

# TRANSEND TRANSMISSION REVISED REVENUE PROPOSAL

For the Regulatory Control Period 1 July 2009 to 30 June 2014



Produced by Transend Networks Pty Ltd

Transmission Revised Revenue Proposal:  
Regulatory Control Period commencing 1 July 2009

January 2009

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## EXECUTIVE SUMMARY

### Purpose and overview

Transend Networks Pty Ltd (Transend) is the electricity transmission network service provider (TNSP) in Tasmania. On 31 May 2008, Transend submitted its revenue proposal for the forthcoming regulatory control period, which commences on 1 July 2009 and ends on 30 June 2014. With the assistance of consultants, the Australian Energy Regulator (AER) subsequently reviewed Transend's revenue proposal. The AER published its draft decision on 27 November 2008. This document responds to the AER's draft decision and is Transend's revised revenue proposal in accordance with Chapter 6A of the National Electricity Rules (the Rules).

Transend's revenue proposal highlighted that its cost structure is affected by the predominance of hydro-generation; the increasing contribution from wind generation; and the additional costs of operating and maintaining assets at lower voltages than other TNSPs. In addition, Transend's operations have undergone significant and permanent change during the current regulatory control period as a result of joining and operating in the National Electricity Market (NEM). The AER's draft decision has recognised that these factors do affect Transend's current and future costs.

Transend is pleased that the AER's draft decision has focused on the particular challenges facing the Tasmanian transmission system in the forthcoming regulatory control period. Importantly, the AER's draft decision has not relied on simplistic benchmarking to determine Transend's operating and capital expenditure requirements. Inter-company benchmarks incorrectly imply that transmission companies have similar operational characteristics and can lead to erroneous conclusions regarding the achievability of future cost savings. In this regard, the AER's draft decision is welcomed.

Although Transend supports many aspects of the AER's draft decision, there are several important areas where Transend does not accept the AER's findings. The purpose of this revised revenue proposal is to respond to those aspects of the draft decision where Transend considers that an alternate, revised proposal would better satisfy the relevant requirements of the Rules and the needs of Transend's customers.

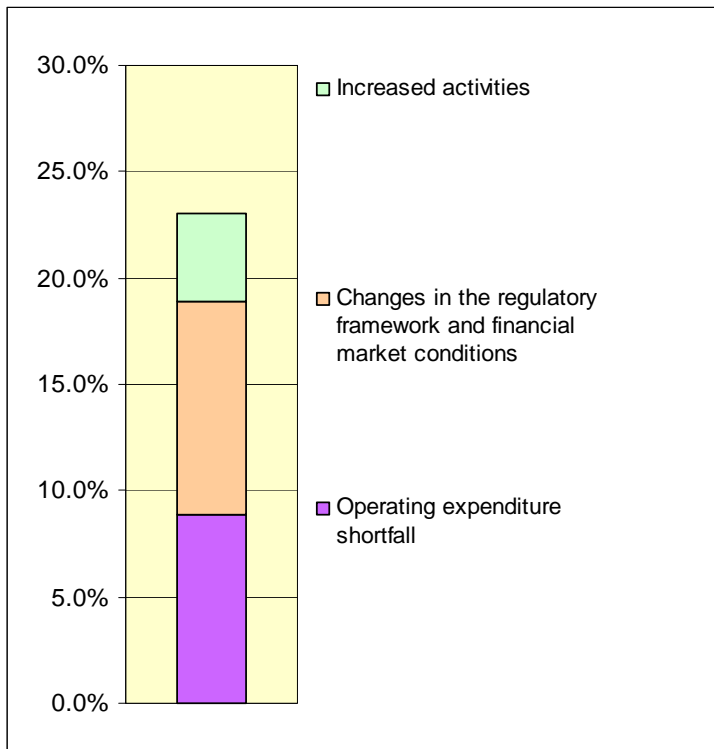
In terms of overall outcomes, Transend's revised revenue proposal would result in a revenue increase of approximately 23.0 per cent in 2009–10, relative to the maximum allowed revenue for 2008–09 under the current revenue determination, and 6.9 per cent per annum thereafter in real terms.

The breakdown of the increase in the revenue requirement in the first year of the forthcoming regulatory control period is presented in figure E.1. The increase of 23.0 per cent comprises the following three components:

- 4.2 per cent is due to Transend's proposed increase in activity levels in terms of operating expenditure and capital investment.
- 10.0 per cent is as a result of technical changes to the regulatory framework relating to the treatment of work-in-progress (WIP) and financial market-driven changes to the cost of capital, both factors being beyond Transend's control.

- 8.8 per cent relates to an operating expenditure shortfall that arises because the Australian Competition and Consumer Commission’s (ACCC’s) 2003 revenue cap decision provided an insufficient operating expenditure allowance for Transend to meet its obligations as a TNSP.

Figure E.1: Simplified representation of increase in revenue based on the revised revenue proposal for the first year of the forthcoming regulatory control period

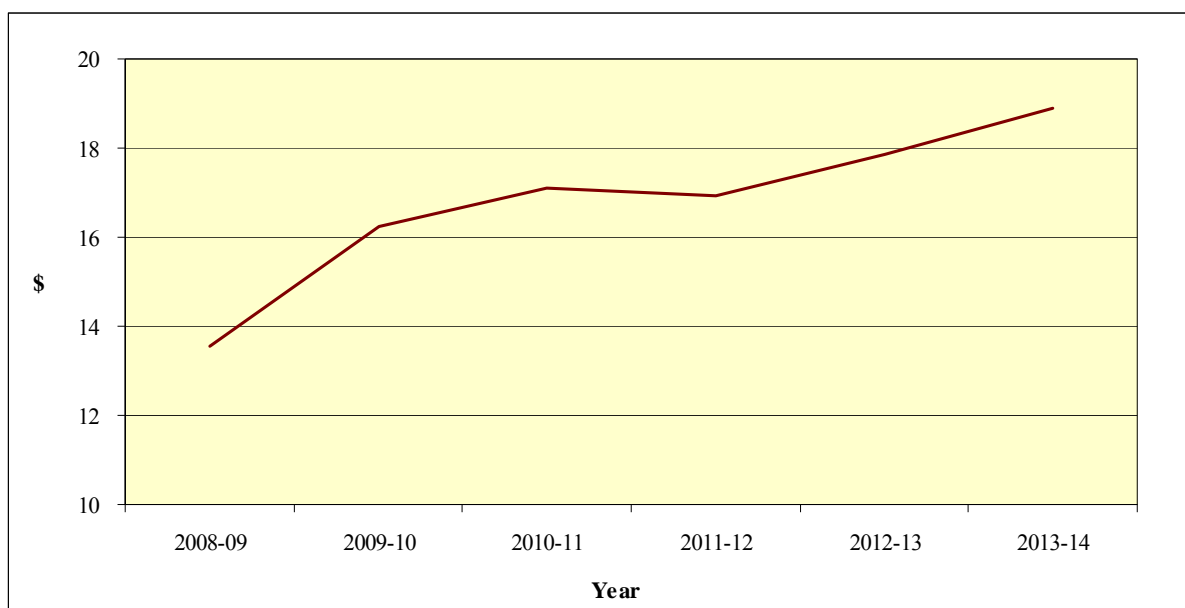


### Average price impact and cost to customers

The revised proposed maximum allowed revenue equates to an increase in average prices of approximately 19.9 per cent in 2009–10, relative to the average price level for 2008–09, and 3.9 per cent per annum thereafter in real terms.

The average price path is presented in figure E.2.

Figure E.2: Average price impact of revised revenue proposal (\$/MWh 2008–09)



Transmission costs in Tasmania represent approximately 12 per cent of the total delivered price for the typical residential customer. The impact of Transend's revised revenue proposal on the total delivered price for a typical residential customer is estimated to be an increase of 2.4 per cent or approximately \$33 in 2009–10, and average annual increases of approximately \$8 over the remainder of the forthcoming regulatory control period, in real terms.

It is recognised that for many commercial and energy intensive customers, transmission costs represent a greater percentage of the total delivered price.

While Transend recognises that the future prices for transmission services will increase over the forthcoming regulatory control period, Transend considers that its revised revenue proposal reflects a prudent and efficient expenditure program that is focused on the long term needs of the transmission system and Transend's customers. The expenditure allows Transend to meet its obligations and deliver on its mission and grid vision.

It is important to emphasise that the revised revenue proposal is an integrated expenditure-service package that carefully balances expenditure requirements against service outcomes. As such, any reduction in the level of expenditure described in this revised revenue proposal would have implications for future service outcomes.

## Prudent capital expenditure during the current regulatory control period

Under the previous regulatory regime<sup>1</sup>, capital expenditure could only be included in the regulatory asset base (RAB) if it satisfied a prudency test. As a transitional measure, the Rules require the AER to determine whether capital additions made under the previous regulatory regime were prudent and efficient. Accordingly, the AER, with the assistance of its consultants WorleyParsons and Nuttall Consulting, has conducted a detailed prudency review of the capital expenditure undertaken by Transend during the current regulatory control period.

Transend's revenue proposal explained that Transend has a robust investment and asset management framework, which Transend continues to develop and refine in accordance with good electricity industry practice. Transend explained that its governance framework, together with the competitive tendering of most of Transend's capital expenditure program, ensures that all capital expenditure is prudent and efficient.

In its draft decision, the AER noted that both WorleyParsons and Nuttall Consulting agreed that Transend had improved its project governance, cost estimating procedures and supporting documentation. The AER also commented that:

- All projects had a justifiable need for investment;
- Transend proposed the most efficient investment to meet the network requirements;
- Transend's stated project evaluation and implementation procedures were followed, consistent with good electricity industry practice; and
- Final project costs appeared reasonable.

Whilst the AER expressed concern at the level of economic analysis for some renewal projects, the AER concluded that all capital expenditure incurred to date by Transend was prudent, efficient and consistent with good electricity industry practice. The AER's draft decision concluded that the opening asset base as at 1 July 2009 should be \$993.6 million in nominal terms.

Transend welcomes the AER's conclusion that Transend's capital expenditure during the current regulatory control period was prudent, efficient and consistent with good electricity industry practice. Transend notes that the opening asset base as at 1 July 2009 will need to be updated for actual inflation; actual capital expenditure in 2007-08; and latest forecast (and actual) capital expenditure in 2008-09. Applying the latest available data, Transend estimates that the opening asset base as at 1 July 2009 should be \$961.2 million in nominal terms.

## Transend's forecast capital and operating expenditure

Transend's revenue proposal explained that Transend's grid vision project is an important input to:

- developing the long-term planning requirements for the transmission system and;

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<sup>1</sup> AER, Statement of Regulatory Principles, 8 December 2004  
<http://www.aer.gov.au/content/index.phtml/itemId/660012>



- reviewing and updating the capital expenditure forecast on an ongoing basis.

The grid vision project identifies the need for substantial investment in the Tasmanian transmission system over the next 30 years, even under the most conservative assumptions. Consideration of long-term requirements therefore guides the development of the more immediate solutions to renew the system and address existing and emerging network issues, and also highlights future strategic land and easement requirements.

For the immediate future, Transend's revenue proposal explained that Transend faces the prospect of a very tight market for procuring equipment and skilled labour. Against this backdrop, Transend needs to invest in a number of critical transmission projects around the State to deliver the required reliability and security of electricity transmission services, now and in the future.

The revenue proposal explained that:

- The Waddamana–Lindisfarne 220 kV transmission line project is the largest project included in the capital program and comprises approximately 52 per cent of the augmentation capital expenditure for the forthcoming regulatory control period, and approximately 17 per cent of the planned total capital expenditure.
- Connection site capacity and capability need to be increased to meet customer demand in Tasmania's south-east and north-west areas, the Launceston/Tamar Valley area, and Hobart's southern urban area.
- Transend's asset renewal program is a long-term program that comprises a combination of targeted asset replacements and substation redevelopment projects that are critical to sustaining transmission system performance and the reliability of electricity supply to customers. This program is a continuation of the comprehensive asset renewal program that has progressed in the current regulatory control period.
- Using the AER's preferred forecasting approach, Transend expects operating expenditure to increase in the forthcoming regulatory control period. This increase is driven by a combination of a greater volume of work and expected increases in the costs of that work.
- Transend is committed to the service target performance incentive scheme (STPIS). Transend's revenue proposal set out forecasts of the efficient operating and capital expenditure required to deliver network services that comply with all Transend's objectives as well as meeting the service performance targets.

In response to Transend's capital and operating expenditure forecasts, the AER reached a number of positive conclusions regarding Transend's proposals. For example, the AER concluded that:

- Transend has adopted a robust methodology for forecasting its capital and operating expenditure requirements for the next regulatory control period.
- Transend's network planning is sound and consistent with good electricity industry practice.
- Transend's joint planning with Aurora Energy Pty Ltd (Aurora), and engagement with other stakeholders provides some assurance that the most efficient project options have been

identified. The AER considers the above activities taken collectively to be indicative of a well run company applying planning techniques appropriate to its circumstances.

- In relation to augmentations and connections, Transend's proposed forecast capital expenditure reasonably reflects the efficient costs.
- The initiatives implemented or being implemented by Transend are likely to provide it with the potential to be able to deliver the amended forecast capital expenditure program.
- Transend's proposed contingent projects satisfy the requirements of clause 6A.8.1 of the Rules.
- Transend's proposed base year operating expenditure of \$40.5 million represents an efficient base from which to project operating expenditure for the next regulatory control period.
- It is reasonable to allow additional skills and development training to address the challenges of an ageing workforce, a lower number of graduates with power engineering qualifications and an increasing capital works program.
- It is reasonable to allow additional resourcing to address the challenges of managing and delivering a larger works program.
- No adjustments are required to Transend's proposed allowance for self-insurance (noting that under the Rules a terrorism event is a defined pass through event).
- Transend's proposed allowance in respect of network support appears to be reasonable.

However, the AER's draft decision also concluded that a number of adjustments to capital and operating expenditure were warranted, principally because the AER considered:

- Transend has not satisfied the AER that the timing of some of its proposed renewal expenditure is justified;
- the general wages forecasts adopted by Transend are not reasonable for the purposes of forecasting labour market wage trends;
- Transend's proposed materials cost escalators are not reasonable for the purposes of estimating forecast electricity infrastructure equipment cost growth;
- Transend's assessment of debt and equity raising costs are not reasonable.

The AER's conclusion on Transend's ex ante allowance for capital expenditure is summarised in table 4.22, page 143 of the draft decision, which is reproduced in table E.1<sup>2</sup>.

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<sup>2</sup> It is noted that the original AER table contained a typographical error. The correct value for 'application of annual escalators' in 2013-14 is presented in the table as -3.1.

Table E.1: AER's conclusion on Transend's total capex allowance (\$m 2008–09)

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Transend's proposal (31 May 2008)	158.0	173.4	106.5	118.5	124.3	<b>680.7</b>
Adjustment resulting from detailed project reviews <sup>(a)</sup>	-1.4	-5.0	-3.7	-19.7	-25.2	<b>-55.0</b>
Application of annual escalators	-2.0	-1.8	-1.6	-2.0	-3.1	<b>-10.6</b>
AER's total adjustments	-3.4	-6.8	-5.3	-21.8	-28.3	<b>-65.6</b>
AER's ex ante capex allowance	154.6	166.6	101.2	96.8	96.0	<b>615.1</b>

Note: The AER will update the capex model with the latest CPI data at the time of its final transmission determination.  
(a) These adjustments relate to augmentation, easement and replacement projects.

A summary of the AER's conclusions on Transend's operating expenditure allowance is provided in table 6.29 of the draft decision, which is reproduced in table E.2.

Table E.2: AER's conclusion on Transend's total opex allowance (\$m 2008–09)

Category	2009–10	2010–11	2011–12	2012–13	2013–14	5 years Total
Field operations and maintenance	16.4	17.5	17.8	18.2	19.0	<b>88.9</b>
Transmission services	7.6	7.9	8.1	8.4	8.5	<b>40.6</b>
Transmission operations	5.0	5.2	5.3	5.5	5.6	<b>26.5</b>
Asset management	6.5	6.7	8.3	10.2	9.2	<b>40.9</b>
Corporate	9.6	9.7	9.8	10.1	10.4	<b>49.7</b>
<b>Total controllable expenditure</b>	<b>45.1</b>	<b>47.0</b>	<b>49.4</b>	<b>52.3</b>	<b>52.7</b>	<b>246.6</b>
Network support	3.9	2.6	0.0	0.0	0.0	<b>6.6</b>
Debt raising	0.5	0.6	0.6	0.6	0.7	<b>3.0</b>
Equity raising	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Self-insurance	0.8	0.8	0.8	0.8	0.8	<b>4.0</b>
<b>Total operating expenditure</b>	<b>50.3</b>	<b>51.0</b>	<b>50.9</b>	<b>53.8</b>	<b>54.2</b>	<b>260.2</b>

Since the submission of the revenue proposal, there has been a downturn in forecast economic growth in Australia and internationally as a result of the global financial crisis. At the AER's pre-determination conference in Hobart on 10 December 2008, questions were raised by a number of participants regarding the impact of lower economic growth on electricity demand in Tasmania and, in turn, the potential impact on Transend's capital expenditure requirements. In light of these comments, the AER sought advice from Aurora on whether projects proposed by Transend in its revenue proposal to support Aurora network connections remain likely to be required in the next regulatory control period.

As a result of the AER's inquiry and the questions raised by participants at the pre-determination conference, Transend reviewed the likely impact of lower growth on Transend's capital expenditure requirements. Following this further work, Transend remains confident that its original capital expenditure forecasts are robust. Aurora's analysis has also led it to conclude that all connection projects proposed by Transend will be required to be delivered in the stated timeframes contained in Transend's revenue proposal in order to meet Aurora's reliability and security obligations.

In addition, subsequent to the submission of Transend's revenue proposal, the Waddamana-Lindisfarne 220 kV second circuit contingent project has been triggered. Transend has undertaken further economic analysis which indicates that the second circuit is now required in the forthcoming regulatory control period.

Transend obtained further advice from consultants Competition Economists Group (CEG) in relation to cost escalators, and debt and equity raising costs. In addition, advice was also sought from consultants Harding Katz Pty Ltd (Harding Katz) regarding a particular aspect of the equity raising cost issue. Transend also conducted its own internal review of forecast renewal capital expenditure after considering carefully the comments made by the AER and its consultants.

In light of the AER's draft decision, advice from consultants and Transend's own analysis, Transend has amended its capital and operating expenditure forecasts. In broad terms, Transend accepts a very significant proportion of the AER's analysis and findings in relation to operating and capital expenditure. However, Transend does not accept fully the AER's findings regarding renewal capital expenditure; labour and material costs; and debt and equity raising costs. This revised revenue proposal addresses each of these matters, and the resulting revised forecasts of capital and operating expenditure are set out in table E.3 and table E.4 respectively.

**Table E.3: Revised Revenue Proposal: Capital expenditure forecast by category (\$m 2008–09)**

Category	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Augmentation	85.5	94.3	30.0	16.0	28.0	253.8
Connection	31.6	35.7	37.7	16.5	1.7	123.2
Land and easements	0.0	0.0	0.0	10.9	10.7	21.6
Asset renewal	29.5	41.0	23.6	61.9	66.7	222.7
Physical security/compliance	14.3	2.0	2.5	0.8	0.4	20.0
Inventory/spares	9.7	0.4	0.5	0.2	1.0	11.8
Operational support systems	4.6	4.9	3.2	3.7	6.2	22.6
<b>Total network</b>	<b>175.3</b>	<b>178.3</b>	<b>97.5</b>	<b>110.1</b>	<b>114.6</b>	<b>675.8</b>
Information technology	2.7	5.2	3.6	2.4	3.1	17.0
Business support	3.9	4.2	4.6	4.4	1.0	18.0
<b>Total non-network</b>	<b>6.6</b>	<b>9.3</b>	<b>8.2</b>	<b>6.8</b>	<b>4.1</b>	<b>35.0</b>
<b>Total</b>	<b>181.8</b>	<b>187.6</b>	<b>105.7</b>	<b>116.9</b>	<b>118.7</b>	<b>710.8</b>

Table E.4: Revised Revenue Proposal: Operating expenditure forecast (\$m 2008–09)

Category	2009–10	2010–11	2011–12	2012–13	2013–14	5 years Total
Field operations and maintenance	16.8	18.0	18.4	18.8	19.7	91.7
Transmission services	7.9	8.3	8.5	8.8	8.9	42.5
Transmission operations	5.2	5.4	5.6	5.8	5.9	27.8
Asset management	6.7	7.0	8.7	10.6	9.6	42.6
Corporate	9.9	10.1	10.2	10.5	10.8	51.4
<b>Total controllable expenditure</b>	<b>46.3</b>	<b>48.9</b>	<b>51.4</b>	<b>54.5</b>	<b>54.8</b>	<b>255.9</b>
Network support	3.9	2.6	0.0	0.0	0.0	6.6
Debt raising	0.9	1.0	1.1	1.2	1.2	5.4
Equity raising	2.3	2.3	2.3	2.3	2.3	11.4
Self-insurance	0.8	0.8	0.8	0.8	0.8	4.0
<b>Total operating expenditure</b>	<b>54.2</b>	<b>55.6</b>	<b>55.6</b>	<b>58.7</b>	<b>59.2</b>	<b>283.3</b>

## Return on capital

Transend's revenue proposal explained that the return on capital applied the post-tax nominal vanilla weighted average cost of capital (WACC) to the opening regulatory asset base in each year, in accordance with the AER's post-tax revenue model. The revenue proposal set out the rationale for a post-tax nominal vanilla WACC of 10.65 per cent per annum in accordance with the requirements of the Rules. The key parameters and variables underlying the cost of capital calculation in Transend's revenue proposal are summarised in table E.5.

Table E.5: Revenue Proposal: WACC parameters and variables

Parameter	Proposed
Risk free rate (nominal)	6.37%
Expected inflation	2.54%
Debt risk premium	3.13%
Market risk premium (MRP)	6%
Gearing (D/V)	60%
Gamma	0.50
Equity beta	1.00
Corporate tax rate	30%
<b>Vanilla WACC (nominal)</b>	<b>10.65%</b>

The AER's draft decision made a number of changes to the WACC parameters proposed by Transend and determined a nominal vanilla WACC of 9.64 per cent for Transend. The draft decision explained that this WACC is less than that proposed by Transend due to a decline in annualised yields on Commonwealth Government Bonds since Transend submitted its revenue proposal.

In response to the draft decision, Transend sought further advice from CEG. In light of this further advice, Transend is particularly concerned that the impact of the global financial crisis on the bond market is not fully taken into account by the AER. In particular, Transend's view is that the AER's current approach to forecasting inflation independent of bond market data is now inappropriate given the significant reduction in the difference between the yields on nominal and indexed Commonwealth Government Securities. A proper recognition of this change in the bond market indicates that an inflation forecast of 1.94 per cent is appropriate, as this rate ensures that the risk free rate in the AER's revenue modelling is at least equal to the yield on indexed Commonwealth Government Securities.

Of the remaining WACC parameters, the only remaining issue to be resolved is the appropriate debt margin. Transend obtained further advice from CEG that the appropriate debt margin is 3.86 per cent. Transend's revised revenue proposal in respect of the WACC parameters is set out in table E.6, updated to reflect the 10 day averaging period to 1 December 2008.

**Table E.6: Revised Revenue Proposal: WACC parameters and variables**

<b>Parameter</b>	<b>Proposed</b>
Risk free rate (nominal)	4.66%
Expected inflation	1.94%
Debt risk premium	3.86%
Market risk premium (MRP)	6%
Gearing (D/V)	60%
Gamma	0.50
Equity beta	1.00
Corporate tax rate	30%
<b>Vanilla WACC (nominal)</b>	<b>9.38%</b>

Transend requests that the AER carefully considers how to most appropriately address the impact of the financial crisis. Transend's proposal is to address the current dislocation in the bond market through an amended inflation forecast. Transend recognises that alternative solutions may be equally valid. In this regard, Transend has included a report from CEG with this revised revenue proposal, in which CEG argues that an alternative method for addressing the impact of the financial crisis is to amend the averaging period for calculating the risk free rate so that it relates to a period immediately prior to the dislocation of the bond markets.

In the event that the AER does not accept Transend's methodology to forecast inflation, Transend proposes the alternative CEG methodology that the averaging period be amended. In these

circumstances, Transend will propose an alternative averaging period in accordance with clause 6A.6.2(c)(2) of the Rules. For the purpose of this revised revenue proposal, however, Transend's building block calculations reflect the amended inflation forecast as described above.

## Service target performance incentive scheme (STPIS)

Transend's revenue proposal explained that the AER accepted Transend's proposed parameters and sub-parameters for the STPIS in November 2007<sup>3</sup>. Transend engaged Sinclair Knight Merz (SKM) to recommend appropriate values for each parameter in the incentive scheme for Transend's forthcoming regulatory control period.

The AER obtained advice from WorleyParsons on the appropriateness of Transend's proposed parameters. In light of that advice, the AER proposed a number of variations to the parameter values proposed by Transend, including the removal of deadbands. Transend accepts the AER's findings in the draft decision, with the exception of the caps and collars for two performance measures. In responding to the draft decision, Transend's revised caps and collars have been set at levels that provide appropriate incentives for improvement.

The draft decision notes that the market impact parameter in the STPIS is not intended to apply to Transend for the forthcoming regulatory control period. Transend considers that there are significant challenges regarding the appropriateness of the market impact parameter in Tasmania, and therefore agrees it is not appropriate to apply this parameter at this time. However, Transend wishes to retain an option to introduce the market impact parameter during the forthcoming regulatory control period if additional data and analysis indicates that it is practical to do so. Transend will continue to work with the AER in relation to this matter during the forthcoming regulatory control period.

## Transend's total revenue requirements

Transend's revenue proposal presented the building block components for each year of the forthcoming regulatory control period presented in table E.7 (in nominal dollars).

Table E.7: Revenue proposal: Components of the annual building block revenue requirement, 2009-10 to 2013-14 (\$m nominal)

	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Return on capital	105.1	120.4	137.8	148.1	159.6	<b>671.0</b>
Regulatory depreciation	24.9	26.0	22.6	27.9	31.1	<b>132.6</b>
Operating expenditure	55.1	57.5	58.9	64.1	67.1	<b>302.7</b>
Net tax allowance	5.4	6.3	6.8	7.8	8.6	<b>34.8</b>
<b>Annual building block revenue requirement (unsmoothed)</b>	<b>190.5</b>	<b>210.2</b>	<b>226.0</b>	<b>247.9</b>	<b>266.4</b>	<b>1,141.1</b>

<sup>3</sup> AER, Service target performance incentive scheme (incorporating incentives based on the market impact of transmission congestion), Explanatory Statement, 19 November 2007, section 1.4, pp 13-15

Transend's proposed maximum allowed revenue represented an increase of approximately 28.5 per cent in 2009–10, relative to the maximum allowed revenue for 2008–09 under the current revenue determination, and 6.4 per cent per annum thereafter in real terms.

In addition to the matters already discussed, the AER's draft decision made a small number of adjustments to the calculation of standard asset lives proposed by Transend. Transend has accepted all of these adjustments except for the 'other short life' asset class, where Transend considers that its original proposal remains appropriate.

The AER's building block calculations are presented in table 9.10 of the draft decision, which is reproduced in table E.8.

**Table E.8: AER's draft decision on annual building block revenue requirement (\$m nominal)**

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Return on capital	95.8	109.2	124.3	132.9	141.1	<b>603.2</b>
Regulatory depreciation	24.4	25.0	23.1	26.2	29.9	<b>128.6</b>
Opex allowance	51.6	53.7	54.9	59.5	61.5	<b>281.1</b>
Opex efficiency glide path	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Net tax allowance	4.6	5.4	6.1	6.7	7.3	<b>30.2</b>
<b>Annual building block revenue requirement (unsmoothed)</b>	<b>176.4</b>	<b>193.3</b>	<b>208.4</b>	<b>225.4</b>	<b>239.8</b>	<b>1,043.1</b>

For the reasons explained in this revised revenue proposal, Transend does not accept all of the AER's findings in its draft decision. Accordingly, Transend's revised revenue proposal reflects Transend's response to the detailed issues raised by the AER. The revised revenue proposal building block calculations are presented in table E.9.

**Table E.9: Transend's revised revenue proposal annual building block revenue requirement (\$m nominal)**

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Return on capital	90.1	105.2	121.1	129.3	138.3	<b>584.0</b>
Regulatory depreciation	30.9	32.5	29.2	34.3	38.1	<b>165.0</b>
Opex allowance	55.3	57.8	58.9	63.4	65.1	<b>300.5</b>
Opex efficiency glide path	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Net tax allowance	5.1	5.9	6.7	7.4	8.0	<b>33.1</b>
<b>Annual building block revenue requirement (unsmoothed)</b>	<b>181.4</b>	<b>201.5</b>	<b>216.0</b>	<b>234.3</b>	<b>249.5</b>	<b>1,082.7</b>



# 1 INTRODUCTION

## 1.1 Purpose of this document

Transend Networks Pty Ltd (Transend) is the electricity transmission network service provider (TNSP) in Tasmania. On 31 May 2008, Transend submitted its revenue proposal for the forthcoming regulatory control period, which commences on 1 July 2009 and ends on 30 June 2014. With the assistance of consultants, the AER subsequently reviewed Transend's revenue proposal. The AER published its draft decision on 27 November 2008. This document responds to the AER's draft decision and is Transend's revised revenue proposal in accordance with Chapter 6A of the National Electricity Rules (the Rules). This document should be read in conjunction with Transend's revenue proposal and the AER's draft decision.

Whilst Transend broadly welcomes the AER's draft decision, there are several important areas where Transend does not accept the AER's findings. The purpose of this revised revenue proposal is to respond to the draft decision. Transend considers that its revised revenue proposal satisfies all the relevant requirements of the Rules and should therefore be accepted by the AER.

## 1.2 Background and structure

Transend's revenue proposal explained that Transend's vision is to be a leader in developing and maintaining sustainable networks. Transend's mission is to:

- efficiently provide a reliable and secure electricity transmission service at a cost commensurate with appropriate and sustainable returns to shareholders; and
- develop new business opportunities building on Transend's established strengths.

Transend's vision and mission underpinned the service outcomes and expenditure plans detailed in Transend's revenue proposal. These expenditure plans also considered Transend's longer term grid vision for the transmission system in Tasmania. In preparing this response to the AER's draft decision, Transend remains committed to its mission and grid vision, which provide important longer term objectives for the performance and development of the transmission system.

Transend's revenue proposal highlighted the predominance of hydro-generation in Tasmania and its impact on the design and cost structure of the transmission system. In particular, in addition to meeting load-driven connection and system requirements, Transend's transmission system design, augmentations, and maintenance and renewal expenditure must accommodate:

- geographically dispersed generation (determined by the location of suitable water-catchment sites);

- a large number of relatively low capacity generators; and
- seasonal variations and climatic factors affecting generator availability.

Importantly, these specific characteristics of the Tasmanian transmission system substantially limit the usefulness of cost comparisons between Transend and other TNSPs in Australia. In this context, a further relevant consideration is the fact that Transend's transmission system includes connection assets operating at voltages down to 6.6 kV. The large number of assets operating at these lower voltage levels results in Transend unavoidably incurring higher operating and maintenance costs, compared to the costs incurred by TNSPs whose transmission assets operate at higher voltage levels (namely, 66 kV and above).

Transend welcomes the AER's recognition in its draft decision of the specific circumstances faced by Transend in the current and forthcoming regulatory control periods. In particular, the AER has correctly recognised that there have been considerable and permanent changes to Transend's operations due to Tasmania joining and operating in the NEM. Transend also welcomes the AER's conclusion that Transend's forecasting methodologies for operating and capital expenditure comply with the Rules requirements. Importantly from Transend's perspective, these methodologies focus on the challenges for the future, rather than simply looking to historical expenditure to provide a guide as to future needs.

Whilst Transend welcomes many aspects of the AER's draft decision, there are a number of material issues where Transend does not accept the AER's conclusions. In addressing each of these matters in turn, this revised revenue proposal first provides a broad summary of Transend's revenue proposal and the AER's draft decision before presenting a revised proposal on each matter. This approach provides important contextual background to the revised revenue proposal and also enables Transend to highlight a number of related matters where the draft decision is strongly supported.

The remainder of this revised revenue proposal is structured as follows:

- Chapter 2 sets out Transend's response to the matters raised in the draft decision regarding past capital expenditure and the opening asset base. It also presents Transend's revised proposals in relation to these matters.
- Chapter 3 sets out Transend's response to the matters raised in the draft decision in relation to forecast capital expenditure, and presents its revised forecasts for the forthcoming regulatory control period.
- Chapter 4 presents Transend's response to the draft decision relating to the cost of capital, and its revised proposed WACC.
- Chapter 5 sets out Transend's response to the matters raised in the draft decision in relation to forecast operating expenditure, and presents its revised forecasts for the forthcoming regulatory control period.

- Chapter 6 presents Transend's response to the draft decision in relation to the STPIS and presents its revised proposals in relation to this scheme.
- Chapter 7 sets out Transend's revised proposals regarding maximum allowed revenue, in response to the matters raised in the draft decision.
- Chapter 8 sets out Transend's revised proposals regarding its pricing methodology, in the light of the matters raised in the draft decision.

In addition to providing the information set out above, Transend is required to submit the following information accompanying its revised revenue proposal:

- the completed roll forward model; and
- the completed post-tax revenue model (PTRM).

This information has been provided under separate cover.

Additional supporting information is provided in appendices to this revised revenue proposal.

## 2 PAST CAPITAL EXPENDITURE AND OPENING ASSET BASE

### 2.1 Overview of revenue proposal

In its revenue proposal, Transend's regulatory asset base (RAB) as at 1 July 2009 (the commencement date of the forthcoming regulatory control period) was calculated to be \$987.3 million (in nominal dollars) in accordance with the roll forward model provided by the AER. This opening RAB value is then 'rolled-forward' for each year of the forthcoming regulatory control period to take account of Transend's forecast capital expenditure and depreciation over the forthcoming regulatory control period.

In relation to the opening RAB, a key issue to be resolved is the value of capital expenditure that should be included to reflect prudent and efficient capital expenditure during the current regulatory control period. In this regard, the AER applies a prudence test to the actual capital expenditure undertaken by Transend during the current regulatory control period to determine whether that expenditure should be included in the RAB. This 'prudence test' is a legacy of the regulatory approach set out in the 2004 document known as the Statement of Regulatory Principles, and will not apply in future regulatory control periods.

In the revenue proposal<sup>4</sup>, Transend commented that its investment governance processes (described in section 3.4 of that document) demonstrate that Transend has robust processes in place to ensure that prudent and efficient investment decisions are made at the right time. In terms of project execution, the revenue proposal also explained that the majority of Transend's capital program has been sourced through a competitive tendering process. Transend's tendering and contractor selection process ensures that network solutions are cost effective, and that safety, environmental, quality and project risks are managed effectively.

In light of the systems and processes that Transend has in place, the revenue proposal expressed confidence that the AER's prudence review would confirm that actual capital expenditure undertaken over the current regulatory control period had been prudent and meets the requirements for incorporation into the opening RAB.

In addition to the prudence review, there are a number of steps involved in calculating the opening RAB, which were described in detail in the revenue proposal<sup>5</sup>. These steps include:

- using the RAB value as at 31 December 2003, adjusted for any differences between forecast and actual capital expenditure;

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<sup>4</sup> Transend, *Transmission Revenue Proposal, 1 July 2009 to 30 June 2014, 30 May 2008*, section 4.4, page 41.

<sup>5</sup> *Ibid*, section 9.3, pages 147 and 148.

- rolling forward the 31 December 2003 value for actual additions, disposals, revaluations and deductions of depreciation allowances; and
- adding a forecast of prudent assets under construction (that is, work in progress) as at 1 July 2009.

Table 2.1 shows the derivation of the opening RAB value as at 1 July 2009 (that is, the closing RAB as at 30 June 2009) as described in the revenue proposal<sup>6</sup>.

**Table 2.1: Revenue Proposal – Roll forward of regulatory asset base from 1 January 2004 to 30 June 2009 (\$m nominal)**

	Jan–Jun 2004	2004–05	2005–06	2006–07	2007–08 <sup>(a)</sup>	2008–09 <sup>(a)</sup>
Opening RAB with actual CPI	603.6	628.7	696.1	737.3	811.4	850.5
Forecast capex with actual CPI	28.6	84.4	56.0	95.1	46.0	40.0
Nominal economic depreciation with actual CPI	-3.5	-17.0	-14.8	-21.0	-6.9	-20.3
Add difference between actual and forecast capex						65.4
Add return on the difference <sup>(b)</sup>						-6.2
Add assets under construction						57.9
Closing RAB						987.3

Note: (a) forecasts, (b) this relates to the benefit associated with the difference between forecast and actual capex for 1 July 2003 to 31 December 2003

## 2.2 Overview of draft decision

The AER engaged WorleyParsons and Nuttall Consulting jointly to undertake an ex post assessment of Transend's capital expenditure. Both consultants recognised that Transend has developed an appropriate project governance framework and that, over the course of the current regulatory control period, Transend has improved its project governance and cost estimating procedures and the development of its supporting documentation.

In formulating its draft decision, the AER considered detailed reports from WorleyParsons and Nuttall Consulting, and concluded that there is sufficient evidence to demonstrate that the network capital expenditure undertaken by Transend during the current regulatory control period was prudent<sup>7</sup>. In particular, the AER noted that<sup>8</sup>:

- all projects had a justifiable need for investment;

<sup>6</sup> *Ibid*, Table 9.1, page 148.

<sup>7</sup> AER, *draft decision: Transend transmission determination, 2009–10 to 2013–14*, 21 November 2008, page 43.

<sup>8</sup> *Ibid*, pages 43, 44.

- Transend proposed the most efficient investment to meet the network requirements;
- Transend's stated project evaluation and implementation procedures were followed, consistent with good electricity industry practice; and
- final project costs appeared reasonable.

Notwithstanding this, the AER concurred with the views expressed by Nuttall Consulting that Transend had not undertaken economic analysis at the level expected in relation to all asset renewal projects in the current regulatory control period. The AER commented that economic analysis is an important tool in determining the most appropriate option to implement, even in circumstances where the underlying need for a project may be driven principally by other considerations. The draft decision concluded that the AER expected, in future, that renewal projects should be supported by an economic evaluation of the most appropriate options.

In addition to concluding that Transend's overall network capital expenditure is prudent, efficient and consistent with good electricity industry practice, the AER also concluded that an allowance for the cost of finance during construction (FDC) should be provided. In particular, the AER explained that it had reviewed Transend's FDC calculations and agreed that applying an FDC rate of 7.54 per cent to Transend's assets under construction would be appropriate<sup>9</sup>.

The AER's draft decision concluded that the opening asset base as at 1 July 2009 should be \$993.6 million in nominal terms<sup>10</sup>. It is noted that this opening asset base figure differs slightly from the value submitted by Transend in its revenue proposal, principally as a result of the AER's application of a slightly different inflation forecast.

## 2.3 Transend's response to the draft decision

Transend welcomes the AER's conclusion that its capital expenditure during the current regulatory control period was prudent, efficient and consistent with good electricity industry practice<sup>11</sup>. Transend further welcomes the comments from WorleyParsons and Nuttall Consulting that during the course of the current regulatory control period Transend has improved its project governance and cost estimating procedures, and its supporting documentation<sup>12</sup>. Transend notes that these conclusions provide further confidence that Transend's capital expenditure forecasts for the forthcoming regulatory control period are equally prudent, and reflect efficient costs.

Transend does not accept Nuttall Consulting's view that Transend had not undertaken economic analysis at the level expected in relation to all asset renewal projects in the current regulatory control period. In particular, Transend's business cases, without

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<sup>9</sup> *Ibid*, page 51.

<sup>10</sup> *Ibid*, page 64.

<sup>11</sup> *Ibid*, page 9.

<sup>12</sup> *Ibid*, page 108.

exception, provide a reasonably detailed assessment of the different options that were considered, and the rationale for the preferred option. In many instances, the preference for a particular option rests on the unacceptable outcomes or risks associated with the competing alternatives. Typically, consideration is also given to Transend's broader strategy, which ensures that projects are aligned with Transend's investment programs and asset management strategies. After consideration of these matters, it is often self-evident that only one option is viable, or one option is clearly the most economic option. In this context, inclusion of a formal discounted cash flow or financial analysis would not provide any additional information that would have a bearing on the investment decision.

Transend accepts that there may appear to be a 'disconnection' between some of its governance documentation on renewal investment decision analysis and the actual practice of making renewal investment decisions. Having said that, the business cases prepared in these instances properly reflect the broad considerations that must be taken into account in making prudent and efficient investment decisions in accordance with good electricity industry practice, sound asset management strategies and, more recently, a soundly-based grid vision. Transend's view is that discounted cash flow and financial evaluation of options do not need to be at the centre of all renewal investment decision-making. Rather, such analysis is an aid to decision-making, and whilst it provides substantial assistance as a decision-making aid in the case of certain projects, it is certainly not - for the reasons noted above - the central consideration in many other situations.

## 2.4 Transend's revised revenue proposal

As noted in section 2.3 above, Transend welcomes the AER's draft decision that Transend's historical capital expenditure is prudent and efficient, and therefore should be added to the regulatory asset base.

Transend notes that the opening asset base of \$993.6 million as at 1 July 2009 (in nominal dollars) as set out in the draft decision needs to be updated for actual inflation; actual capital expenditure in 2007-08; and the latest forecast (and subsequently actual) capital expenditure in 2008-09.

Transend's latest information on inflation and capital expenditure in 2007-08 and 2008-09 indicates that the opening asset base should be \$961.2 million as at 1 July 2009 (in nominal dollars).

## 3 FORECAST CAPITAL EXPENDITURE

### 3.1 Overview of revenue proposal

Transend's revenue proposal foreshadowed an increase in capital expenditure requirements for the forthcoming regulatory control period. The revenue proposal explained that a large proportion of the increased expenditure requirement is associated with the completion of the Waddamana–Lindisfarne 220 kV transmission line project, which is necessary to provide improved security and reliability of supply to southern Tasmania.

Apart from the Waddamana–Lindisfarne 220 kV transmission line project, the revenue proposal explained that the predominant investment drivers are:

- the need for transmission system augmentations and the establishment of seven new DNSP connection sites;
- the network performance requirements set out in the Electricity Supply Industry (Network Performance Requirements) Regulations 2007 (Tas), which drive reliability augmentations; and
- continuation of the asset renewal program to sustain transmission service performance and the reliability of electricity supply, to meet the needs of customers.

Transend's need for an increase in capital expenditure reflects a common theme across Australian TNSPs and utility companies more generally, with increases in the volume and cost of work.

Transend's revenue proposal examined its capital expenditure requirements for the forthcoming regulatory control period in the context of its longer term grid vision. The revenue proposal explained that a consultative approach<sup>13</sup> was adopted in developing the grid vision to assist Transend in responding efficiently to medium term (15 year) trends that are already emerging, and a range of long-term (30 year) possible scenarios that are not yet clearly foreseen. Importantly, the grid vision highlights that even under the forecast business-as-usual scenario, in 30 years time the transmission system will need to be able to supply almost twice the current electricity demand. This finding provides an important backdrop to the capital expenditure forecasts in the forthcoming regulatory control period.

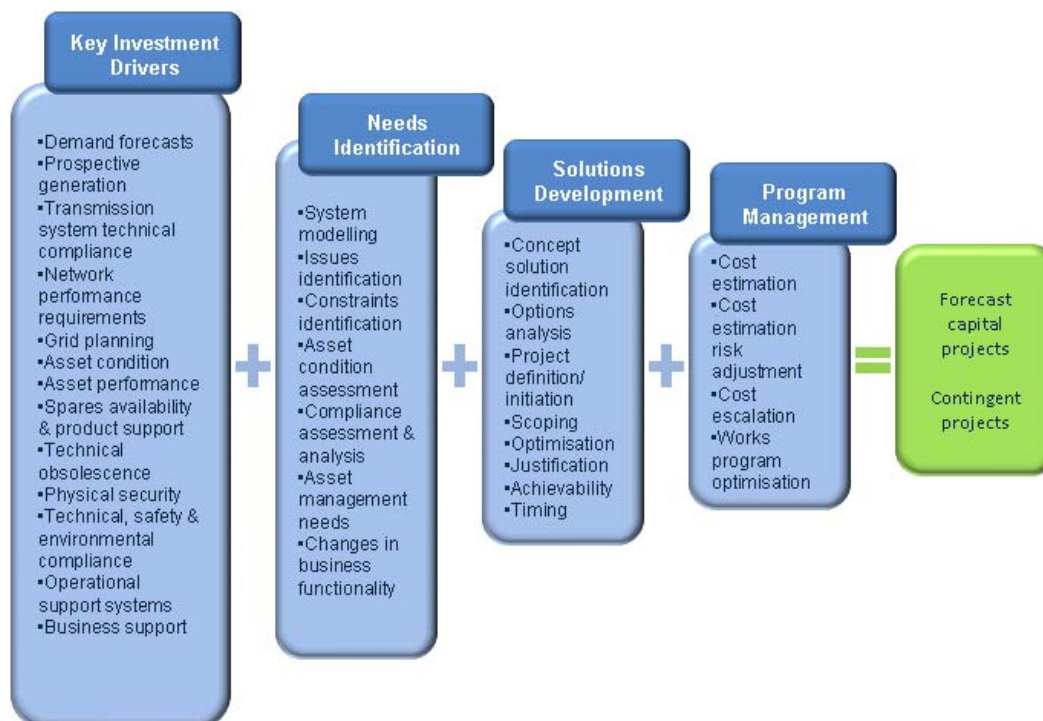
The revenue proposal provided a detailed description of Transend's forecasting methodology. In particular, figure 3.1 provided an overview of the key elements of Transend's forecasting methodology for capital expenditure.

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<sup>13</sup> Transend, *Transmission Revenue Proposal, 1 July 2009 to 30 June 2014*, 30 May 2008, appendix 8.



Figure 3.1: Revenue Proposal: Overview of Transend's capital expenditure forecasting methodology



To give effect to the forecasting methodology, the revenue proposal referred to expert advice obtained from the following consulting firms (with cross-reference to the relevant appendices in the revenue proposal):

- The NOUS Group, *Transend Networks 30+ year network vision project, final report*, May 2007 (Appendix 8)
- ROAM Consulting, *Scenarios for Revenue Reset Application— 2009–10 to 2013–14*, May 2008 (Appendix 11)
- Competition Economists Group, *Historic labour costs growth, a report for Transend*, May 2008 (Appendix 12)
- Brothers & Newton, *Escalation Forecasts for Land Values in Tasmania*, April 2008 (Appendix 13)
- Competition Economists Group, *Escalation factors affecting expenditure forecasts*, April 2008 (Appendix 15)
- PB Associates, *Review of Transend's Project Cost Estimates*, May 2008 (Appendix 16)
- Evans & Peck, *Risk Assessment of Transend Capital Works Program for 2009-14 Regulatory Reset Period*, May 2008 (Appendix 25)

These appendices were also augmented by advice regarding demand forecasts from consultants National Institute of Economic and Industry Research (NIEIR), PB Associates and Aurora.

Whilst the above advice provides important input to the forecasting process, production of the capital expenditure forecasts also depend on Transend's systems, data and asset-specific information. For example, the revenue proposal explained that asset renewal investment is driven by the following considerations:

- asset condition;
- asset performance;
- spares availability and product support;
- technical obsolescence;
- physical security;
- technical, safety and environmental compliance; and
- operational support systems.

Similarly, the revenue proposal explained that development capital expenditure forecasts also combine the advice and information from consultants with network-specific considerations. In particular, Transend uses detailed models of the electrical power system including a detailed examination of the reliability and availability of equipment, and the frequency and nature of transmission system constraints to assess the ability of the transmission system to meet demand. The revenue proposal provided a high level description of the various models used by Transend.

The revenue proposal also emphasised that compliance with technical, safety and environmental obligations is critical to meeting Transend's licence obligations, as well as sustaining a reliable, safe and secure electricity supply. Therefore, these obligations play an important role in determining Transend's capital expenditure forecasts.

A summary of the capital expenditure forecast by category presented in the revenue proposal is presented in table 3.1.

Table 3.1: Revenue Proposal: Capital expenditure forecast by category (\$m 2008–09).

Category	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Augmentation	70.8	82.7	29.4	16.1	28.6	227.6
Connection	31.5	35.0	37.0	16.5	1.7	121.8
Land and easements	0.0	0.0	0.0	10.5	10.3	20.9
Asset renewal	29.8	39.4	25.7	62.4	69.3	226.6
Physical security/compliance	5.1	2.0	2.4	0.8	0.4	10.7
Inventory/spares	9.6	0.4	0.5	0.2	1.0	11.7
Operational support systems	4.6	4.8	3.2	3.6	6.1	22.3
<b>Total network</b>	<b>151.4</b>	<b>164.2</b>	<b>98.3</b>	<b>110.2</b>	<b>117.5</b>	<b>641.6</b>
Information technology	2.7	5.1	3.6	4.0	5.9	21.3
Business support	3.9	4.1	4.5	4.3	1.0	17.8
<b>Total non-network</b>	<b>6.6</b>	<b>9.2</b>	<b>8.2</b>	<b>8.3</b>	<b>6.9</b>	<b>39.1</b>
<b>Total</b>	<b>158.0</b>	<b>173.4</b>	<b>106.5</b>	<b>118.5</b>	<b>124.3</b>	<b>680.7</b>

In accordance with the requirements of the Rules, the revenue proposal also explained the difference between the forecast (2009-14) and historical (2004-09) capital expenditure, as presented in table 3.2, as the average expenditure per annum over the respective periods.

**Table 3.2: Revenue Proposal: Comparison of forecast and historical average capital expenditure—as incurred (\$m 2008–09)**

Capex type	Historical expenditure	Forecast	Explanation of significant variations
Augmentation	24.0	45.5	The construction of the Waddamana–Lindisfarne 220 kV transmission line comprises a major proportion of the augmentation costs for the forthcoming regulatory control period.
Connections	5.7	24.4	The establishment of new connection sites is required over the forthcoming regulatory control period, leading to a significant increase in expenditure.
Land and easements	0.0	4.2	Strategic provision now needs to be made for future augmentation and connection developments
Asset renewal	36.7	45.3	Continuance of established asset renewal programs, but with increasing input costs
Physical security/compliance	7.3	2.1	The implementation of the asset security strategy has significantly progressed in the current period reducing the forecast expenditure requirements
Inventory/spares	2.1	2.3	Identified need for additional inventory/ spares holdings and a storage facility
Operational support systems	2.1	4.5	Systems upgrades and developments to meet operational and asset management needs
<b>Total network</b>	<b>77.9</b>	<b>128.3</b>	
Information technology	1.9	4.3	New IT systems and developments
Business support	6.0	3.6	Reduced need to establish new systems
<b>Total non-network</b>	<b>7.9</b>	<b>7.8</b>	
<b>Total</b>	<b>85.9</b>	<b>136.1</b>	

The revenue proposal commented that cost drivers contributing to higher levels of forecast capital expenditure are both volume and price-related. The upward pressure on unit costs, including wages growth, land value escalation and non-labour construction costs, was described in detail in section 5.5 of the revenue proposal. The revenue proposal also noted the following points in commenting on the volume of work:

- The Waddamana–Lindisfarne 220 kV transmission line project is the largest project included in the capital program and comprises approximately 52 per cent of the augmentation capital expenditure for the forthcoming regulatory control period, and approximately 17 per cent of the planned total capital expenditure.
- Connection site capacity and capability need to be increased to meet customer demand in Tasmania’s south-east and north-west areas, the Launceston/Tamar Valley area and Hobart’s southern urban area.
- Transend’s asset renewal program is a long-term program that comprises a combination of targeted asset replacements and substation redevelopment projects

that are critical to sustaining transmission system performance and the reliability of electricity supply to customers. This program is a continuation of the comprehensive asset renewal program that has progressed in the current regulatory control period.

The revenue proposal noted that on the basis of the information presented, Transend is confident that its capital expenditure forecast is both efficient and prudent, and that it meets the capital expenditure objectives set out in the Rules.

### 3.2 Overview of draft decision

As part of its review of Transend's forecast capital expenditure, the AER commissioned WorleyParsons and Nuttall Consulting to examine Transend's investment processes and governance arrangements. In light of reports from WorleyParsons and Nuttall Consulting, the AER concluded that Transend's capital governance framework contains appropriate controls, checks, accountability, reviews and approval gateways, and is consistent with good electricity industry practice<sup>14</sup>. Therefore, the AER concluded that Transend's capital governance framework is likely to result in efficient and prudent investment decisions. The AER noted that this conclusion is important in its broader assessment of whether Transend's forecast capital expenditure satisfies the Rules requirements<sup>15</sup>.

With the assistance of WorleyParsons and Nuttall Consulting, the AER examined a wide-range of issues relating to Transend's capital expenditure forecasts. The AER's review reached a number of conclusions that broadly supported the capital expenditure forecasts described in Transend's revenue proposal. In particular, the draft decision commented that:

- A check of NIEIR's demand forecast against actual demand forecast for the last 10 years suggests that NIEIR's demand forecasting methodology for Tasmania is robust<sup>16</sup>.
- The AER accepts Transend's demand forecast noting that the forecast has little effect on Transend's capital expenditure program for the next regulatory control period<sup>17</sup>.
- Transend's network planning is sound and consistent with good electricity industry practice<sup>18</sup>.
- The Tasmanian minimum network performance requirements regulations enacted in December 2007 impose additional planning requirements on Transend, which drive a significant portion of its proposed augmentation and connection capital expenditure<sup>19</sup>.

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<sup>14</sup> *Ibid*, page 77.

<sup>15</sup> *Ibid*.

<sup>16</sup> *Ibid*, page 87.

<sup>17</sup> *Ibid*, page 87.

<sup>18</sup> *Ibid*, page 91.

<sup>19</sup> *Ibid*, page 93.

- Transend’s joint planning with Aurora, and engagement with other stakeholders provides some assurance that the most efficient project options have been identified. The AER considers these activities, taken collectively, to be indicative of a well run company applying planning techniques appropriate to its circumstances<sup>20</sup>.
- Australian Bureau of Statistics (ABS) data is broadly consistent with Transend’s average forecast growth rate for its land/easement escalator, for the next regulatory control period. Accordingly, the AER accepts Transend’s proposed land/easement escalator<sup>21</sup>.
- Information used by Transend in developing its capital expenditure forecasts is reasonable for the purpose of developing the capital expenditure profile (S-curve) of different projects<sup>22</sup>.
- Transend has established that there is a tendency for outturn costs to be greater than forecast costs, due to factors unforeseen at the time of preparing the project cost estimates. On balance, the AER is satisfied that a 3.15 per cent ‘global’ risk factor will provide Transend with a total forecast capital expenditure allowance that reasonably reflects the efficient costs a prudent TNSP in Transend’s circumstances would require to achieve the capital expenditure objectives<sup>23</sup>.
- In relation to augmentations and connections, Transend’s proposed forecast capital expenditure reasonably reflects the efficient costs that a prudent operator in the circumstances of Transend would require to achieve the capital expenditure objectives, as required by clause 6A.6.7(c) of the Rules<sup>24</sup>.
- The AER accepted WorleyParsons’ advice that the Waddamana–Lindisfarne 220 kV transmission line project is required to improve the security and reliability of supply to southern Tasmania. The AER also commented that a secure and reliable transmission system is vital to an efficient electricity market. The AER noted WorleyParsons’ observation that there is less than one per cent net present value (NPV) difference between a staged double circuit augmentation (as proposed by Transend at the time of submission) and a concurrent double circuit augmentation under the majority of network development scenarios<sup>25</sup>.
- A detailed review by WorleyParsons of one of Transend’s information technology projects (Corporate IT – package systems) and one of Transend’s business support projects indicated that Transend’s forecast non-network capital expenditure reasonably reflects the efficient costs that a prudent operator would incur<sup>26</sup>.

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<sup>20</sup> *Ibid*, pages 91 and 93.

<sup>21</sup> *Ibid*, page 113.

<sup>22</sup> *Ibid*, page 132.

<sup>23</sup> *Ibid*, page 131.

<sup>24</sup> *Ibid*, pages 101, 103, 105, 297, 302, 305.

<sup>25</sup> *Ibid*, page 297.

<sup>26</sup> *Ibid*, page 108.

- The initiatives implemented or being implemented by Transend are likely to provide it with the potential to be able to deliver the amended forecast capital expenditure program<sup>27</sup>.
- Transend's proposed contingent projects satisfy the requirements of clause 6A.8.1 of the Rules<sup>28</sup>.

However, whilst the AER made a number of comments that support the capital expenditure forecasts set out in Transend's revenue proposal, the AER also identified areas for improvement, particularly in relation to Transend's investment decision-making and supporting analyses and processes. For example, the AER commented that:

- Transend has well developed supporting documentation, particularly for connection and augmentation projects that require accountability to external parties such as directly connected customers and regulatory bodies<sup>29</sup>.
- Transend should ensure that its economic analysis documentation [of renewal projects] appropriately reflects its consideration of alternative project options and clearly demonstrates the selection of the preferred project option and the option timing, in accordance with its systems and process documentation<sup>30</sup>.
- The incorporation of WorleyParsons' suggested post implementation project review in Transend's capital governance framework could result in better implementation of Transend's projects and thereby enhance the efficiency of its investment decisions<sup>31</sup>.
- The AER expressed the view that assessment of the efficiency and prudence of [renewal] capex projects would be enhanced by a more thorough and consistent approach to economic analysis and the documentation of the options considered. It noted that Transend has adopted a least cost approach to economic analysis and has not attempted to quantify all economic costs and benefits associated with its [renewal] investment decisions<sup>32</sup>.

In addition to noting the above areas for improvement, the draft decision identified several areas in which the AER concluded that reductions in Transend's proposed capital expenditure forecast were warranted<sup>33</sup>. These matters are summarised in table 3.3.

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<sup>27</sup> *Ibid*, page 140.

<sup>28</sup> *Ibid*, page 136.

<sup>29</sup> *Ibid*, page 108.

<sup>30</sup> *Ibid*, page 77.

<sup>31</sup> *Ibid*.

<sup>32</sup> *Ibid*, page 97.

<sup>33</sup> *Ibid*, pages 101-106, 113-118, 119-129.

**Table 3.3: AER's findings regarding capital expenditure and implications arising**

Capex type or driver	AER's comments	Explanation of significant variations
Asset renewal	Transend has not satisfied the AER that the timing of some proposed renewal expenditure projects is justified.	The draft decision has only allowed 92 per cent of Transend's total capital expenditure forecast, which equates to a \$55 million reduction from the proposed amount.
Labour escalation	<p>Given the change in economic conditions since 2007, the AER does not consider that the wages forecasts proposed by CEG are reasonable for the purposes of forecasting labour market wage trends for the next regulatory control period.</p> <p>The AER also rejected CEG's inclusion of a labour cost escalation component in equipment costs.</p>	The AER has applied Econtech's wage forecasts to Transend's operating and capex proposals.
Non-labour construction costs - materials	Transend's proposed materials cost escalators are not reasonable for the purposes of estimating forecast electricity infrastructure equipment cost growth.	The AER has developed its own materials cost escalators that are applied as presented in tables 4.14 to 4.18 of the draft decision.

The AER's conclusion on Transend's ex ante allowance for capital expenditure is summarised in table 4.22, page 143 of the draft decision, which is reproduced in table 3.4<sup>34</sup>.

**Table 3.4: AER 's conclusion on Transend's ex ante allowance (\$m 2008–09)**

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Transend's proposal (31 May 2008)	158.0	173.4	106.5	118.5	124.3	680.7
Adjustment resulting from detailed project reviews <sup>(a)</sup>	-1.4	-5.0	-3.7	-19.7	-25.2	-55.0
Application of annual escalators	-2.0	-1.8	-1.6	-2.0	-3.1	-10.6
AER 's total adjustments	-3.4	-6.8	-5.3	-21.8	-28.3	-65.6
<b>AER 's ex ante capex allowance</b>	<b>154.6</b>	<b>166.6</b>	<b>101.2</b>	<b>96.8</b>	<b>96.0</b>	<b>615.1</b>

Note: The AER will update the capex model with the latest CPI data at the time of its final transmission determination.

(a) These adjustments relate to augmentation, easement and replacement projects.

<sup>34</sup> It is noted that the original AER table contained a typographical error. The correct value for 'application of annual escalators' in 2013-14 is presented in the table above as -3.1.



### 3.3 Transend's response to the draft decision

#### 3.3.1 Introduction

Transend welcomes the broadly positive conclusions reached by the AER and its consultants in respect of Transend's capital expenditure forecasts. These conclusions follow a detailed project-based review by the AER's consultants, WorleyParsons and Nuttall Consulting, in addition to an examination of Transend's governance and investment decision-making processes.

Transend recognises that since the submission of the revenue proposal, there has been a downturn in forecast economic growth in Australia and internationally as a result of the global financial crisis. At the AER's pre-determination conference in Hobart on 10 December 2008, questions were raised by a number of participants regarding the impact of lower economic growth on electricity demand in Tasmania and, in turn, the potential impact on Transend's capital expenditure requirements. In light of these comments, the AER sought advice from Aurora on whether projects proposed by Transend in its revenue proposal to support Aurora network connections remain likely to be required in the next regulatory control period.

As a result of the AER's enquiry and the questions raised by participants at the pre-determination conference, Transend reviewed the likely impact of lower growth on Transend's capital expenditure requirements. Following this further work, Transend remains confident that its original capital expenditure forecasts are robust. Aurora's analysis has led it to conclude that all connection projects proposed by Transend will be required to be delivered in the stated timeframes contained in Transend's revenue proposal in order to meet Aurora's reliability and security obligations. A copy of Aurora's response to the AER on this matter is provided as appendix 11 to this revised revenue proposal.

This outcome is consistent with the AER's acceptance of Transend's demand forecast, with the AER noting that the forecast has little effect on Transend's capital expenditure for the next regulatory control period<sup>35</sup>.

As noted in section 3.2 above, the AER has proposed downward adjustments to Transend's forecast capital expenditure in respect of three areas:

- labour costs;
- escalation factors for non-labour costs; and
- timing of asset renewal projects.

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<sup>35</sup> AER, *draft decision: Transend transmission determination, 2009–10 to 2013–14*, 21 November 2008, page 43.

To assist it to prepare its response to the draft decision, Transend obtained further advice from consultant CEG in relation to cost escalators. A copy of CEG's report is provided as appendix 4 to this revised revenue proposal.

Transend conducted its own internal review of forecast renewal capital expenditure after carefully considering the comments made by the AER and its consultants. Transend's responses to each of the matters listed above are set out in sections 3.3.2 and 3.3.3.

In addition to these matters, Transend has modified its capital expenditure forecasts to address two issues:

- minor reallocations of capital expenditure in the early part of the forthcoming regulatory control period to reflect the latest information on the timing of projects that are currently being implemented; and
- triggering of the Waddamana–Lindisfarne 220 kV transmission line second circuit project. Further economic analysis indicates that the second circuit is now required in the forthcoming regulatory control period.

Further detail of these modifications to Transend's forecast capital expenditure is provided in section 3.3.4, and the revised forecast capital expenditure reflecting all of the above matters is provided in section 3.4.1. In Transend's view, it is important to emphasise that the revised revenue proposal is an integrated expenditure-service package that carefully balances expenditure requirements against service outcomes.

As WorleyParsons noted, Transend's field operations and maintenance operating cost forecasts have been developed using a highly sophisticated works coordination tool<sup>36</sup>, based on the forecast asset base. Any changes to proposed capital expenditure must therefore consider corresponding changes to operating expenditure.

Further, any reduction in the level of capital expenditure described in this revised revenue proposal would have implications for future service outcomes. Transend's views on the STPIS parameter values is provided in chapter 6 of this revised revenue proposal.

### 3.3.2 Input costs

As noted in section 3.2, the AER rejected CEG's forecasts of future labour costs and instead adopted forecasts provided by Econtech. Table 4.10 of the draft decision (which is reproduced in table 3.5) shows a comparison of these two forecasts.

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<sup>36</sup> WorleyParsons, *Review of the Transend Transmission Network Revenue Proposal 2009-2014: An independent review prepared for the Australian Energy Regulator*, 30 September 2008, page 194.

Table 3.5: CEG and Econtech labour escalation rates—Tasmania EGW growth rates  
(percent, real year ended June)

	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	Average
CEG	2.2	3.2	4.0	2.7	3.1	3.9	4.0	3.5
Econtech	-3.0	2.0	2.9	2.8	2.5	2.4	1.9	2.5

Source: Competition Economists Group, *Escalation factors affecting expenditure forecasts: a report for Transend*, April 2008, p. 8; Econtech, *Labour cost growth forecasts 2007/08 to 2016/17*, Attachment D, 19 September 2008, p. 11.

Note: The average is calculated for 2009–10 to 2013–14 (the next regulatory control period)

As noted in section 3.3, the AER pointed to the recent changes in economic conditions to justify the adoption of the Econtech wages forecasts in preference to those proposed by CEG. The AER also noted that actual wage data was available for 2007–08, and that it was appropriate for the AER to adopt the actual wage increase provided for under Transend’s Enterprise Bargaining Agreement (EBA) or Award. From June 2009 onwards the AER applied Econtech’s Tasmania labour cost forecasts to the Transend operating and capital expenditure proposals<sup>37</sup>.

In response to the draft decision, Transend agrees with the AER that it is appropriate to reflect the negotiated outcomes of the EBA in Transend’s forecast labour costs. The AER interpreted the EBA as only providing a 4.9 per cent increase in nominal terms (or a 0.4 percent increase in real terms)<sup>38</sup>. However, the EBA provides for individual employee increments and performance payments (‘the additional payments’) in addition to the 4.9 per cent base increase. On average this adds a further 2.1 per cent per annum increase in nominal terms.

The additional payments arise as a consequence of Transend’s obligation to conduct annual reviews of each individual employee’s performance in their role, and to recognise that performance through annual salary reviews. The increment of 2.1 per cent reflects Transend’s requirement to retain staff and reward productivity in light of a tight labour market for skilled labour and to maintain Transend’s competitiveness in such a market.

It should also be noted that negotiations are currently underway to extend the current EBA to February 2011. The proposal is expected to continue to provide annual base increases of 4.9 per cent and the additional payments referred to above. Transend has therefore updated its labour escalation rates to reflect the extended agreement and the resulting average annual increase in labour costs. In relation to the labour escalation rates beyond February 2011, CEG questioned the AER’s rationale for relying solely on the Econtech forecasts. Nevertheless, CEG concluded that the modest differences between

<sup>37</sup> *Ibid*, page 116.

<sup>38</sup> *Ibid*, page 176. It should be noted that the text in the draft decision erroneously refers to 4.6 per cent, although the AER’s modelling correctly uses 4.9 per cent as notified to the AER by Transend.

the alternative labour cost escalation forecasts were not significant and therefore recommended that the draft decision should be adopted, subject to one modification.

In particular, CEG explained that a modification was required to the Econtech forecasts to ensure that the data is appropriate for the financial year calculations in Transend's PTRM. The full CEG report explains this point in further detail and is provided as appendix 4 of this revised revenue proposal.

As noted in section 3.2 above, the AER has undertaken a detailed review of the forecast commodity prices and other input prices that comprise the escalation factors for non-labour costs. The proposed materials cost escalators are as follows:

- copper;
- aluminium;
- steel;
- crude oil; and
- construction costs (includes labour and materials costs).

Transend notes that commodity prices have been exceptionally volatile in recent months, and that this volatility presents particular challenges in terms of producing a reliable and robust forecast of Transend's non-labour costs for the forthcoming regulatory control period. It is particularly noteworthy that the task facing the AER and Transend is to project a capital expenditure forecast for the five year period from 1 July 2009 to 30 June 2014. In this regard, it is important to not focus exclusively on the latest commodity price data to forecast the costs of transmission projects over the forthcoming regulatory control period.

In responding to the draft decision, Transend has updated the AER's forecast materials cost escalators listed above and also had regard to recent price information from equipment and plant suppliers. The CEG report addressing the forecast cost escalators is provided as appendix 4 to this revised revenue proposal.

In light of the draft decision and CEG's further advice, Transend has adopted the forecast escalation factors set out in table 3.6 for the forthcoming regulatory control period. In this regard Transend has accepted the AER draft decision to not apply a lag between movements in base metals and electrical equipment prices.

Table 3.6: Forecast input cost escalation rates (percent, real year ended June)

	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
Tas EGW labour	2.4	3.9	3.6	3.5	2.4	2.1	1.8
Aluminium	-6.2	6.9	5.9	7.4	-0.1	-0.9	-1.2
Copper	-9.6	-13.7	0.0	14.9	-4.4	-6.2	-6.6
Crude oil	36.7	-12.5	9.7	4.9	1.3	-0.4	-1.5
Fabricated steel	47.5	1.8	-0.5	-1.2	-4.6	-4.9	-5.2
General labour	0.9	0.7	1.3	1.7	1.7	1.4	0.8
Producer margin	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction costs	1.1	0.4	1.0	2.3	1.1	-0.8	-0.7

Transend notes that the AER has indicated that it intends to update its forecasts for wages and construction costs using Econtech forecasts at the time of making its final decision. Transend considers that the AER should undertake this process in a consultative manner to enable the assumptions to be appropriately assessed for reasonableness.

### 3.3.3 Timing of asset renewal projects

As noted in section 3.2, a detailed project-based assessment of Transend’s asset renewal projects by Nuttall Consulting led the AER to conclude that particular asset renewal projects should be deferred until the next regulatory control period (2014-19). In particular, the AER concluded that adjustments to the following projects were justified:

- 110 kV substation redevelopment projects associated with replacement of Reyrolle OS10 circuit breakers;
- the Farrell and New Norfolk substation secondary system replacement projects; and
- the Burnie–Waratah 110 kV transmission line wood pole replacement project.

Although the AER’s consultant conducted a project-based review of Transend’s capital expenditure forecasts, the AER has expressed the proposed reduction in Transend’s capital expenditure forecast in global terms, as follows<sup>39</sup>:

‘Based on its analysis of Transend’s proposed ex ante capex allowance and the advice of WorleyParsons and Nuttall Consulting the AER has decided not to accept Transend’s forecast capex allowance as proposed. In accordance with clause 6A.14.1(2), the AER has estimated a forecast capex allowance it is satisfied reasonably reflects the capex criteria and which reduces Transend’s proposal by \$55 million. This represents a reduction of around 8 per cent of Transend’s proposed forecast capex of \$681 million

<sup>39</sup> *Ibid*, page 143.

and results in a revised forecast capex allowance of \$626 million. Of this reduction, no amount is transferred to contingent projects.’

Although the reduction proposed by the AER appears to be relatively modest when expressed as a percentage of Transend’s total capital expenditure program, in terms of Transend’s forecast renewal capital expenditure the proposed reduction is approximately a quarter of that expenditure category. In effect, a reduction of this magnitude would eliminate practically all of Transend’s proposed increase in renewal capital expenditure for the forthcoming regulatory control period. Given the materiality of the proposed reduction in renewal capital expenditure, Transend has revisited the matters raised in the draft decision in relation to the renewal projects where the AER has concluded that reductions are warranted.

In relation to 110 kV substation redevelopment projects associated with replacement of Reyrolle OS10 circuit breakers, the AER’s draft decision concurred with Nuttall Consulting’s opinion that the proposed replacement program is overly aggressive. In reaching this conclusion, the draft decision noted two findings in the Nuttall Consulting report<sup>40</sup>:

- the proposed replacement program would result in the average age of Transend’s 110 kV breaker population being one of the youngest of its peers<sup>41</sup>; and
- Transend’s economic evaluation was relatively high level and did not consider the priority of the breaker replacements in terms of the poorest or better performing fleet cohorts and the criticality of the substations.

In response to the first point, Transend notes that Nuttall Consulting correctly recognised that the Reyrolle OS10 circuit breakers are ‘very old’<sup>42</sup>, the oldest currently being 57 years. Given the old age of these circuit breakers, and the age profile of the circuit breaker fleet, their replacement will result in a significant reduction in the average age (especially if the average age of the remaining population is relatively young). However, the extent of the reduction in the average age does not of itself indicate that the replacement program is overly aggressive. Renewal profiles will to a large extent, be a function of transmission system development over time. Figure 3.2 shows the current age profile of Transend’s circuit breakers, indicating that replacing the older circuit breakers will have a significant impact on the average age.

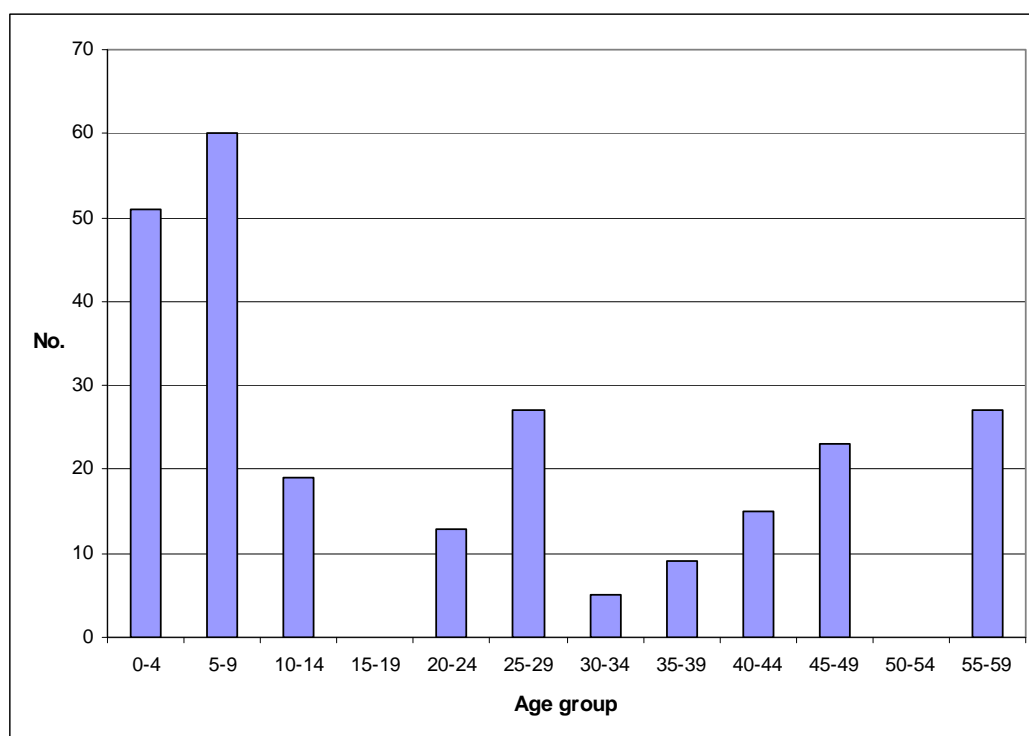
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<sup>40</sup> Nuttall Consulting, *Review of Transend Revenue Proposal Asset Renewal Capital Expenditure*, November 2008, pages 35 and 38.

<sup>41</sup> It is noted that the comparison uses inconsistent time periods by comparing Transend’s age profile in 2013-14 with the existing age profile for Transend’s peers.

<sup>42</sup> *Ibid*, page 39.

Figure 3.2: Age profile of 110 kV circuit breakers



In concluding that Transend’s replacement program is ‘overly aggressive’, Nuttall Consulting appears to place weight on the mistaken belief that Transend is compressing a 10–year Reyrolle OS10 circuit breakers replacement program into a shorter period. However, this is an ongoing program, which will extend into the 2014–19 regulatory control period. The Nuttall Consulting analysis also appears to place inappropriate weight on the importance of average asset age. While asset age may indicate a need to replace or renew assets, Transend’s asset renewal programs are not predominantly age-based.

Transend considers issues associated with asset condition; asset performance; spares availability and product support; technical obsolescence; physical security; technical, safety and environmental compliance; and operational support systems; as well as age, when developing its replacement strategies. Transend continues to implement an ongoing program that prioritises asset replacements in a prudent and efficient manner.

In response to the second point, Transend accepts that the original economic analysis that underpinned the proposed replacement of the Reyrolle OS10 circuit breakers did not consider partial deferral or gradual replacement over an extended period. To address this shortcoming in the original analysis, Transend subsequently undertook additional work to provide a more comprehensive assessment of deferral options.

Transend’s analysis considers optimal scoping and timing for the replacement of all circuit elements for bays that contain the Reyrolle OS10 circuit breakers. This analysis confirms the appropriateness of the original planned replacement program. Rather than

being ‘aggressive’, the program has delayed replacement of this plant well beyond timing adopted by its peers.

Transend’s replacement strategy is supported by information from other Australian and New Zealand TNSPs, who completed replacement of all Reyrolle OS10 circuit breakers some years ago, responding to similar drivers to those experienced by Transend. Transend has reviewed its original proposal for the 110 kV substation redevelopment projects associated with the replacement of Reyrolle OS10 circuit breakers and maintains its view that this forecast is reasonable. Further information regarding Transend’s analysis is provided in appendix 5 to this revised revenue proposal.

In relation to the Farrell and New Norfolk substation secondary system replacement projects, Nuttall Consulting found that Transend had not demonstrated that there will be a positive net benefit in undertaking the projects in their proposed form<sup>43</sup>. Furthermore Nuttall Consulting argued that there is a reasonable case for the projects to be undertaken in a staged manner; prioritising the highest risk elements first. Nuttall Consulting commented that the deferment of the later stages by a number of years may offset the increased capital cost of the staged project.

In response to the draft decision, Transend accepts Nuttall Consulting’s finding that the economic analysis that supported the original Farrell and New Norfolk substation secondary system replacement projects could be improved. Transend has therefore undertaken further detailed analysis, including risk assessments, to examine different staging options. In contrast to the Reyrolle OS10 circuit breaker replacement program, this further analysis indicates that some capital expenditure can be deferred. The overall extent of this capital expenditure deferral is less than recommended by Nuttall Consulting. Further information is provided in appendix 5 to this revised revenue proposal.

In relation to the Burnie–Waratah 110 kV transmission line wood pole replacement project, Transend forecast expenditure for this project to allow for 30 structures to be replaced in 2011-12 and 40 structures in 2013-14. Unfortunately, Transend’s revenue proposal should have presented the expenditure occurring in 2010-11 and 2013-14 (consistent with the three year inspection cycle). This revised revenue proposal reflects the correct timing.

Nuttall Consulting noted that recent pole inspections indicated that the poles may be in better condition than the average for their age. The replacement rates in 2004-05 (zero) and 2007-08 (12 structures or 24 poles) indicated that Transend’s forecast replacement rate for the forthcoming regulatory control period was higher than appropriate. Nuttall Consulting also considered that Transend’s three-year condition assessment cycle and its historical works programming made it unlikely that poles identified for replacement in 2013-14 would actually be replaced in that year, being the final year of the current

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<sup>43</sup> *Ibid*, page 65.



regulatory control period. The draft decision therefore concluded that an allowance for the replacement of 15 structures<sup>44</sup> (or 30 poles) should be provided, which the AER describes in the following terms<sup>45</sup>:

‘The AER consider a reduction of 50 per cent in 2011–12 and 100 per cent in 2013–14 to this project appropriately reflects the position that recent pole inspections indicate the poles are in better condition than average for their age.’

In response to the draft decision, Transend understands that Nuttall Consulting’s findings were partly based on recent patterns of pole replacement. In particular, Nuttall Consulting noted that zero poles were identified in 2007–08 as requiring replacement and only 12 structures or 24 poles were condemned in 2004–05. Transend accepts that this recent experience appears to justify a lower replacement program than proposed by Transend. However, Transend’s view is that a longer time series analysis supports Transend’s initial forecast rate of replacement.

Transend’s practice is to replace condemned poles within three months of the inspection, which is scheduled for the end of the first quarter. Therefore, any condemned poles in the 2013–14 year will be replaced during the current regulatory control period. In light of the historical rate of pole replacement, Transend does not accept the AER’s view that no poles will need to be replaced in 2013–14. Transend’s view is that a prudent and efficient operator would have regard to past requirements for replacement, together with ongoing condition assessment data, when projecting future pole replacements.

Transend has reviewed its original proposal for pole replacements and maintains its view that this forecast, adjusted for the correct timing, is reasonable. Further information is provided in appendix 5 to this revised revenue proposal.

### 3.3.4 Other modifications to Transend’s capital expenditure forecasts

As noted in section 3.3.1, Transend’s capital expenditure forecasts in this revised revenue proposal have also been amended to take account of the most recent information regarding the:

- timing of two projects in the early part of the forthcoming regulatory control period; and
- triggering of the Waddamana–Lindisfarne 220 kV transmission line second circuit project.

In relation to the first matter, parts of the capital expenditure associated with Sheffield Substation 220 kV power system security upgrade and substation physical security upgrade projects are now expected to be completed in 2009–10, rather than 2008–09 as

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<sup>44</sup> It should be noted that page 104 of the draft decision actually states that an allowance for 15 poles should be provided. Transend considers that this is a drafting error and should refer to 15 structures or 30 poles. Nuttall Consulting report, page 66, correctly refers to 15 structures.

<sup>45</sup> *Ibid*, page 319.

submitted in the revenue proposal. The capital expenditure forecasts have therefore been updated to reflect the latest information.

In relation to the second matter, new information regarding the forecast unavailability of Gordon Power Station for an extended period in 2014 has led Transend to undertake further analysis of the need for the Waddamana–Lindisfarne 220 kV transmission line second circuit project. Transend’s analysis indicates that the project provides a net market benefit and satisfies a trigger event approved by the AER in its draft decision. In accordance with the Rules, Transend has issued a new small transmission network asset consultation notice for this project. The revised capital expenditure forecasts now include \$17.8 million (real 2008–09 dollars) capital expenditure in relation to this project.

It should also be noted that capital expenditure in respect of the Waddamana–Lindisfarne 220 kV transmission line second circuit project has been approved in the AER’s draft decision as a contingent project. Therefore, a consequential change to the contingent project expenditure is also included in this revised revenue proposal, as set out in section 3.4.2.

## 3.4 Transend’s revised revenue proposal

### 3.4.1 Transend’s revised capital expenditure forecasts

In light of Transend’s response to the draft decision as described in section 3.3 above, table 3.7 shows Transend’s revised capital expenditure forecasts for the forthcoming regulatory control period.

Table 3.7: Revised Revenue Proposal: Capital expenditure forecast by category  
(\$m 2008–09)

Category	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Augmentation	85.5	94.3	30.0	16.0	28.0	<b>253.8</b>
Connection	31.6	35.7	37.7	16.5	1.7	<b>123.2</b>
Land and easements	0.0	0.0	0.0	10.9	10.7	<b>21.6</b>
Asset renewal	29.5	41.0	23.6	61.9	66.7	<b>222.7</b>
Physical security/compliance	14.3	2.0	2.5	0.8	0.4	<b>20.0</b>
Inventory/spares	9.7	0.4	0.5	0.2	1.0	<b>11.8</b>
Operational support systems	4.6	4.9	3.2	3.7	6.2	<b>22.6</b>
<b>Total network</b>	<b>175.3</b>	<b>178.3</b>	<b>97.5</b>	<b>110.1</b>	<b>114.6</b>	<b>675.8</b>
Information technology	2.7	5.2	3.6	2.4	3.1	<b>17.0</b>
Business support	3.9	4.2	4.6	4.4	1.0	<b>18.0</b>
<b>Total non-network</b>	<b>6.6</b>	<b>9.3</b>	<b>8.2</b>	<b>6.8</b>	<b>4.1</b>	<b>35.0</b>
<b>Total</b>	<b>181.8</b>	<b>187.6</b>	<b>105.7</b>	<b>116.9</b>	<b>118.7</b>	<b>710.8</b>

### 3.4.2 Transend's revised contingent projects

As noted in section 3.3.4, new information has become available since the submission of Transend's revenue proposal which satisfies a trigger event approved by the AER in its draft decision. The Waddamana–Lindisfarne 220 kV transmission line second circuit project was classified as a contingent project in the revenue proposal. For the reasons set out in section 3.3.4, Transend has included the project in forecast capital expenditure. The removal of this project is the only proposed amendment to the contingent projects submitted by Transend in table 5.18 of its revenue proposal.

## 4 COST OF CAPITAL

### 4.1 Overview of revenue proposal

Transend's revenue proposal explained that clause 6A.6.2 specifies that the post-tax nominal vanilla Weighted Average Cost of Capital (WACC) is to be estimated in accordance with the following formula:

$$WACC = k_E \frac{E}{V} + k_D \frac{D}{V}$$

where:

- $k_E$  is the nominal return on equity; (determined using the Capital Asset Pricing Model) and is calculated as:

$$r_f + \beta_e \times \text{MRP} \text{ where:}$$

- $r_f$  is the nominal risk free rate for the regulatory control period;  
 $\beta_e$  is the equity beta; and  
MRP is the market risk premium;

- $k_D$  is the nominal return on debt and is calculated as:

$$r_f + \text{DRP} \text{ where:}$$

- DRP is the debt risk premium for the regulatory control period;
- $E/V$  is the equity share in total value (equal to  $1-D/V$ );
- $D/V$  is the debt share in total value.

Transend's revenue proposal further explained that under the Rules, the following parameter values must be adopted:

- benchmark gearing ( $D/V$ ) is set at 60 per cent;
- the market risk premium (MRP) is 6 per cent;
- the equity beta ( $\beta_e$ ) is 1.0; and
- the benchmark credit rating used to estimate the debt risk premium is BBB+.

To calculate the relevant WACC in its revenue proposal, Transend estimated the remaining WACC parameters:

- the nominal risk free rate;
- the debt risk premium; and
- forecast inflation.

In its revenue proposal, Transend adopted the following values for these parameters:

- A nominal risk free rate of 6.37 per cent being the effective annual compounding rate<sup>46</sup> derived from the 10–day average of the 10–year government bond rate for the period ending on 30 April 2008. The revenue proposal noted that the Rules provide for the AER to update the calculation of the risk free rate, in accordance with the processes set out in clause 6A.6.2(c)(2), prior to its final decision.
- A debt risk premium of 3.13 per cent using market data from a 10–day period ending on 30 April 2008. The revenue proposal noted that the AER will calculate the actual debt risk premium from market data available at the date of its determination.
- An average inflation rate of 2.54 per cent per annum was adopted, being the weighted average of forecasters’ short and long term expectations.

Transend also provided expert advice from consultants CEG that supported the adoption of these values. Specifically, CEG’s report *Nominal risk free rate, debt risk premium and debt and equity raising costs for Transend*, was attached as appendix 19; and a further CEG report, *Expected inflation estimation methodology*, addressed inflation forecasts and was attached as appendix 14.

The WACC parameters and nominal vanilla WACC adopted in Transend’s revenue proposal are summarised in table 4.1.

**Table 4.1: Revenue Proposal: Proposed WACC parameters and variables**

<b>Parameter</b>	<b>Proposed</b>
Risk free rate (nominal)	6.37%
Expected inflation	2.54%
Debt risk premium	3.13%
Market risk premium	6%
Gearing (D/V)	60%
Gamma	0.50
Equity beta	1.00
Corporate tax rate	30%
<b>Vanilla WACC (nominal)</b>	<b>10.65%</b>

<sup>46</sup> An effective annual compounding rate is derived from the indicative mid-rates published by the Reserve Bank of Australia, which are quoted as semi-annual yields. (Refer to the RBA web site at: [http://www.rba.gov.au/MarketOperations/Domestic/OperationalNotes/pricing\\_formulae.html](http://www.rba.gov.au/MarketOperations/Domestic/OperationalNotes/pricing_formulae.html) for further details.) The derivation of an effective annual compounding rate is consistent with the approach applied by the AER in its *final decision in the ElectraNet transmission determination 2008-09 to 2012-13*, published on 11 April 2008.

## 4.2 Overview of draft decision

The key points of the AER's draft decision in relation to Transend's proposed WACC are summarised in table 4.2.

**Table 4.2: Summary of AER's draft decision on Transend's proposed WACC**

Issue or matter	AER's draft decision
Use of the WACC parameters specified in the Rules <sup>47</sup>	<p>The AER found that Transend had estimated the return on equity using the CAPM and adopted the parameter values specified in the Rules for the equity beta, market risk premium (MRP) and gearing.</p> <p>In response to a submission from the EUAA, the draft decision confirmed that:</p> <ul style="list-style-type: none"> <li>• The AER will not apply the WACC parameters or methods determined by the WACC review it is currently undertaking.</li> <li>• Clause 6A.6.2(h) of the Rules only allows parameters or methods determined by the WACC review to be adopted for revenue proposals that have been submitted to the AER after the completion of the review.</li> </ul>
Risk free rate <sup>48</sup>	<p>The AER has specified the averaging period that is to be used to estimate the risk-free rate for the purpose of the Final Decision in accordance with clause 6A.6.2(c)(2)(ii). The relevant dates are to remain confidential until the expiration of the period. (The draft decision noted that the measurement period proposed by Transend pursuant to clause 6A.6.2(c)(2)(i) was rejected by the AER because it was 'too far removed from the date of the final determination and the commencement of the regulatory control period'.)</p> <p>For the purpose of the draft decision, a nominal risk-free rate of 5.27 per cent is adopted, based on the moving average of 10 days for CGS yields with a 10-year maturity for the period ending 17 October 2008.</p>
Debt margin <sup>49</sup>	<p>The draft decision derived a proxy 10-year BBB+ corporate bond yield by taking the Bloomberg fair yield for BBB rated 8-year corporate bonds (8 years being the longest-dated BBB-rated security for which a fair yield estimate exists) and adding the Bloomberg fair yield spread between A rated 8 and 10-year corporate bonds.</p> <p>The AER considers that the debt risk premium should be determined with reference to the same averaging period that is adopted for determining the risk-free rate, for the purpose of the draft decision and the Final Decision.</p> <p>For the purpose of the draft decision, a debt margin of 3.28 per cent (effective annual compounding rate) is adopted.</p>
Forecast inflation <sup>50</sup>	<p>In accordance with previous transmission determinations, the draft decision applies the RBA's short-term inflation forecasts—currently extending out to two years—and then adopts the mid-point of its target inflation band beyond that period (i.e. 2.5 per cent) for the remaining eight years. A 10-year forecast of inflation is derived by averaging these individual forecasts.</p> <p>Applying this method, the AER adopted an inflation forecast of 2.55 per cent for the purpose of the draft decision.</p> <p>The draft decision noted that inflation forecasts will change in line with market sensitive data. Accordingly, the AER will update the inflation forecast to be used in the PTRM based on its preferred methodology at the time of the Final Decision.</p>

<sup>47</sup> *Ibid*, pages 147-148.

<sup>48</sup> *Ibid*, page 148.

<sup>49</sup> *Ibid*, pages 150-151.

<sup>50</sup> *Ibid*, pages 152-154

For the purpose of the draft decision, the AER has determined a nominal vanilla WACC of 9.64 per cent for Transend. The draft decision explained that this WACC is less than that proposed by Transend due to a decline in annualised yields on Commonwealth Government Bonds since Transend submitted its revenue proposal.

Table 4.3 is an excerpt from the draft decision. It provides a summary of the AER's draft decision in relation to each of the WACC parameters.

**Table 4.3: AER's conclusion on Transend's WACC parameters**

Parameter	Transend's proposal	AER's conclusion
Risk free rate (nominal)	6.37%	5.27%
Risk free rate (real)		2.66%
Expected inflation rate	2.54%	2.55%
Debt risk premium	3.13%	3.28%
Market risk premium	6.00%	6.00%
Gearing	60%	60%
Equity beta	1.00	1.00
Nominal pre-tax return on debt		8.55%
Nominal post tax return on equity		11.27%
Nominal vanilla WACC	10.65%	9.64%

### 4.3 Transend's response to the draft decision

Transend's responses in relation to each of the key matters addressed in the draft decision are set out in table 4.4.

**Table 4.4: Transend's response on matters relating to the WACC**

Issue or matter	Transend's response
Use of the WACC parameters specified in the Rules	Transend notes the AER's confirmation that the WACC will be determined in accordance with clause 6A.6.2(h) of the Rules, which only allows parameters or methods determined by the present WACC review to be adopted for revenue proposals that have been submitted to the AER after the completion of the review.
Risk free rate	For the purpose of preparing its revised revenue proposal, Transend has adopted a nominal risk-free rate of 4.66 per cent, which reflects the 10 day average to 1 December 2008. Transend is concerned, however, that the averaging period used to determine the risk free rate will be significantly impacted by the global financial crisis leading to an inappropriate outcome. This issue is discussed further below.
Debt margin	Transend accepts the AER's view that the debt risk premium should be determined with reference to the same averaging period that is adopted for determining the risk-free rate, for the purpose of the draft decision and the final decision. Transend is concerned, however, that there is a very material difference in the reported debt premiums from Bloomberg and CBA spectrum. This issue is discussed further below.
Forecast inflation	Transend does not accept the AER's approach to forecasting inflation because it does not take due account of the most recent data from the financial markets. This issue is discussed further below.

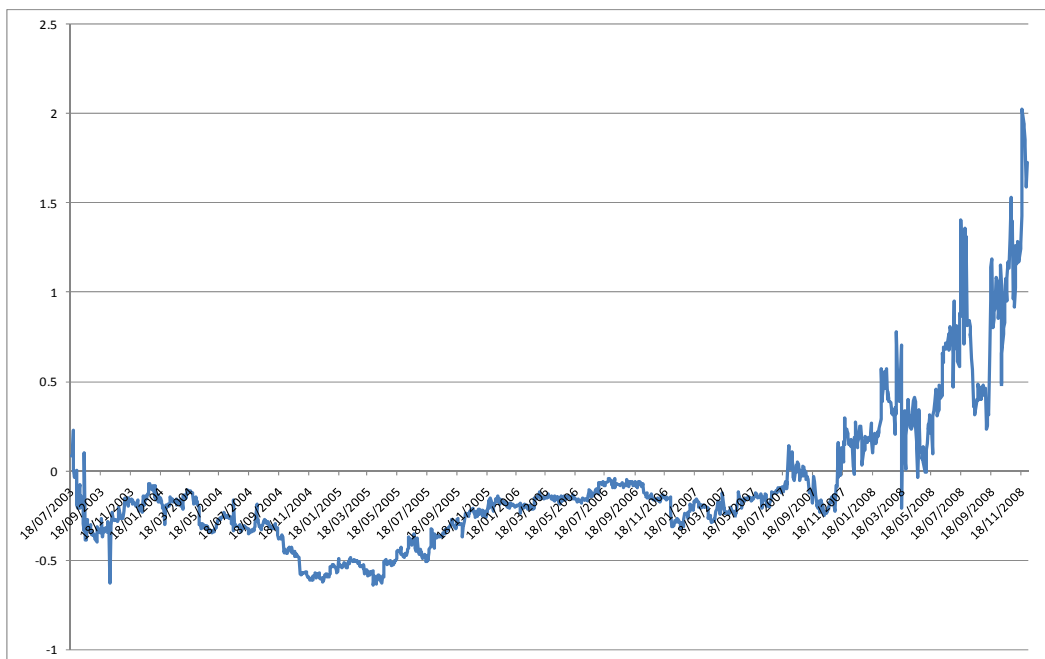
### 4.3.1 Transend's response to the draft decision's debt margin

As noted in table 4.4 in section 4.3 above, Transend is concerned about the substantial difference in the reported yields on BBB and BBB+ bonds by Bloomberg and CBA Spectrum. Transend has obtained advice from CEG which indicates that measuring the cost of BBB+ debt has become increasingly difficult and unreliable as the financial crisis has worn on. CEG point to an effective drying up of new debt issues and significant reduction in the liquidity of trading in existing debt as a possible cause of the wide divergence.

CEG comment that CBA Spectrum is now estimating 1.55 per cent higher yields on BBB+ bonds than Bloomberg is reporting on BBB bonds. Transend concurs with CEG's advice that these reported yields cast doubt on the reliability of the data. Further analysis is now required in order to determine why the reported yields differ materially.

Figure 4.1 which has been prepared by CEG shows the material divergence between the yields reported by Bloomberg for BBB bonds and CBA Spectrum for BBB+ bonds. As noted above, the difference is very material and perversely so, given that the reported yield on BBB+ bonds is higher than the yield on the more risky bonds.

Figure 4.1: CBASpectrum BBB+ yield less Bloomberg BBB yield for 10 year maturity



Source: CBASpectrum, Bloomberg, CEG analysis. Bloomberg estimate is based on AER methodology for converting 8 year BBB Bloomberg estimate into 10 year BBB. Note that CBASpectrum data for the 19 September (in the midst of the month with the most turmoil) appear to be aberrant with estimated BBB+ yields rising to 16.56 per cent. This date has been excluded from the above figure.

Given the current divergence, Transend does not accept the AER's approach of relying entirely on the reported yields from Bloomberg. For the purpose of this revised revenue



proposal, Transend has adopted the mid-point between the Bloomberg and CBA Spectrum estimates for the 10 day period ending 1 December 2008 as the appropriate nominal cost of debt.

#### 4.3.2 Transend's response to the draft decision's inflation forecast

As noted in table 4.4 in section 4.3 above, Transend does not accept the AER's approach to forecasting inflation. Specifically, as explained below, Transend's examination of the most recent bond market data has revealed that the AER's current methodology for deriving an inflation forecast is no longer appropriate. The change that is now required to the AER's inflation forecasting methodology reflects the very real and material changes in the bond market that have occurred recently as a result of the global financial crisis.

Before turning to an examination of the reasons for the need to change the AER's methodology for deriving an inflation forecast, it is worth re-capping on the role of the inflation forecast in the PTRM, and the provisions of the Rules relating to the derivation of the inflation forecast.

Clause 6A.5.3 (b)(1) states that the post-tax revenue model must specify a methodology that the AER determines is likely to result in the best estimates of expected inflation.

In Transend's view, the requirement to adopt a 'best estimate' of expected inflation must be interpreted in light of the use to which the inflation forecast is put in the PTRM. In this regard, it is noteworthy that:

- all capital and operating expenditure input data used in the PTRM are expressed in real terms, and
- where input-specific cost escalators are used in the PTRM, those escalators are expressed in real terms<sup>51</sup>.

In view of these considerations, applying different inflation forecasts in the PTRM will have no impact in real terms on the capital and operating expenditure input data. However, as noted in further detail below, the use of a nominal risk free rate (in accordance with clause 6A.6.2(c) of the Rules) requires the application of a fit-for-purpose inflation forecast, in order to ensure that the regulated business is provided with adequate compensation in real terms (that is, after inflation) for the cost of equity.

Against this background, to explain the need to change the AER's methodology, it is necessary to commence with an examination of the rationale for the AER's current methodology for forecasting inflation. As explained in the draft decision, since 2006 the AER's revenue cap decisions have recognised that the implied inflation rate, derived from the bond market using the Fisher equation, systematically over-stated expected inflation.

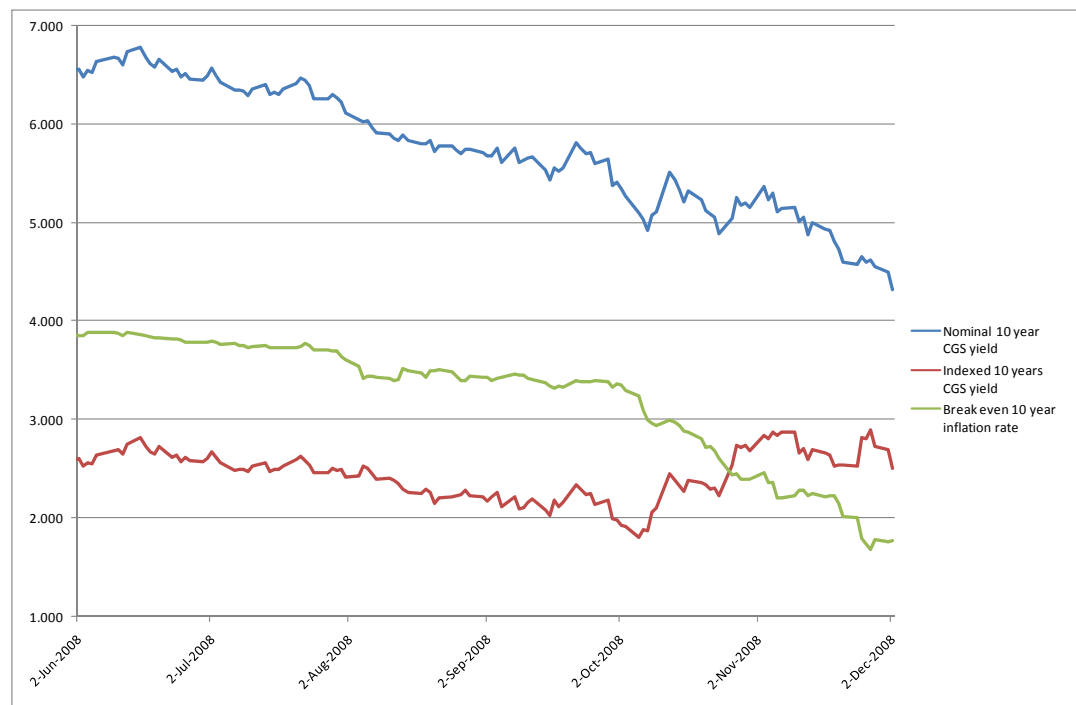
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<sup>51</sup> Transend's approach to estimating cost escalators for labour, land and non-labour construction costs is detailed in sections 5.6.4 to 5.6.7 inclusive of Transend's revenue proposal.

Evidence that the indexed CGS (Commonwealth Government Securities) yields were depressed by the scarcity of indexed bonds led the AER to develop its own forecast of inflation independently from the bond market. By applying an independent forecast of inflation to the yield on nominal bonds, the real return on equity was preserved. The alternative approach of applying the market-derived inflation forecast (which was systematically overstated) to the yield on nominal bonds would have provided an inadequate real rate of return. For this reason, the AER accepted the proposition that the inflation forecast should be determined independently from the bond market.

The global financial crisis has affected the bond markets to such an extent that the original rationale for ceasing to use the Fisher equation is now no longer valid. In particular, an important change to the yield on nominal CGS has occurred. In particular, the desirability of, and hence very high demand for, highly liquid, low risk assets in the present uncertain times has led to substantial reductions in the yield on nominal CGS. The overall impact of the relative movements in the yields on nominal and indexed CGS is reflected in the inflation forecast implied by the yields on nominal and indexed bonds. figure 4.2, which has been prepared by CEG, illustrates the dramatic reduction in the forecast inflation rate that is implied by the yields on indexed and nominal CGS. It is noted that bond yields implied a 10-year inflation forecast of 1.94 per cent per annum for the 10 days to 1 December 2008, compared to the draft decision's 10 year forecast inflation of 2.55 per cent.

Figure 4.2: Rapidly falling inflation rate forecast derived from bond market data



The application of the AER's forecast of inflation to the depressed yield on nominal CGS would produce a real risk free rate that is materially lower than the yield on indexed CGS. This outcome would be materially perverse and contrary to the National Electricity Objective and the principles embodied in the Rules because:

- it has been widely accepted that the yield on indexed CGS is itself depressed by their relative scarcity; and therefore
- the actual real risk free rate is above (not below) this yield.

A consequence of the dislocation in the financial markets which has arisen from the global financial crisis is that the AER's current approach to forecasting inflation is no longer appropriate. The adoption now of a nominal risk free rate (based on the observed nominal CGS yield) and an inflation forecast that does not have proper regard to bond market data would result in a material and unjustifiable downward bias in the effective real risk free rate and the real return on equity.

Having regard to the requirements of clause 6A.6.2(c) of the Rules, and the inflation forecasting approaches adopted by the AER in previous decisions, the AER should derive two inflation forecasts by using the following two alternative methods:

- (A) an independent inflation forecast of the kind currently adopted by the AER; and
- (B) the market-derived inflation forecast by applying the Fisher equation to nominal and indexed CGS over the same measurement period that is used to establish the nominal risk free rate.

Transend proposes that the AER adopts the lower of the two inflation forecasts derived from the above methods. Transend's proposed approach can be readily accommodated within the constraints of the existing Rules, and would deliver outcomes that are more likely to accord with the National Electricity Objective than the approach adopted in the draft decision. In the current market circumstances, Transend notes that its inflation forecast would be determined by method (B), rather than method (A). In this revised revenue proposal, therefore, Transend has adopted the market-derived inflation forecast of 1.94 per cent<sup>52</sup>.

In the unlikely event that the bond market reverts to more typical conditions by the time of the AER's Final Decision, it is possible that method (A) would be used to set the inflation forecast (on the basis that it produces the lower of the two inflation forecasts). Given that this outcome is unlikely, Transend has not developed a detailed response to the AER's independent forecast of inflation in its draft decision. At this stage, however, Transend notes that the significant weakness in the global economy and the recent

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<sup>52</sup> It should be noted that Transend's proposed inflation forecast of 1.94 per cent does not correct for the depressed yield on indexed CGS and therefore, in terms of the resulting real risk free rate, the proposed inflation forecast is almost certainly too high. Whilst Transend would prefer the inflation forecast using method (B) to be adjusted to take account of the depressed yield on indexed CGS, Transend has adopted a pragmatic approach given the unusual current market conditions.

substantial falls in commodity prices indicate that a sustained period of low inflation is highly likely. Transend's view, therefore, is that a reasonable independent forecast using method (A) would suggest an annual inflation rate significantly below the 2.5 per cent adopted by the AER in its forecasting methodology. For the avoidance of doubt, however, the average annual inflation forecast for the purposes of this revised revenue proposal is 1.94 per cent, which reflects the market-derived inflation forecast from the bond market in accordance with method (B).

Notwithstanding Transend's proposal to address the current dislocation in the bond market through an amended inflation forecast, Transend recognises that alternative solutions may be equally valid. In this regard, Transend has included a report from CEG, titled *A reasonable averaging period when setting the NER WACC parameters*, as appendix 10 to this revised revenue proposal. In that report, CEG argues that an equally valid method for addressing the impact of the financial crisis is to amend the averaging period for calculating the risk free rate so that it relates to a period immediately prior to the dislocation in the bond markets.

In the event that the AER does not accept Transend's methodology to forecast inflation, Transend proposes the alternative CEG methodology that the averaging period be amended. In these circumstances, Transend will propose an alternative averaging period in accordance with clause 6A.6.2(c)(2) of the Rules. For the purpose of this revised revenue proposal, however, Transend's building block calculations reflect the amended inflation forecast as described above.

#### 4.4 Transend's revised revenue proposal

In light of Transend's response to the draft decision (described in section 4.3), table 4.5 shows Transend's revised WACC parameter values for the forthcoming regulatory control period.

As noted in section 4.3.1, Transend does not accept the draft decision in respect of the debt margin. Transend's view is that further work is required to resolve the material difference in the yields reported by Bloomberg and CBA Spectrum. In advance of this further work, Transend has adopted the mid-point between the two data sources, for the 10 day period ending 1 December 2008. Transend would welcome further dialogue with the AER to resolve the debt premium measurement issues.

Table 4.5: Revised Revenue Proposal: WACC parameters and variables

<b>Parameter</b>	<b>Proposed</b>
Risk free rate (nominal)	4.66%
Expected inflation	1.94%
Debt risk premium	3.86%
Market risk premium	6%
Gearing (D/V)	60%
Gamma	0.50
Equity beta	1.00
Corporate tax rate	30%
<b>Vanilla WACC (nominal)</b>	<b>9.38%</b>

## 5 OPERATING AND MAINTENANCE EXPENDITURE

### 5.1 Overview of revenue proposal

Transend's revenue proposal explained that clause 6A.6.6 of the Rules requires Transend to present an operating expenditure forecast that will achieve each of the following objectives:

- 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.

Transend's revenue proposal explained that compliance with regulatory obligations is an important driver of Transend's operating expenditure requirements. In particular, Transend is subject to a wide range of general legislation and regulations, as well as industry-specific instruments that affect its operating expenditure requirements.

Furthermore, Transend explained that it had optimised its proposed work program in terms of capital and operating tasks. In particular, the optimisation of the timing and sequencing of asset renewal projects takes into account a number of factors, including the costs and benefits of aligning asset renewal with augmentation or connection projects. Transend also noted that the timely delivery of the capital works program is essential to minimising the likelihood of additional operating expenditure being required to sustain assets beyond their useful service lives.

In accordance with the Rules requirements, Transend's revenue proposal provided a detailed explanation of its forecasting methodology for operating expenditure. Transend explained that its forecasting approach was consistent with that adopted by other TNSPs in recent regulatory reviews, and had been accepted by the AER in its recent revenue cap decisions.

Essentially, forecasts of most operating expenditure categories are derived by applying escalation rates to historical levels of expenditure. These escalation rates take account of forecast increases in input costs. For example, an important consideration for the forthcoming regulatory control period is the expectation that labour costs will increase more rapidly than CPI. Some categories of operating expenditure were also 'scaled' to take account the impact of Transend's growing asset base. This scaling approach reflects the widely accepted proposition that a growing asset base will lead to increases in

operating expenditure, although the extent of the increase will not necessarily be on a one-to-one basis.

Transend's revenue proposal also explained that for some categories of operating expenditure it was more appropriate to adopt a zero-based forecasting approach, rather than to escalate historical operating expenditure. In broad terms, the rationale for adopting a zero based forecasting approach is that historical expenditure does not reasonably reflect future recurrent expenditure requirements. The revenue proposal explained that Field Operations and Maintenance, regulation and insurance were all subject to a zero-based forecasting approach.

The revenue proposal also explained that for certain other operating cost items, such as debt and equity raising costs and network support, application of a specific forecasting approach is more appropriate. The former two items essentially relate to benchmark financing costs, whilst the latter item depends on the particular opportunities available to use network support services (such as demand-management or generation) as an alternative to transmission network investment.

Transend's total operating expenditure forecast is summarised in table 5.1. The forecast reflects the assumptions, variables and analysis presented in detail in the revenue proposal.

**Table 5.1: Revenue Proposal: Transend's operating expenditure forecast (\$m 2008–09)**

Category	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Field operations and maintenance	16.4	17.5	17.9	18.3	19.3	89.5
Transmission services	7.8	8.1	8.4	8.7	9.0	42.0
Transmission operations	5.1	5.3	5.5	5.7	5.9	27.5
Asset management	6.6	6.9	8.5	10.5	9.7	42.2
Corporate	9.9	10.0	10.1	10.5	10.9	51.3
<b>Total controllable</b>	<b>45.7</b>	<b>47.9</b>	<b>50.3</b>	<b>53.7</b>	<b>54.8</b>	<b>252.3</b>
Network support	3.9	2.6	-	-	-	6.6
Debt raising costs (Benchmarked allowance)	0.9	1.0	1.1	1.2	1.2	5.4
Equity raising costs (benchmark allowance)	2.4	2.4	2.4	2.4	2.4	12.0
Self-insurance	0.8	0.8	0.8	0.8	0.8	3.9
<b>Total</b>	<b>53.7</b>	<b>54.7</b>	<b>54.6</b>	<b>58.0</b>	<b>59.2</b>	<b>280.2</b>

## 5.2 Overview of draft decision

The AER's draft decision presents a detailed examination of Transend's operating expenditure forecasts. Importantly, the AER concluded that Transend has applied a robust methodology for forecasting its operating expenditure requirements for the next regulatory control period. The AER also accepted the use of zero base forecasts for some operating expenditure components as well as extrapolation of base year operating expenditure for the remaining operating expenditure categories<sup>53</sup>.

The AER also found that, in light of WorleyParsons' recommended position, the International Transmission Operations and Maintenance Study (ITOMS) benchmarks and the AER's own investigations, Transend's proposed base year operating expenditure of \$40.5 million represents an efficient base from which to project operating expenditure for the next regulatory control period<sup>54</sup>. The AER accepted a number of scope changes proposed by Transend, including:

- additional resources required to undertake several functions to support and deliver Transend's works program<sup>55</sup>; and
- additional skills and development resources to address workforce challenges, including an ageing workforce, the lower number of available graduates with power engineering qualifications and an increasing capital works program<sup>56</sup>.

The draft decision also stated that:

- the AER proposes to make no adjustment to the self insurance allowance proposed by Transend (despite rejecting the component attributable to a terrorism event)<sup>57</sup>;
- the AER notes that Transend has advised that telecommunication costs are likely to change as a result of current negotiations between Transend and Hydro Tasmania<sup>58</sup>; and
- Transend's proposed amount in respect of network support is reasonable<sup>59</sup>.

Although the draft decision accepted important key aspects of Transend's forecast operating expenditure as noted above, the AER nevertheless proposed a number of detailed adjustments<sup>60</sup> in relation to:

- use of the June 2008 quarter CPI in the operating expenditure model;
- correction of minor errors associated with land value escalation within the asset growth model;

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<sup>53</sup> *Ibid*, page 164.

<sup>54</sup> *Ibid*, page 169.

<sup>55</sup> *Ibid*, page 170.

<sup>56</sup> *Ibid*, page 171.

<sup>57</sup> *Ibid*, page 188.

<sup>58</sup> *Ibid*, page 184.

<sup>59</sup> *Ibid*, page 188.

<sup>60</sup> *Ibid*, page 164.



- the application of asset growth factors to only prescribed assets;
- labour cost escalators; and
- materials and non-labour escalators.

The issues relating to labour, materials and non-labour escalation were discussed in relation to capital expenditure (in section 3 of this revised revenue proposal), and these detailed discussions are therefore not repeated in this section.

In addition to these matters, the AER's draft decision included substantial changes to debt and equity raising costs.

In relation to debt raising costs, the AER concluded that it should not provide indirect debt raising costs under the benchmark regulatory framework, as proposed by Transend. Accordingly, the AER stated that it will maintain its current approach of providing benchmark debt raising costs in accordance with the Allen Consulting Group (ACG) methodology as applied in previous revenue determinations<sup>61</sup>. The AER reached a similar conclusion in respect of the indirect costs of raising equity<sup>62</sup>.

The AER also concluded that, based on the capital expenditure allowance in the draft decision, the benchmark cash flow analysis adopted by the AER indicates that Transend would be able to fund its capital expenditure program over the next regulatory control period with retained cash flows, and therefore did not require additional equity finance. In addition, the AER concluded that equity raising costs should not be provided in respect of the initial asset base. As a result, no equity raising costs have been provided in the draft decision.

A summary of the AER's conclusions on operating expenditure is provided in table 6.29 of the draft decision, which is reproduced in table 5.2.

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<sup>61</sup> *Ibid*, pages 188-192.

<sup>62</sup> *Ibid*, pages 192-200.

Table 5.2: AER 's conclusion on Transend's total opex allowance (\$m 2008–09)

Category	2009–10	2010–11	2011–12	2012–13	2013–14	5 years Total
Field operations and maintenance	16.4	17.5	17.8	18.2	19.0	<b>88.9</b>
Transmission services	7.6	7.9	8.1	8.4	8.5	<b>40.6</b>
Transmission operations	5.0	5.2	5.3	5.5	5.6	<b>26.5</b>
Asset management	6.5	6.7	8.3	10.2	9.2	<b>40.9</b>
Corporate	9.6	9.7	9.8	10.1	10.4	<b>49.7</b>
<b>Total controllable expenditure</b>	<b>45.1</b>	<b>47.0</b>	<b>49.4</b>	<b>52.3</b>	<b>52.7</b>	<b>246.6</b>
Network support	3.9	2.6	0.0	0.0	0.0	<b>6.6</b>
Debt raising	0.5	0.6	0.6	0.6	0.7	<b>3.0</b>
<b>Equity raising</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Self-insurance	0.8	0.8	0.8	0.8	0.8	4.0
<b>Total operating expenditure</b>	<b>50.3</b>	<b>51.0</b>	<b>50.9</b>	<b>53.8</b>	<b>54.2</b>	<b>260.2</b>

## 5.3 Transend's response to the draft decision

### 5.3.1 Introduction

Transend welcomes key aspects of the AER's conclusions in respect of Transend's operating expenditure forecasts. In particular, Transend is pleased that the AER has recognised that the base year operating expenditure provides a prudent and efficient starting point for future operating expenditure. In addition, Transend welcomes the AER's confirmation that its proposed scope changes, allowances for self-insurance and estimates of network support costs comply fully with the Rules requirements.

As noted in section 3 of this revised revenue proposal, Transend does not accept the AER's draft decision regarding future labour costs. In section 3.3, Transend explained that in preparing this revised revenue proposal further advice was sought from CEG in relation to labour costs. The details of these proposed changes are not repeated in this section, however the impact of the revised labour escalation rates is reflected in Transend's operating expenditure forecasts as set out in section 5.4.

In addition to the AER's adjustments to escalation rates, Transend does not accept the AER's findings in relation to debt and equity raising costs. Transend has obtained advice from CEG and Harding Katz, in relation to these matters. In light of this advice, Transend's detailed responses in relation to debt and equity raising costs are set out in sections 5.3.2 and 5.3.3 respectively.

As a result of ongoing commercial negotiations, in November 2008 Transend acquired the telecommunications business from Hydro Tasmania. Consequently, Transend is better situated to forecast its telecommunication costs for prescribed services for the forthcoming regulatory control period. Further details of Transend's reconsideration of its future telecommunication costs are set out in section 5.3.4.

### 5.3.2 Debt raising costs

Transend's revenue proposal noted that CEG had been retained by Transend to advise on debt raising cost allowances. CEG recommended that a debt raising cost allowance of at least 15.5 basis points per annum (of the amount of debt to be raised) should be provided. Of this amount, 3.0 basis points per annum was included for the indirect costs associated with debt issuance.

The draft decision<sup>63</sup> stated that:

- The AER's current approach (of using private debt issuance costs for Australian companies accessing the private debt markets) is a better reflection of public debt issuance costs of Australian firms than the study cited by CEG in its advice to Transend.
- On the basis of the information put forward, the AER is not satisfied that there is a need to provide indirect debt raising costs under the benchmark regulatory framework.
- Accordingly, the AER will maintain its current approach of providing benchmark debt raising costs in accordance with the ACG methodology as applied in previous revenue determinations.

The draft decision adopted a debt raising cost allowance of 8.7 basis points per annum.

As already noted, Transend engaged CEG to provide further advice in relation to this matter. CEG's report is included as appendix 6 of this revised revenue proposal. CEG rejects the AER's criticism of its approach and reasserts the estimated debt raising cost allowance of 15.5 basis points per annum. In light of CEG's further advice, Transend has reaffirmed the validity of the debt raising costs included in its revenue proposal. This revised revenue proposal has therefore adopted debt raising costs of 15.5 basis points per annum.

### 5.3.3 Equity raising costs

Transend's revenue proposal explained that the AER's approach to estimating a benchmark allowance for equity raising costs distinguishes between two components:

- an allowance in respect of the initial asset base; and

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<sup>63</sup> *Ibid*, page 191.

- an allowance in respect of equity to be raised to finance the proposed capital expenditure program.

In relation to the first item, Transend's revenue proposal argued that the ACCC's previous (2003) decision on Transend's revenue cap stood apart from its other decisions at that time (for ElectraNet and SP AusNet) and therefore it did not provide a reasonable precedent for the AER's approach to the issue for the forthcoming regulatory control period. Transend's revenue proposal expressed Transend's view that it should now be treated on a comparable basis to SP AusNet and ElectraNet in relation to the recovery of equity raising costs on the initial asset base. In particular, it was noted that there is no reasonable basis for the AER continuing to disallow Transend's recovery of equity raising costs in respect of Transend's initial asset base.

Table 5.3 provides a summary of the AER's draft decision on key matters relating to the provision of an allowance for equity raising costs.

**Table 5.3: Summary of draft decision on equity raising costs**

Issue or matter	AER's draft decision
Indirect cost of raising equity <sup>64</sup>	<p>Government owned businesses should be treated the same as privately owned businesses under competitive neutrality, and therefore should be assumed to be an efficient listed private enterprise that can raise equity through seasoned equity offerings (SEOs).</p> <p>The AER accepts that underpricing is likely to exist for both initial public offerings and SEOs but does not agree with CEG's proposal that underpricing or indirect costs need to be included in the benchmark equity raising (issuance) costs allowed in a revenue determination because:</p> <ul style="list-style-type: none"> <li>• provision of compensation for such costs would be inconsistent with the benchmark regulatory framework applied to determine the WACC; and</li> <li>• the efficient benchmark network service provider should be able to raise capital without incurring underpricing costs.</li> </ul>
Equity raising requirement to fund new capital expenditure - cash flow analysis <sup>65</sup>	<p>The main issue in contention with the cash flow analysis is the assumed amount of dividend payments. The AER has previously assumed a dividend yield of 3.5 per cent, while CEG (on behalf of Transend) advocated a dividend yield of 8.0 per cent, based on the ACG methodology submitted on behalf of ElectraNet in their 2008 revenue proposal.</p> <p>When CEG's recommended dividend yield assumption is applied to the cash flow analysis using the correct depreciation measure, the resultant payout ratio is unsustainable at well over 100 per cent of net profit after tax. This is clearly an unreasonable set of assumptions.</p> <p>The AER has reflected on the use of the dividend yield in the cash flow analysis and has decided to amend the cash flow analysis to rely on the assumption of a given dividend payout ratio rather than a given dividend yield. For the purposes of this draft decision, the AER acknowledges a 70 per cent payout ratio can be considered as consistent with clause 6A.6.4(a), which deems the assumed utilisation of imputation credits to be 0.5.</p> <p>Based on the capex allowance in this draft decision, the benchmark cash flow analysis indicates that Transend would be able to fund its capex program over the next regulatory control period with retained cash flows and therefore will not require additional equity finance. Accordingly, the AER will not provide Transend an allowance for equity raising costs for the next regulatory control period.</p>

<sup>64</sup> *Ibid*, pages 194-195.

<sup>65</sup> *Ibid*, pages 196-198

Issue or matter	AER's draft decision
Equity raising costs for the value of the initial RAB <sup>66</sup>	<p>For initial equity raising costs, the fundamental question is whether the RAB has already been determined.</p> <p>Transend's circumstances are different to those of ElectraNet and SP AusNet:</p> <ul style="list-style-type: none"> <li>• The AER's 2008 SP AusNet decision allowed equity raising costs in operating expenditure.</li> <li>• In respect of Transend, the ACCC determined the initial asset base for Transend in accordance with clause 6.2.3(d) of the Tasmanian Electricity Code in its 2003 revenue cap decision. This process is fundamentally different to the basis on which the determinations for SP AusNet and ElectraNet were made.</li> <li>• In the 2003 Transend revenue proposal Transend did not apply to the ACCC for equity raising costs in relation to the value of its initial RAB.</li> </ul> <p>The AER does not consider that Transend's circumstances are identical to that of SP AusNet, for whom the further ACG advice was prepared, and ElectraNet. Neither has Transend provided any evidence to suggest that the initial asset base was not inclusive of equity raising costs. On this basis it is not appropriate to retrospectively provide Transend with an allowance for equity raising costs associated with the value of Transend's initial RAB.</p>

Transend has carefully considered the reasoning set out in the draft decision in relation to the key matters of:

- provision of an allowance for the indirect cost of raising equity;
- the cash flow analysis to estimate the equity raising requirement to fund new capital expenditure; and
- provision of an allowance for equity raising costs relating to the initial regulatory asset base.

As already noted, Transend has obtained advice from CEG in relation to the first two matters and advice from Harding Katz in relation to the final matter. The relevant reports are attached as Appendices 6 and 8, respectively. In light of these reports, Transend's responses on these key matters are summarised briefly in table 5.4.

**Table 5.4: Summary of Transend's response on equity raising costs**

Issue or matter	Transend's response
Indirect cost of raising equity	<p>Transend notes that indirect costs will be incurred in raising equity in addition to the direct costs previously accepted by the AER. Determining an appropriate benchmark allowance for equity raising costs is necessarily an inexact exercise because the direct costs of underwriting and the indirect costs incurred by shareholders will differ depending on the particular circumstances of the firm. However, there is no doubt that indirect costs will be incurred by shareholders and this cost should be recognised by the AER.</p> <p>Transend reaffirms its support for CEG's conclusion that an appropriate equity raising cost allowance for a seasoned equity offering is 3 per cent for the direct costs and 4.6 per cent for the indirect costs.</p>

<sup>66</sup> *Ibid*, pages 198-200.

Issue or matter	Transend's response
Equity raising requirement to fund new capital expenditure - cash flow analysis	Transend does not accept that a fixed dividend payout ratio of 70 per cent is an appropriate dividend policy benchmark. In this revised revenue proposal, Transend has adopted a 5.5 per cent dividend yield, noting that this yield is comfortably below the expected return on equity and therefore must be sustainable, even if the resulting payout ratio appears to be high. The analysis has also been updated to reflect cash flow requirements associated with repayment of debt principal. Further commentary on this issue is provided in the reports from CEG and Harding Katz, which are provided in Appendices 6 and 8 respectively.
Equity raising costs for the value of the initial RAB	<p>In response to the matters raised in the draft decision, Transend comments as follows:</p> <ul style="list-style-type: none"> <li>• Transend accepts that its circumstances are not strictly identical to those of ElectraNet and SP AusNet. However, these differences are not sufficiently material to justify a different treatment in relation to equity raising costs on the initial RAB.</li> <li>• Harding Katz's chronology and analysis of regulatory decisions on the issue of equity raising costs illustrates that regulatory approaches have changed markedly since May 1999, when the ACCC first set out its Statement of Regulatory Principles. With the benefit of hindsight, the ACCC's 2003 Final Decision to disallow equity raising costs for Transend was not based on sound reasoning, and does not provide a reasonable precedent nor basis for the current decision.</li> <li>• Transend has obtained further advice from SKM which demonstrates that Transend's RAB for the purpose of the 2003 revenue cap decision did not include equity raising costs. A copy of this advice is provided at appendix 7.</li> <li>• Contrary to the draft decision, Transend did request equity raising costs in its 2003 revenue application. The approach adopted by Transend was consistent with regulatory practice at that time and was identical to the approach adopted by ElectraNet.</li> </ul> <p>Given the above observations, and the supporting report from Harding Katz, Transend's revised revenue proposal reinstates an equity raising cost allowance in respect of the initial RAB.</p>

In summary, Transend has revisited its proposed equity raising cost allowance in light of the draft decision and the further reports from CEG and Harding Katz as follows:

- an equity raising cost allowance of 7.6 per cent should apply to any new capital raising;
- the capital raising requirements should assume a dividend yield of 5.5 per cent; and
- Transend should be allowed an equity raising cost allowance in respect of the opening regulatory asset base.

The revenue model outputs, which will be provided to the AER under separate cover, reflect the above conclusions with respect to the equity raising cost allowance. The resulting operating expenditure allowance is presented in table 5.5, section 5.4 .

#### 5.3.4 Telecommunication costs

Transend's revenue proposal explained that Transend was in commercial negotiations with its operational telecommunications service provider to procure the telecommunications business, and that Transend would provide revised costs for this function if these negotiations resulted in materially different costs for the forthcoming

regulatory control period<sup>67</sup>. The draft decision subsequently noted that Transend had advised the AER that its telecommunication costs would be revised<sup>68</sup>.

Transend agreed commercial terms and conditions and acquired the telecommunications business from Hydro Tasmania in November 2008. Telecommunications are critical to the provision of reliable and secure transmission services. Following this acquisition, Transend reviewed its forecast telecommunication costs with the assistance of Acutel Consulting Pty Ltd.

The principal rationale for amending the forecast telecommunication costs is that the original Transend forecast was based on the existing contract terms and conditions at the time and, accordingly, did not allow for any escalation in labour costs. The forecast was therefore inconsistent with other operating expenditure categories, which properly included labour escalation rates. As a result of proper application of these labour escalators, Transend's telecommunications costs, which are included in the field operations and maintenance expenditure category, are forecast to increase by approximately \$1.4 million (real 2008–09 dollars) over the forthcoming regulatory control period. These costs are reflected in table 5.5, section 5.4. Further supporting information is included in Acutel Consulting's report to Transend, provided as appendix 9 to this revised revenue proposal.

## 5.4 Transend's revised revenue proposal

In light of Transend's response to the draft decision (described in section 5.3 above) table 5.5 shows Transend's revised operating expenditure forecasts for the forthcoming regulatory control period.

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<sup>67</sup> *Transend revenue proposal*, page 121.

<sup>68</sup> *AER draft decision*, page 184.

Table 5.5: Revised Revenue Proposal: Operating expenditure forecast (\$m 2008–09)

Category	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Field operations and maintenance	16.8	18.0	18.4	18.8	19.7	<b>91.7</b>
Transmission services	7.9	8.3	8.5	8.8	8.9	<b>42.5</b>
Transmission operations	5.2	5.4	5.6	5.8	5.9	<b>27.8</b>
Asset management	6.7	7.0	8.7	10.6	9.6	<b>42.6</b>
Corporate	9.9	10.1	10.2	10.5	10.8	<b>51.4</b>
<b>Total controllable expenditure</b>	<b>46.3</b>	<b>48.9</b>	<b>51.4</b>	<b>54.5</b>	<b>54.8</b>	<b>255.9</b>
Network support	3.9	2.6	0.0	0.0	0.0	<b>6.6</b>
Debt raising costs (benchmarked allowance)	0.9	1.0	1.1	1.2	1.2	<b>5.4</b>
Equity raising costs (benchmarked allowance)	2.3	2.3	2.3	2.3	2.3	<b>11.4</b>
Self-insurance	0.8	0.8	0.8	0.8	0.8	<b>4.0</b>
<b>Total operating expenditure</b>	<b>54.2</b>	<b>55.6</b>	<b>55.6</b>	<b>58.7</b>	<b>59.2</b>	<b>283.3</b>

Transend accepts the AER's draft decision with respect to the efficiency benefit sharing scheme.



## 6 SERVICE TARGET PERFORMANCE INCENTIVES

### 6.1 Overview of revenue proposal

In accordance with the Rules, Transend's revenue proposal set out values for the STPIS for the forthcoming regulatory control period. Transend explained that its proposal is consistent with the requirements contained within the final version of the *Electricity transmission network service providers—Service target performance incentive scheme* released by the AER in March 2008.

Transend's revenue proposal explained that the AER accepted Transend's proposed parameters and sub-parameters in November 2007<sup>69</sup> and included those parameters and sub-parameters in the Final STPIS Guideline<sup>70</sup>. Accordingly, the revenue proposal noted that the following parameters and sub-parameters will apply to Transend for the forthcoming regulatory control period:

- transmission circuit availability:
  - transmission line circuit availability;
  - transformer circuit availability;
- loss-of-supply event frequency:
  - frequency of events where loss-of-supply events exceed 0.1 system minute;
  - frequency of events where loss-of-supply events exceed 1.0 system minute;
- average outage duration:
  - transmission line circuits;
  - transformer circuits.

Transend engaged SKM to recommend appropriate values for each parameter in the STPIS for Transend's forthcoming regulatory control period. SKM developed the methodology to calculate the proposed values for each parameter consistent with the requirements of the STPIS. In broad terms, SKM took into account previously adopted approaches, recent AER determinations and its own extensive experience with service standards in developing the methodology for calculating the proposed performance targets, caps, collars and dead bands. SKM's report was included as appendix 23 of the revenue proposal.

SKM proposed performance targets, caps and collars with reference to historical performance data over the most recent five years, adjusted in accordance with the criteria specified in clause 3.3(k) of the STPIS. The revenue proposal also explained that SKM

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<sup>69</sup> AER, *Service target performance incentive scheme (incorporating incentives based on the market impact of transmission congestion)*, Explanatory Statement, 19 November 2007, section 1.4, pp 13–15

<sup>70</sup> AER, *Final—Service target performance incentive scheme version 2*, March 2008

recommended the use of performance deadbands to take account of the normal range of measurement variance that any prudent network operator would experience in the operation of a transmission system. The performance deadbands were established using the statistical variance of the five-year data set for each sub-parameter to allow for the natural variation in the measured annual performance.

Transend's revenue proposal concluded that the proposed weightings and values for each sub-parameter (presented in table 6.1 and table 6.2) satisfied the objectives of the STPIS and the principles defined in the Rules. In particular, the proposed values and weightings were established using a sound methodology, applied consistently and taking into account historical performance.

**Table 6.1: Revenue Proposal: Proposed sub-parameter weightings**

<b>Sub-parameters</b>	<b>Proposed weighting (per cent)</b>
Transmission line circuit availability (critical circuits)	20
Transmission line circuit availability (non-critical circuits)	10
Transformer circuit availability	15
Loss-of-supply event frequency > 0.1 system minute	20
Loss-of-supply event frequency > 1.0 system minute	35
Average outage duration (transmission line)	0
Average outage duration (transformers)	0
<b>Total</b>	<b>100</b>

**Table 6.2: Revenue Proposal: Proposed STPIS values**

<b>Sub-parameter</b>	<b>Collar</b>	<b>Lower deadband</b>	<b>Target</b>	<b>Upper deadband</b>	<b>Cap</b>
Transmission line circuit availability (critical)	98.36%	98.94%	99.13%	99.32%	99.89%
Transmission line circuit availability (non-critical)	98.54%	98.95%	98.99%	99.03%	99.43%
Transformer circuit availability	98.82%	99.23%	99.28%	99.33%	99.75%
Loss-of-supply > 0.1 system minute	20	16	15	14	10
Loss-of-supply > 1.0 system minute	5	3	2	2	0
Average outage duration (transmission lines)*	387	304	276	248	166
Average outage duration (transformers)*	1,085	595	541	487	118

Note: \*Values to be used as basis for reporting only, as these parameters carry zero weighting in the STPIS.

## 6.2 Overview of draft decision

In its draft decision, the AER accepted the variations proposed by WorleyParsons to Transend's STPIS targets, caps and collars, with the exception of the collars for transmission line circuit availability (critical) and average outage duration (transformers)<sup>71</sup>. The AER substituted its own values for these collar values<sup>72</sup> and also rejected the use of deadbands by Transend for the scheme<sup>73</sup>. The AER accepted the weights that Transend proposed to apply to its parameters<sup>74</sup>.

The AER's proposed caps, collars, targets and weightings are set out in table 8.5 of the draft decision, which is reproduced as table 6.3.

**Table 6.3: Caps, collars, targets and weightings to apply to Transend**

Sub-parameter	Weighting	Collar	Target	Cap
Transmission line circuit availability (critical)	20%	97.90%	99.13%	99.75%
Transmission line circuit availability (non-critical)	10%	98.48%	98.97%	99.47%
Transformer circuit availability	15%	98.67%	99.28%	99.90%
Loss-of-supply > 0.1 system minute	20%	21	15	8
Loss-of-supply > 1.0 system minute	35%	4	2	0
Average outage duration (transmission lines)	0%	529	326	124
Average outage duration (transformers)	0%	1,428	712	354

## 6.3 Transend's response to the draft decision

Transend's response to the draft decision is summarised in table 6.4.

**Table 6.4: Summary of Transend's response to the draft decision on the STPIS**

Matter	Transend's response
Parameter weightings	As noted in section 6.2 above, the AER accepted the weightings proposed by Transend.
Deadbands	Transend accepts the AER's decision to discontinue the use of deadbands.
Targets	The draft decision made some adjustments to Transend's proposed targets. Transend accepts the targets set out in the draft decision.
Caps and collars	Transend accepts the caps and collars set out in the draft decision for each parameter, with the exception of the following parameters: <ul style="list-style-type: none"> <li>• transformer availability; and</li> <li>• loss of supply frequency &gt; 0.1 system minute.</li> </ul>

<sup>71</sup> AER, *Draft decision: Transend transmission determination, 2009–10 to 2013–14*, 21 November 2008, pages 216-217, 221-223.

<sup>72</sup> *Ibid*, page 223..

<sup>73</sup> *Ibid*, pages 220-221.

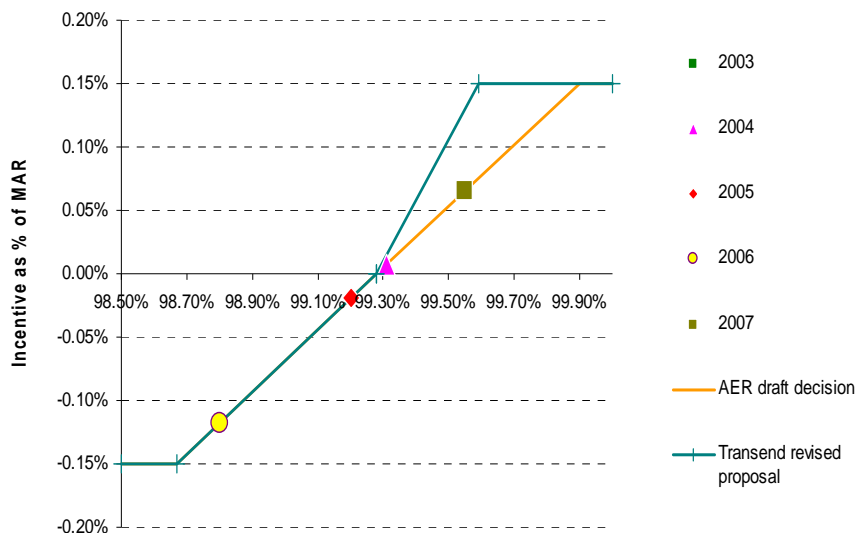
<sup>74</sup> *Ibid*, page 224.

As noted in table 6.4, Transend accepts the substantial majority of the AER’s draft decision in relation to the STPIS. In the sections below, Transend explains the reasoning for its revised proposals for transformer circuit availability and loss of supply frequency above 0.1 system minute.

### 6.3.1 S3 – Transformer Circuit Availability

Figure 6.1 shows the draft decision curve, Transend’s five annual results and its revised proposal curve for transformer circuit availability.

Figure 6.1: Cap, collar and target for Transformer Circuit Availability



Note: 2003 and 2007 results were both 99.55 per cent.

Transend considers that the cap suggested by the AER for the S3 – Transformer Circuit Availability curve is too close to the limit of performance and is beyond an attainable level of performance for the Tasmanian transmission system in the next regulatory control period. In order to attain the level of the cap, Transend would need to reduce its transformer outage time by 86 per cent. Transend proposes that the cap for this parameter be set at plus 1.0 standard deviation from the mean (as for the S1 parameter) to give a more reasonable cap of 99.59 per cent.

Transend considers this approach to be consistent with the approach taken by the AER in its draft decision, where the AER noted:<sup>75</sup>

<sup>75</sup> *Ibid*, page 223.

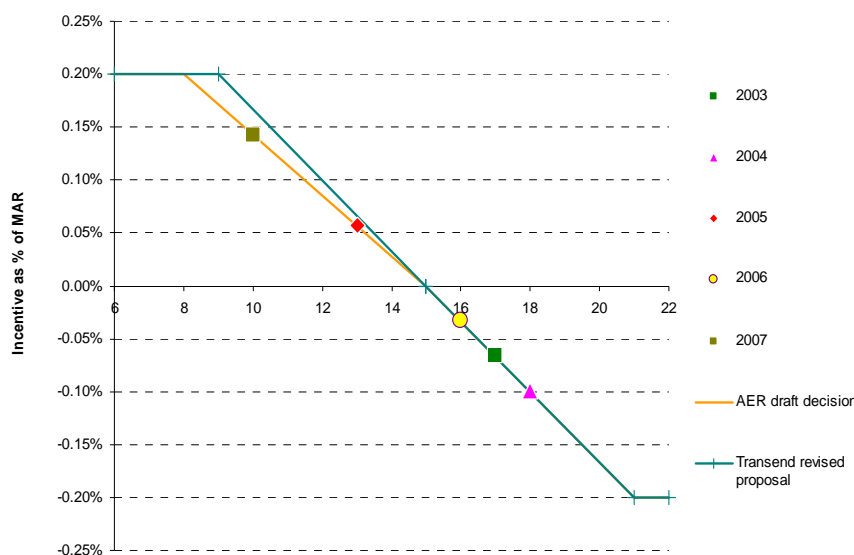
‘This methodology, of applying 2 standard deviations to the collar and +1 standard deviations to the cap when the cap violated a natural limit (such as being greater than 100% or less than 0 minutes), has been previously accepted by the AER in the ElectraNet and SP AusNet decisions.’

The revised cap still requires Transend to achieve a significant 43 per cent level of improvement compared to past performance.

### 6.3.2 S4 – Loss of Supply > 0.1 System Minute

Figure 6.2 shows the draft decision curve, Transend’s five annual results and its revised proposal curve for Loss of Supply > 0.1 system minute.

Figure 6.2: Cap, collar and target for Loss of Supply > 0.1 System Minute



The S4 – Loss of Supply > 0.1 system minute curve set out in the draft decision differs significantly from Transend’s proposed curve. The draft decision curve has a lower cap and is asymmetrical, so that the bonus rate for performance improvement is less than the penalty rate for performance degradation. The mean and standard deviation results for the 2003-07 period are 14.8 and 3.27 respectively. A cap based on 2 standard deviations from the mean results in a cap of 8.26 which the AER appears to have rounded down to 8.

Transend explained in its revenue proposal that:

- the historical result of 10 events for Loss of Supply events > 0.1 system minute in 2007 was exceptionally low based on ten years of results; and that
- this fact should be taken into account in setting the S4 curve.

Further the asymmetry in the AER’s proposed curve appears unreasonable, given the increased difficulty in achieving performance improvements relative to avoiding

degradation of performance, and the difficulty in improving performance as it approaches the efficiency frontier.

In response to the draft decision, Transend therefore proposes a figure of 9 events for the cap. The cap of 9 events makes the bonus rate for performance improvement the same as the penalty rate for performance degradation, and goes some way to ameliorating the effect of the high variation due to the exceptionally good 2007 result.

### 6.3.3 Market impact parameter

The draft decision notes that the market impact parameter in the STPIS is not intended to apply to Transend for the forthcoming regulatory control period. Transend considers that there are significant challenges regarding the appropriateness of the market impact parameter in Tasmania, and therefore it is appropriate not to apply this parameter at this time. However, Transend wishes to retain an option to introduce the market impact parameter during the forthcoming regulatory control period if additional data and analysis indicates that it is practical to do so. Given the potential benefit for all stakeholders of including the market impact parameter, it would be both prudent and desirable to provide an option for its early introduction. Transend will continue to work with the AER in relation to this matter during the forthcoming regulatory control period.

## 6.4 Transend's revised revenue proposal

In light of Transend's response to the draft decision (described in section 6.3), table 6.5 presents proposed weightings (which are unchanged from the draft decision) and table 6.6 presents proposed values for the STPIS.

**Table 6.5: Revised Revenue Proposal: Proposed sub-parameter weightings**

<b>Sub-parameters</b>	<b>Proposed weighting (per cent)</b>
Transmission line circuit availability (critical circuits)	20
Transmission line circuit availability (non-critical circuits)	10
Transformer circuit availability	15
Loss-of-supply event frequency > 0.1 system minute	20
Loss-of-supply event frequency > 1.0 system minute	35
Average outage duration (transmission line)	0
Average outage duration (transformers)	0
<b>Total</b>	<b>100</b>

Table 6.6: Revised Revenue Proposal: Proposed STPIS values

Sub-parameter	Collar	Target	Cap
Transmission line circuit availability (critical)	97.90	99.13	99.75
Transmission line circuit availability (non-critical)	98.48	98.97	99.47
Transformer circuit availability	98.67	99.28	99.59
Loss-of-supply > 0.1 system minute	21	15	9
Loss-of-supply > 1.0 system minute	4	2	0
Average outage duration (transmission lines)*	529	326	124
Average outage duration (transformers)*	1,428	712	354

Note: \*Values to be used as basis for reporting only, as these parameters carry zero weighting in the STPIS.

As noted in section 6.3.3 above, Transend wishes to retain an option to introduce the market impact parameter during the forthcoming regulatory control period if additional data and analysis indicates that it is practical to do so.

## 7 MAXIMUM ALLOWED REVENUE

### 7.1 Overview of revenue proposal

Transend's revenue proposal set out the building block components that comprise Transend's annual building block revenue requirement for each year of the forthcoming regulatory control period. These components are presented in table 7.1.

Table 7.1: Revenue Proposal: Components of the annual building block revenue requirement, 2009–10 to 2013–14 (\$m nominal)

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Return on capital	105.1	120.4	137.8	148.1	159.6	<b>671.0</b>
Return of capital (economic depreciation)	24.9	26.0	22.6	27.9	31.1	<b>132.6</b>
Operating expenditure	55.1	57.5	58.9	64.1	67.1	<b>302.7</b>
Net tax allowance	5.4	6.3	6.8	7.8	8.6	<b>34.8</b>
<b>Annual building block revenue requirement (unsmoothed)</b>	<b>190.5</b>	<b>210.2</b>	<b>226.0</b>	<b>247.9</b>	<b>266.4</b>	<b>1,141.1</b>

The annual building block revenue requirement is smoothed with an X factor to determine the maximum allowed revenue. Transend's revenue proposal foreshadowed a real increase in revenue of 28.5 per cent in the first year (2009–10), followed by annual real increases of 6.4 per cent thereafter for the remainder of the regulatory control period.

### 7.2 Overview of draft decision

In addition to the matters described thus far in this revised revenue proposal, the AER proposed minor changes to asset lives, depreciation and a number of technical modelling issues. In relation to asset lives, in its draft decision the AER:

- rejected Transend's proposed 45 year standard asset life for insulator assemblies, dampers and galvanised steel earthwires. The AER transferred these assets to the 60 year transmission line asset class;
- commented that the economic life of bridges would be more accurately reflected in the 60 year transmission asset class, rather than the 45 years proposed by Transend;
- noted that the 'other short life' 5 year asset class is made up of motor vehicles and office equipment, and therefore a 9 year life would be more appropriate; and
- rejected Transend's proposed asset life of 3 years for its 'short life' assets, noting that these assets are primarily computers. The AER concluded that an asset life of 4 years would be more appropriate.



The overall effects of these changes, together with the more material matters addressed in sections 3, 4 and 5 of this revised revenue proposal are summarised in the AER's building block assessment presented in table 9.10 of the draft decision, which is reproduced as table 7.2.

**Table 7.2: AER's draft decision on annual building block revenue requirement (\$m nominal)**

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Return on capital	95.8	109.2	124.3	132.9	141.1	<b>603.2</b>
Regulatory depreciation	24.4	25.0	23.1	26.2	29.9	<b>128.6</b>
Opex allowance	51.6	53.7	54.9	59.5	61.5	<b>281.1</b>
Opex efficiency glide path	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Net tax allowance	4.6	5.4	6.1	6.7	7.3	<b>30.2</b>
<b>Annual building block revenue requirement (unsmoothed)</b>	<b>176.4</b>	<b>193.3</b>	<b>208.4</b>	<b>225.4</b>	<b>239.8</b>	<b>1,043.1</b>

The building block revenue allowance set out in the draft decision implies a first year real increase in the maximum allowed revenue of 18.9 per cent, followed by increases of 5.8 per cent per annum thereafter for the remainder of the forthcoming regulatory control period.

## 7.3 Transend's response to the draft decision

### 7.3.1 Asset lives

In respect of asset lives, Transend accepts the AER's draft decision to:

- transfer insulator assemblies, dampers and galvanised steel earthwires to the 60 year transmission line asset class;
- transfer bridges to the 60 year transmission line asset class; and
- increase the 'short life' assets from 3 years to 4 years.

However, Transend does not accept the AER's draft decision to increase the 'other short life' asset class from 5 years to 9 years.

The draft decision concluded that this asset category included vehicles and office equipment. The AER noted that other TNSPs commonly apply a life of between 8 to 13 years for office equipment, and 7 to 8 years for vehicles. On this basis, the AER concluded that 9 years would be appropriate.

In response to the draft decision, Transend notes that the 'other short life' asset class includes IT and business applications, voice communications and computer upgrades for

transmission operations. These expenditure items have significantly shorter asset lives compared to the 9 years adopted by the AER. In particular:

- Transend’s asset management strategies assign a 4 year replacement life to software. This reflects the expected useful life of software, given rapidly changing technologies and functional requirements, limitations in warranties and support (often only 3 years), and compatibility with underlying infrastructure which must typically be replaced every 3 to 4 years.
- The computer upgrades for transmission operations include costs for desktop workstations and servers that have a replacement cycle of 3 years, which is tied to warranty and support limitations, as well as reliability factors.

It is noted that a substantial proportion (approximately 45 per cent) of Transend’s capital expenditure in this asset category relates to software and computer upgrades. In light of the draft decision, Transend has undertaken a review of the asset life assumption for this asset class. Transend has concluded that the original proposed asset life of 5 years is appropriate. In this revised revenue proposal, Transend has therefore maintained its 5 year asset life for the ‘other short life’ asset class. For completeness, it is noted that the asset class names will be updated so that the suffix reflects the revised asset life, for example, protection and control – short life (4).

### 7.3.2 Building block calculations

For the reasons explained in this revised revenue proposal, Transend does not accept all of the AER’s findings in its draft decision. Accordingly, Transend’s revised revenue proposal reflects Transend’s responses to the issues raised by the AER, and is summarised in table 7.3 (in nominal dollars) and table 7.4 (real 2008–09 dollars).

**Table 7.3: Revised Revenue Proposal: Components of the annual building block revenue requirement, 2009–10 to 2013–14 (\$m nominal)**

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Return on capital	90.1	105.2	121.1	129.3	138.3	<b>584.0</b>
Regulatory depreciation	30.9	32.5	29.2	34.3	38.1	<b>165.0</b>
Operating expenditure	55.3	57.8	58.9	63.4	65.1	<b>300.5</b>
Net tax allowance	5.1	5.9	6.7	7.4	8.0	<b>33.1</b>
<b>Annual building block revenue requirement (unsmoothed)</b>	<b>181.4</b>	<b>201.5</b>	<b>216.0</b>	<b>234.3</b>	<b>249.5</b>	<b>1,082.7</b>

Table 7.4: Revised Revenue Proposal: Components of the annual building block revenue requirement, 2009–10 to 2013–14 (\$m 2008–09)

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Return on capital	88.4	101.3	114.3	119.7	125.6	549.3
Regulatory depreciation	30.3	31.3	27.6	31.8	34.6	155.5
Operating expenditure	54.2	55.6	55.6	58.7	59.2	283.3
Net tax allowance	5.0	5.7	6.4	6.8	7.3	31.1
<b>Annual building block revenue requirement (unsmoothed)</b>	<b>177.9</b>	<b>193.9</b>	<b>203.9</b>	<b>217.0</b>	<b>226.7</b>	<b>1,019.3</b>

## 7.4 Total revenue cap, maximum allowed revenue, X factor and average transmission charges

The annual building block revenue requirement is smoothed with an X factor to determine the maximum allowed revenue.

Matters relevant to the determination of the X factor are set out in clauses 6A.6.8 and S6A.1.3(8) of the Rules. In accordance with these requirements, Transend has determined its maximum allowed revenue (and the proposed X factor for each year of the regulatory control period) as presented in table 7.5 (in nominal dollars) and table 7.6 (real 2008-09 dollars).

Table 7.5: Revised Revenue Proposal: Annual building block revenue requirement, maximum allowed revenue, and X factors 2009–10 to 2013–14 (\$m nominal)

	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	Total revenue cap
Annual building block revenue requirement (unsmoothed)		181.4	201.5	216.0	234.3	249.5	1,082.7
Maximum allowed revenue (smoothed)	144.6	181.4	197.6	215.2	234.5	255.4	1,084.0
X factor		-23.0%	-6.9%	-6.9%	-6.9%	-6.9%	

Note: includes network support forecast of \$3.6 million for 2008–09

Table 7.6: Revised Revenue Proposal: Annual building block revenue requirement, maximum allowed revenue, and X factors 2009–10 to 2013–14 (\$m 2008–09)

	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	Total revenue cap
Annual building block revenue requirement (unsmoothed)		177.9	193.9	203.9	217.0	226.7	1,019.3
Maximum allowed revenue (smoothed)	144.6	177.9	190.1	203.2	217.1	232.0	1,020.3
X factor		-23.0%	-6.9%	-6.9%	-6.9%	-6.9%	

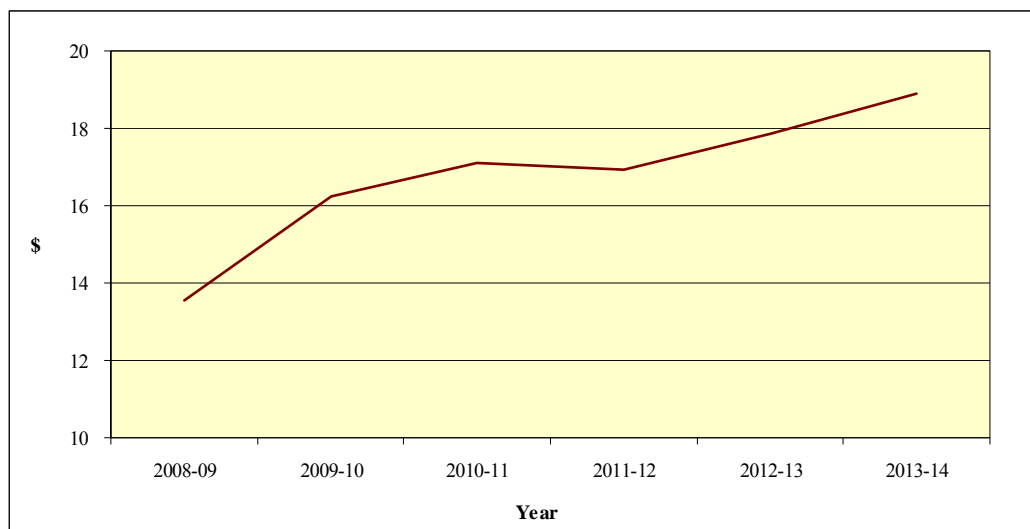
Note: includes network support forecast of \$3.6 million for 2008–09

## 7.5 Average price impact

The revised proposed maximum allowed revenue equates to an increase in average prices of approximately 19.9 per cent in 2009–10, relative to the average price level for 2008–09, and 3.9 per cent per annum thereafter in real terms.

The average price path is presented in figure 7.1 .

Figure 7.1: Average price impact of revised revenue proposal (\$/MWh 2008–09)



While Transend recognises that the future prices for transmission services will increase over the forthcoming regulatory control period, Transend considers this increase is warranted if Transend is to deliver on its mission and grid vision. Furthermore, it is important to emphasise that the revised revenue proposal is an integrated expenditure-service package that carefully balances expenditure requirements against service

outcomes. As such, any reduction in the level of expenditure described in this revised revenue proposal would have implications for future service outcomes.

## 7.6 Cost to customers

Transmission costs in Tasmania represent approximately 12 per cent of the total delivered price for the typical residential customer.

The impact of Transend's revised revenue proposal on the total delivered price for a typical residential customer is estimated to be an increase of 2.4 per cent or approximately \$33 in 2009–10, and average annual increases of approximately \$8 over the remainder of the forthcoming regulatory control period, in real terms.

It is recognised that for many commercial and energy intensive customers, transmission costs represent a greater percentage of the total delivered price.

While Transend recognises that the future price path for transmission services will increase over the forthcoming regulatory control period, Transend considers that its revised revenue proposal reflects a prudent and efficient expenditure program that is focused on the long term needs of the transmission system and Transend's customers.

## 8 PRICING METHODOLOGY

### 8.1 Overview of proposed pricing methodology

Transend submitted its proposed pricing methodology to the AER on 31 May 2008.

In accordance with the requirements of the Rules, the proposed pricing methodology provided details of:

- the calculation of the aggregate annual revenue requirement (AARR);
- the allocation of assets to categories of prescribed transmission service to derive the annual service revenue requirement (ASRR) for each category of service;
- the allocation of the ASRR to individual connection points;
- the derivation of prices and charges for each category of prescribed transmission service; and
- billing arrangements, prudential requirements, prudent discounts and Transend's proposed approach for ensuring it complies with its approved pricing methodology.

In line with past practice, the proposed pricing methodology provided for:

- the use of contract agreed maximum demand to calculate prescribed common transmission service prices;
- the use of prevailing contract agreed maximum demand to derive the price for the locational component of prescribed transmission use of system (TUOS) services; and
- the classification of services provided by radial transmission lines in existence as at 1 January 2004, as prescribed TUOS services.

### 8.2 Overview of draft decision

The AER's draft decision was to not approve Transend's proposed pricing methodology, on the grounds that the proposal did not comply with the requirements of the Rules.

The draft decision set out the details of the changes required and matters to be addressed before the AER will approve the methodology, as summarised in table 8.1.

Table 8.1: Summary of changes required to Transend's proposed pricing methodology

Issue or matter	Summary of changes required by the draft decision
Definition of service provided by radial lines	Transend is to amend the proposed pricing methodology, in particular section 7.3 and appendix 2, so that costs related to radial lines connecting generator and load are attributed according to the pricing principles as set out in rule 6A.23.
Definition of demand to calculate locational price	Transend is to amend the proposed pricing methodology so that the measure of demand used to calculate the prescribed TUOS locational price is consistent with the measure of demand used to calculate the prescribed TUOS service locational component charge. In this regard, it is noted that page 259 of the draft decision acknowledged Transend's cooperation in identifying and addressing issues regarding the potential for distortion of prices to arise from the proposed pricing methodology.
Editorial and other changes	<p>Appendix K of the draft decision sets out further changes of an editorial nature to be made by Transend to the proposed pricing methodology.</p> <p>While it is not a requirement under the pricing principles or the guidelines, the AER considers that it would be beneficial for Transend to specify the points in the transmission network where costs will be allocated and prices determined in its proposed pricing methodology. The AER requests that Transend provide these details in its revised proposed pricing methodology.</p>

### 8.3 Transend's response to the draft decision

Transend's responses in relation to each of the required changes specified in the draft decision are set out in table 8.2.

Table 8.2: Transend's responses to the changes required

Issue or matter	Transend's response to the changes required by the draft decision
Definition of service provided by radial lines	Transend has amended the proposed pricing methodology, in particular section 7.3 and appendix 2, so that costs related to radial lines connecting generator and load are attributed according to the pricing principles as set out in rule 6A.23.
Definition of demand to calculate locational price	As noted correctly in the draft decision, Transend notified the AER that there may be a possibility for distortion of prices to arise from the proposed pricing methodology. Transend has now amended its pricing model so that the pricing numerator and the pricing denominator used to calculate the prescribed TUOS locational price are both equal to contract agreed maximum demand. This amendment is in accordance with the change required by the draft decision.
Editorial and other changes	<p>The revised proposed pricing methodology adopts the changes set out in appendix K of the draft decision.</p> <p>The revised proposed pricing methodology also specifies the points in the transmission network where costs will be allocated and prices determined, in accordance with the AER's request for this information to be included.</p>

## 8.4 Transend's revised proposed pricing methodology

Transend has revised its proposed pricing methodology to address the matters raised by the AER in the draft decision. Transend considers that its revised proposed pricing methodology:

- gives effect to, and is consistent with the Pricing Principles for Prescribed Transmission Services set out in the Rules; and
- complies with the requirements of the pricing methodology guidelines issued by the AER.

Accordingly, Transend considers that the revised proposed pricing methodology should be approved by the AER, pursuant to clause 6A.14.3(g) of the Rules.

Transend's revised proposed pricing methodology is attached at appendix 12.



## 9 GLOSSARY

Acronym	Description
ACCC	Australian Competition and Consumer Commission
ACG	Allen Consulting Group
AER	Australian Energy Regulator
Aurora	Aurora Energy Pty Ltd
Capex	Capital expenditure
CAPM	Capital asset pricing model
CEG	Competition Economists Group
CPI	Consumer price index
Customer	Has the same meaning as Transmission Customer in the National Electricity Rules.
DNSP	Distribution network service provider
Draft Regulatory Principles	ACCC's Draft Statement of Principles for the Regulation of Transmission revenues
DRP	Debt risk premium
EUAA	Energy Users Association of Australia
Ex ante	Based on forecast result rather than actual result
Ex post	Based on actual result rather than forecast result
Grid vision	Transend's 30+ year network vision and associated grid vision project
HEC	Hydro-Electric Corporation, disaggregated in 1998 to form three entities: Aurora Energy Pty Ltd, Transend Networks Pty Ltd, and the Hydro-Electric Corporation
Hydro Tasmania	Hydro-Electric Corporation, trading as Hydro Tasmania (see HEC)
IT	Information technology
ITOMS	International Transmission Operations and Maintenance Study
kV	Kilovolt—one thousand volts
MRP	Market risk premium
MW	Megawatt—one million watts
MWh	Megawatt hour
NEM	National Electricity Market
Network performance requirements	Electricity Supply Industry (Network Performance Requirements) Regulations 2007
NIEIR	National Institute of Economic and Industry Research
NPV	Net present value
Opex	Operating and maintenance expenditure
PB	Parsons Brinkerhoff Australia Pty Ltd

<b>Acronym</b>	<b>Description</b>
PTRM	Post tax revenue model
RAB	Regulatory asset base
RBA	Reserve Bank of Australia
Rules	National Electricity Rules
SKM	Sinclair Knight Merz
STPIS	Service target performance incentive scheme
TNSP	Transmission network service provider
TUOS	Transmission use of system
WACC	Weighted average cost of capital
WIP	Work-in-progress

## 10 APPENDICES

Appendix 1	Directors' Responsibility Statement
Appendix 2	Submission Guidelines – Cost information
Appendix 3	Submission Guidelines – Other matters
Appendix 4	CEG, Escalators affecting expenditure forecasts, a report for NSW and Tasmanian electricity businesses, January 2009
Appendix 5	Transend, Renewal capital expenditure, a response to the draft decision, January 2009
Appendix 6	CEG, Debt and equity raising costs, January 2009
Appendix 7	SKM, Advice regarding the calculation of the regulatory asset base, January 2009
Appendix 8	Harding Katz, Regulatory treatment of equity raising costs, December 2008
Appendix 9	Acutel Consulting, Review of escalation of operational telecommunications costs, January 2009
Appendix 10	CEG, A reasonable averaging period when setting the NER WACC parameters, January 2009
Appendix 11	Aurora Energy, Response to the AER regarding Transend connection projects, January 2009
Appendix 12	Transend, Revised proposed pricing methodology, January 2009





