.

Directlink proposed 5 third party outages be excluded from its 2008 performance data. Three proposed exclusions related to outages requested by third parties and the remaining two were forced outages. As Directlink's performance during 2008 was considerably below its targets, excluding these outages resulted in no improvement to its s-factor and financial incentive.

AER's conclusions

The AER considered Directlink's proposed exclusions for the 2007 and 2008 calendar year and accepted that all third party outages be excluded from Directlink's service performance data. Based on its performance in 2007, the AER endorsed the use of an s-factor of -0.62 per cent resulting in a financial penalty of \$74,928 which was applied in the 2008/09 financial year.

For 2008, the AER applied a penalty of \$122,462 to Directlink's revenue in the 2009-10 financial year, based on an s-factor of -1.0 per cent. In reaching these conclusions, the AER considered the revenue determination decision, guidelines, and ElectraNet's annual performance report.

Table 7.2: **Measures, results and incentives**

| Performance indicator | Target | 2006 | 2007 | 2008 |
|---|--------|--------|--------|---------|
| Planned circuit energy availability (%) | 99.45 | 99.75 | 99.59 | 97.23 |
| Forced outage circuit availability in peak periods (%) | 99.23 | 95.12 | 86.73 | 88.07 |
| Forced outage energy availability in off-peak periods (%) | 99.23 | 96.95 | 93.27 | 93.26 |
| s-factor (%) | 0 | (0.54) | (0.62) | (1.00) |
| Net financial incentive (\$000) | 0 | (49.7) | (74.9) | (122.5) |

ElectraNet

On 1 February 2008, ElectraNet submitted its annual performance report for the 2007 calendar year. It reported an s-factor of 0.28 per cent resulting in a financial incentive of \$504,036. This result was less than ElectraNet's 2005 and 2006 results.

ElectraNet submitted its annual performance report for the 2008 calendar year on 2 February 2009. In July 2008 ElectraNet moved from one regulatory control period to another. The AER reviewed ElectraNet's service standards performance for the first half of 2008 against ElectraNet's 2003-2008 revenue determination³⁶, and reviewed the second half of ElectraNet's 2008 against ElectraNet's 2008-2013 revenue determination.³⁷

³⁵ Peak time is defined in Directlink's revenue cap decision as between 07:00-22:00 weekdays (excluding public holidays).

³⁶ ACCC, *Decision South Australian transmission network revenue determination 2003-2007/08*, 11 December 2002.

³⁷ AER, *ElectraNet transmission determination 2008-09 to 2012-13*, April 2008.

- For the months from January to June 2008 ElectraNet reported an s-factor of 0.29 per cent resulting in a financial incentive of \$269,381.
- For the months from July to December 2008 ElectraNet reported an s-factor of -0.4 per cent resulting in a financial penalty of \$459,980.³⁸

Performance measures

The performance measures which applied to ElectraNet during its previous regulatory control period are as follows:

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

The performance measures applying to ElectraNet under its current revenue determination decision are:

- total transmission circuit availability
- critical transmission circuit – peak
- critical transmission circuit – non-peak³⁹
- loss of supply event frequency (events > 0.2 system minutes)
- loss of supply event frequency (events > 1.0 system minutes)
- average outage duration (mins).

Table 7.3 shows ElectraNet's performance against these measures and the resulting financial incentives for 2007 and the first half of 2008. In 2007, ElectraNet equalled or performed better than its targets for transmission line availability and loss of supply frequency events, but well below its target on the average outage duration measure.

Table 7.3(b) outlines ElectraNet's performance for the second half of 2008.

³⁸ The financial incentive proposed by ElectraNet differs from the incentive recommended by the AER due to the effect of the Australian Competition Tribunal orders on the 30 September 2008 and 28 January 2009, which increased ElectraNet's MAR for the second half of 2008 and subsequently the financial incentive under the service standards regime.

³⁹ The non-peak critical transmission circuit availability parameter has a zero weighting for the current regulatory control period. The data gathered during the current regulatory control period may be used to determine a financial incentive for the next regulatory control period.

Exclusions

In 2007 ElectraNet proposed to exclude 39 outages from its performance data. Several proposed exclusions affected multiple measures and all exclusions were categorised as one of the following:

- third party outage – outage initiated by a third party
- circuit opening for operational purposes – line opened but available for immediate return to service
- decommissioned lines – cap aggregate outage at 14 days.

In the first half of 2008, ElectraNet proposed that several outages be excluded from its performance calculation including 3 exclusions for customer related outages, which affected the transmission circuit availability parameter.

Consultant's report

The AER engaged PB to audit ElectraNet's 2008 service standards compliance report, which included a review of ElectraNet's recording and reporting systems as well as an analysis of ElectraNet's proposed exclusions.

PB considered that ElectraNet's system for recording, processing and reporting of service standards under the service standards regime robust, reliable and free from material errors

PB recommended that three customer requested outages proposed as exclusions by ElectraNet for the first half of 2008 were not valid exclusions under the service standards scheme as the outages did not originate from an 'event' on a third party electrical system.⁴⁰

AER's conclusions

The AER accepted the exclusions proposed by ElectraNet for its 2007 performance. The AER notes that the circuit opening for operational purposes exclusion is now expressly allowed in ElectraNet's current regulatory control period which commenced in July 2008. The AER considered that an increase of \$504,036 to ElectraNet's revenue in the 2008/09 financial year, based on an s-factor of 0.23 per cent was appropriate.

The AER also approved ElectraNet's proposed exclusion for the first half of 2008. The AER considers that the customer outages which affected the transmission circuit availability parameter should be excluded given the specific circumstances. Although, these customer related outages did not eventuate from an 'event' on a third party electrical system, they should be excluded as they occur infrequently, were unavoidable and have not been captured in the data used to set performance targets, caps and collars.

⁴⁰ The service standards guidelines published in November 2003 state that outages shown to be caused by a fault or other event on a 'third party system' may be excluded.

The recommended s-factors and financial incentives for the first and second half of 2008 are shown in tables 7.3 (a) and (b). This results in an overall financial penalty of \$190,599 for 2008 to be recovered in the 2009-10 financial year.

In reaching these conclusions, the AER considered the revenue determination decisions, guidelines, and ElectraNet's annual performance reports.

Table 7.3 (a): **Measures, results and incentives for 2003-08 regulatory control periods**

| Performance indicator | Target | 2004 | 2005 | 2006 | 2007 | 2008 ^(a) |
|---|---------|-------|---------|---------|-------|---------------------|
| Transmission line availability (%) | 99.25 | 99.38 | 99.57 | 99.42 | 99.38 | 99.39 |
| Frequency of loss of supply events > 0.2 minutes ^(b) | 5-6 | 7 | 0 | 4 | 1 | 0 |
| Frequency of loss of supply events >1.0 minutes ^(b) | 2 | 0 | 0 | 0 | 0 | 0 |
| Average outage duration (minutes) | 100-110 | 48.92 | 110.35 | 88.46 | 270 | 203.00 |
| s-factor (%) | 0 | 0.63 | 0.71 | 0.59 | 0.28 | 0.29 |
| Net financial incentive (\$000) | 0 | 997.7 | 1,168.9 | 1,028.4 | 504.0 | 269.4 |

(a) Results from January to June 2008.

(b) Loss of supply event frequency targets for 2008 were scaled by 50 per cent to account for half calendar year performance.

Table 7.3(b): **Measures, results and incentives for the 2008–09 to 2013–14 second half of 2008**

| Parameter | Target | 2008 ^(a) |
|--|--------|-----------------------|
| Total transmission circuit availability (%) | 99.47 | 99.05 |
| Critical transmission circuit – peak | 99.24 | 97.26 |
| Critical transmission circuit – non-peak ^(c) | 99.62 | 97.25 |
| Loss of supply frequency (events > 0.05 system minutes) ^(b) | 4 | 3 |
| Loss of supply frequency (events > 0.2 system minutes) ^(b) | 2 | 1 |
| Average outage duration (mins) | 78 | 195 |
| s-factor (%) | 0 | (0.4) |
| Net financial incentive (\$000) | 0 | (459.9) ⁴¹ |

Note: Performance for 2008–13 regulatory control period.

(a) Results from July to December 2008.

(b) Loss of supply event frequency targets for 2008 were scaled by 50 per cent to account for half calendar year performance.

(c) This parameter has a zero weighting and does not contribute to the incentive calculation.

EnergyAustralia

On 8 February 2008, EnergyAustralia submitted its annual performance report for the 2007 calendar year. EnergyAustralia reported an s-factor of -0.14 per cent, resulting in a financial penalty of \$149,871 for the 2008/09 financial year. This result was lower than EnergyAustralia's 2006 service standards performance, making it the first time that EnergyAustralia's service standard performance fell below its performance target since EnergyAustralia's regulatory period commenced on 1 July 2004.

On 5 March 2009, EnergyAustralia submitted its annual performance report for the 2008 calendar year. EnergyAustralia showed an improvement in service performance from the previous year, reporting an s-factor of 0.72 per cent, resulting in a financial incentive of \$900, 477.

Performance measures

EnergyAustralia is subject to one financial incentive performance measure, transmission circuit (feeder) availability as outlined in EnergyAustralia's transmission revenue determination decision.⁴²

⁴¹ The financial incentive proposed by ElectraNet for the second half of 2008 differs from the incentive recommended by the AER due to the effect of the Australian Competition Tribunal orders on 20 September 2008 and 28 January 2009, which increased ElectraNet's MAR for the second half of 2008 and subsequently the financial incentive under the service standards regime.

⁴² ACCC, *Decision NSW and ACT transmission network revenue determination – EnergyAustralia 2004-05 to 2008-09*, April 2005.

EnergyAustralia also reports against a ‘loss of supply due to forced transmission outages’ measure. This measure does not however contribute to EnergyAustralia’s s-factor incentive calculation.

In February 2008, the AER decided to cease the application of the Chapter 6A service target performance incentive scheme for EnergyAustralia’s transmission assets. This became effective from 1 July 2009. The AER also decided to limit EnergyAustralia’s reporting against the existing transmission performance measures to the remainder of the current regulatory control period. As a result, EnergyAustralia has only provided data on the measures of transmission circuit availability and the non-incentive loss of supply due to forced transmission outages, for its 2007 and 2008 service performance.

Table 7.4 shows EnergyAustralia’s performance against transmission circuit (feeder) availability for 2007 and 2008, and the resulting financial incentive. In 2007, EnergyAustralia reported under-performance against its transmission circuit availability measure target. However, in 2008 EnergyAustralia’s performance against the transmission circuit availability parameter was above its target.

Exclusions

EnergyAustralia proposed to exclude 8 outages from its 2007 performance. This included 3 that were due to third party outages, and 5 forced outages under the force majeure definition. EnergyAustralia’s proposed 3 third party exclusions comprised of an unplanned TransGrid transformer failure, and two TransGrid planned outages requiring EnergyAustralia’s feeders to be de-energised. The proposed exclusion under the force majeure definition involved 5 outages due to a major storm occurring between 8 and 9 June 2007. The 5 outages associated with this storm have been attributed to wind, electrical storms and damage from tree branches.

For 2008, EnergyAustralia sought to exclude 28 outages. Eleven of these outages were extended outages capped at fourteen days as set out in its revenue cap decision. The remaining 17 outages were third party customer related outages.

AER’s conclusions

The AER considered EnergyAustralia’s proposed exclusions and accepted that the third party outages be excluded from EnergyAustralia’s 2007 service performance. The AER also considered that the 8-9 June 2007 storm was severe and that the outages associated with the storm should be excluded from EnergyAustralia’s performance calculation under the force majeure definition.

Based on its performance in 2007, the AER endorsed the use of an s-factor of -0.14 per cent resulting in a financial penalty of \$149, 871 to be applied in the 2008/09 financial year.

The AER also approved EnergyAustralia’s proposed exclusions in their 2008 performance report. For the calendar year of 2008, the AER has determined that EnergyAustralia’s calculated s-factor is 0.72 per cent. This translates to a financial bonus of \$900,477 for the 2008 financial year.

Table 7.4: **Measures, results and incentives**

| Performance indicator | Target | 2004 [#] | 2005 | 2006 | 2007 | 2008 |
|-----------------------|--------|-------------------|------|------|------|------|
|-----------------------|--------|-------------------|------|------|------|------|

| | | | | | | |
|---------------------------------------|-------|-------|-------|-------|---------|-------|
| Transmission circuit availability (%) | 96.96 | 98.57 | 98.30 | 97.74 | 96.62 | 98.41 |
| s-factor (%) | 0 | 1 | 0.67 | 0.39 | (0.14) | 0.72 |
| Net financial incentive (\$000) | 0 | 456.3 | 639.5 | 400.6 | (149.9) | 900.5 |

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

Murraylink

On 21 April 2008, Murraylink submitted its revised annual performance report for the 2007 calendar year. Murraylink reported an s-factor of -0.32 per cent, resulting in a financial penalty of \$40, 449.

Murraylink submitted its annual performance report for the 2008 calendar year on 3 February 2009. Murraylink reported an s-factor of 0.69 per cent, resulting in a financial bonus of \$89,887.

Performance measures

The performance measures applying to Murraylink under its revenue determination decision⁴³ are:

- planned circuit availability
- forced peak circuit availability
- forced off-peak circuit availability.

Table 7.5 shows Murraylink's performance against these measures for the 2007 and 2008 calendar years, and the resulting financial incentives.

Exclusions

For the 2007 calendar year, Murraylink proposed to exclude approximately 2 hours of third party outages related to runbacks from its peak circuit availability measure. Runbacks to OMW are an automated response to ensure system stability and security.

For the 2008 calendar year, all exclusions proposed by Murraylink related to third party outages. For its planned circuit availability measure, Murraylink proposed to exclude approximately 9 hours relating to a request by SP AusNet for Murraylink to go offline to modify interlock circuits at its Red Cliffs Terminal Station. Murraylink also proposed to exclude an outage of approximately 7.5 hours from its forced peak outage availability and off-peak forced outage availability measures. The outage was caused by the operation of under-frequency protection equipment due to an ElectraNet transmission system outage. The transmission system outage was caused by a severe thunderstorm in the Berri area, where Murraylink's terminal is located.

⁴³ ACCC, *Decision Murraylink Transmission Company application for conversion and maximum allowed revenue*, 1 October 2003.

AER's conclusions

The AER considered that Murraylink's proposed third party outages, which occurred to maintain system stability, should be excluded from Murraylink's 2007 performance data. Based on its performance in 2007, the AER endorsed the use of an s-factor of -0.32 per cent resulting in a financial penalty of \$40, 449 to be applied in the 2008/09 financial year.

The AER also determined that Murraylink's proposed third party outages for the 2008 calendar year should be excluded from Murraylink's performance data. Murraylink saw an improvement in performance from the previous year. Based on its performance in 2008, the AER endorsed the use an s-factor of 0.69 percent resulting in a financial bonus of \$89,887 to be applied in the 2009-10 financial year.

Table 7.5: **Measures, results and incentives**

| Performance indicator | Target | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|--------|--------|--------|-------|--------|-------|
| Planned circuit energy availability (%) | 99.17 | 99.27 | 98.18 | 99.11 | 99.32 | 99.22 |
| Forced outage circuit availability in peak periods (%) | 99.48 | 98.88 | 99.63 | 99.76 | 96.42 | 99.99 |
| Forced outage energy availability in off-peak periods (%) | 99.34 | 99.38 | 99.72 | 99.91 | 94.69 | 99.95 |
| s-factor (%) | 0 | 0.79 | 0.15 | 0.18 | (0.32) | 0.69 |
| Net financial incentive (\$000) | 0 | (87.8) | (19.6) | 22.6* | (40.4) | 89.9 |

*Note this value should have been \$26,762.

Powerlink

On 1 February 2008, Powerlink submitted its annual performance report for the 2007 calendar year. As Powerlink's current regulatory control period commenced on 1 July 2007, only the six months from 1 July 2007 to 31 December 2007 is considered when measuring Powerlink's 2007 performance. In taking this shorter period into account, Powerlink's average revenue for the 2006/07 and 2007/08 financial years and its loss of supply event frequency measure targets were halved. Powerlink reported an s-factor of 0.82 per cent, resulting in a financial bonus of \$2,197,214 to be recovered in the 2008/09 financial year.

Powerlink submitted its annual performance report for the 2008 calendar year on 5 February 2009. The 2008 results are a full year of data. Powerlink reported an s-factor of 0.53 per cent, resulting in a financial bonus of \$3,034,845.

Performance measures

The performance measures which apply to Powerlink are outlined in the AER's Final Decision on Powerlink's 2007/08-2011/12 Revenue Cap.⁴⁴ They are:

- transmission circuit availability – critical elements
- transmission circuit availability – non-critical elements
- transmission circuit availability – peak hours
- loss of supply frequency events
 - greater than 0.2 system minutes
 - greater than 1.0 system minute
- average outage duration.

As Powerlink's current regulatory control period commenced on 1 July 2007, and only the six months from 1 July 2007 to 31 December has been considered for the 2007 reporting year, Powerlink's loss of supply event frequency measure targets have been halved for the 2007 reporting period. The 2008 results, however, include a full year set of data.

Table 7.6 shows Powerlink's performance against these measures for 2007 and 2008, and the resulting financial incentives.

Exclusions

Powerlink proposed to exclude 4 third party outages from its 2007 performance. The proposed exclusions affected the transmission circuit availability and average outage duration measures.

Powerlink proposed to exclude 23 events from its 2008 performance. These exclusion events related to actions of third parties, a storm in December 2008, and industrial action during 2008 (as a force majeure event). This was the first year that Powerlink reported exclusions related to industrial action.

Consultant's report

The AER engaged Sinclair Knight Merz (SKM) to audit Powerlink's recording and reporting systems and conduct a detailed review of its 2007 performance results and proposed exclusions.

SKM found that Powerlink's data recording system used to capture the relevant details for its performance reporting was accurate and reliable. SKM considered that Powerlink had correctly applied the AER's performance incentive model to calculate the s-factor and financial incentive. SKM also reviewed the circumstances surrounding Powerlink's proposed exclusions and concluded that each met the criteria for exclusion under the AER's service standard guidelines.

⁴⁴ AER, *Powerlink Queensland Transmission Network Revenue Caps 2007/08-2011/12: Decision*, 14 June 2007.

The AER engaged PB to audit Powerlink's recording and reporting systems and review its 2008 results, including its proposed exclusions. PB found that Powerlink's system for recording, processing and reporting of service quality performance to be robust and reliable. PB also reviewed all exclusions proposed by Powerlink and considered that each met the criteria for exclusion under the AER's service standard guidelines.

AER's conclusions

The AER considered that Powerlink's proposal to exclude outages caused by third parties for the average outage duration measure in its 2007 performance data should be allowed. Based on its performance, the AER considered an increase of \$2,197,214 to Powerlink's revenue in the 2008/09 year, based on an s-factor of 0.82 was appropriate.

The AER also considered that all the exclusions in Powerlink's 2008 performance data be allowed. Based on its 2008 performance, the AER endorsed an s-factor of 0.53 per cent, resulting in a financial bonus of \$3,034,845 to be recovered in the 2009-2010 financial year.

In reaching these conclusions, the AER considered Powerlink's revenue cap decision, guidelines, SKM's advice and Powerlink's report on service standards.

Table 7.6: **Measures, results and incentives**

| Performance indicator | Target | 2007* | 2008 |
|---|---------------|--------------|-------------|
| Transmission circuit availability – critical elements (%) | 99.07 | 99.44 | 98.99 |
| Transmission circuit availability – non-critical elements (%) | 98.40 | 98.70 | 98.51 |
| Transmission circuit availability – peak hours (%) | 98.16 | 98.60 | 98.48 |
| Frequency of loss of supply events > 0.2 minutes | 5 | 1 | 2 |
| Frequency of loss of supply events >1.0 minutes | 1 | 0 | 0 |
| Average outage duration (minutes) | 1,033 | 612 | 1,046 |
| s-factor (%) | 0 | 0.82 | 0.53 |
| Net financial incentive (\$000) | 0 | 2,197.2 | 3,034.8 |

*The 2007 results are for the six month period from 1 July 2007 to 31 December 2007

SP AusNet

On 1 February 2008, SP AusNet submitted its annual performance report for the 2007 calendar year. SP AusNet reported an s-factor of 0.06 per cent, resulting in a financial bonus of \$195,438.

SP AusNet submitted its 2008 service performance report on 10 February 2009. SP AusNet transitioned from one regulatory control period to another during 2008. As a result, the AER completed a compliance review for the first quarter of 2008 and another for the last three quarters of 2008. In its 2008 service standard compliance

report, SP AusNet reported an s-factor of 0.15 per cent, resulting in a financial bonus of \$116,715 for January-March 2008 period. From April-December 2008, SP AusNet reported an s-factor of 0.82, resulting in a financial bonus of \$2,793,999.

Performance measures

The performance measures applying to SP AusNet under its previous revenue determination decision⁴⁵ (and applying to the first quarter of 2008) are:

- total circuit availability
- peak critical transmission circuit availability
- peak non-critical transmission circuit availability
- intermediate critical transmission circuit availability
- intermediate non-critical transmission circuit availability
- average outage duration – lines (hours)
- average outage duration – transformers (hours).

The performance measures applying to SP AusNet under its current revenue determination decision (and applying to the last three quarters of 2008) are⁴⁶:

- total transmission circuit availability
- peak critical transmission circuit availability
- peak non-critical transmission circuit availability
- intermediate critical transmission circuit availability
- intermediate non-critical transmission circuit availability
- loss of supply frequency (events > 0.05 system minutes)
- loss of supply frequency (events > 0.3 system minutes)
- average outage duration – lines (hours)
- average outage duration – transformers (hours).

Tables 7.7 (a) and (b) outline SP AusNet's performance against these measures for 2007, 2008 and the resulting financial incentives.

The target availability measures for the current regulatory control period (as applied in table 7.7 (b)) are lower than the measures for the previous regulatory control period

⁴⁵ ACCC, *Decision Victorian transmission network revenue determinations 2003-2008*, 11 December 2002.

⁴⁶ AER, *Final Decision, SP AusNet transmission determination 2008-09 to 2013-14*, January 2008.

(as applied in table 7.7 (a)). As explained in the SP AusNet transmission determination⁴⁷, this was due to several factors.

First, SP AusNet included the impact of customer initiated capex and third party outages in its performance reporting at the AER's request, as it was necessary to bring SP AusNet into line with its own definitions under the STPIS and with other TNSPs. This change led to a lower historical average, and therefore lower targets. These lower targets do not make it easier for SP AusNet to receive a bonus nor does it lower the incentive properties of the scheme as it merely reflects a change in reporting methodology.

SP AusNet's targets were also reduced due to the forecast increase in capex over the current regulatory period (2009-10 to 2013-14). This downward adjustment was necessary as the increase in proposed capex for the current regulatory period (measured by outage hours as opposed to expenditure) necessarily results in a lower level of performance as a TNSP must take assets out of service while undertaking capital works. The AER, with its consultants, undertook an assessment of SP AusNet's outage plans to determine the appropriate adjustment to the availability targets resulting from the capex program and were satisfied that the adjustments were consistent with the objectives of the STPIS. The AER notes that these adjustments do not reduce the incentive for SP AusNet to undertake its forecast capex in an efficient manner.

Given SP AusNet's performance in the last three quarters of 2008 and the corresponding size of its bonus for this period, it is likely that both the foreshadowed customer initiated capex program and SP AusNet's forecast increase in capex have not yet impacted on its transmission service standards performance. The AER expects SP AusNet's service standards performance will be more consistent with its targets as the current regulatory control period progresses.

Exclusions

In their, 2007 performance report, SP AusNet proposed to exclude approximately 30 system hours from peak critical circuit availability caused by the flooding of the Yallourn open cut mine on 15 November 2007 as a force majeure event. The flooding of Yallourn caused the Yallourn generators to reduce supply while limited coal stocks were available.

SP AusNet also proposed to exclude outage events caused by bushfires in January 2007 as force majeure events. The bushfires conditions caused the loss of several lines and the offloading of the SMTS H1 transformer. The tripping of lines began on 16 January 2007 at approximately 16:00 pm. Many lines were not restored until 17 January 2007 at approximately 00:20 am.

For the 2008 reporting period, unlike previous reviews of SP AusNet's service performance, the proposed exclusions component of the service performance did not have a significant impact on SP AusNet's performance outcome.

⁴⁷ AER, *Final decision SP AusNet transmission determination*, op. cit., p.179-180.

Consultant's report

The AER engaged SKM to audit SP AusNet's performance for 2007. SKM considered that SP AusNet's performance reporting was free from material errors and in accordance with the requirements of the AER service standard guidelines. SKM also found that the recording system used by SP AusNet to capture the relevant details for outages was accurate and reliable, and the exclusion requested by SP AusNet for the flooding of Yallourn open cut mine was reasonable.

PB was engaged to assist in the AER's assessment of SP AusNet's 2008 service standards reports. PB found that SP AusNet's reporting systems were robust and reliable.

AER's conclusions

The AER reviewed SP AusNet's proposed exclusions and determined that all of the events be excluded from SP AusNet's 2007 performance data. The AER approved SP AusNet's exclusion of assets related to the flooding of the Yallourn open cut mine. Under the strict definition of force majeure, SP AusNet was not directly affected as its transmission assets were not damaged in the flooding. However, SP AusNet was indirectly affected by the flooding when all of its transmission lines were not required to connect Yallourn generators to the NEM. SP AusNet acted with best industry practice to take these lines off-line in a period of reduced generation, when these lines were not needed for transmission. The AER has some latitude in the application of the service scheme that applies to SP AusNet. For the purposes of this decision only, the AER excluded this event under the definition of force majeure noting that the generator was only operating at 30 per cent capacity through no fault of SP AusNet. This allowed SP AusNet to complete maintenance work on these lines without adversely affecting customers, network users and network stability.

The AER also excluded outage events caused by the bushfires in January 2007. The AER concluded that due to the severity of these bushfires in terms of scale, number and area affected, these outages were beyond the reasonable control of SP AusNet and fell within the definition of a force majeure event. The AER also considered that the on-going exclusion of de-energised shunt reactors at peak and intermediate was also appropriate.

For its 2007 service performance, the AER considered an increase of \$195,438 to SP AusNet's revenue in the 2008/09 financial year, based on an s-factor of 0.06 per cent would comply with its revenue determination decision.

As mentioned previously, the proposed exclusions in SP AusNet's 2008 service performance report did not have a significant impact on the performance outcome. The AER endorsed an s-factor of 0.14 per cent for the first quarter of 2008 and an s-factor of 0.82 per cent the last three quarters of 2008. The combination of these s-factors results is a financial bonus of \$2,910,714 to be recovered in the 2009-2010 financial year.

Table 7.7 (a): **Measures, results and incentives for 2004-08**

| Article I. indicator | Performance | Target | 2004 | 2005 | 2006 | 2007 | 2008^(a) |
|--|--------------------|---------------|-------------|-------------|-------------|-------------|---------------------------|
| Total circuit availability (%) | | 99.20 | 99.27 | 99.34 | 99.25 | 99.11 | 99.44 |
| Peak critical circuit availability (%) | | 99.90 | 99.97 | 99.94 | 99.88 | 99.75 | 99.49 |
| Peak non-critical circuit availability (%) | | 99.85 | 99.57 | 99.86 | 99.79 | 99.86 | 99.94 |
| Intermediate critical circuit availability (%) | | 99.85 | 99.80 | 99.75 | 99.54 | 99.32 | - |
| Intermediate non-critical circuit availability (%) | | 99.75 | 99.39 | 98.21 | 98.97 | 95.78 | - |
| Average outage duration – lines (hours) | | 10 | 2.73 | 7.54 | 30.93 | 1.6 | 2.86 |
| Average outage duration – transformers (hours) | | 10 | 4.86 | 6.64 | 7.18 | 5.44 | 10.93 |
| s-factor (%) | | 0 | 0.22 | 0.09 | (0.17) | 0.06 | 0.15 |
| Net financial incentive (\$000) | | 0 | 609.8 | 272.7 | (496.3) | 195.4 | 116.7 |

.Note: Performance for 2003–08 regulatory control period.

(a) Results from January to March 2008.

Table 7.7(b): **Measures, results and incentives for April-December 2008**

| Measure | Target | 2008 ^(a) |
|---|------------------|---------------------|
| Total transmission circuit availability (%) | 98.73 | 99.12 |
| Peak critical transmission circuit availability (%) | 99.39 | 99.80 |
| Peak non-critical transmission circuit availability (%) | 99.4 | 99.93 |
| Intermediate critical transmission circuit availability (%) | 98.67 | 99.42 |
| Intermediate non-critical transmission circuit availability (%) | 98.73 | 99.53 |
| Loss of supply frequency (events > 0.05 system minutes) | 5 ^(b) | 1 ^(b) |
| Loss of supply frequency (events > 0.3 system minutes) | 1 ^(b) | 1 ^(b) |
| Average outage duration – lines (mins) | 382 | 226 |
| Average outage duration – transformers (mins) | 412 | 263 |
| s-factor (%) | 0 | 0.82 |
| Net financial incentive (\$000) | 0 | 2,794.0 |

Note: Performance for 2008–14 regulatory control period.

(a) Results from April to December 2008.

(b) Loss of supply event frequency targets for 2008 scaled by 75 per cent and rounded to nearest integer to account for three quarters calendar year performance.

TransGrid

On 31 January 2008, TransGrid submitted its annual performance report for the 2007 calendar year. TransGrid reported an s-factor of 0.12 per cent, resulting in a financial bonus of \$575,069 for the 2008/09 financial year.

On 30 January 2009, TransGrid submitted its annual performance report for the 2008 calendar year. TransGrid reported an s-factor of 0.31 per cent, resulting in a financial bonus of 1,711,790 for the 2009-10 financial year.

Performance measures

The performance measures which apply to TransGrid are outlined in its revenue determination decision⁴⁸. They are:

- transmission line availability
- transformer availability
- reactive plant availability

⁴⁸ ACCC, *Decision NSW and ACT transmission network revenue determination – TransGrid 2004-05 to 2008-09*, 27 April 2005.

- reliability (events > 0.05 system minutes and events <=0.4 system minutes)
- reliability (events > 0.04 system minutes)
- average outage restoration time.

Table 7.8 shows TransGrid's performance against these measures for 2007 and 2008, and the resulting financial incentives. In 2007, TransGrid outperformed its targets for four of its performance measures (reactive plant availability, loss of supply frequency > 0.05 system min, loss of supply frequency > 0.4 system min and average outage restoration time). However, TransGrid performed below its targets for transmission line availability and transformer availability. This was predominantly due to its capital works program, in particular transmission line pole replacements and transformer replacements.

In 2008, TransGrid outperformed its target against four parameters. It failed to meet its targets for the transmission line availability and transformer availability parameters. This was predominantly due to its capital works program, in particular transmission line rebuilds and transformer replacements.

Exclusions

TransGrid proposed 117 outages as exclusions from its 2007 performance data. Of this amount:

- 102 events were related to outages requested by third parties
- 12 events were related to the opening of one end of TransGrid's transmission circuit for operational security, and
- 3 events were related to outages with duration longer than seven days, as allowed by the ACCC in TransGrid's 2004 revenue cap determination.

For 2008, TransGrid proposed to exclude in excess of 100 outages from its 2008 service standards performance data.⁴⁹

- 94 were outages requested by third parties
- 14 due to intertrips received from third parties
- 3 outages were capped at 7 days as allowed under TransGrid's 2004 revenue determination.
- 6 were network configurations to facilitate black start tests on behalf of NEMMCO/AEMO.
- 1 due to a malfunction in Directlink's control system.

⁴⁹ Several proposed exclusions applied to multiple parameters.

AER's conclusions

The AER reviewed TransGrid's proposed exclusions for 2007 and determined that all of the events be excluded from TransGrid's 2007 performance data. The AER considered an increase of \$575,069 to TransGrid's revenue in the 2008/09 financial year, based on an s-factor of 0.12 per cent would comply with its revenue determination decision.

The AER also determined that all of TransGrid's proposed exclusions for 2008 be excluded from TransGrid's 2008 performance. The AER endorsed an s-factor of 0.31 per cent, resulting in a financial bonus of \$1,711,790 to be recovered in the 2009-2010 financial year.

Table 7.8: **Measures, results and incentives**

| Performance indicator | Target | 2004 [#] | 2005 | 2006 | 2007 | 2008 |
|---|--------|-------------------|---------|---------|-------|---------|
| Transmission circuit availability (%) | 99.50 | 99.72 | 99.57 | 99.57 | 99.38 | 98.54 |
| Transformer availability (%) | 99.00 | 99.30 | 98.90 | 98.84 | 97.46 | 98.53 |
| Reactive plant availability (%) | 98.60 | 99.47 | 99.64 | 98.92 | 99.23 | 99.01 |
| Frequency of lost supply events >0.05 minutes | 5 | 0 | 1 | 2 | 4 | 2 |
| Frequency of lost supply events >0.4 minutes | 1 | 0 | 0 | 0 | 1 | 0 |
| Average outage duration (minutes) | 1,500 | 936.84 | 716.73 | 812 | 788 | 869 |
| s-factor (%) | 0 | 0.93 | 0.70 | 0.63 | 0.12 | 0.31 |
| Net financial incentive (\$000) | 0 | 2,007.3 | 3,115.0 | 2,966.2 | 575.1 | 1,711.8 |

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

Transend

On 14 April 2008, Transend submitted its annual performance report for the 2007 calendar year. Transend reported an s-factor of 0.56 per cent, resulting in a financial bonus of \$707,604 for the 2008/09 financial year. This result was an improvement on Transend's 2006 performance.

On 16 April 2009, Transend submitted its annual performance report for the 2008 calendar year. Transend's service performance further improved from the previous year, reporting an s-factor of 0.85 per cent, resulting in a financial bonus of \$1,151,240.

Performance measures

The following performance measures apply to Transend under its revenue determination decision.⁵⁰ They are:

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

Table 7.9 shows Transend's performance against these measures for 2007 and 2008, and the resulting financial incentives based on its performance.

Exclusions

Transend proposed a number of third party outage exclusions to their 2007 performance data. Transend proposed to exclude approximately 10,609 system hours of outages as third party (generator shared and generator requested) outages from its 2007 performance data. These outages affected the total circuit availability measure. Transend also proposed to exclude approximately 3 system hours of outages relating to a lightning strike on the Sheffield-Farrell No 1 and No 2 220kV transmission circuits which caused the line to trip.

For the 2008 reporting period, Transend sought exclusions for the transmission circuit availability, transformer availability, and loss of supply event frequency (>0.1 system minutes) parameters. Transend's proposed exclusions for loss of supply event frequency (>0.1 system minutes) parameter did not affect the s-factor calculation or financial incentive. The AER therefore focused its investigation on the other two parameters which are summarised below.

Transmission circuit availability

- 630,641 minutes of generator requested outages and generator shared outages (generator outages)
- 95 minutes of major industrial requested outages (MI outages)
- 438 minutes of interruptions to the Lindisfarne-Sorell-Triabunna 110kV transmission circuit due to a wind storm as a force majeure event

Transformer availability

- 75,252 minutes of MI outages

⁵⁰ ACCC, *Decision Tasmanian transmission network revenue determinations 2004-2008/09*, 10 December 2003.

- 2400 minutes of generator outages.

AER's conclusions

The AER reviewed Transend's proposed exclusions and determined that all of the events be excluded from Transend's 2007 performance data. However, the AER considered that the outages resulting from the lightning strike should be excluded under the force majeure definition rather than as a third party outage as proposed by Transend. The AER considered that deeming this outage to be a third party outage was inappropriate as the original source of the fault was, in effect a force majeure event.

The AER considered an increase of \$707,604 to Transend's revenue in the 2008/09 financial year, based on an s-factor of 0.56 per cent would comply with its revenue determination decision.

In its review of Transend's 2008 performance, the AER was satisfied that all of the events should be excluded from Transend's 2008 performance data. However, the AER notes that a number of outages were incorrectly recorded in Transend's original exclusion application (submitted 2 February 2009). This is particularly concerning given the smaller sample size investigated by the AER compared to the number of outages recorded by Transend. On the other hand, the AER focused its investigations on the major outages (most line items investigated were greater than 10,000 minutes). Those outages not investigated were largely minor in comparison (approximately 60 per cent of line items being sought for exclusion were less than 1000 minutes in duration).

The AER endorsed an s-factor of 0.85 per cent, resulting in a financial bonus of \$1,151,240 to be recovered in the 2009/10 financial year.

Table 7.9: **Measures, results and incentives**

| Performance indicator | Target | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|----------------|-------|-------|-------|-------|---------|
| Transmission line availability (%) | 99.10 to 99.20 | 99.34 | 98.67 | 99.21 | 98.99 | 99.4 |
| Transformer circuit availability (%) | 99.00 to 99.10 | 99.31 | 99.20 | 98.80 | 99.55 | 99.06 |
| Frequency of lost supply events > 0.1 minutes | 13 to 16 | 18 | 13 | 16 | 10 | 6 |
| Frequency of lost supply events >2.0 minutes | 2 to 3 | 0 | 0 | 1 | 0 | 0 |
| s-factor (%) | 0 | 0.55 | 0.19 | 0.06 | 0.56 | 0.85 |
| Net financial incentive (\$000) | 0 | 573.9 | 207.6 | 73.5 | 707.6 | 1,151.2 |

Appendix A: Summary of key data and indicators

Directlink

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|--|---------|---------|---------|---------|---------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue (PS) | - | - | - | 11.97 | 12.08 |
| Opex (PS) | - | - | - | 2.77 | 1.40 |
| Balance sheet (\$nominal, m) | | | | | |
| Closing RAB | - | - | - | 110.34 | 106.75 |
| Total assets | - | - | - | 111.56 | 107.89 |
| Non financial information | | | | | |
| Line length (km) | - | - | - | 63 | 63 |
| Maximum demand (MW) | - | - | - | 180 | 180 |
| Electricity transmitted (GWh) | - | - | - | - | - |

ElectraNet

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|--|----------|----------|----------|----------|----------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue (PS) | 156.54 | 163.87 | 170.37 | 179.05 | 186.82 |
| Opex (PS) | 35.61 | 34.82 | 44.18 | 47.98 | 44.90 |
| Grid support | 3.70 | 4.60 | 4.20 | 4.96 | 4.55 |
| Depreciation (PS) | 37.59 | 40.23 | 44.59 | 47.84 | 51.18 |
| EBIT (PS) | 79.72 | 84.35 | 77.34 | 78.28 | 86.19 |
| Balance sheet (\$nominal, m) | | | | | |
| Closing RAB | 861.59 | 893.80 | 989.26 | 1,075.42 | 1,196.64 |
| Total assets | 1,220.32 | 1,250.66 | 1,372.88 | 1,403.02 | 1,532.78 |
| Total debt | 837.73 | 843.67 | 876.41 | 948.86 | 986.41 |
| Total liabilities | 893.36 | 901.11 | 1,041.41 | 1,060.98 | 1,123.81 |
| Total equity | 326.96 | 349.55 | 331.48 | 342.01 | 408.97 |
| Financial indicators | | | | | |
| Return on equity | 1.45% | 0.18% | (2.64)% | (2.37)% | (2.95)% |
| Return on assets | 9.47% | 9.61% | 8.21% | 7.58% | 7.59% |
| Gearing ratio | 71.93% | 70.71% | 72.56% | 73.51% | 70.69% |
| EBIT(PS)/Gross interest exp (interest coverage times x) | 0.99x | 0.93x | 0.79x | 0.77x | 0.79x |
| Non financial information | | | | | |
| Line length (km) | 5,579 | 5,663 | 5,611 | 5,676 | 5,620 |
| Maximum demand (MW) | 2,607 | 2,659 | 2,938 | 2,934 | 3,172 |
| Electricity transmitted (GWh) | 12,336 | 12,137 | 12,857 | 13,381 | 13,734 |

Energy Australia

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|--|---------|---------|---------|---------|---------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue (PS) | 77.20 | 91.30 | 99.00 | 107.60 | 115.90 |
| Opex (PS) | 26.50 | 23.00 | 28.10 | 27.60 | 37.50 |
| Depreciation (PS) | 21.40 | 24.60 | 23.70 | 24.00 | 25.50 |
| EBIT (PS) | 28.90 | 44.10 | 48.00 | 56.90 | 53.90 |
| Balance sheet (\$nominal, m) | | | | | |
| Closing RAB | 615.50 | 646.40 | 609.30 | 624.80 | 714.40 |
| Total assets | 646.30 | 674.40 | 650.90 | 672.60 | 752.90 |
| Total debt | 280.70 | 312.60 | 286.00 | 342.80 | 392.10 |
| Total liabilities | 338.60 | 378.80 | 435.10 | 488.70 | 533.50 |
| Total equity | 307.70 | 295.60 | 215.80 | 183.90 | 219.40 |
| Financial indicators | | | | | |
| Return on equity | 2.11% | 5.54% | 5.59% | 10.91% | 8.83% |
| Return on assets | 4.74% | 6.99% | 7.65% | 9.22% | 8.05% |
| Gearing ratio | 47.71% | 51.40% | 56.99% | 65.08% | 64.12% |
| EBIT(PS)/gross interest exp (interest coverage times x) | 1.45x | 2.14x | 2.64x | 2.71x | 2.16x |
| Non financial information | | | | | |
| Line length (km) | 1,040 | 899 | 903 | 903 | 885 |
| Maximum demand (MW) | 5,165 | 5,280 | 5,460 | 5,484 | 5,683 |
| Electricity transmitted (GWh) | 27,563 | 30,713 | 31,669 | 31,947 | 32,007 |

Murraylink

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|--|---------|---------|---------|---------|---------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue (PS) | - | 12.35 | 12.66 | 12.68 | 13.05 |
| Opex (PS) | - | 3.07 | 2.95 | 3.75 | 3.31 |
| Balance sheet (\$nominal, m) | | | | | |
| Closing RAB | - | 100.13 | 97.86 | 102.50 | 102.09 |
| Total assets | - | 174.88 | 144.92 | 137.48 | 135.93 |
| Non financial information | | | | | |
| Line length (km) | - | 180 | 180 | 180 | 180 |
| Maximum demand (MW) | - | 220 | 220 | 220 | 220 |
| Electricity transmitted (GWh) | - | - | - | - | - |

Powerlink

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|----------|----------|----------|----------|----------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue (PS) | 383.72 | 416.25 | 466.01 | 510.54 | 536.81 |
| Opex (PS) | 78.30 | 87.50 | 97.32 | 109.50 | 116.79 |
| Grid support | 11.20 | 15.30 | 21.46 | 18.76 | 27.33 |
| Depreciation (PS) | 105.80 | 114.03 | 124.44 | 143.92 | 152.24 |
| EBIT (PS) | 184.67 | 199.17 | 231.01 | 241.06 | 243.78 |
| Balance sheet (\$nominal, m) | | | | | |
| Closing RAB | 2,683.92 | 2,840.93 | 3,070.29 | 3,258.76 | 3,903.77 |
| Total assets | 3,203.26 | 3,370.00 | 3,684.59 | 4,214.94 | 4,925.74 |
| Total debt | 1,412.42 | 1,469.32 | 1,645.32 | 2,006.92 | 2,516.42 |
| Total liabilities | 1,737.96 | 1,802.29 | 2,175.85 | 2,598.29 | 3,168.61 |
| Total equity | 1,465.29 | 1,567.71 | 1,508.74 | 1,616.65 | 1,757.14 |
| Financial indicators | | | | | |
| Return on equity | 6.48% | 6.81% | 7.73% | 7.41% | 6.11% |
| Return on assets | 7.02% | 7.21% | 7.82% | 7.62% | 6.81% |
| Gearing ratio | 49.08% | 48.38% | 52.17% | 55.39% | 58.88% |
| EBIT(PS)/gross interest exp (x) | 2.27x | 2.28x | 2.39x | 2.08x | 1.66x |
| Non financial information | | | | | |
| Line length (km) | 11,516 | 11,902 | 11,939 | 12,132 | 12,671 |
| Maximum demand (MW) | 7,934 | 8,232 | 8,295 | 8,589 | 8,082 |
| Electricity transmitted (GWh) | 45,625 | 46,170 | 47,734 | 47,750 | 48,576 |

SP AusNet

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|--|----------|----------|----------|----------|----------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue (PS) | 271.51 | 281.24 | 291.27 | 302.03 | 313.21 |
| Opex (PS) | 56.80 | 56.50 | 61.54 | 59.70 | 56.30 |
| Depreciation (PS) | 55.77 | 56.75 | 63.38 | 65.72 | 64.49 |
| EBIT (PS) | 163.99 | 179.54 | 164.31 | 156.30 | 200.70 |
| Balance sheet (\$nominal, m) | | | | | |
| Closing RAB | 1,841.20 | 1,880.43 | 1,959.10 | 2,032.40 | 2,129.19 |
| Total assets | 2,287.33 | 2,335.84 | 2,945.19 | 3,083.90 | 3,216.29 |
| Total debt | 1,375.70 | 1,529.15 | 1,505.84 | 1,606.78 | 1,816.10 |
| Total liabilities | 1,809.09 | 1,796.35 | 1,948.23 | 1,976.30 | 2,097.20 |
| Total equity | 684.99 | 539.49 | 996.96 | 1,107.64 | 1,119.09 |
| Financial indicators | | | | | |
| Return on equity | 9.90% | 10.00% | -10.97% | 14.25% | 7.42% |
| Return on assets | 8.95% | 9.65% | 8.56% | 7.83% | 9.65% |
| Gearing ratio | 66.76% | 73.92% | 60.17% | 59.19% | 61.87% |
| EBIT(PS)/ gross interest exp (x) | 1.90x | 1.95x | 1.76x | 1.82x | 1.98x |
| Non financial information | | | | | |
| Line length (km) | 6,553 | 6,553 | 6,553 | 6,553 | 6,553 |
| Maximum demand (MW) | 8,572 | 8,535 | 8,730 | 9,062 | 9,850 |
| Electricity transmitted (GWh) | 45,006 | 45,467 | 50,267 | 51,821 | 51,927 |

Transend

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|--|---------|---------|---------|---------|---------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue (PS) | 85.95 | 108.03 | 114.99 | 123.29 | 130.12 |
| Opex (PS) | 24.99 | 29.03 | 34.53 | 37.04 | 43.47 |
| Depreciation (PS) | 29.44 | 33.83 | 34.12 | 33.91 | 37.78 |
| EBIT (PS) | 31.80 | 42.57 | 45.10 | 51.32 | 46.26 |
| Balance sheet (\$nominal, m) | | | | | |
| Closing RAB | 615.77 | 644.39 | 689.81 | 768.15 | 807.70 |
| Total assets | 648.63 | 697.73 | 782.19 | 1129.83 | 1306.50 |
| Total debt | 35.09 | 52.90 | 92.78 | 118.06 | 408.68 |
| Total liabilities | 96.96 | 125.73 | 253.68 | 365.22 | 715.14 |
| Total equity | 551.67 | 572.00 | 528.51 | 764.62 | 591.37 |
| Financial indicators | | | | | |
| Return on equity | 3.60% | 4.90% | 6.82% | 3.27% | 2.76% |
| Return on assets | 5.36% | 6.75% | 6.76% | 7.05% | 5.87% |
| Gearing ratio | 5.98% | 8.47% | 14.93% | 13.38% | 40.87% |
| EBIT(PS)/gross interest exp (x) | 15.50x | 17.38x | 10.87x | 7.88x | 4.41x |
| Non financial information | | | | | |
| Line length (km) | 3,537 | 3,580 | 3,580 | 3,645 | 3,650 |
| Maximum demand (MW) | 1,691 | 1,780 | 2,089 | 2,415 | 2,332 |
| Electricity transmitted (GWh) | 10,187 | 10,730 | 10,945 | 11,565 | 11,298 |

TransGrid

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|--|----------|----------|----------|----------|----------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue (PS) | 407.80 | 435.26 | 459.49 | 486.54 | 520.44 |
| Opex (PS) | 117.02 | 117.33 | 120.72 | 123.09 | 119.7 |
| Depreciation (PS) | 111.71 | 118.51 | 125.99 | 134.62 | 140.88 |
| EBIT (PS) | 182.92 | 199.42 | 212.78 | 223.83 | 265.27 |
| Balance sheet (\$nominal, m) | | | | | |
| Closing RAB | 2,726.64 | 3,103.90 | 3,228.80 | 3,397.50 | 3,735.30 |
| Total assets | 3,383.36 | 3,732.62 | 3,750.00 | 3,928.98 | 4,220.61 |
| Total debt | 1,523.61 | 1,519.66 | 1,455.30 | 1,453.51 | 1,531.59 |
| Total liabilities | 1,866.95 | 1,864.67 | 2,129.51 | 2,219.90 | 2,470.40 |
| Total equity | 1,516.41 | 1,867.94 | 1,620.49 | 1,709.07 | 1,750.22 |
| Financial indicators | | | | | |
| Return on equity | 6.30% | 4.56% | 7.15% | 7.03% | 6.06% |
| Return on assets | 7.10% | 6.52% | 6.72% | 6.76% | 7.44% |
| Gearing ratio | 50.12% | 44.86% | 47.31% | 45.96% | 46.67% |
| EBIT(PS)/gross interest exp (x) | 2.07x | 1.92x | 2.14x | 2.23x | 2.60x |
| Non financial information | | | | | |
| Line length (km) | 12,446 | 12,485 | 12,480 | 12,489 | 12,486 |
| Maximum demand (MW) | 12,476 | 13,126 | 13,292 | 13,458 | 12,954 |
| Electricity transmitted (GWh) | 69,736 | 69,338 | 72,383 | 78,226 | 76,359 |

VENCorp

| | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---------|---------|---------|---------|---------|
| Income statement (\$nominal, m) | | | | | |
| Transmission revenue | 222.20 | 312.30 | 250.60 | 314.30 | 330.00 |
| Less network charges | 239.00 | 292.30 | 263.20 | 273.85 | 298.54 |
| Total electricity transmission revenue | (16.80) | 20.00 | (12.60) | 40.45 | 31.47 |
| Other revenue | 1.20 | 2.20 | 4.10 | 2.37 | 5.98 |
| Total revenue | (15.60) | 22.20 | (8.50) | 42.82 | 37.44 |
| Less expenses (opex) | 4.70 | 4.80 | 3.40 | 4.35 | 8.27 |
| Net result for period | (20.30) | 17.40 | (11.80) | 38.47 | 29.17 |
| Balance sheet (\$nominal, m) | | | | | |
| Current assets | 29.40 | 51.60 | 39.60 | 80.55 | 115.04 |
| Non-current assets | 0.20 | 0.10 | 0.10 | 0.14 | 0.14 |
| Total assets | 29.50 | 51.70 | 39.71 | 80.69 | 115.18 |
| Current liabilities | 22.60 | 27.40 | 28.40 | 30.90 | 36.14 |
| Non-current liabilities | 0.60 | 0.50 | 0.00 | 0.00 | 0.07 |
| Total liabilities | 23.20 | 27.90 | 28.40 | 30.90 | 36.21 |
| Net assets | 6.30 | 23.80 | 11.30 | 49.80 | 78.97 |
| Stakeholders funds | | | | | |
| Contributed capital | - | - | - | - | - |
| Accumulated surplus | 6.30 | 23.70 | 22.50 | 49.80 | 78.97 |