

22 December 2004

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Mr James Cox
Acting Chairman
Independent Pricing And Regulatory Tribunal of NSW
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Dear Mr Cox,

Supplementary Submission: Rail Access Undertaking Rate Of Return

Pacific National welcomes the opportunity to make a further submission to IPART regarding the maximum rate of return allowable for rail access charges under the NSW Rail Access Undertaking. The attached submission has been prepared by the Network Economics Consulting Group (NECG) and reviews in detail the economic parameters and associated risk issues that are relevant to a rate of return decision, comparing the views previously expressed by other stakeholders.

With the benefit of submissions from other stakeholders NECG has refined its modelling of the weighted average cost of capital (and hence the rate of return) that should apply to the NSW rail network and has recommended a slightly increased maximum rate of 6.5%, moving from 6.23% in Pacific National's previous submission. This is at the upper end of the range of outcomes from NECG's modelling. Pacific National endorses this view, based as it is on sound analysis, taking into account the empirical data on rail infrastructure returns in the Hunter Valley (the relevant part of the network) over the years since the IPART 1999 decision. In particular we note NECG's view that their suggested value for the asset beta of 0.3 is well supported by available evidence and may even err on the high side.

However, we recognise that an immediate reduction in rate of return from the current 8.0% to 6.5% pre-tax real might, in some instances, have the potential to cause difficulty to ARTC in its position as the new lessee of the Hunter Valley rail network. Pacific National suggests that it is open to ARTC to identify any specific investments which might warrant the retention of an 8% (or some other) return and provide appropriate justification to IPART and stakeholders.

Pacific National is very concerned at recent comments made in public forums by ARTC that it would be unwilling to invest if the regulated maximum rate of return is below its desired outcome. Provided realistic parameters are used in the regulatory

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WACC calculation, the resulting return should permit investments to be bankable. That is the intent of the regulatory process for determining the rate of return.

It is vital to Pacific National and our customers that appropriate levels of investment are made to meet expected demand growth. However there is a real risk that, in this growth phase, threats to withhold bankable investments may be used tactically to induce the regulator to permit returns that are overly generous, as judged against the exceptionally low risk profile that ARTC faces in the central Hunter Valley. We would be keen to work with all stakeholders to assist IPART to arrive at an appropriate outcome based on the merits of the case.

Pacific National remains committed to assisting IPART in this process and is keen to participate in the remaining parts of the determination process.

Please note that our comments with regard to the Life Of Mine study are contained within the accompanying Rate Of Return submission.

Yours sincerely,
PACIFIC NATIONAL PTY LIMITED


Peter Winder
General Manager Coal

NSW Rail Access Regime – Review of Rate of Return

Supplementary submission on behalf of Pacific National

23 December 2004

Executive summary

This report sets out to compare and assess the submissions by Australian Rail Track Corporation (ARTC), as the Hunter Valley Category 1 coal network rail infrastructure provider, and the NSW Minerals Council (**the Council**), as the peak body representing coal shippers, to the Independent Pricing and Regulatory Tribunal (IPART) review of the maximum rate of return allowable under the NSW Rail Access Undertaking and life of mines.

In assessing the arguments we have had regard to the submission provided to IPART by Pacific National on 15 October 2004, and the key objectives of the regulator:

- To ensure future efficient investment is attracted to maintain the network for the long term; and
- To protect the interest of rail users from the market power held by the rail infrastructure provider.

Before considering all arguments presented by ARTC and the Council we recap the key views presented in our previous submission:

- Other than beta, the WACC parameters used in IPART's 1999 decision are broadly appropriate, although obviously the risk-free rate, corporate tax rate, and inflation rate should all be updated to current values;
- In light of empirical evidence reflecting experience since the Regime came into force, the asset beta (and the equity beta) previously employed by IPART is clearly too high;
- Non-systematic risks have the potential in theory to be important, but given the many protections against down-side outcomes that are built into the Regime these types of risks should not make any material addition to the permitted WACC; and
- Some investments nominated for the "high risk" category involve mainline investments and therefore do not appear to create any additional risk for the investor. Where new infrastructure investments genuinely involve particular risks for the investor, it would be more appropriate to permit accelerated depreciation rather than an increased rate of return.

We conclude by recommending a WACC of approximately 6.5% based on the risk free rate adopted. This figure should be revised to take account of the most recent 10-year bond data at the time of IPART's final decision. In addition, NECG recommends that any additional

asymmetric risks identified and justified to the satisfaction of IPART should be treated separately in ARTC's cash flows as a cost.

In making our recommendations we note that the 5.0% WACC proposed in the Council submission may well be below a rate that investors to the rail network are likely to require. We also note that there are no grounds for increasing the rate of return above that which currently applies ie 8.0% (as is proposed by ARTC).

1 Introduction

NECG has prepared this report to the Independent Pricing and Regulatory Tribunal (IPART) on behalf of Pacific National. Here we respond to the submissions from Australian Rail Track Corporation (ARTC) and the NSW Minerals Council (**the Council**) dated 30 September 2004.

1.1 Key issues for review

This report focuses on responding to the key issues identified in the submissions to IPART by the ARTC and the Council. These include:

- The determination of key Weighted Average Cost of Capital (WACC) parameters, such as risk free rate, equity beta (or the implied asset beta) and the gearing assumptions; and
- Asymmetric risks, such as stranding risk.

Additionally, this report compares the views of ARTC and the Minerals Council with those expressed in the Pacific National submission to IPART dated 15 October 2004.

1.2 Background

On 30 September 2004, the NSW Minerals Council provided its submission to IPART in response to the above questions.¹ In its submission, the Council argued that the current rate of return of 8.0% approved by IPART in 1999 (refer to Section 1.3 for further discussion regarding this 1999 decision) should be reduced to 5.0%.

The major argument presented by the Council for the reduced rate of return, was that since 1999 there have been several changes “to and associated with the Regime which justify reducing the equity beta” from a range of 0.7 - 1.0 down to 0.4 – 0.6. In other words, the Council argued that these changes have significantly reduced the risk faced by the infrastructure owner of the Hunter Valley rail network.

In contrast, ARTC’s submission² to IPART argues that a number of changes to the operation of the Hunter Valley coal supply chain have significantly increased the financial and operating risk to the rail network operator, thereby increasing the rate of return required by infrastructure investors. Additionally, ARTC noted that the 1999 IPART rate of return decision was made on the basis of the network operating and financial structure of the previous network operator, Rail Infrastructure Corporation (RIC)³. ARTC commenced its long-term lease of the Hunter Valley rail network on 5 September 2004, and therefore argues that the rate of return should be reflective of its commercial structure. ARTC’s recommended changes would generally lead to an increase in the rate of return.

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¹ NSW Minerals Council 2004, Submission to Independent Pricing and Regulatory Tribunal of NSW, Review of Rate of Return in the NSW Rail Access regime, 30 September.

² ARTC 2004, NSW Rail Access Regime – Review of Rate of Return ARTC Submission, 30 September.

³ At the time of the 1999 Review RIC was known as the Rail Access Corporation.

In responding to these submissions NECG has sought to balance the sometimes conflicting regulatory principles:

- to ensure investors can expect a rate of return which is sufficient to attract efficient investment into the industry (and to “facilitate the incentives for efficient long-term investment in the regulated industry”); and
- to protect the long-term interests of access seekers and customers, preventing the misuse of monopoly or market power.

NECG also notes that consistency and stability in regulatory decisions is of significant importance to attracting new investment to the regulated industry.

1.3 Previous IPART Rail Decision (1999)

In its 1999 Final Report IPART decided to allow for a maximum rate of return of 8.0% (real, pre-tax) on rail infrastructure assets for the period 1 July 1999 to 1 July 2004.

In a submission to the 1999 Review of the Access Regime, the Rail Infrastructure Corporation (RIC)⁴ proposed that the Regime should specify both a ceiling and an average rate of return. IPART subsequently determined a real pre-tax maximum rate of 8.0%, which was towards the upper end of the parameters presented in Table 1 below.

Table 1 IPART’s WACC Parameters for RIC (1999)

	Low	Mid	High
Nominal risk free rate (10 year)	5.37%	5.37%	5.37%
Real risk free rate	3.52%	3.52%	3.52%
Inflation	1.79%	1.79%	1.79%
Market risk premium	5.0%	5.5%	6.0%
Debt margin	1.0%	1.0%	1.0%
Equity beta	0.70	0.85	1.00
Asset beta	0.29	0.41	0.55
Debt beta	0.10	0.09	0.08
Debt to equity	60%	55%	50%
Gamma	0.5	0.4	0.3
Tax rate	36%	36%	36%
Cost of equity (nominal post tax)	8.90%	10.06%	11.39%
WACC (nominal post tax)	5.23%	5.94%	6.91%
Nominal pre-tax WACC (market practice method)	8.71%	9.28%	10.80%
Real pre-tax WACC (Macquarie method)	5.26%	6.37%	7.86%
Real pre-tax WACC (market practice method)	6.27%	7.36%	8.84%
Real pre-tax WACC	5.3%	7.1%	8.8%

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⁴ At the time of the 1999 Review RIC was known as the Rail Access Corporation.

Source: IPART, *Aspects of NSW Rail Access Regime*, Final Report, Table 9, p.63.

Within this range of possible real pre tax rates of return, IPART selected 8.0%, noting that this decision was influenced by the risk profile of RIC’s coal business, the partial truncation of returns caused by the combinatorial test, implications for access prices and RIC’s financial position.

2 Comparison of stakeholder submission to IPART (2004)

Table 2 provides a comparison of the submissions from Pacific National, the Mineral Council and ARTC. In some cases where a specific figure or range was not provided by the submitter, an indicative range has been chosen based on the discussion provided in each submission.

It is important to note that in order to make the rates of return comparable between submissions, in Table 2 below, the nominal and real risk free rates, and therefore inflation, for all parties have been updated to reflect bond rates as at 6 October 2004 (the date used in Pacific National’s original submission to IPART). These data points are referenced to a common date so the various scenarios can be directly compared.

Table 2 **Comparison of Pacific National, ARTC and the Mineral Council Submissions (2004)**

	IPART 1999 Mid Case ^{^^}	Pacific National (10 Oct 04)	Minerals Council (30 Sept 04)	ARTC (30 Sept 04)
Nominal risk free rate (10 year) ^{###}	5.39%	5.39%	5.39%	5.68%
Real risk free rate	2.74%	2.74%	2.74%	3.05%
Inflation	2.58%	2.58%	2.58%	2.55%
Market risk premium	5.5%	7.0%	5.0% - 6.0%	6.0% - 8.0%
Debt margin	1.0%	1.0%	1.0%	1.2%
Debt beta	0.09	0.0 – 0.2	0.10 – 0.08	0.10 – 0.08
Asset beta	0.41	0.30	0.15 – 0.305	0.45 – 0.65**
Equity beta	0.85	0.68 – 0.64	0.40 – 0.60	0.9 – 1.0
Debt to equity	55%	60% - 50%	60% - 50%	50% - 40%
Gamma	0.4	0.5 – 0.3	0.55 – 0.45	0.5 – 0.3
Tax rate	30%	30%	30%	30%
Cost of debt (nominal pre tax)	6.39%	6.39%	6.39%	6.88%
Cost of equity (nominal post tax)	10.18%	10.17% - 9.85%	7.42% - 9.00%	10.98% - 13.56%
WACC (nominal post tax)	6.37%	6.03% - 6.60%	5.09% - 6.01%	6.93% - 9.29%
Nominal pre-tax WACC (market practice method)	9.10%	8.67% - 9.43%	7.26% - 8.59%	9.90% - 13.28%
Real pre-tax WACC (market practice method)	6.36%	5.89% - 6.68%	4.57% - 5.85%	7.16% - 10.46%

^{###} The nominal and real risk free rates, and therefore inflation, parameters adopted in this table have all been updated to reflect bond rates as at 6 October 2004 (the date used in Pacific National’s original submission to IPART). The same date for sourcing the data, including for the “IPART 1999 Mid Case”, so that the various scenarios can be directly comparable and not effected by timing issues

^{^^} This “IPART 1999 Mid Case” has been taken from the previous 1999 NSW Rail Regime review but adapted to take account of the new corporate tax rate of 30%, rather than 36%. The risk free rates and inflation have also been

updated to reflect current information, so that “1999 Mid Case” is directly comparable to the rates of return proposed in the 2004 submissions to IPART’s Rate of Return Review.

** ARTC did not specify an exact range it believed appropriate for the asset beta, Instead ARTC indicated some asset beta values from the previous decision and stated that it believed an assessment of its systematic risks would result in a higher asset beta than for RIC (1999) which was 0.29 – 0.55.

In the remainder of Section 2 we provide a summary of the Pacific National, Council and ARTC key arguments in support of their preferred values for each WACC parameter outlined in Table 2. We present our final position on each parameter after giving consideration to the various submissions.

2.1 Appropriateness of CAPM

There appears to be broad consensus between the three parties who made substantive submissions that the Capital Asset Pricing Model represents an appropriate means of establishing the maximum rate of return for the Category I Hunter Valley coal network.⁵ All submissions expressed a preference for the CAPM basis, while acknowledging the existence of alternatives, none of which are in wide use for regulatory price setting.

2.2 Asset beta

In this section we consider the recommended asset betas and reasoning provided by the three substantive submissions to IPART’s Rate of Return Review. Beta is probably the WACC parameter where differences of view are greatest between the parties.

Pacific National

In the previous submission prepared for Pacific National, NECG undertook analysis of the RIC accounting data relating to Category 1 Hunter Valley assets (as a proxy for security returns) to estimate an asset beta. The outcome of this analysis was to suggest the need for IPART to reduce the asset beta range from that adopted during the previous rate of return review in 1999. It did not seek to estimate the most appropriate asset beta to apply to the RIC assets.

Nevertheless, the analysis undertaken by NECG demonstrated that IPART’s earlier range of 0.29 – 0.55 is significantly above any figure supportable by the empirical evidence. The empirical work established that RIC’s Category 1 returns are highly stable, and poorly correlated with market returns, indicating that a null hypothesis could not be ruled out.⁶ On the strength of these findings a reduction in the current RIC asset beta would be justified.

In its submission, Pacific National recommended an asset beta of 0.3 be used. This figure represents a significant reduction on IPART’s 1999 value. In recommending this asset beta, regard was given to the results of empirical analysis, while also recognising the sensitivity to the

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⁵ The Category 1 coal mines are served by the “constrained group” of line sectors. These represent the only part of the NSW rail network where the maximum rate of return actually impacts access pricing. Therefore it is appropriate to base the rate of return under the NSW regime and eventual undertaking on WACC parameters that are suitable for the Category 1 mines.

⁶ The null hypothesis corresponds to an asset beta close to zero.

analytical assumptions. The recommended value of 0.3 lies within the asset beta range originally nominated by IPART in 1999 (from 0.29 to 0.55).

NSW Minerals Council

The Council's submission did not comment directly on an appropriate asset beta range, rather it focused on the resulting equity beta range. To this end, the Council noted that it maintained the view it held at the time of the 1999 Review that the equity beta range of 0.7 – 1.0 is on the high side. Further the Council reiterated its preference of a range with a bottom end closer to 0.2, but recommended the equity beta range be reduced to 0.4 – 0.6.

The Council argued that developments to and associated with the Regime since the rate of return was set in 1999 reduce the risks faced by the network operator. The Council highlighted the following developments:

- The inclusion of an Unders and Overs system in the Regime which greatly reduces, if not eliminates, fluctuations in the infrastructure owner's maximum returns;
- The elimination of the possibility that the asset value will be reduced through future re-optimising of the Hunter rail network;
- The lease to ARTC of the NSW interstate and Hunter rail networks, which implicitly recognises that the Hunter rail network will serve a key role in Australia's future transport network and will not be "stranded" at the end of its use for coal exports. This assumption is inconsistent with a key tenet of the current regime, which was that the Hunter rail network will have no utility in 35 years' time;
- The consolidation of ownership of Hunter mining operations since 1999 into larger internationally-based companies--a factor which must have reduced the risk of default on access charges. (The Council notes that the estimated WACC and equity beta for a major user of rail services, Coal and Allied, are both significantly lower than those estimated by IPART for RAC in 1999 and there is even more reason to think that the same is true for Hunter coal exporters as a group);
- Other changes to and associated with the Regime, including the provision in the Regime for users to pay capital contributions for new investment, and the willingness of coal shippers (agreed since the 1999 equity beta range was struck) to consider shorter depreciation lives for new investments than those determined by IPART, provided that residual values are taken into account.

ARTC

In its submission to IPART, ARTC suggested that the applicable equity beta and implied asset beta for ARTC in NSW;

*"...may well be different, and higher than that considered appropriate with regard to the RAC in 1999."*⁷

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⁷ ARTC 2004, p. 12.

ARTC recommended that in order to establish and quantify an appropriate equity beta, IPART should undertake a revised assessment of the systematic risks faced by ARTC as the new network infrastructure owner.

ARTC did not provide any analysis or assessment to quantify the systematic risks it believes reflect its position in NSW as the network operator. Nor did it provide any analysis to justify its view that the appropriate equity beta *may well* be higher than the range adopted in the 1999 decision.

Instead, ARTC based its view on two arguments. First, ARTC argued that there are significant differences between the risks it faces and those faced by RIC in 1999. It suggested that additional risks resulted either from changes in the operating and commercial environment over the past 5 years or from expected future changes. In summary, ARTC identified the following changes:

- Different operating requirements under ARTC's lease;
- Different market and revenue mix and ownership of customer base;
- Different industry operating characteristics; and
- Different funding arrangements of ARTC.

ARTC recognised that some of these risks could be considered firm-specific, rather than systematic risks, but did not provide any further analysis on this point.

Second, ARTC argued that previous Australian rail regulatory decisions had adopted betas of 0.45 and above. In particular, ARTC noted that in 2002 the ACCC approved ARTC's Access Undertaking for its interstate network with an implied asset beta of 0.58.

However, in identifying the ACCC decision and other regulatory decisions, ARTC did not comment on the differing characteristics of these networks – or the circumstances surrounding the regulatory decisions, which were especially relevant for ARTC. For example, the network considered in the ARTC Undertaking services a variety of operators and commodities, while the Hunter Valley Category 1 network services principally coal mines. The analysis provided by NECG in the Pacific National submission indicates that revenues and volumes of the coal business have a very low volatility compared to returns on the market portfolio.

Assessment of submissions

The factors cited by the Minerals Council in support of a claim that the infrastructure owner's risks are lower than in 1999 are generally not new developments *since* the 1999 IPART decision. Most or all of these items were in fact incorporated as part of the 1999 decision, and therefore would have been taken into account by IPART when determining the asset beta and other WACC parameters at the time.

However, NECG does agree that the Unders and Overs system is likely to result in reduced volatility of the network operator's returns. While the Unders and Overs system is likely to reduce the systematic risks faced by the network operator, this fact will already be reflected in

the empirical analysis of RIC's returns we undertook for the first Pacific National submission. That decision by IPART (formally introducing the scheme of Unders and Overs) should actually be taken into account when considering asymmetric risk issues faced by the operator (refer to Section 3.1).

NECG does not believe any of the systematic or non-systematic risk issues raised by either the Council or ARTC represent any substantial change from what IPART considered in determining the rate of return in 1999. Further, we believe that the empirical analysis undertaken by NECG in the initial Pacific National submission fully takes into account the impact of the relevant operating conditions and the NSW Rail Access Regime as it stands today. We are unable to comment on the issues raised by ARTC regarding the circumstances of its lease with the NSW leading to a different (and increased) risk profile as ARTC has not provided any details of how these risks have changed. While there may be legitimate issues for IPART to consider, these matters would need to be specifically identified and available for stakeholder comment in order for a reasoned view to be expressed.

Neither the ARTC nor Council submissions provide any analysis to support or quantify their diverging recommendation on the beta value. In the circumstances, the empirical analysis undertaken by NECG should be given more weight.

Finally, regarding the ARTC comment that it operates under different financial arrangement to RIC, we note that IPART (1999) did not use the financial arrangements of RIC to determine the appropriate WACC. Rather, as is common practice among regulators, IPART made assumptions regarding the optimal capital structure of a rail infrastructure provider (as discussed below), which was then used to determine the equity beta.

2.3 Risk-free rate and forecast inflation

In its previous decision, IPART used the 20-day average of the 10-year Commonwealth Bond rate calculated at the time of its final decision as a proxy for the nominal risk-free rate.

The 20-day average of the 10-year Capital Index Bond rate, at the time of the decision, was used as a proxy for the real risk-free rate.

The forecast of inflation was determined as the difference between the rate of nominal and inflation-indexed bonds that have a term to maturity of 10 years.

Submissions regarding the risk free rate and forecast inflation are summarised below.

Pacific National and NSW Minerals Council

In the initial Pacific National submission to IPART, NECG supported IPART's approach in the 1999 decision. That approach is now common practice amongst Australian regulators.

In its submission, the Council also indicated it supported IPART's use of the 20-day average of the 10-year bond rates as a proxy for risk free rate and forecast inflation.

ARTC

ARTC recognised that previous regulatory assessments have chosen to use the 10-year Commonwealth bond rate as a proxy for the risk free rate. However, in its submission ARTC noted that:

“As below rail asset lives are generally much longer than this, ARTC considers that it would be appropriate for an assessment to be made (based on historical evidence) of any difference between 10-year and longer term yield rates and, if appropriate, apply a premium to the 10-year rate.”⁸

ARTC noted that Queensland Rail, the Queensland network operator, in its recent draft Access Undertaking suggested the premium between longer-term government bonds and the 10-year bond to be around 0.2%.⁹

Additionally, ARTC stated that it considered the use of a 40-day average, as adopted by the ACCC in determining the risk free rate for ARTC’s Access Undertaking (2002), would produce a “better result”.

ARTC also noted that the same approach (adding a premium to the 40-day average of the 10-year indexed bond) should be used when determining the real risk free rate. However, ARTC supported the view that the forecast inflation be determined based on the difference between the nominal and real risk free rates, using the Fisher equation.

Assessment of submissions

NECG maintains that the adoption of the 10-year bond rate is consistent with the opportunity costs of capital, and provides the best incentives for investment by the regulated firm. Further, NECG emphasises that in using the CAPM estimates of the market risk premium based on the 10-year bond, the adoption of a maturity other than 10-years for the risk free rate without adjusting the market risk premium would result in an inconsistent application of the CAPM.

This view was recently reinforced by the Australian Competition Tribunal in its GasNet decision, where it argued that the ACCC’s decision to apply a 5-year bond maturity for the risk free rate with estimates of the market risk premium derived from a 10-year bond was tantamount to not applying the Capital Asset Pricing Model (CAPM).¹⁰

The ACCC erred in concluding that it was open to it to apply the CAPM in other than the conventional way to produce an outcome which it believed better achieved the objectives of s8.1. In truth and reality, the use of different values for a risk free rate in the working out of a Rate of Return by the CAPM formula is neither true to the formula nor a conventional use of the CAPM. It is the use of another model based on the CAPM with adjustments made on a pragmatic basis to achieve an outcome which reflects an attempt to modify the model to one which operates by reference to the regulatory period of five years. The CAPM is not a model,

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⁸ ARTC 2004, p.9.

⁹ Queensland Rail 2004, QR Draft Access Undertaking, Supplementary Submission B, April 2004, p.11.

¹⁰ Australian Competition Tribunal, Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6, paragraph 47.

which is intended to operate in this way. The timescales are dictated by the relevant underlying facts in each case and for present purposes those include the life of the assets and the term of the investment.

We draw IPART's attention to the ACCC's Draft Statement of Principles for the Regulation of Electricity Transmission Revenue. There the ACCC states "it will accept the period used to calculate the moving average of the risk free rate (between 5 and 40 days) submitted by a Transmission business in its application."¹¹

2.4 Market Risk Premium

IPART's 1999 final decision used a range for the Australian market risk premium lying between 5.0% and 6.0%.

Pacific National

In the Pacific National submission to IPART on 15 October 2004, we noted that NECG has consistently advocated the use of a 7% market risk premium for regulatory WACC estimates. However, we acknowledged that in the majority of recent regulatory decisions around Australia, 6.0% has been approved as the appropriate market risk premium to apply to the WACC estimate.

Minerals Council

The Council stated that it considers the range of 5.0% to 6.0% adopted by IPART in 1999 to be appropriate, noting that in its view there have not been any developments since 1999 to justify any change to this range.

ARTC

In its submission to IPART, ARTC indicated that the most appropriate measure of the market risk premium is based on the long-term analysis (say 30 years) of historical market data. On this basis, ARTC stated that the generally accepted long-run range is between 6% and 8%.

ARTC commented further that while there is a view that the lower range based on short-term historical data (10 – 15 years) may reflect recent changes in corporate taxation rules, this lower range may be consistent with expected levels of longer-term volatility. Until conclusive research demonstrated otherwise, ARTC believed the long-term range of 6% - 8% should continue to be used.

Assessment of submissions

NECG generally agrees with the comments and market risk premium proposed by ARTC.

Further, NECG notes that IPART is now the only Australian regulator to use a value below 6% for the market risk premium.

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¹¹ ACCC 2004, Statement of Principles for the Regulation of Electricity Transmission Revenue, Draft Decision, 18 August, p.25.

2.5 Gearing Level

In 1999, IPART supported the use of an assumed optimal capital structure for calculating the WACC. Following consideration of all the available evidence at that time, IPART supported a gearing level of 50% to 60%.

Pacific National and Minerals Council

A gearing level of 60% has been commonly used as an assumed optimal level in regulatory decisions in the rail sector since 1999. Both Pacific National and Minerals Council submissions supported the continued use of 50% to 60% as a suitable range to estimate low, mid and high WACC for RIC.

ARTC

ARTC noted that the 1999 decision by IPART on gearing was based on the need to minimise WACC while still enabling the company to retain an investment grade rating and finance core business investments.

ARTC submitted that circumstances surrounding its commercial risk in the Hunter Valley might give rise to greater caution on the part of the debt financing community. Reasons for this increased caution were attributed to the changes in the operating and commercial environment over the past 5 years (as discussed in Section 2.2 under ARTC's submission) as well as:

- The claim by ARTC that Pacific National is a relatively inexperienced train operator in the region. We note that this claim is entirely disingenuous, in our view, as Pacific National has bought an existing train operator that has many decades of experience hauling coal in the Hunter Valley.
- The debt financing community may be cautious of the greater volatility in world commodity markets and greater flexibility in choice of transport mode given the highly competitive framework between modes.

As a result, ARTC argued for a lower gearing range of 40% to 50%.

Assessment of submissions

As discussed in Section 2.2, NECG does not agree with the assessment that ARTC bears increased risks as a result of changes in the operating environment or differences between it and RIC.

While Pacific National came into being as an entity in February 2002, in so doing, it took over, in its entirety, the operations of FreightCorp and National Rail Corporation including the coal haulage operations in the Hunter Valley. It is extraordinary that ARTC claims any financier would conclude that Pacific National is “a relatively inexperienced operator”.

NECG also refers to the empirical analysis it provided in the previous Pacific National submission, which shows the extremely low volatility of returns for the Hunter Valley Category 1 rail infrastructure operator.

Given the universality of practice amongst regulators within Australia, we believe that a range of 50% to 60% continues to be appropriate.

2.6 Debt margin

In 1999, IPART stated that the cost of debt (debt margin) should be calculated using the likely cost under an optimal capital structure. IPART came to the view that the cost of debt for RIC is approximately 1% above the risk free rate of return. The basis of this view was that RIC had no debt, yet was confident it could borrow at approximately 1% above the 10-year Commonwealth Bond rate.¹²

Pacific National and Minerals Council

Assumptions commonly adopted for an efficiently financed infrastructure firm in some recent regulatory decisions are:

- a benchmark gearing assumption of 50 - 60% debt to assets based on observation of the gearing ratios of Australian listed entities;
- a benchmark credit rating for an efficient operator in the sector. Depending on the sector, regulators have assumed benchmark credit ratings between BBB and A; and
- an appropriate debt margin has been estimated consistent with the bond maturity in the risk free rate.

However, the previous Pacific National submission did not provide an exact value that NECG or Pacific National considered to be acceptable. Pacific National offered to provide IPART with information on its own cost of borrowing on a commercial in confidence basis to confirm the debt cost derived from the WACC model. Pacific National's cost of borrowing would represent an upper limit to the debt cost likely to be faced by the infrastructure owner in the Hunter Valley coal system.

The Minerals Council's submission to IPART simply stated that it believed a 1.0% debt margin was reasonable and that no developments since 1999 justified a change to this figure.

ARTC

ARTC commented that the debt margin should reflect the longer-term average applicable to long-term debt, as this reflects the type of debt used to fund rail assets. ARTC noted that the longer-term debt should be consistent with the assumption underpinning the risk free rate.

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¹² RAC submission to IPART, 27 November 1998, Appendices p 11.

In its submission to IPART, ARTC opined that a debt margin of 1.2% is at the lower end of a reasonable estimate of the debt margin. In coming to this conclusion, ARTC presented the following arguments:

- The ACCC endorsement of 1.2% debt margin in the ARTC Access Undertaking (2002) as “a not unreasonable benchmark for companies with similar debt risk characteristics to ARTC”.
- That 1.2% is generally consistent with other regulatory assessments.
- That the view of debt financiers may be heavily influenced by ARTC’s shares being held by the Australian Government, and the risks specific to the Hunter Valley network.
- That an assessment of the longer-term average debt margin applicable to companies with similar debt risk characteristics should be undertaken in order to determine the appropriate margin.

Assessment of Submissions

NECG maintains the view that the cost of debt should be calculated based on the likely cost under an optimal capital structure.

The arguments presented by the Minerals Council and by ARTC that the debt margin should simply be the same as previously adopted by IPART (1.0%) or as that adopted by other regulators (1.2%) fail to recognise that the margin is normally determined on the basis of an optimal (as opposed to actual) capital structure. Australian regulators have made decisions about the optimal capital structure of a regulated firm and then used this to determine the debt margin based on current market information. The debt margin is an output of the decisions about optimal capital structure and should be calculated based on market information that is available at the time.

NECG does not agree with ARTC that IPART should undertake an assessment of long-term debt margins of companies with similar debt risk characteristics. Given that many other WACC parameters, such as equity beta, are derived from assumptions regarding optimal gearing assumptions, we believe that any assessment of debt margins should be based on companies with similar characteristics to the optimal capital structure assumed to estimate all WACC parameters. For example, while ARTC notes that the ACCC endorsed a debt margin of 1.2%, this observation omits the relevant context: gearing assumptions (40% to 50% debt) materially different from those applied to the Hunter coal network.

NECG agrees with ARTC’s comment that debt financiers would likely be heavily influenced by the fact that the rail operator is owned by the Commonwealth Government. However, in contrast to the ARTC view, NECG’s view is that this in fact acts to reduce the required debt margin. It is commonly accepted in finance, and by ratings agencies in determining a firm’s credit rating, that Government ownership (in a stable established country) reduces credit risk to investors.

Concluding, NECG reiterates its view that the debt margin should be calculated based on an optimal capital structure. Australian regulators have adopted the following common assumptions:

- a benchmark gearing assumption of 50 - 60 % debt to assets based on observation of the gearing ratios of Australian listed entities;
- for such a gearing ratio regulators have assumed that an entity could maintain a credit rate between BBB and A-; and
- an assumed term to maturity of 10 years.

On the basis of recent regulatory decisions it does appear that a debt margin of 1.0% is on the low side. While we have disagreed with many of the arguments presented by ARTC regarding the debt margin, we agree that a margin closer to 1.2% may be a more reflective of corporate bond market practice.

2.7 Setting the tax rate

In the 1999 final decision, IPART decided to utilise the statutory tax rate of 36%. At the time, IPART noted that altering access prices for changes in RIC's tax position might cause an undesirable increase in price volatility. IPART expressed the belief that it is for utilities to manage their own tax affairs.

Since the previous RIC decision, the Australian statutory corporate tax rate has been reduced to 30%.

All three substantive submissions to IPART recognised that in Australia some regulators have adopted a pre-tax WACC framework, while others have adopted a post-tax formulation where actual or effective tax rates are treated in the cash flows.

The general consensus amongst the submissions was that maintaining the current pre-tax methodology is likely to be the easiest approach. The reasoning provided by the Council was that a lack of quality accounting data available for the Hunter Valley network would create difficulties in calculating effective tax rates. ARTC noted that any change in approach would require additional work to amend IPART's existing models, however they did not have a strong view either way.

NECG does not have a strong view regarding this matter other than to note that there may be some advantages for IPART in following the lead of other regulators, such as the Victorian ESC and the QCA, who use a 'Vanilla WACC' approach.¹³

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¹³ The term 'vanilla WACC' has become a relatively common term used in Australia to refer to the simplified weighted average cost of capital formula, which does not incorporate any treatment of tax. This approach assumes the treatment of tax is incorporated in the cash flows (in the revenue requirement).

2.8 Estimating the value of franking credits (gamma)

Due to some uncertainty on the best estimate of gamma, in 1999, IPART decided to utilise a range for gamma of 0.3 to 0.5.

At the time, IPART stated that it considered that ownership is irrelevant for gamma in CAPM in this context. In valuing an asset, governments should apply the same discount rate as that which would be used by the private sector. If a gamma can be estimated for private sector investors, this should be used to determine the required rate of return. Assuming the same required rate of return for the government implies no bias in investment decision-making or valuation for commercial activities arising solely from public rather than private ownership.

Pacific National

In the initial Pacific National submission to IPART we simply noted that since the 1999 decision, regulators around Australian have commonly used gamma of 0.5 in numerous regulatory decisions.

Minerals Council

In its submission, the Council reiterated the views it presented in during the previous IPART decision that an appropriate gamma should be in the range of 0.5 to 0.9. Additionally, the Council questioned IPART's decision to adopt a gamma range at the lower end of the spectrum of possibilities examined during the previous review, rather than a wider range.

In the absence of strong empirical evidence to support gamma estimates, the Council referred to the common practice of Australian regulators over recent years to adopt a gamma of 0.5. The Council sees merit in maintaining consistency across regimes and so recommends IPART adopt 0.5 as a gamma.

ARTC

ARTC indicated that given the uncertainty identified by IPART during the previous decision, and in ARTC's view supported by research papers since this time, IPART should err on the side of caution and not adopt a gamma above 0.5.

Assessment of Submissions

Given the level uncertainty regarding an appropriate gamma, and the fact that there is considerable evidence to suggest the value may be on the low side, NECG recommends IPART maintain the gamma range of 0.3 – 0.5.

3 Asymmetric risks

Some regulators in Australia, specifically the ACCC and ESCOSA, have recognised that asymmetric risk is a valid issue that should be incorporated into the regulatory process.

However, a strong burden has been put upon the infrastructure provider to establish the appropriateness of any such claim.

We are of the view that where such risks can be established, they should be addressed through the cash flows rather than as a premium in the WACC. Addressing asymmetric risks through cash flows is a more transparent approach.

3.1 Stranding risk

There are some investments, such as new spur lines to new mines that may warrant special consideration owing to the particular risk profile that such investments face. Rather than approving a higher rate of return for such “riskier” investments however, it would be more appropriate to deal with the stranding risk through depreciation.

Proper compensation for stranding risk could be accomplished easily, and with the least disruption to existing arrangements under the NSW Rail Access Regime, by permitting the depreciation life of single-mine rail infrastructure assets to be shortened to reflect a realistic estimate of the economic life of the resource that supports them. Rather than applying the standard 35-year mine life to new, single-mine assets, a shorter life could be applied for the purpose of calculating depreciation. That step would suffice in most cases to make the investment business case work, without having to introduce a special one-off WACC for each investment.

The recent draft report reviewing remaining mine life¹⁴ did not address this issue of stranding risk. The report did not attempt to determine average mine lives supporting particular line sections nor, as a result, did it provide any comment as to the ability of the network operator to shorten the life of single-mine branch lines in order to reduce stranding risk. This is a key commercial issue for new mine development.

3.2 Other risks

With regard to other asymmetric risks, such as terrorism, NECG agrees that the onus needs to be placed on the infrastructure provider to establish the appropriateness and magnitude of any such claim.

If the infrastructure provider can establish the appropriateness of such risks to the satisfaction of the regulator, NECG maintains that these risks should be reflected as an actuarially-fair insurance premium to be imputed into the costs of the regulated business through the cash flows, rather than the WACC.

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¹⁴ IPART 2004, Review of remaining mine life under NSW Rail Access Regime, Draft Report, September.

4 Summary of NECG position on the rate of return

Table 3 below provides a summary of the recommendations NECG, provided on behalf of Pacific National, believes should be adopted by IPART in its review of the rate of return to apply to the Hunter valley Category 1 rail network.

In providing these recommendations, we have sought to balance the conflicting objectives faced by all regulators, which are:

- to ensure investors can expect a rate of return which is sufficient to attract efficient investment into the industry (and to “facilitate the incentives for efficient long-term investment in the regulated industry”); and
- to protect the long-term interests of access seekers and customers, preventing the misuse of monopoly or market power.

Table 3 Pacific National (NECG) final position on WACC Parameters

	Pacific National	Comments
Nominal risk free rate (10 year) ^{###}	5.39%	Maintain the use of 10-year Commonwealth bond 20-trading day average leading to the start of the regulatory period.
Real risk free rate	2.74%	Maintain the use of 10-year Capital index-linked bond 20-trading day average leading to the start of the regulatory period.
Inflation	2.58%	Determine as the difference between the nominal and real 10-year bonds using the Fisher equation.
Market risk premium	7.0%	Based on long run historical data.
Debt margin	1.2%	IPART should determine an appropriate credit rating for ARTC and using the above gearing assumptions determine the margin between comparable firms and the 10-year bond rate.
Debt beta	0.09**	0.5 x (debt margin/MRP). Based on approach adopted by IPART in 1999.
Asset beta	0.30	Utilising the empirical analysis provided in Pacific National's submission to IPART (15 October 2004), but recognising the caveats on the analysis and the importance of providing adequate incentive for efficient investment.
Equity beta	0.73 – 0.58	Determined based on above.
Debt to equity	60% - 50%	Consistent with other Australian regulatory decisions of optimal firm structure.
Gamma	0.5 – 0.3	Given the level of uncertainty surrounding the exact gamma value, NECG believes IPART should err on the side of caution.
Tax rate	30%	
Cost of debt (nominal pre tax)	6.59%	
Cost of equity (nominal post tax)	10.53% - 9.45%	
WACC (nominal post tax)	6.24% -6.49%	
Nominal pre-tax WACC (market practice method)	8.91% - 9.28%	
Real pre-tax WACC (market practice method)	6.17% - 6.53%	

^{###} The nominal and real risk free rates, and therefore inflation, parameters adopted in this table have all been updated to reflect bond rates as at 6 October 2004 (the date used in Pacific National's original submission to IPART). The same date for sourcing the data, including for the "IPART 1999 Mid Case", so that the various scenarios can be directly comparable and not effected by timing issues

^{**} In the submission to IPART on 15 October 2004, NECG adopted a debt beta range based on recent Australian regulator decisions. However, in finalising its view we have adopted the IPART approach for determining debt beta (0.5 x Debt Margin/ MRP).

In brief, we recommend a WACC of approximately 6.5% based on the risk free rate adopted. This figure should be revised to take account of the most recent 10-year bond data at the time of IPART's final decision. In addition, NECG recommends that any additional asymmetric risks identified and justified to the satisfaction of IPART should be treated separately in ARTC's cash flows as a cost.