# QR Network's Access Undertaking (2009)

*Response to QCA draft decision*

*Volume 2- Pricing related matters*

*15 February 2010*

**QR Network**

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# EXECUTIVE SUMMARY

This is Volume 2 of QR Network's response to the QCA's draft decision and addresses price related matters concerning the 2009 Undertaking i.e. Reference Tariffs for coal carrying train services.

QR Network has a number of concerns with the QCA's draft decision in relation to Reference Tariffs, as set out in Part 1 of that decision. The key issues are summarised below. A detailed response to each issue is provided in this volume.

QR Network's positions on issues of major contention are as follows.

1.      Weighted Average Cost of Capital (WACC)

QR Network has identified a number of issues with the QCA's decision in relation to the WACC. The two main areas of concern are the risk-free rate and equity beta.

- Risk Free Rate. QR Network does not agree with the QCA's decision to align the term of the risk-free rate with the length of the regulatory period. This is inconsistent with the theoretical foundation underpinning the establishment of the WACC. It also implies a debt profile that differs from the strategy that would be adopted by an efficient benchmark firm, and unnecessarily exposes the business to refinancing risk, for which it is not compensated.

- Beta. QR Network does not agree that beta should be set with reference to regulated electricity network businesses. QR Network has also identified a number of concerns regarding the rationale the QCA has provided to reduce QR Network's beta. All of the factors that the QCA has identified are either not reflected in the beta estimate (such as stranding risk), will have a relatively immaterial effect on beta (or an effect that cannot be readily discernible) and/or was not previously seen by the QCA as influencing beta in UT2. It is therefore considered inconsistent to reduce beta for factors that were not seen to influence the value determined for the UT2 period.

2.      Maintenance Cost Allowance

QR Network does not accept the QCA's proposed maintenance cost allowance. The three key issues are:

- Exclusion of the Goonyella to Abbot Point Expansion (GAPE). In making adjustments to the proposed maintenance costs the QCA's Consultant has

assumed that the maintenance costs allocated to the GAPE project are reflective of incremental costs. This assumption is incorrect when Newland's is considered on the stand-alone basis with which the QCA has determined the Reference Tariffs.

- Maintenance margin. This submission has further detailed the relevant and cost and risk factors that QR Network's proposed margin is providing compensation. QR Network contends that the applied margin by the QCA and its Consultant does not sufficiently recognise the costs and risks of providing maintenance services and that the QCA's proposed maintenance cost allowances are not consistent with the efficient costs of providing access for coal carrying train services.

- Ballast undercutting costs. QR Network provides some technical comments on the QCA's analysis (based on the advice that was provided to the QCA by its consultant) and responds to criticisms that have been made of progress in addressing the problem of coal fouling.

3.     Efficiency Improvements – X Factor

QR Network does not accept the QCA's proposed X-factor to be applied to operating and maintenance costs. The reasons for this are set out in this submission. QR Network maintains that the efficiencies it had sought to build into its forecasts provide adequate incentive for QR Network to pursue productivity gains, without exposing it to unreasonable risks in relation to its ability to recover its efficient costs.

# 1.    INTRODUCTION

During the process of finalising an Access Undertaking the key 'building block' components of QR Network's annual revenue are reviewed. These components determine the Reference Tariffs applicable to each system for the regulatory period. The QCA's decisions in relation to QR Network's proposed Reference Tariffs are contained in Chapter 1 of the draft decision.  QR Network's response to these decisions is set out below.

The following table provides a reference to the relevant issues in the draft decision and QR Network's proposed responses:

| Decision Reference | Issue | QR Network position |
|---|---|---|
| No Decision Reference (NDR) | Opening asset value: CQCR | Accept |
| (NDR) | Cost of capital: risk-free rate | Reject |
| (NDR) | Cost of capital: market risk premium | Reject |
| (NDR) | Cost of capital: debt beta | Accept |
| (NDR) | Cost of capital: asset/equity beta | Reject |
| (NDR) | Cost of capital: capital structure and credit rating | Accept |
| (NDR) | Cost of capital: debt margin and debt refinancing costs | Reject |
| (NDR) | Cost of capital: gamma | Accept |
| (NDR) | Volume forecasts | Reject |
| (NDR) | Capital expenditure | Accept |
| (NDR) | Capital expenditure carry-over account | Accept |

| (NDR) | Accelerated depreciation | Accept |
|---|---|---|
| (NDR) | Operating expenditure | Accept |
| 1.1 | Risk and insurance | Conditionally Accept |
| 9.2 | Reporting of incident impacts on maintenance | Conditionally Accept |
| NDR | Maintenance costs | Reject |
| 1.3 | X-factor | Reject |
| 1.4 | Western system asset lives | Reject |
| 1.5 | Western system opening asset value | Reject |
| 6.7 | Renewal of access rights | Conditionally Accept |
| 1.6 | Western system maintenance costs | Reject |
| 1.7 | Western system operating costs | Reject |
| 1.8 | Western System Reference Tarriff | Reject |

## 2.    OPENING ASSET VALUE

The QCA has proposed to approve QR Network's (updated) opening asset value of $3.35 billion, although this requires that QR Network excludes $44.4 million of capital expenditure relating to feasibility studies for the Goonyella to Abbot Point Extension (GAPE).

QR Network also accepts the removal of all GAPE-related expenditure from the 2009 Undertaking.  However, QR Network is seeking clarification from the QCA regarding the process for setting aside and capitalising the economic losses using the approved WACC.

The decision is not clear on how this will be achieved under either the current 2008 Undertaking or its proposed amendments to the draft 2009 Undertaking.  In the event that the $44 million in feasibility studies is endorsed in the 2008/09 capital expenditure claim those costs would be included in the rolled forward Regulatory Asset Base (RAB).  While QR Network could 'null' the depreciation for the feasibility costs in the RAB roll-forward this would not provide for rolling forward the inclusion of the interest charges.  Alternatively, if the QCA accepted the assets into the RAB and optimised those assets from the RAB, the Undertaking does not detail how an asset that is optimised or not included in the RAB for pricing purposes is to be 'maintained'.

QR Network therefore requests that further clarity on these matters is provided by the QCA.

# 3.    WEIGHTED AVERAGE COST OF CAPITAL

## 3.1    Incentive for QR Network to Invest

The basic premise within the building block approach adopted by the QCA in setting Reference Tariffs is that investments which yield zero NPV provide sufficient reward for investors (both debt and equity) to invest. However QR Network contends that in reality, investors will commit capital only if they expect the proposed investment to create a positive NPV increment – often referred to as creating shareholder value on an expectation basis.

Reference Tariffs are set by the QCA so as to provide returns on invested capital which match, but do not exceed, the cost of capital i.e. WACC. QR Network contends that setting a return on investment at WACC may represent insufficient reward to attract funding for capital investments from capital markets and particularly for large growth expansion projects within the major Queensland coal network systems.

Determination of WACC is subjective in the sense that input values to the various factors in the WACC formula are within a range of potential values. QR Network has several comments on the various inputs in response to the QCA's decisions and these are outlined in the following sections. However QR Network's fundamental concern is that regardless of the details around the determination of WACC, economic returns based on WACC may be insufficient to attract capital for sustainable investment.

A secondary issue relates to the value assigned to franking credits. Currently the value to QR Network's shareholders (i.e. the State) of franking credits is zero. The QCA assigns a value of 0.5 to gamma i.e. franking credits are valued at 50% of their face value by shareholders. QR Network contends that the adoption of gamma value above zero further reduces the attraction of investing.
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## 3.2    Risk Free Rate

The QCA has sought to align the term for determining the appropriate risk free rate in setting elements of the cost of capital to one which approximates the length of the regulatory period.  In this case the QCA proposes to use a five year term for estimating the risk free rate (with reference to Australian Government Bonds.  QR Network rejects

this approach and prefers to retain the established regulatory precedent and accepted financial market practice of setting the costs of equity with reference to Australian Government Bonds with a maturity of 10 years.

### 3.2.1   Setting the risk-free rate under CAPM

The QCA's assumption regarding the term of the risk-free rate is not consistent with the underlying finance theory. The methodology used to determine the WACC is founded in the work of Modigliani and Miller.  When applying the Modigliani and Miller framework in practice, the Capital Asset Pricing Model (CAPM) is most commonly used to determine the cost of equity. While there are many versions of the CAPM that have evolved through time, the version most commonly applied by regulators is the Sharpe CAPM.   The model is a single period model and assumes that all investors will seek to maximise their utility over this horizon.   The length of the period is not specified.

The key issue that is being considered here is the term of the risk-free rate that is applied consistent with the requirements and assumptions of both the CAPM and capital structure theory.  The CAPM literature simply states that the model is a partial equilibrium model being of a single time horizon of undefined length.  However, when determining the risk-free rate the following conditions need to be satisfied to ensure that an appropriate proxy is used, that is:

- the proxy has no (or minimal) default risk, hence the use of sovereign government bonds; and
- the proxy has no (or minimal) refinancing risk.

CEG shows that one of the key conclusions from Modigliani and Miller was that if it can be assumed that all markets are efficient, with zero transaction costs, no debt raising strategy will dominate another. CEG then presents a weight of evidence to show what happens in practice, which is that infrastructure businesses, including rail, tend to issue long term debt (that is, debt with a maturity of ten years or greater).[1] Hence:

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[1]   Refer: CEG (2010), Estimating the Risk Free Rate and Debt Risk Premium, A Report for QR, section 2.4.

> *There must be advantages to issuing long term debt, such as lessening exposure to insolvency and bankruptcy transaction costs, which more than fully offset the advantages of gaining a lower interest rate by issuing short-term debt.[2]*

Another conclusion of Modigliani and Miller was that changes in the debt maturity profile (or any other aspect of a firm's debt strategy) that reduce interest costs will result in an offsetting change in the cost of equity:

> *Modigliani and Miller (1958) demonstrated that the level of risk in a firm is like the amount of air in a balloon. If one squeezes risk out of one area (eg, debt) then the risk simply moves to another (ie, equity). Issuing short-term debt may lower the cost of debt but it does so precisely because it lowers the amount of risk that debt providers have to bear. However, the corollary is that the equity providers have to bear higher risk (ie, the risk that is no longer passed onto debt providers is retained in the business for equity holders).[3]*

Hence, if it is assumed that the firm borrows for a shorter term, any advantage that might be seen to accrue from lower interest rates will be offset with a higher required return on equity in order to leave the cost of capital unchanged. One of the key risks that arises under such a strategy is refinancing risk. This is considered further below.

### 3.2.2   The efficient benchmark firm

Before exploring issues associated with refinancing risk in practice, it is important to highlight at this point that when considering the most efficient funding strategy in setting a regulated cost of capital, reference is made to the 'efficient benchmark firm'. This is the approach that is most commonly applied by regulators, including the QCA, because it is seen as being most compatible with the principles of incentive regulation. For example, the QCA has not considered the impact of QR Network's government ownership when considering parameters such as gearing, gamma, the cost of debt and debt and equity raising costs. It also makes reference to 'efficient benchmarks' when setting other allowances such as operating and maintenance costs.

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[2]   CEG (2010), para. 40.

[3]   CEG (2010), para.7.

The Australian Energy Regulator (AER) considered this issue in the development of its Statement of Regulatory Intent (SoRI)[4], which addresses the WACC methodology and parameters that will be applied to regulated electricity transmission and distribution network businesses. In the final SoRI it explicitly defined the 'efficient benchmark firm' as follows:

> *The AER considers that a benchmark efficient NSP is a business that provides 'pure play' regulated electricity network services operating in Australia without parent ownership.*[5]

It is therefore necessary to establish the funding strategy that the 'efficient benchmark firm' would adopt, including how it would seek to manage its exposure to refinancing risk. The efficient benchmark firm should be defined as a stand-alone business that is required to raise its own funding in the market, without the benefit of parent ownership (whether that be a public or private sector parent).

### 3.2.3   Refinancing risk in practice

The model on which Lally based his 'NPV=0' conclusion contains what he acknowledged to be highly simplifying assumptions. Under this model:

> *...the only source of uncertainty is in future real interest rates.*[6]

In particular, this assumes that there is no refinancing risk when debt matures. If real interest rate risk is the only risk that is considered, then it will be optimal to match the term of the funding with the term of the regulatory period. The QCA assumes that this is the optimal strategy to employ:

> *Using borrowings which have a term that closely matches the regulatory term will avoid this mismatch, and potential risk, provided that the costs of refinancing debt are adequately met.*[7]

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[4]   Australian Energy Regulator (2009),  Final Decision: Electricity Transmission and Distribution Network Service Providers, Review of the Weighted Average Cost of Capital (WACC) Parameters,  May.

[5]   Australian Energy Regulator (2009),  p.104.

[6]   M. Lally (2002), Determining the Risk Free Rate for Regulated Companies, Paper Prepared for the Australian Competition and Consumer Commission, August.

[7]   Queensland Competition Authority (2009), p.12.

If the assumption regarding no refinancing risk is relaxed, as the QCA appears to suggest, then this strategy will expose the business to refinancing risk. Presuming it is possible to hedge this risk, costs will be incurred. The QCA therefore concludes that provided the costs of refinancing debt are compensated, matching the term of the borrowings to the length of the regulatory period remains the most appropriate strategy for the efficient benchmark firm.

In relation to the issue of compensation, it then goes on to say:

> *The Authority considers that the uplift in the debt margin is reasonable in this regard.*[8]

This would appear to imply that the 'uplift' in the debt margin somehow includes 'room' for compensation of these costs. It is not clear why this is seen to be the case. The debt margin is set based on observed market rates. It reflects what borrowers would actually have to pay in the current market. The QCA is implying that the cost of debt it is proposing somehow exceeds this. On the contrary, particularly if the debt margin is based on a maturity profile that matches the length of the regulatory period, it will most likely be undercompensated.

In any case, even if the QCA was proposing to appropriately reimburse QR Network for any such costs, this would not be efficient. This is because these costs can be avoided by implementing a funding strategy that the unregulated owner of infrastructure with long economic lives would employ, which is long-term funding. The need for refinancing is created by the regulatory framework. QR Network believes it would be more efficient to enable the regulated business to pursue the most efficient commercial strategy, rather than force it to incur costs that it could avoid.

The regulatory framework should not be dictating how businesses fund themselves. Overall, the regulatory regime should complement the prudent commercial risk management practices that would be employed by the efficient benchmark firm, rather than drive this behaviour.  This was stated in the QCA's original decision in relation to QR Network:

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[8]    Queensland Competition Authority (2009), p.12.

> *In estimating the cost of debt for regulatory purposes, the cost of debt needs to reflect the current market rate for debt for an entity that is efficiently financed.*[9]

An appropriate strategy for an efficient benchmark owner of rail network infrastructure (which has a long economic life) is to fund the business with long term debt, while maintaining appropriate maturity date diversification to manage interest rate, liquidity and refinancing risks.  This is considered good treasury management policy.

The QCA explicitly states that the risks that its decision creates by setting the term of the risk-free rate to match the length of the regulatory period can simply be avoided by borrowing for the length of the regulatory period. Apart from the practical difficulties of this, requiring a fundamental alteration to what would otherwise be considered a prudent risk management strategy is considered completely incompatible with incentive regulation.

As part of the development of its SoRI, the AER originally proposed that the term of the risk-free rate should match the length of the regulatory period (the QCA has referred to this in the draft decision). Following submissions from stakeholders, in the final SoRI the AER reverted to the use of a ten year risk-free rate because it acknowledged that to use a five-year rate would increase refinancing risk for the businesses, and that:

> *There is evidence that the issuance of long term debt is considered important for the purposes of managing refinancing risk…*[10]

It concluded:

> *In examining the debt financing practices of the benchmark efficient business, the AER's objective has been not only to seek an outcome which satisfies the present value principle (i.e. to provide correct compensation for the cost of debt), but also to ensure that the outcome does not unreasonably increase refinancing risk for the sector.*[11]

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[9]   Queensland Competition Authority (2000), p.33.

[10]  Australian Energy Regulator (2009), p.167.

[11]  Australian Energy Regulator (2009), p.167.

The QCA appears to have misinterpreted the AER's decision. The QCA states that the AER concluded that:

> …regulated businesses do not appear to be able to hedge the debt premium component on the cost of debt[12].

It then implies that QR Network can, which appears to be because of the 'uplift to the debt margin' (as set out above). Apart from the problems that have already been highlighted with the QCA's conclusion, it has not correctly characterised the AER's reasoning. CEG states:

> It is correct that the AER found that businesses could not hedge the debt risk premium on ten year debt in order to match the 5 year regulatory period. But the reason this was important to the AER was that it explicitly rejected the 'solution' proposed by the QCA Draft Decision that businesses simply issue 5 year debt. That is, the AER explicitly noted that businesses needed to issue long-term debt in order to efficiently minimise refinancing risks.[13]

QR Network should not be forced into a strategy that exposes it to refinancing risk. Apart from the fact that it is not compensated for these costs, it is not efficient to incur costs that could otherwise be avoided by funding for longer terms.

### 3.2.4  Conclusion: risk-free rate

QR Network does not accept the QCA's decision to shorten the term of the risk-free rate to match the length of the regulatory period.  In QR Network's view the QCA's proposal is inconsistent with the assumptions underpinning application of the CAPM. If the QCA does implement this decision, including assuming that any costs of managing this strategy are already covered by the debt margin, the outcome for QR Network will be to further reduce incentives to invest (refer section 3.1).

The QCA has assumed that QR Network can manage the risks that its decision creates by borrowing for the length of the regulatory period. First, this exposes the business to refinancing risk. Second, the regulatory regime should not drive QR

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[12]  Queensland Competition Authority (2009), p.12.

[13]  CEG (2010), para.66.

Network's funding decisions. Instead, it should complement the efficient and prudent commercial practice of an efficient benchmark firm.

The QCA will be the only Australian regulator to apply a term of the risk-free rate for the length of the regulatory period, noting that in 2003 the Australian Competition Tribunal overturned a decision by the ACCC to apply a five year risk-free rate. The AER also recently reversed its own decision to apply a five year risk-free rate as it recognised that this would expose the regulated businesses to refinancing risk.

The risk-free rate should be set with reference to a long-term, forward-looking horizon, as are the other parameters. In Australia, this is achieved by referencing the ten year Commonwealth Government bond yield.

## 3.3    Market risk premium

QR Network has proposed a range for the market risk premium (MRP) of between 6% and 7%, based on the observed long-run historical MRP. This was supported by analysis contained in a report prepared by Synergies Economic Consulting (Synergies), as part of its review of the cost of equity.

The QCA did not specifically address QR Network's proposed MRP in its analysis and decision. Instead, it has relied on a paper prepared for the QCA by Lally in 2004, which sought to estimate the MRP based on a range of methods. On the basis of the information presented in that report, the QCA continues to consider that a MRP of 6% remains reasonable.

The QCA noted the AER's decision to increase the MRP to 6.5% in the SoRI, which was primarily attributed to the global financial crisis (GFC). However, one of the reasons it has given for not following the AER's decision is because such an adjustment would be for 'short-term fluctuations' and that such adjustments are inherently subjective.

QR Network does not agree that the GFC can be considered to be in the category of a 'short term fluctuation'. It is one of the most significant events in the history of the global economy.  While a material recovery in the sharemarket has been observed over the course of 2009, equity market investors still face considerable uncertainty and this will be reflected in long-run forward-looking returns.  For example, at a World

Economic Forum held in late January 2010, leading global economists warned that signs of global economic recovery could "lose pace" later this year, with below-average growth and continued risk of renewed recession:

> *Many leading economists and investors showed little confidence that good times are back. The US and Europe will have "U-shaped" or "W-shaped" recoveries, economists on the panel argued, meaning they believe the upturn since late 2009 will fizzle out later this year.*[14]

Even more recently, concerns regarding possible default by sovereign governments have seen considerable nervousness return to the market, including a reduction in the risk-free rate.

Caution needs to be exercised in examining historical measures of the MRP following an event such as the GFC given the impact that it has on the long-term average, even over a long horizon.

What has been observed following the GFC is an increase in the forward-looking MRP. For example, a recent paper by Officer and Bishop that was submitted to the AER by the Victorian distribution network businesses estimates the forward-looking MRP at 12%, with their best estimate of the MRP expected to prevail over the relevant regulatory period (which in that case is January 2011 to December 2015) being between 7% to 10.6% per annum.[15] They propose what is considered to be a more robust method of estimating the forward-looking MRP based on implied volatility of options on the ASX 200 and spreads on corporate debt and that this represents a sufficiently justifiable reason to depart from the long-run MRP, which they consider to be 7%. CEG's view is that the forward-looking MRP post-GFC is "between 8.3% and upwards of 16.7%."[16]

The QCA has indicated that it is taking a long-term view in relation to the MRP and it also suggested that in the past, it has not reduced the MRP "in response to short term fluctuations." Putting the effects of the GFC aside, QR Network maintains its view that

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[14] M. Walker (2010), "Experts See Another Global Dip Ahead", The Australian, 28 January http://www.theaustralian.com.au/business/news/experts-see-another-global-dip-ahead/story-e6frg90x-1225824293689.

[15] Professor B. Officer & Dr. S. Bishop (2009), Market Risk Premium, Estimate for 2011 – 2015, October.

[16] CEG (2010), para. 86.

the long-run average MRP is between 6% and 7%. However, in the interest of long-term stability and regulatory certainty, it is prepared to accept the QCA's proposed estimate, as it is within what could be considered to be the bounds of a reasonable range, although is at the lower bound of that range.

What QR Network is not prepared to accept is the QCA's decision to make no adjustment to the MRP to reflect a shorter term for the risk-free rate. The QCA has indicated that the difference is in the order of 20 basis points but is "well within the standard error of the estimates and the head room the Authority provided"[17]. It is not clear how this 20 basis points has been derived.

The difference between the MRP estimated using a five and ten year rate is known and readily quantifiable. Estimating a five year risk-free rate for the purpose of calculating the cost of debt and equity, while using a MRP that has been measured based on a ten year rate, is inconsistent. It is not considered acceptable to discount something that is known and quantifiable, on the assumption that the QCA's MRP estimate is already 'generous'.

This is supported in the accompanying report by CEG (refer Appendix C). They consider the QCA's decision to be in error for two reasons:

> First, uncertainty in the value of parameters is not a basis for introducing a known bias into your methodology.

> Secondly, arguing that the QCA has included 'headroom' (by which we assume the QCA implies some form of margin for error) in other aspects of its decision is not a reasonable basis for introducing a deliberate downward bias in this part. A margin for error ('headroom') that is subsequently used to justify a conscious underestimate is not, in reality, a margin for error. Moreover, the assertion that the QCA has built in a positive margin for error in the Draft Decision MRP is, in our view, unjustified.[18]

As outlined above, while QR Network is prepared to accept the QCA's estimate, it is considered to be at the lower bound of a reasonable range. To fail to then adjust that

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[17]   Queensland Competition Authority (2009), p.15.

[18]   CEG (2010), paras. 90-91.

for the change in the horizon of the risk-free rate entrenches a clear error. Further, the quantum of that error is significantly material to cause concern, noting that in selecting a MRP from the lower bound of what is considered to be a reasonable range, is more likely to understate, rather than overstate, the long-run MRP.

## 3.4    Debt beta

QR Network remains of the view that given the significant uncertainties associated with valuing the debt beta (as addressed in the report by Synergies) and the asymmetric consequences of error, a value of zero is considered the most appropriate assumption to apply. A value of zero is also now applied by most other Australian regulators, or alternatively, they apply an approach to de-levering and re-levering beta that does not require an assumption regarding a debt beta.

The QCA has also misrepresented comments made by Synergies to be seen to support its position.  The QCA cites the following statement made by Synergies:

> …the debt beta estimate is not considered an issue provided the same estimate is used in the de-levering and re-levering process.[19]

However following this sentence, Synergies goes on to say:

> However, that in turn implies that the regulated entity's beta is being set with direct reference to the comparator data.  When a higher value of debt beta is applied, for example, it will result in a relatively higher value for the de-levered asset betas (the comparators), and a lower equity beta when the regulated entity's asset beta is re-levered.  In other words, this will prove 'immaterial' if the regulated entity's asset beta is set with direct reference to (or equivalent to) the comparator estimates.
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> This is not necessarily the case here, nor is it often the case in other reviews…[20]

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[19]  Synergies Economic Consulting (2008), Review of QR Network's Cost of Equity,  September, p.37.

[20]  Synergies Economic Consulting (2008), pp.37-38.

Synergies' point was that the value *does* matter here. However in any case, it considered that the important issue was how to reliably estimate the debt beta.

While QR Network does not agree with the QCA's decision, it does not have any new evidence to submit in this response. It is therefore prepared to accept a debt beta of 0.1.

## 3.5    Equity/asset beta

The QCA has proposed to reduce QR Network's asset beta from 0.5 (as applied in UT2) to 0.45.  The rationale for the reduction being an assumption of a reduction in QR Network's covariance with the market and the relativity of QR Network's risk to regulated energy utilities.  QR Network rejects the QCA's proposal as it does not believe that the additional risk management measures sought by QR Network alters the covariance with the market.

### 3.5.1   Background

QR Network proposed an asset beta range of between 0.5 and 0.6.  This was based on advice provided in a report prepared by Synergies Economic Consulting (Synergies), which based its conclusions on a first principles analysis, an examination of comparable companies and relevant regulatory precedent.

QR Network had also proposed that its stranding risk will increase materially in UT3 given the magnitude of the investments it will undertake. In its submission, it stated that:

> *Given the Capital Asset Pricing Model assumes normally distributed returns, this risk is not currently compensated via WACC.*[21]

QR Network therefore considered that given the uncertainty it was facing:

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[21]    QR Network (2008), QR Network's Access Undertaking (2009), Volume 2 – Central Queensland Coal Region Reference Tariffs, September, p.9.

> *…selecting a conservative estimate from within this range is the most appropriate means of dealing with this uncertainty, particularly in the current investment climate.[22]*

It therefore proposed that the WACC be selected from the 75th percentile of the range.

In 2005, the QCA applied an asset beta of 0.5, which gave an equity beta of 0.9 (based on 55% gearing, a gamma of 0.5 and a debt beta of 0.1).  The QCA is now proposing a reduction in QR Network's equity beta to 0.8.  It reached this conclusion after reviewing advice from its consultant, the Allen Consulting Group (ACG) who considers that regulated energy businesses are the most appropriate comparators for QR Network. The QCA also considers that a number of changes to QR Network's regulatory framework that it was proposing to approve would reduce its risk and hence warranted a lower beta. It has even flagged a further reduction in the equity beta to 0.7.

### 3.5.2   QR Network's concerns

QR Network has a number of concerns with this decision. These concerns are in four key areas, being:

- the choice of comparator companies;
- the degree and importance of demand correlation;
- treatment of stranding risk; and
- the case for a further reduction in beta.

A summary of these concerns is provided below. This is supported by the accompanying report by Synergies, which is contained in Appendix D.  Reference is made to this report for more detail regarding the issues identified here.

### 3.5.3   The choice of comparator companies

The QCA has rejected QR Network's comparators, which comprised a sample of railroads and coal companies.  While it was acknowledged that there were no close comparators to QR Network, the QCA (based on the advice of ACG) considers that

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[22]   QR Network (2008),, p.11.

regulated electricity network businesses are more appropriate comparators. It is noted that in 2005, the QCA relied on a seaport and two infrastructure investment companies (but not regulated electricity network businesses).

The main similarity between QR Network and regulated electricity network businesses is that they are both governed by a revenue cap form of regulation (which results in a relatively stable cash flow profile relative to forecast during the course of the regulatory period, as ACG refers to). Form of regulation is only one factor that is considered in determining systematic risk and in any case, it is noted that regulators no longer tend to distinguish between different forms of regulation when assessing beta. Further, form of regulation only impacts the revenue profile for the term of the regulatory period. The horizon of the beta analysis is long-term. QR Network's exposure to volume risk in the long-term is different from the exposure faced by an electricity network business over that same horizon.

It is maintained that of all of the factors considered in the first principles analysis, one of the key drivers of systematic risk is the nature of the product and the nature of the customer. As previously submitted, in the long-run the demand for QR Network's services will be directly linked to the demand for coal. In the short to medium-term, this exposure will be mitigated by mechanisms such as the revenue cap (for the duration of the regulatory period) and take-or-pay provisions (for the duration of the contracts, unless they are terminated early).

In establishing a beta for QR Network based on a sample of regulated energy network businesses, the QCA references analysis undertaken by ACG, as well as the AER's equity beta determination in the final SoRI. ACG had previously determined an appropriate equity beta range for these businesses to be between 0.65 and 0.9 (based on 60% gearing). However, in advice provided to energy network businesses as part of the AER's review, ACG considered that:

> …the Australian data that are available for the estimation of the beta of a regulated electricity transmission or distribution business are depressingly poor.[23]

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[23] The Allen Consulting Group (2008), Beta for Regulated Electricity Transmission and Distribution, Report to Energy Networks Association, Grid Australia and APIA, September, p.1.

It therefore concluded that:

> *Taking into account the limitations of the data set, the size and incompleteness of statistical error margins around the beta estimates, and evidence of a recent rising trend in beta estimates, we do not consider that current empirical evidence on beta values would provide convincing or persuasive evidence to conclude that the (60 percent geared) equity beta for a regulated electricity transmission or distribution business is different from 1.*[24]

It reiterated these concerns in a subsequent report submitted to the AER and was critical of the AER's proposed equity beta range of 0.44 to 0.68[25], which was based on the advice of Professor Henry. It is noted that the QCA has referred to Henry's estimates and suggests that this data could provide support for a further reduction in QR Network's beta. While ACG noted that the AER was bound by a requirement to only change the value of a parameter if there was sufficiently persuasive evidence to do so, and that it had interpreted a high threshold for this test, it also stated that its conclusions would largely hold irrespective of how this persuasive evidence test was interpreted.[26]

To the extent that the QCA places reliance on the regulated electricity network businesses to establish QR Network's beta, this is considered to introduce two significant risks of error.  The first is the risk that energy businesses are not an appropriate proxy for QR Network's business. The second is the risk of estimation error, given the concerns that the QCA's own consultant has expressed about "the Australian data that are available for the estimation of the beta of a regulated electricity transmission or distribution business."[27] These risks are significant given the QCA is solely relying on these comparators to set QR Network's beta. QR Network does not consider that such reliance is appropriate.

Finally, both the ACG and QCA have implied that QR Network's proposed beta range was aligned with its comparator sample:

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[24]  TheAllen Consulting Group (2008), p.1.

[25]  The Allen Consulting Group (2009), Australian Energy Regulator's Draft Conclusions on the Weighted Average Cost of Capital Parameters: Commentary on the AER's Analysis of the Equity Beta, Report to Energy Networks Association, Grid Australia and Australian Pipeline Industry Association, January

[26]  The Allen Consulting Group (2009).

[27]  The Allen Consulting Group (2009), p.1.

> *…ACG argued that an equity beta estimate for QR Network should not be drawn from the upper end of a range that has been constructed from inappropriate comparators. As such ACG argued that estimation should ultimately rely on judgment that is informed by empirical analysis.[28]*

Both Synergies and QR Network emphasised that the recommended beta range sat well *below* the estimates observed for the comparator sample. This is shown in the figure below.

**Figure 3.1: Scatterplot of asset betas of QR Network's comparator sample**
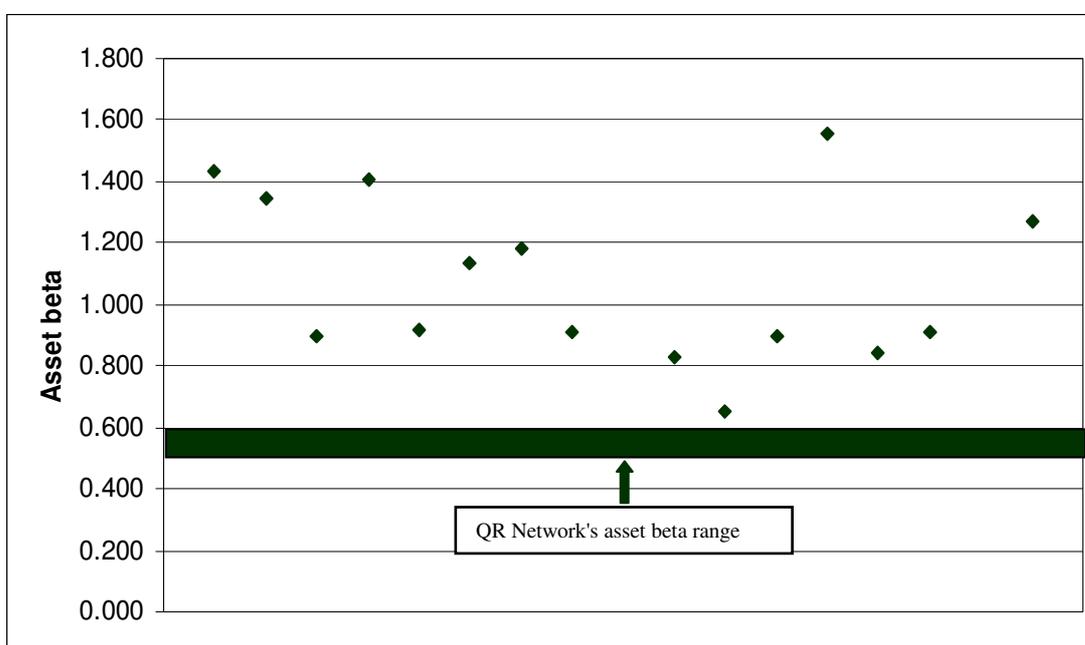


Further, these conclusions have also involved the application of judgment "informed by empirical analysis". The QCA's statement implies that QR Network has not done the latter. Given the extensive analysis that underpinned its submission, it would strongly refute this.

### 3.5.4   Degree and importance of demand correlation

Both ACG and the QCA make repeated references to QR Network's 'uncorrelated' demand and see this is as a key reason for applying a low beta. As set out above, it is agreed that demand drivers are particularly important as they will determine QR

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[28]   Queensland Competition Authority (2009), p.18.

Network's revenue. However, it is also noted that beta measures the sensitivity of the *returns* on a firm's equity to movements in the domestic economy.

As previously highlighted, the relevant horizon for beta assessment is long term. Equity prices (and hence returns) will respond to changes in long-term expectations.

One of the factors influencing these expectations is long-term coal demand. While QR Network does not dispute that the outlook is positive, there is considerable uncertainty underpinning this outlook (as it has previously submitted). In forming their long-term expectations, equity investors will be particularly concerned with the risks associated with long-term demand forecasts. For example, one of these risks is the impact of an emissions trading scheme, with concerns having been expressed in other forums by users regarding the potential impact of such a scheme on Australia's relative competitiveness in the world market. This is one of a number of risk factors that could impact the long-term outlook.

The other side of the equation when considering returns is costs. As previously submitted, QR Network has high operating leverage, although this has not been claimed to be any higher than any other heavy haul rail network owner. The QCA has previously concurred that QR Network's operating leverage is higher than DBCT Management's.

The returns to equity, and implications for measurement of beta, result from changes in expectations regarding revenues and costs. The relevant horizon over which these expectations are formed is long term, noting that there is inherent uncertainty in forecasting the long-term demand for coal (and Queensland's share of that market). The very high operating leverage of QR Network serves to magnify the changes in costs and expectations of those costs.

### 3.5.5   Treatment of stranding risk

One of the key reasons provided by the QCA for its proposed reduction in beta is because measures that it proposes to approve for UT3, including accelerated depreciation and capital underwriting for major projects, results in QR Network's asset stranding risk being "minimal" and that:

> *Accordingly, the Authority does not believe that the previous uplift to the equity beta, from 0.80 to 0.90, can be justified.*[29]

In other words, the QCA is directly linking these measures to the reduction in beta. QR Network has significant concerns with this decision.

The extent to which these measures achieve any reduction in risk depends on the extent that they are implemented. For example, the provision in relation to capital underwriting for new projects is only the *ability* to seek this from customers, noting that this has not been contemplated for any of the investments contemplated as part of the UT3 capital program (the exception to this is GAPE, which is excluded from this amount).

More importantly, the QCA's decision implies that the beta it approved for QR Network in UT2 resulted in a cost of equity that compensates it for stranding risk. This assumption is necessary if it now proposes to reduce QR Network's beta for a perceived reduction in this risk.

As QR Network (and Synergies) have previously emphasised, the CAPM-derived equity beta does not provide compensation for stranding risk. The CAPM includes an assumption that returns are normally distributed. In the case of asymmetric risks, returns are not normally distributed as they are truncated. Therefore, the beta estimate does not accurately reflect the asymmetric risk.

To QR Network's knowledge, neither the QCA nor any other Australian regulator has ever assumed that the CAPM-derived cost of equity compensates the regulated business for stranding risk (because such an assumption is inconsistent with the model). While there has been some debate about compensation for asymmetric risk, this has been about whether compensation should be provided, how it can be robustly quantified, and whether it should occur via a cash flow adjustment or an additional margin on the WACC. If the QCA is implying that the UT2 "uplift" was for stranding risk, there is nothing in that decision stating this.

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[29]   Queensland Competition Authority (2009), p.19.

In any case, the QCA (and its consultant, ACG) has previously assessed QR Network's asset stranding risk as low. In its Final Decision in relation to UT2, the QCA concluded that:

> *Both QR and DBCT operate in the same coal chain and, while DBCT faces a higher asset stranding risk than QR, it is considerably offset by the approved regulatory arrangements.*[30]

While it did not address the issue of stranding risk in any detail in its 2004 report to the QCA, ACG concluded that:

> *…the indications are that the asset stranding issue does not appear to be a significant risk factor for at least the next two regulatory periods.*[31]

To the extent that ACG did consider that stranding risk was relevant to its analysis, it did not explain why or how.  In the draft decision, QR Network notes that neither the QCA nor ACG made any comments regarding the treatment of asymmetric risk for the purpose of estimating beta, nor did it respond to QR Network's point regarding compensation of this risk within the context of the CAPM.

Therefore, to the extent that:

- the CAPM-derived equity beta does not recognise asymmetric risks such as asset stranding; and
- the QCA and its consultant, ACG, have previously considered QR Network's stranding risk to be low (before the measures mentioned above were even proposed),

QR Network questions how the QCA can now propose to adjust beta for a factor that the UT2-approved equity beta of 0.9 was not seen to reflect.  This is seen as inconsistent.

### 3.5.6   Case for a further reduction in beta

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[30] Queensland Competition Authority (2005), Decision: QR's 2005 Draft Access Undertaking, December, p.vi.

[31] The Allen Consulting Group (2004), Queensland Rail – Coal, Analysis of Proxy Betas, Report to Queensland Competition Authority, November, p.7.

The QCA has mooted an even further reduction in QR Network's beta for the Final Decision. In saying this it referred to the range of electricity network betas determined by Professor Henry and relied upon by the AER. QR Network's concerns with this were addressed above.

The QCA also cites other changes proposed for UT3, being the annual review of volume forecasts, the indexing of maintenance costs by the MCI, and the progressive reduction in QR Network's take-or-pay exposure as more contracts move onto the stronger UT2 provisions.  QR Network rejects the implication that any of these features present potential justification for a further reduction in beta.  The reasons for this are summarised below.

*Annual review of volume forecasts*

Moving to a revenue cap form of regulation removed QR Network's exposure to volume risk for the term of the regulatory period. Annual updates to volume forecasts will have no discernible impact on QR Network's long-term exposure to volume risk. In any case, the QCA has consistently sought to argue that QR Network's demand is largely 'uncorrelated'. It is therefore inconsistent to argue that this will reduce its systematic risk.

*Maintenance cost index*

The QCA does not explain how the change from a CPI to a MCI could be shown to have a material impact on QR Network's systematic risk. The change in index only impacts maintenance costs, which have been shown to constitute a relatively small proportion of QR Network's total cost base (given its high operating leverage). QR Network does not agree that the index change will have any appreciable impact on beta.

*Take-or-pay*

The QCA observes that the contracts with the 'weaker' pre-2006 undertaking take-or-pay provisions will be progressively replaced by the stronger post-2006 provisions. This is another example of where it is not evident that QR Network's previously approved equity beta was materially impacted via take-or-pay. For example, in 2005 ACG did not consider that take-or-pay had a material impact on QR Network's beta:

> *QR-Coal's take-or-pay contracts make its EBIT less responsive to demand shifts. It was noted that the significance of this for systematic risk is dominated by the uncorrelated demand effect. That is, the systematic risk is already low, and will not be impacted greatly by contracts that span only a small proportion of the asset life.*[32]

In 2005, the only distinction the QCA drew between QR Network and DBCT in terms of systematic risk was operating leverage. DBCT has always been subject to 100% take-or-pay.

In all of these cases, QR Network therefore does not consider that there is any basis for supporting a further reduction in QR Network's beta. The factor will either have a relatively immaterial effect on beta (or an effect that cannot be readily discernible), or was not previously seen by the QCA as influencing beta in the past. This is significant because the QCA is proposing a further 0.1 reduction QR Network's beta. This is material. Such a material change in beta requires demonstration of a material change in risk.

### 3.5.7   Relevant regulatory precedent

Finally, QR Network notes that not all relevant regulatory precedent was identified in the ACG report. This includes:

- The ACCC's 2008 decision to apply an asset beta of 0.65, or an equity beta of 1.29 (with 50% gearing) to ARTC's interstate network;
- The ERA's 2009 decision to apply an asset beta of 1, or an equity beta of 1.43 (with 30% gearing), for The Pilbara Infrastructure, which hauls iron ore; and
- IPART's 2009 decision to retain an equity beta range of between 0.7 and 1 for ARTC's Hunter Valley Coal Network (with a gearing range of 50% to 60%), noting that given the pending transfer of responsibilities to the ACCC, IPART did not look to implement any material change.

While there are differences between QR Network's business and these businesses, if QR Network's beta is reduced it will be well below all existing regulatory precedent applying to rail, with the exception of the WA urban network (which, as we would

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[32]   The Allen Consulting Group (2005), p.3.

expect, has a lower equity beta of 0.46). It will certainly be the lowest of any regulated heavy haul network in Australia.

### 3.5.8   Conclusion

QR Network acknowledges that in theory, measures such as accelerated depreciation (which only applies to new investments) and the ability to seek capital underwriting of new projects have the potential to reduce its exposure to stranding risk, although the extent to which this actually occurs depends on whether they are actually implemented. This is particularly the case in relation to the ability to seek access conditions for major projects, which, as highlighted above, is currently not contemplated for the capital expenditure included in the UT3 proposal.

QR Network accepts that this dilutes its arguments for an uplift in beta, as put forward in its original proposal. However, it does not provide a reason to reduce QR Network's beta below the level determined in UT2, particularly given it cannot be assumed that it reflected stranding risk. If it did, there is no evidence from any of the QCA's previous decisions or analysis to suggest that it was assumed to be reflected and if so, what the impact on beta might have been (which would have been necessary given the CAPM-derived beta does not naturally provide compensation for asymmetric risk). On the contrary, QR Network's stranding risk appeared to have previously been assessed as low.  Similarly, other possible changes that the QCA has proposed to approve could not be seen to materially impact QR Network's systematic risk.

QR Network does not agree that it is appropriate to estimate its beta with reference to regulated electricity network businesses. To the extent that the QCA seeks to rely on these betas, its own consultant has raised questions regarding the reliability of data for regulated Australian electricity network businesses, which it has labelled as "depressingly poor".

QR Network maintains that its asset beta range of between 0.5 and 0.6 is reasonable. However, it is prepared to accept an estimate from the lower bound of this range, or an equity beta of 0.9.

### 3.6    Capital structure and credit rating

QR Network proposed to maintain gearing of 55%, which was seen to remain consistent with a notional credit rating of BBB+. The QCA has accepted this proposal.


## 3.7    Debt margin and debt refinancing costs

The QCA has proposed to determine the debt margin with reference to the cost of funds on corporate debt with a maturity of five years. The QCA proposal aligns with its proposal on the risk free rate. QR Network rejects the QCA's proposal and seeks to align the maturity of the benchmark cost of debt to align with the term of the risk free rate. QR Network has also undertaken to include a robust approach to estimating the debt margin which replicates similar approaches employed by the Australian Energy Regulator.

### 3.7.1   Debt margin

QR Network does not accept the QCA's proposed debt margin because it does not accept its decision to match the term to maturity with the length of the regulatory period. The reasons for this were set out above.

The QCA also considered the issue of which data provider to use (Bloomberg or CBA Spectrum). It concludes that since the yields estimated by each service have recently converged, that these issues have largely gone away. It is assumed that it has applied Bloomberg although it is not clear as its method and assumptions are not stated, other than that it has used a five year term.

CEG has examined the issues associated with estimating the cost of debt in its attached report (refer Appendix C). It considers that applying a method that tests which of the alternative service providers produces the 'best' fair value estimate is important. The AER has now implemented such a methodology although the results remain inconclusive. CEG has proposed some additional information that could be used with this method, and concludes that:

• Bloomberg has the best fit for ten year BBB+ debt; and
• for a five year term, the AER's test would result in either a simple average of Bloomberg and CBA Spectrum or CBA Spectrum.

QR Network therefore proposes that given the continued liquidity issues in the corporate bond market, consideration is given to applying a more robust method to test the reasonableness of the predictions made by CBA Spectrum and Bloomberg, based on the recommendations contained in the CEG report.

### 3.7.2   Debt raising costs

The QCA rejected QR Network's claim for debt raising costs of 15.5 basis points per annum, which comprises both direct and indirect costs. The QCA's objection is to QR Network's claim of 3 basis points for indirect costs, as it does not accept the evidence regarding underpricing.  While QR Network does consider that there is a valid and material trade-off between direct costs (underwriting) and indirect costs (underpricing) it is prepared to accept the QCA's proposed allowance of 12.5 basis points per annum.

## 3.8   Gamma

The QCA rejected QR Network's proposed gamma of zero.  Its discussion of this matter is reasonably limited. However, one of the key reasons for this decision would appear to be that recognition of foreign investors is seen as inconsistent with the application of a domestic CAPM.

As submitted in the Synergies report, application of a domestic CAPM that excludes the presence of foreign investors would require all parameters to be somehow re-estimated in this way (given that foreign investors do practically exert an influence on *all* of the parameter values).  On the other hand, it is also not considered appropriate to apply an international CAPM, which assumes full integration of world capital markets.

The AER also considered this issue in the SoRI and concluded that it would apply the domestic CAPM while recognising the practical influence that foreign investors have in the Australian market:

> *Under a domestic CAPM framework, foreign investors in the Australian market will be recognised in defining the representative investor, but only to the extent they invest in the domestic capital market.*[33]

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[33]   Australian Energy Regulator (2009), p.101.

Further, it recognised that:

> *While this approach may represent a departure from the strict 'full segmentation' assumption often associated with the Officer WACC framework, it appears appropriate and reasonable given past regulatory practice and the reality of cross-border capital flows. The alternative 'full integration' assumption implies the adoption of an international CAPM, with the domestic market containing mainly foreign investors and unrestricted capital flows. The assumptions relating to an international CAPM are also not considered appropriate given that these conditions have not been observed in the Australian market to date.[34]*

This is consistent with the position put forward by QR Network and Synergies.

It is noted that the QCA considers that Synergies' gamma estimate is inconsistent with its other CAPM parameters, although it is not clear why. It does indicate that Synergies has not demonstrated that its estimate lies somewhere within the bounds arising from full segmentation and full integration. It is questioned how such a requirement could ever be satisfied. In any case, Synergies' proposed gamma estimate is based on observing the market-determined parameters 'as they are', using evidence drawn from a number of reputable Australian market-based studies cited in its report.  As the other cost of equity parameters are also based on observed market data, without any specific adjustments for the influence of foreign investors on these prices, it has been estimated consistent with the other parameters.

While QR Network is not satisfied that the QCA fully considered its position, it does not have any additional evidence to put forward in this submission. It is therefore prepared to accept the QCA's proposed gamma estimate of 0.5.

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[34] Australian Energy Regulator (2009), p.100.

# 4.    VOLUME FORECASTS

The QCA has proposed accepting the revised volume forecasts provided to the QCA by QR Network in June 2009. QR Network supports the balanced, pragmatic and reasoned approach to the QCA's consideration of the revised volume forecasts.  The draft decision notes that demand for coal volumes has proven more resilient than expected at the time the volume forecasts were prepare in June.

As we are more than half-way through the 2009/10 financial year QR Network is able to review those forecasts in light of the coal chain performance for the year to date, in order to assess the ongoing reasonableness of the June 2009 forecast.

QR Network is also cognisant that to the extent actual volumes for the 2009/10 year materially exceed the regulatory forecast, QR Network will be required to retrospectively collect greater amounts via the adjustment charge only to return those amounts via the revenue cap.  Therefore, QR Network proposes to amend the 2009/10 volume forecast to reflect its updated assessment of annual throughput taking into consideration performance to date, seasonal weather and throughput impacts and supply chain capacity constraints.

In considering the Capital Indicator the QCA has rejected the $171 million in the Capital Indicator relating to the Newlands system on the basis that it related to the GAPE project.  However, Newlands expansion tonnes are to be accommodated through infrastructure enhancements to the Newlands system associated with the GAPE project. The notional amount represented the proportional contribution of Newland's users to those system upgrades.  As set out in section 5, QR Network is prepared to accept the QCA's decision to exclude the $171 million from the Capital Indicator to be applied to the Newland's system.  However, the volume forecasts should also reflect the capacity exclusive of these upgrades.  Therefore, QR Network proposes to reduce the volume forecasts for the Newlands system to contracted levels of 17.5 million tonnes per annum.

The revised forecasts are provided in the following table.

**Table 4.1  Revised Volume Forecasts for Central Queensland Coal Region (excluding GAPE)**

|  | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
|---|---|---|---|---|
| Goonyella | 103.27 | 117.24 | 124.55 | 124.55 |
| Blackwater | 58.77 | 63.50 | 64.98 | 64.98 |
| Moura | 11.97 | 16.44 | 16.44 | 16.44 |
| Newlands | 16.05 | 17.5 | 17.5 | 17.5 |
| **Total CQCR (ex GAPE)** | **190.06** | **214.68** | **223.47** | **223.47** |

The key difference between QR Network's updated forecasts and the June 2009 forecasts endorsed by the QCA for the CQCR is primarily in 2009-10 (which saw the total 2009/10 forecast increase from 177.9 million tonnes per annum to 190.06 million tonnes per annum).  This is shown in the following figure.

**Figure 4.1  QR Network's CQCR volume forecasts: June 2009 versus February 2010**
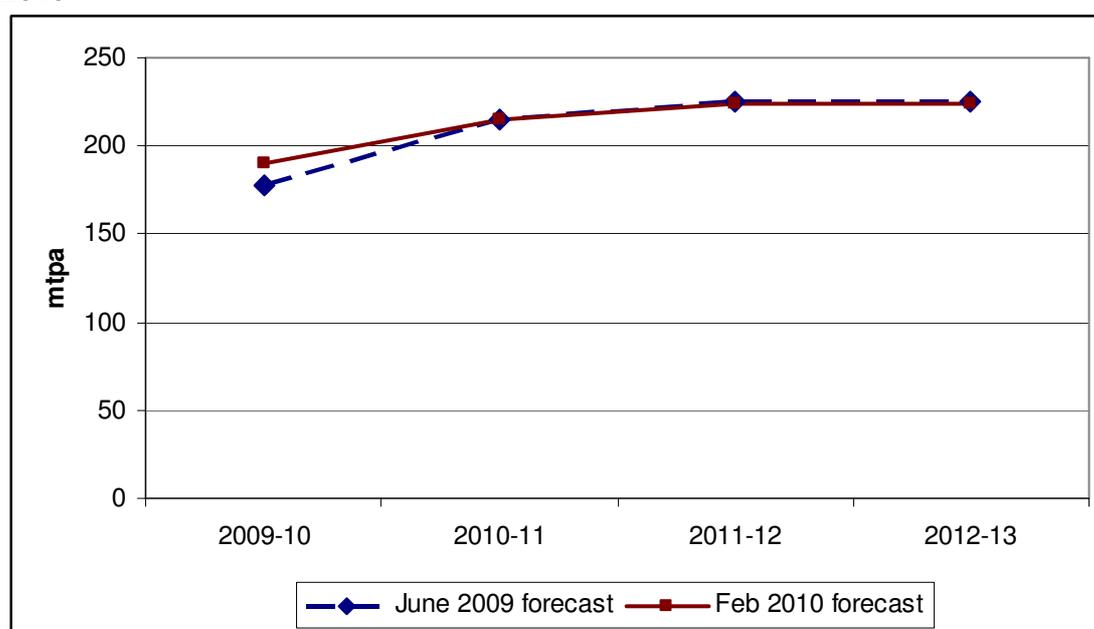
## 5.    CAPITAL EXPENDITURE

### 5.1    Revised Capital Indicator

Given the significant expansion that is currently contemplated in the CQCR, in September 2008 QR Network proposed a material increase in its Capital Indicator relative to UT2. The QCA has accepted QR Network's proposed Capital Indicator, with the exception of the Newlands system which included an allocation of forecast GAPE-related upgrades. QR Network accepts the exclusion of GAPE-related expenditure from these forecasts.

Since this time, QR Network has prepared updated capital expenditure forecasts for each system. Apart from the exclusion of GAPE, these forecasts are not materially different to the ones originally proposed in September 2008. The revised forecasts are reflected in the revised Capital Indicator, which is set out in the table below. This Capital Indicator includes interest during construction and allocated network-wide capital expenditure.

**Table 5.1  Revised UT3 Capital Indicator ($'000)**

|                          | 2009/10 | 2010/11 | 2011/12 | 2012/13 | TOTAL     |
|--------------------------|---------|---------|---------|---------|-----------|
| **Blackwater Non-electric** | 60,000  | 27,000  | 22,000  | 10,000  | **119,000** |
| **Blackwater Electric**     | 15,000  | 80,000  | 148,000 | 50,000  | **293,000** |
| **Rolleston**               | 1,000   | 4,000   | 4,000   | 14,000  | **23,000**  |
| **Minerva**                 | 1,000   | 1,000   | 1,000   | 1,000   | **4,000**   |
| **Goonyella Non-electric**  | 286,000 | 48,000  | 56,000  | 21,000  | **411,000** |
| **Goonyella Electric**      | 56,000  | 13,000  | 25,000  | 44,000  | **138,000** |
| **Moura**                   | 2,000   | 9,000   | 4,000   | 2,000   | **17,000**  |
| **Newlands**                | 1,000   | 2,000   | 42,000  | 2,000   | **47,000**  |
| **TOTAL**                   | **422,000** | **184,000** | **302,000** | **144,000** | **1,052,000** |

The difference between the original forecast and this revised forecast is shown below.

**Figure 5.1  UT3 Capital Indicator Forecast: Sept 2008 versus Feb 2010**
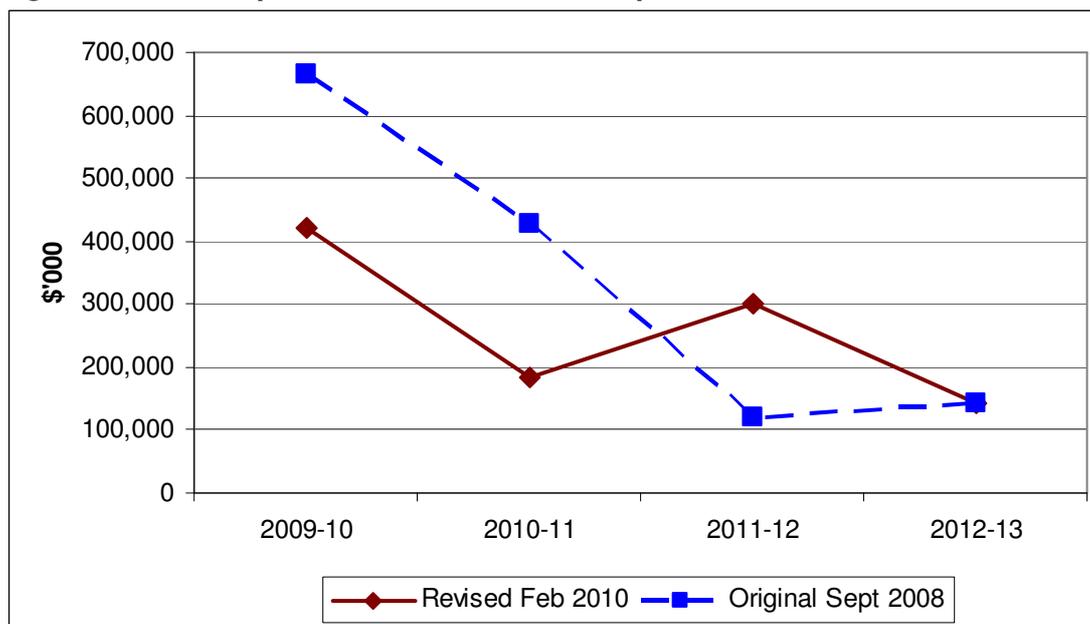


An overview of the key drivers of the changes in the forecasts for each system is provided below.

## 5.2    Blackwater

In September 2008, QR Network's forecast UT3 expenditure in the Blackwater System was $413.1 million. The revised forecast as at February 2010 is $360.1 million. The main reason for the decrease is the removal of three Blackwater mainline duplication projects: Rocklands to Gracemere to Kabra, Walton to Bluff and Kabra to Stanwell. This represents a decrease of $167 million.

Furthermore, QR Network had included the commissioning of the Stanwell Wycarbah duplication ($70 million) in the UT3 period. This project was actually commissioned in April 2009 and therefore fell into the UT2 period. These decreases were somewhat balanced by the increase in the forecast relating to four feeder stations at Bluff, Raglan, Duaringa and Wycarbah to $172 million, compared to the September 2008 forecast of $120 million.

## 5.3    Goonyella

In September 2008, QR Network's forecast UT3 expenditure in the Goonyella System was $488.1 million. The revised forecast at February 2010 is $443.9 million. A number of projects (totalling $198 million) were identified in the 2008 forecast as being required for future Goonyella expansion to the existing ports. These duplications and passing loops have been remodelled and have been identified as required but are for expansions outside the existing Goonyella system (GAPE and HPX3). As such they have been removed from this forecast. However, $100 million in renewal of power systems assets has been identified and added to the forecast, which counter-balances these reductions.

## 5.4    Moura

There have been minimal changes to the forecast in the Moura system.

## 5.5    Newlands

In September 2008, QR Network's forecast UT3 expenditure in the Newlands System was $40.0 million. This was related to three mine-specific expansion projects. Of these projects, Sonoma ($10 million) was commissioned in 2008/09 and therefore falls into the UT2 period. The other two projects, Havilah ($15 million) and Byerwen ($15 million) were included as part of the Newlands growth supported by 75/100mtpa at Abbott Point. However, as they are not included in the confirmed 50 million tonnes per annum at the port they have been removed.

In these revised forecasts, QR Network has included $40 million of expenditure in 2011/12 for ballast upgrades. While this expenditure had been identified as part of the Newlands upgrades associated with GAPE, this expenditure would have been required even if GAPE did not proceed.  This expenditure will not increase volumes however will improve the quality of the ballast which is necessary to improve the integrity and performance of the network in the long term.  While ballast replacement is typically a maintenance activity and therefore normally treated as an operating expense, given the materiality of the ballast replacement requirements including the expenditure in maintenance costs would result in an unreasonable increase in the proposed Newlands Reference Tariff.

In excluding GAPE for the purpose of developing its UT3 forecasts, QR Network is of the view that it is reasonable to consider expenditure that would otherwise be incurred in this system on a stand-alone basis. The ballast upgrade expenditure is not dependent on GAPE. As it is certain that this expenditure will be required in the Newlands system, it is considered reasonable to reflect this in the starting UT3 Reference Tariffs.

## 5.6    Summary

In total the September 2008 UT3 Capital Indicator was $1.353 billion. The revised forecast is $1.052 billion, representing a net difference of $301 million over the four year period. Most of the difference is accounted for in the Blackwater system due to the removal of projects that are now required to support the Wiggins Island Coal Terminal and the removal of mainline expansion projects in Goonyella (now required but supporting GAPE and HPX3).

# 6.    ACCELERATED DEPRECIATION

The QCA has accepted QR Network's proposal to enable it to apply accelerated deprecation to new investments undertaken from the commencement of the 2009 Undertaking period. In accepting a maximum 20 year life, the QCA proposes to apply this as a rolling 20 year life rather than a fixed cap. QR Network is prepared to accept this requirement.

However, QR Network does not accept the implications that the QCA has sought to make from this decision for its rate of return. For the reasons set out in section 3.4, QR Network does not consider that this decision provides the QCA with any grounds to reduce QR Network's equity beta from the value previously approved in UT2. QR Network strongly rejects the QCA's proposed adjustment to its WACC as a consequence of its decision to approve the application of accelerated depreciation for new investments.

# 7.   SYSTEM WIDE AND REGIONAL COSTS

## 7.1   Introduction

The system wide and regional cost estimates for providing coal carrying train services in the CQCR over the UT3 period were developed with reference to the direct, specific and allocated costs of service provision.  QR Network adopted this approach to avoid the complexity associated with establishing hypothetical stand-alone costs.

QR Network acknowledges that the September 2008 submission did not provide extensive detail regarding the make-up of the system wide and regional cost claim. However, QR Network did subsequently provide a very detailed breakdown by function, including the number of full time equivalent employees, in response to the QCA Notice to Produce Information by 20 March 2009.  While QR Network did not provide a cost estimate based on stand-alone costs, QR Network maintains that these costs remain the appropriate benchmark for any reduction in the proposed cost allowances where those costs are demonstrated to be reasonable.

QR Network notes the continued reference to past regulatory allowances as the appropriate test for QR Network's system wide and regional cost claim.  QR Network does not agree that it is appropriate to base comparisons on past allowances.  Much of the discussion by the QCA's consultant, GHD, is based on comparisons with **allowances** for operating costs for UT2. In that decision GHD and the QCA rejected QR Network's submission and based the allowance on extrapolated UT1 operating costs. The costs in UT1 were developed in 1999 and 2000. Accordingly, GHD is assessing QR Network's submitted costs for 2009-10 to 2012-13 by reference to a costing basis developed ten years ago in a vastly different context of lower traffic volumes, network size and complexity, lower real labour rates and a more benign regulatory regime.

In response to the Notice to Produce Information by 20 March 2009, QR Network provided details of actual costs for the first three years of the UT2 period.  This has been reproduced in Figure 7.1 below.  This figure shows that the UT2 operating cost allowances do not represent a reliable or robust basis for assessing the reasonableness of the UT3 claim.

**Figure 7.1  CQCR system wide and regional costs: QCA allowance versus UT2 actual and UT3 forecast**
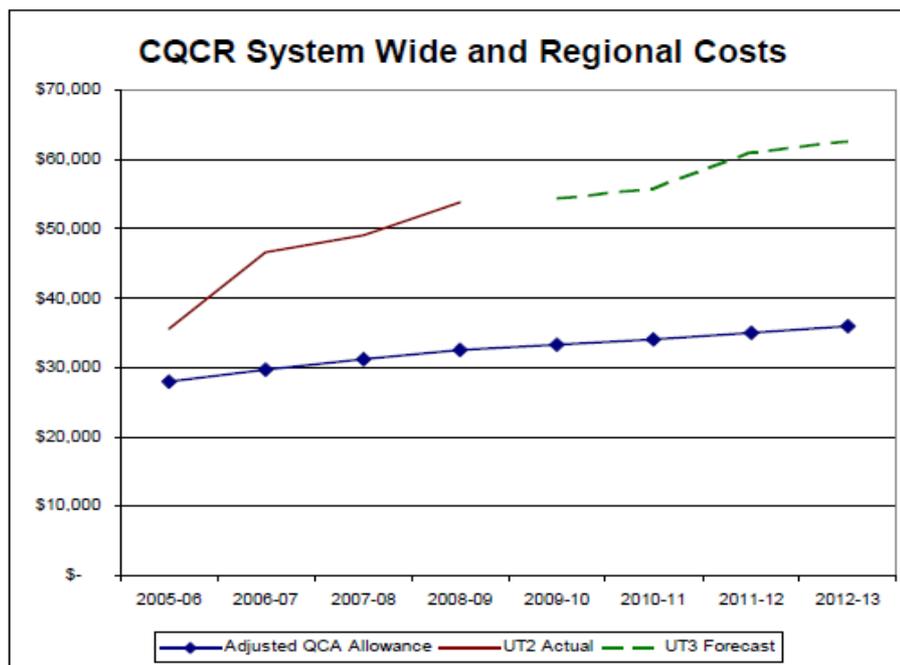


## 7.2    Benchmarks

QR Network acknowledges the inherent limitations associated with seeking to benchmark operating costs against different below rail service providers.  In reviewing the benchmarks GHD has sought to concentrate primarily on matters associated with regional costs as opposed to overheads, common or allocated costs, which is evident in ratios inclusive of gross tonne kilometres or train kilometres.  However, these costs will vary considerably based on business complexity and there will be some large difference in cost drivers between the benchmarked service providers. These drivers include:

- Number of operators and volume of access enquiries;
- Contractual complexity;
- Regulatory obligations and reporting requirements;
- Electrical safety management;
- Rate of network expansion (including overhead traction);

- Rail Safety Investigation (QR Network performs a number of investigative functions which are performed by State-based safety regulators in other jurisdictions); and

- The extent to which functions are undertaken by different parties the supply chain (i.e. tactical and strategic planning).[35]

On balance, QR Network would expect that the CQCR would be subject to higher operating costs when these cost drivers are taken into consideration.

## 7.3    Functional Separation

The September 2008 submission identified that a contributing factor to the growth in operating costs has been the progressive evolution towards QR Network becoming a 'stand-alone' business.  In considering this driver there appears to be a presumption that these costs are new costs.  On the contrary, many of these costs were either being incurred by the broader QR Limited group but were not being transparently identified and/or the Network Access business was only incurring a portion of those costs.  An apparent concern expressed by the QCA is in relation to issues of cost allocation.  Functional separation of the below rail business has assisted in addressing this very concern.

With ongoing separation of functions over the years and the establishment of QR Network as a separate company, the total below rail costs for QR are now mostly incurred on a stand alone basis rather than being allocated from a common cost pool with above rail functions.  In addition, as the growth in both the below and above rail business has increased over time the scale of many functions will become sufficient to warrant duplicate functions in both organisations.

Corporate overhead is the one major remaining allocated costs. As explained in QR Network's September 2008 submission, this increasing separation and focus on below rail activities alone has brought substantial cost increases because of the loss of economies of scale and scope where above and below rail functions were jointly managed previously.

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[35] The Draft ARTC Access Undertaking for the Hunter Valley Coal Network indicates that a large number of train planning functions are undertaken by the HVCC.  In addition, obligations on capacity analysis for transfers are also undertaken by the HVCC with the transferring parties indemnifying ARTC for capacity losses arising from the transfer.

However, substantial common cost pools remain within QR Network where management functions for the whole below rail network continue to be performed by a single section or division. Despite using detailed investigations to establish specific attributions of these functions to the CQCR, there are still substantial amounts of system wide costs to be allocated using a standard allocator.

The draft decision has referenced comments from Asciano that structural separation is not a legitimate reason for a cost increase. The QCA has therefore reached its own conclusion that:

> …it is not clear why… QR Network would choose to make structural changes to its organisation that resulted in inefficiencies and cost increases to its customers.[36]

In evaluating this conclusion it is worthwhile to note:

- Stakeholders did not raise concerns regarding functional separation as part of the 2008 Undertaking approval process;
- The Queensland Coal Industry has extensively lobbied for greater transparency and separation of below rail service with a clearly stated preference for structural separation of above and below rail services;
- The draft decision has also sought to significantly add to operating costs with its decision to require the publication of audited general purpose financial statements.

Irrespective of the structural decisions made by QR Network, operational or functional separation should be independent of the consideration of the reasonableness of the proposed operating costs.  As the pricing principles require that the stand-alone costs should be representative of the efficient costs of delivering below rail services specifically for the CQCR without the benefits of common systems, then to the extent the costs proposed by QR Network satisfy this condition, the decision to move from operational to functional separation is not a legitimate basis for reducing the operating cost allowance.

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[36]    Queensland Competition Authority (2009), p.42.

As was shown in Figure 7.1 the evolution to a stand-alone business has been progressive since UT1.  It is only when the proposed operating costs are compared to past regulatory allowances does it appear that the functional separation of QR Network in September 2008 resulted in a large step increase in operating costs. In practice, the actual growth in QR Network's costs has been more gradual.

## 7.4    Cost allocation

The QCA and GHD have expressed concern regarding the high level of allocated costs included in the UT3 operating costs claim and that this somehow represents a disproportionate allocation of costs to the CQCR.  The QCA has also indicated that it will be seeking to undertake a review of the Costing Manual during the UT3 period.  In contrast to the views expressed by some stakeholders, QR Network considers that the Costing Manual submitted to the QCA in October 2009 and any future revisions to that manual will continue to provide the necessary and appropriate framework for cost allocation to the CQCR.  The Costing Manual provides the necessary framework for the transparent allocation of costs in a multiservice business. Therefore the Costing Manual establishes the necessary Regulatory Accounting Rules which are common regulatory practice.

QR Network is therefore concerned with GHD's statement that:

> Even with the application of UT3 specific costs, approximately 50% still comprises allocated costs. These issues detract from QR's own position of being stand-alone. They appear to be more stand-alone than they were, but well away from being legitimately stand-alone.[37]

As indicated in the September 2008 submission QR Network's organisational structure is aligned to key business areas, with the business management and engineering support functions grouped into respective divisions. Costs directly associated with non-coal train services are removed prior to allocation. In addition, as indicated in QR Network's response to the Notice to Produce Information by 20 March 2009, where specific costs were identified as attributable to non-coal services these were also excluded prior to cost allocation using the Standard Allocator.

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[37]  GHD (2009), Queensland Competition Authority, Report for QR Network Access Undertaking: Assessment of Operating and Maintenance Costs for UT3, September, p.25.

GHD's comments would appear to suggest the many of the shared or common costs should be either provided on a stand-alone coal basis or they should be subject to a detailed and very costly method of allocation. Duplication of these management/ overhead functions to separately manage the coal and non-coal networks in order to drive a stand alone structure further down the organisation, will result in increased costs for the CQCR compared to the allocated share of these functions at present.

The network planning function in operations is a good example of the higher costs applying from a stand alone basis. Short and medium term capacity management for the CQCR is carried out by dedicated teams in Rockhampton and Mackay and the cost are included in Regional Costs as "GY and Cap Coal Chain Management." These teams also do train scheduling work.

Long term capacity planning was previously carried out in various sections in Brisbane – formerly in the Business Development (formerly Rail Access Services) and Network Operations Divisions. From 2009/10, this function is now only done in the Business Development Division but by two separate sections – one for CQCR (CQ Coal Planning) and one for the rest of the network (Freight/SEQ).

The 2009/10 stand alone cost of these two separate sections performing long-term capacity planning is currently forecast at $1.434 million for the CQ Coal Planning section and $1.385 million for the Freight/ SEQ section. This amount also covers the "Master Planning" function previously reported under Business Management.  This CQCR amount can be taken as the stand alone cost by deflating at 4.5% p.a. to 2007/08 dollars - $1.313 million.

The September 2008 submission was prepared prior to the creation of the separate CQCR planning section. In that submission, the estimated 2009/10 costs for the Network Capacity and Master Planning sections totalled $2.470 million, of which $1.001 million was allocated to the CQCR using the 40.5% Standard Allocator. When compared to the updated stand alone estimate provided above, it can be seen that the creation of a stand alone CQCR planning section has led to an increase in the CQCR's share of costs by $312,000 (that is, from $1.001 to $1.313 million) or 31%.

In QR Network's view, GHD should have taken into account the likelihood that the allocated costs in QR Network's submission were lower than the costs that would apply if all CQCR costs were calculated on a stand alone basis. This consideration alone would have been sufficient to offset GHD's concerns about the potential for cost misallocation.

Similarly, GHD suggests that only 38% of operating costs are direct as shown in Table 7.1 (reproduced from Figure 18 of its report). The numbers in GHD's Figure 18 (for 2009/10) have been correctly extracted from QR Network's detailed costs submission dated 14 November 2008.

**Table 7.1 QR Network Operating Costs Make-up for CQCR 2009/10($'000s)**

|  | Total QR Network | CQCR |
|---|---|---|
| CQCR Regional Costs | 21,705 | 21,705 |
| Specific System Wide | 15,203 | 8,812 |
| **Sub Total "Direct"** | **36,908     38%** | **30,517     56%** |
| Allocated System Wide | 52,201 | 21,141 |
| Corporate Overhead | 7,000 | 2,835 |
| **TOTAL** | **96,109** | **54,493** |

Reproduced from: GHD (2009), Queensland Competition Authority, Report for QR Network Access Undertaking: Assessment of Operating and Maintenance Costs for UT3, September, p.31.

There are four points to consider in relation to the way GHD has interpreted these figures.

1. "Direct" costs actually comprise 56% of the CQCR operating cost total of $54,493,000 which underlies the calculation of the Reference Tariff. GHD's method of using total costs before allocation unreasonably magnifies the "indirect" proportion.

2. Maintenance costs are all direct and if they were to be included the direct proportion of all operating costs would be very high. Unlike above rail operators, non-maintenance operating costs for infrastructure providers are relatively low.

3. To achieve a higher directly attributable proportion of currently allocated system wide costs such as general management, finance, infrastructure and operations management, QR Network would have to duplicate a lot of these functions for the coal and non-coal parts of the network with a loss of economies of scale.

The identified CQCR costs under that structure would be higher than the current allocated share.

4. Much of ARTC's operating functions for the Hunter Valley are allocated by gross tonne kilometres or train kilometres rather than being separately identified. Management, human resources, finance, operations and infrastructure management for the whole ARTC network are located in Adelaide apart from regional costs. Even then, unlike the CQCR train control centres in Rockhampton and Mackay, ARTC's control centre at Broadmeadow near Newcastle controls a lot of non-coal traffic such as the long North Coast Line to Brisbane, as well as the Hunter Valley.

## 7.5    Allocated costs are consistent with industry practice

In assessing the reasonableness of allocated costs it is informative to return to the fundamental economic principles of economic efficiency and revenue adequacy. The primary purpose of allocation in a multiproduct business is to ensure costs are recoverable in the least distorting way. If costs were allocated based on capacity to pay, the proportion of indirect costs allocated to coal services would be significantly greater than the 40% as applied by the Standard Allocator. This is evident in Figure 7.2, which shows the proportion of below rail access revenue recovered by the various traffics in 2007/08.

**Figure 7.2  Access revenue by traffic ($2007/08)**
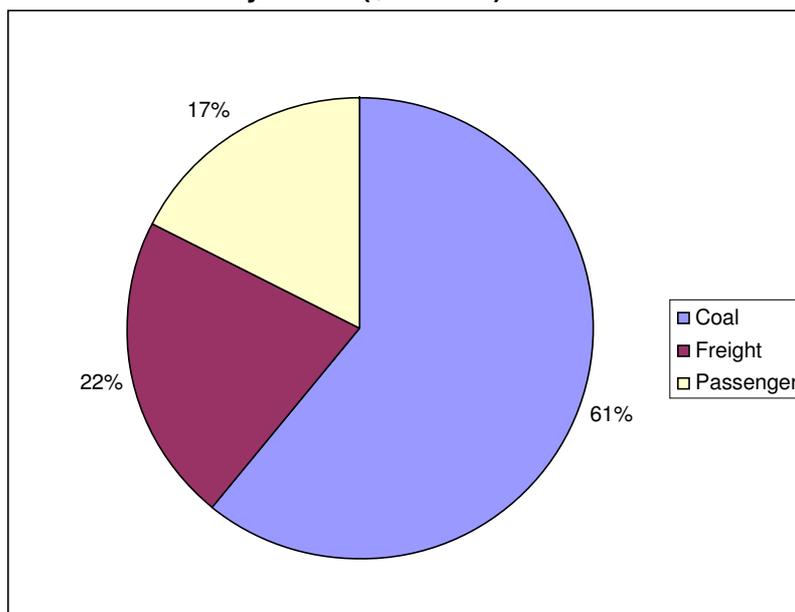
The constraint on the level of costs which can be reasonably allocated to the CQCR is not perceptions of onerous allocation relative to other traffic types but whether the use of that allocator would lead to a level of operating costs in excess of the stand alone costs, which would promote inefficient bypass of the service. QR Network accepts that the proper definition of functions which should be captured in a 'proper' stand alone costs assessment is onerous and subjective.  As outlined previously, it is for this reason that QR Network relied upon previously accepted regulatory accounting practices (Standard Allocator 'C' in the costing manual) to develop the CQCR operating cost forecasts.

QR Network notes that GHD has not actually identified functions or resources from the detailed information provided that would justify imposing significant and real cost reductions in system wide cost levels. GHD's recommendation to hold costs at actual levels for 2007-08, accept regional and specifically allocated system wide costs (after adjustments for dangerous goods and yards) and then force the difference into allocated system wide costs results in about a $3 million reduction relative to QR Network's submission, before escalation.

The stated reason for this arbitrary construct is the need to adjust for the:

> … potential for QR Network to be incurring costs associated with other traffic or non-regulated below rail assets.[38]

GHD does not present any substantial evidence that this is occurring. QR Network's rigorous approach to separating costs into functional cost centres is specified in the Costing Manual and audited each year by the Queensland Audit Office.

In an environment where non-coal services are subject to market-constrained pricing, it would be irrational for QR Network to incur unnecessary costs in system wide functions where for every dollar incurred only forty cents can be allocated to the CQCR, where it may not be recoverable until the next regulatory reset (and then possibly not at all).

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[38]   GHD (2009), p.33.

As is readily evident from the annual audited and publicly available below rail financial statements the costs of providing below rail services have grown proportionately with increased traffic levels.  The Standard Allocator 'C' ensures that coal and non-coal services make a relative contribution to that growth.  However, it is also worth noting that QR Network has continued to participate in network and supply chain improvements such as integrated planning for which it clearly has not been compensated.

QR Network also notes that GHD has not made reference to its own selected benchmarks when assessing whether the level of allocated costs is reasonable.  For example, the rail pricing model published by WestNet aligning to the approved regulatory floor and ceiling costs shows that allocated costs (overheads) represents 59% of total operating costs net of working capital.  Also, overheads are allocated on the following basis:

> The overhead costs are allocated to the route segments in this sheet on a mixed basis between systems train numbers and system GTK.  Under this method, 50% of the cost is allocated based on route segment train numbers divided by system train numbers, while the other 50% is allocated based on route segment GTK divided by system GTK.[39]

Similarly, ARTC's costs for the Hunter Valley coal network are also based on a high-level cost allocation.  Based on information in the Price Waterhouse Coopers assessment of ARTC's allocation model, the actual cost allocation for operating costs to the Hunter Valley Coal Network in 2006/07 ($27.3 million) is comparable to the operating cost allocations which would have occurred based solely on gross tonne kilometres ($28.0 million)[40].  QR Network submits that when assessing whether the CQCR is subject to an unreasonably high degree of allocated costs due to the reliance of the Standard Allocator 'C' for allocation of indirect costs to the CQCR, some regard must be given to the practices of the other regulated heavy haul networks in Australia.

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[39] WestNet Rail – Network Pricing Model – Public.  2009-10 Floor and Ceiling Costs.
http://www.era.wa.gov.au/cproot/7740/4/20090707%20WestNet%20Rail%20-%20Rail%20Network%

[40]  Review of ARTC Operations and Maintenance Costs and Cost Allocation Method (April 2008),
http://www.accc.gov.au/content/item.phtml?itemId=825691&nodeId=bd0f366a9deb6ec1fdb6d671e57c58a
a&fn=Pwc%20review%20of%20cost%20alloc%20and%20O%20&%M%20April%202008.pdf

## 7.6    Above rail costs

In section 4.3.3 of GHD's report, it states that it cannot see evidence that accommodation and associated costs of train crew rostering staff in the Mackay building (which houses the train control staff) have been excluded from the cost base.

Accommodation costs in QR are managed by the Property Division of the Shared Services Group. Leasing, depreciation and all other property costs are charged out by this division to each cost centre in QR based principally on site and floor area. There are separate cost centres for above and below rail functions in Mackay. The cost centre for the Mackay train control centre includes only QR Network's staff costs, consumables and service charges from the Shared Services Group relevant to the train control functions of that cost centre. This process is all set out in the Costing Manual.

This is a very minor item for GHD to focus on. There are far more staff and a much greater range of above and below rail and common service functions carried out in QR's six story administration building in Rockhampton. However, in accordance with the Costing Manual costs for all these diverse functions are reported in separate cost centres in the general ledger.

GHD also notes in section 4.3.4 that the separation of train control costs associated with non coal traffic is displayed in the spreadsheets submitted but this has not occurred for other cost line items such as Safeworking and Yard Control, Regional Operations Management, Coal Chain Management and Regional Infrastructure Management.

No deduction for above rail and non–coal activities is shown for these other cost line items simply because there aren't any such costs. There are separate cost centres for Safeworking and Yard Control at Gladstone (coal yards only), Callemondah, Jilalan and Mackay (for the Goonyella system). All these locations are on the CQCR network and do not perform any above rail work.

## 7.7    *Determination of operating costs*

The approach applied by GHD lacks transparency. Adjustments for the exclusion of
GAPE are not clearly explained.   Therefore, QR Network has assessed operating
costs on the following basis:

- Regional costs are adjusted to reflect regional costs exclusive of those costs
  identifiable to the task increase from GAPE. These were specifically identified
  in the 'SWR Cost Detail for QCA 14.11.08' worksheets provided to the QCA.
- Total system wide costs, network specific and CQCR allocated specific costs
  are held constant from 2009/10.  This is to address GHD's concerns that there
  are no apparent economies of scale associated with traffic growth.
- The standard allocator is held constant at 40.5% to reflect the exclusion of
  GAPE. This allocator is also less than the current Standard Allocator 'C" which
  has been approved under the Costing Manual.
- QR Network accepts the QCA's decision to reduce costs by $1.88 million for
  safe-working and yard control and the exclusion of one full-time equivalent staff
  member for dangerous goods management.
- No volume adjustment is made due to the immaterial variance from the revised
  volume forecasts in section 4 relative to the original submission.

The adjusted operating costs are detailed in Table 7.2.

**Table 7.2  QR Network's revised operating cost forecasts ($ million)**

| Year | Regional (ex GAPE) | Total system wide (applied) | Total QR Network Specific | CQCR Alloc. Specific | CQCR Alloc. (applied) | CQCR Alloc. (6)*(3-4) | CQCR Revised (2)+(5)+ (7)-$1.88 | QCA Decision |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 09/10 | 21.71 | 74.40 | 15.20 | 8.81 | 40.5% | 23.98 | **52.61** | **50.65** |
| 10/11 | 21.58 | 74.40 | 15.20 | 8.81 | 40.5% | 23.98 | **52.48** | **50.65** |
| 11/12 | 21.53 | 74.40 | 15.20 | 8.81 | 40.5% | 23.98 | **52.44** | **51.98** |
| 12/13 | 22.79 | 74.40 | 15.20 | 8.81 | 40.5% | 23.98 | **53.69** | **51.98** |

In the interests of limiting the quantum of matters to be considered by the QCA and the
immateriality of the difference between the QCA's proposed operating costs and QR
Network's adjusted operating costs, **QR Network is prepared to accept the
operating costs proposed by the QCA in the draft decision.**

# 8.    RISK PREMIUM

The QCA'S draft decision on QR Network's proposed risk premium may be summarised as:

- Implementation costs and self-insurance administration expenses are excluded to the extent that these costs may not actually be incurred; and
- QR Network should revise the premium to reflect any double counting of coal gang labour costs.

QR Network accepts that in relation to costs associated with formalising a self-insurance program, it should not be compensated for those costs if it does not demonstrate that those costs are to be incurred.  Therefore, QR Network accepts the reduction in the risk premium from $29.3 million to $26.7 million.

QR Network does not propose to revise the amount of the self-insurance premium for volume as the revised volume forecasts in Section 4 of this document do not materially differ from the volumes relied upon for the premium estimation.

QR Network's main concern relates to the proposed revision in the premium to reflect any double counting of coal gang labour costs. These concerns are set out below.

## 8.1    Adjustments for coal gang labour costs

The draft decision requires QR Network to revise the quantum of the self-insurance premium to correct for any double counting in coal gang labour costs.  In reaching this decision the QCA cited advice provided by QR Network which indicated that coal gang labour costs may be double counted due to the bottom-up approach to estimating maintenance and the top-down approach to estimating the premium.  However, this advice also noted that the double counting would only occur if the **full** coal gang labour cost sought in the maintenance budget was accepted into the Reference Tariff.

In addition, the advice also identified a number of other estimation errors which would materially underestimate insurance costs and the self-insurance premium.   QR Network notes that the Authority did not recognise these upside adjustments in its

decision. It only focussed on factors that were seen to lead to an over-estimate (and hence were seen to warrant a reduction in the premium).

QR Network considers that on balance, the upside adjustments materially exceed the impact of any double-counting of coal labour gang costs duplication, noting that this double counting would only occur if the full amount of coal gang labour costs are approved in the maintenance allowance.  However, QR Network recognises that this is an inherently subjective exercise. It is therefore prepared to accept the QCA's proposed adjustments.

For completeness the quantum of these adjustments will be discussed in greater detail. This is considered important in relation to the review of the premium in future regulatory periods. It also shows that any further reductions applied by the QCA could make QR Network unreasonably worse off.

### 8.1.1   Profit margin

On the basis of advice from PWC the QCA has reduced the profit margin to be applied to the self-insured losses from 20% to 10%.  This adjustment is predicated on the reduction in the materiality of the exposure associated with the inclusion of the pass-through threshold for weather-related events and other catastrophic incidents.

QR Network accepts the logic for this adjustment.  However, as indicated in the advice from Finity at Appendix E, the reduction in the premium would also assume that the self-insurer would have the ability to periodically reset premiums in the event that a large loss is incurred.  In contrast, given the fixed four year nature of the self-insurance premium the re-insurer would require a higher margin to bear this risk.  Based on the advice provided by Finity, a profit margin of 15% would appear to be a reasonable benchmark.  This would equate to an additional $0.5 million over the UT3 period.

### 8.1.2   Premium escalation

The UT3 Risk Premium submitted to the QCA in September 2008 assumed a general escalation in insurance premiums consistent with forecast inflation.  Due to a range of factors including the GFC, premiums are expected to escalate at a significantly greater rate.  This was also noted in an emphasised by PWC in the following statement:

*I would expect premiums in the next 3 to 4 years to increase significantly more
than changes in CPI.[41]*

This expected growth in premiums is also evident from the following:

- An increase in the insurances services cost in the CPI index of 8.97% from
  June 2008 to June 2009[42];
- A forecast by Marsh submitted to Transend Revenue Reset which estimates
  premium growth over five years of 8%[43]; and
- General industry consensus of premium growth exceeding 10%, as shown in
  the figure below.

**Figure 8.1  Industry views on future growth in insurance premiums**
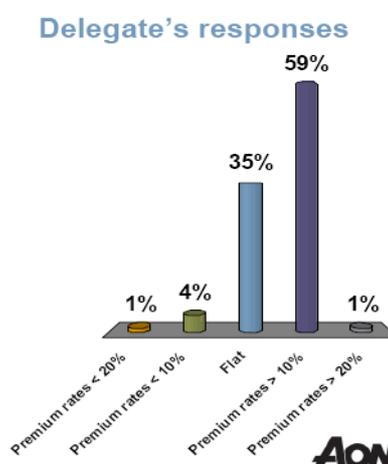


Source: R. Castle (2008) Local and Global Market Update - Optimising Your Risk-Financing Strategy,
AON Advanced Risk-Finance Conference 2008.

Assuming an insurance premium escalation of 9%, the  difference  in  the  allocated
premium costs attributable to escalation would equate to $3.3 million.

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[41] P    riceWaterhouseCoopers (2009) Review of Queensland Rail Estimated Self-insurance costs for
the 2009 Access Undertaking, p.19. http://www.qca.org.au/files/R-2009DAU-QQC-self-insurancerep-
1209.PDF

[42] See Table 13. Series ID A2332011L

[43]

http://www.aer.gov.au/content/item.phtml?itemId=720447&nodeId=d9304c4ef004706e5221cd26b57c8
b73&fn=Appendix%2020%20Marsh,%20Five%20Year%20Insurance%20Premium%20Trends%20-
%20Indicative%20Forecasts,%20May%202008.pdf

### 8.1.3   Maintenance cost adjustments

As indicated above, the quantum of any double counting must be considered in the context of the draft decision on maintenance costs. In this regard QR Network notes:

- The original maintenance cost submission included reduction in overtime;
- Past costs relied on by the actuary assumed no risk and pass-through by service provider;
- The QCA has made a number of adjustments to the track gangs and structures budget; and
- The QCA has sought to apply an efficiency factor more broadly to the base level maintenance costs.

### 8.1.4   Overtime allowances

QR Network's proposed UT3 maintenance costs assumed a normalised level of over-time in the labour rates.  As self-insured events are unplanned events the restoration of rail infrastructure is likely to require more overtime than has been assumed in the UT3 labour rates.  Alternatively, the coal labour gangs may defer planned maintenance to respond to an unplanned event, with the completion of the planned maintenance subsequently incurring substantial overtime costs.   QR Network considers that isolating the overtime impacts of unplanned events would not be possible from historical data to allow quantification.  However, this issue may be given consideration where the final estimate involves some statistical imprecision and a range of plausible estimates.

### 8.1.5   Historical derailment costs

The cost data for historical self-insured events relied upon for estimation of the self-insurance premium will significantly understate the costs associated with the restoration of rail infrastructure following that event.  Accordingly, due to data issues the premium was considered a conservative estimate of future losses. The understatement is related to:

- The cost capture and reporting methodology; and

- Structural change in cost estimation in UT3.


The derailment and weather-related event costs are recorded in QR Network's financial reporting systems in the same manner as maintenance activities. As a consequence, the self-insured event costs will be understated by the same order of magnitude as that identified in the Coal System Maintenance Costs Draft Amending Access Undertaking (DAAU) considered by the QCA in 2007. The following table adjusts numbers provided in the 2007 DAAU[44] to include the variance between the maintenance costs (self-insured event costs) reported in the financial system and the actual reconciled maintenance cost (self-insured event costs).


**Table 8.1   Variance between actual and forecast maintenance costs (self-insured events)**

| Year | QR Reported to QCA ($M) | Ex-post Estimate ($M) | Variance (%) |
|---|---|---|---|
| 2001/02 | 66.5 | 71.3 | 7.2% |
| 2002/03 | 66.6 | 74.8 | 12.3% |
| 2003/04 | 64.5 | 78.6 | 21.9% |
| 2004/05 | 68.7 | 78.9 | 14.8% |

Annual maintenance cost reporting to the QCA is built up from the base cost levels (similar to the QR Reported Costs in the table above) associated with performance of the maintenance contract. These base levels are then adjusted to include a return on assets and an allocation of QR Corporate Overhead. The self-insured event costs provided to the actuary for the purpose of estimating the self-insurance premium are comparable to the base level costs.


In addition, the UT3 maintenance cost included adequate compensation for asset charges and reasonable margins to reflect the service provider relationship. On this basis the cost information relied upon for actuarial estimation of the premium significantly understates these costs. Based on the application of the 15% margin on direct costs included in the September 2008 submission, QR Network estimates the normalisation of pre-UT3 unit rates represents an adjustment of $2.8 million.

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[44] Table 15: 2005-06 – Forecast versus Maintenance Cost Allowance UT1 ($m), page 30

### 8.1.6   Reductions in track gang and structures costs

GHD has recommended that Track Gang and Structures Costs be reduced to reflect an apparent 4% labour costs adjustment above CPI and a track kilometre based adjustment. The misunderstanding of the 4% labour cost adjustment is discussed in the response on maintenance costs in section 9.

As indicated in the September 2008 maintenance cost submission QR Network maintains a number of depot locations throughout the CQCR. Depot location is an important aspect to delivering service restoration in a timely and cost effective manner following an unplanned incident. These depots also require a minimum number of staff to respond to both planned and unplanned maintenance incidents. Fatigue management requirements will also dictate the minimum staffing levels necessary at a depot location. Any reduction in the forecast maintenance costs for Track Gangs and Structures will reduce the extent of any double counting. QR Network has estimated the following reductions in Track Gang and Structures labour costs indentified in the draft decision:

- Item 16 in Table 9 of GHD operating and maintenance cost report is equivalent to $2.4 million; and
- Application of an X-factor of 25% and adjusted Track Gang and Structures labour costs for Item 16 represents approximately $1.9 million.

### 8.1.7   Summary: coal gang labour adjustment

Table 8.2 indicates the relativity of the coal labour gang adjustment to the upward adjustments discussed above:

**Table 8.2   Adjustments that could be made to the risk premium**

|  | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
|---|---|---|---|---|
| Coal Gang Labour Adjustment* | -0.41 | -0.43 | -0.45 | -0.47 |
| Profit Margin | 0.11 | 0.13 | 0.14 | 0.14 |
| Premium Escalation | 0.35 | 0.67 | 0.93 | 1.35 |
| Track Gang and Structures Reductions | 0.0 | 0.63 | 1.22 | 0.54 |
| X-Factor applied to T&S labour costs | 0.2 | 0.38 | 0.55 | 0.76 |
| **Net Difference** | **0.25** | **1.38** | **2.39** | **2.32** |

* Inclusive of unit rate normalisation

This table shows that the QCA's proposed downside adjustments for the double counting of coal gang labour costs is more than offset by increases that could be made to the risk premium for a number of other factors. However, as outlined above, QR Network recognises that this is an inherently subjective exercise and is therefore prepared to accept the QCA's proposed adjustments for UT3.

As indicated in the section on operating costs, as QR Network's response to the draft decision is seeking to limit the number of matters to be resolved, **QR Network accepts the proposed risk premium in Decision 1.1 without further adjustment**. QR Network does consider that if any further adjustments are proposed by the QCA, they need to be considered relative to the factors identified above that could actually justify an increase in the risk premium.

## 8.2    Decision 9.2 Reporting requirements for incidents

QR Network accepts the rationale for the QCA's requirement to report on the impact of derailment and weather-related network repairs on future maintenance requirements. However, due to the number of events this could significantly increase the regulatory reporting requirements and detract key asset managers from the more important aspects of network management and network availability.   Accordingly, **QR Network accepts the incident reporting of Decision 9.2 subject to a proposal to apply a reporting threshold of $200,000 per incident**.

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# 9.    MAINTENANCE COSTS

## 9.1    Summary of QCA response

The QCA rejected QR Network's proposed maintenance cost allowance. In making its assessment the QCA relied on advice from its consultant GHD Pty Ltd (GHD). Overall, the QCA noted that:

> *The Authority is encouraged by the underlying maintenance program proposed by QR Network as part of its submission on the 2009 DAU.[45]*

However, it rejected a number of specific aspects of QR Network's proposal.

The draft decision and accompanying GHD report detailed six recommended adjustments to the maintenance cost allowance:

1    The maintenance costs associated with the Goonyella Abbot Point Expansion (GAPE) were extracted;

2    The labour allowance be reduced because it was thought that QR Network had assumed a 4% real increase in the cost of labour over the UT2 period;

3    The track and structures allowance was reduced to take into account changes to the kilometres of track maintained;

4    The margin be reduced from 15% applicable to all direct costs to 15% applicable to labour costs only (effectively a reduction in the margin to between 4% and 5% on direct costs);

5    The ballast treatment budget was reduced by 50% of the original QR Network estimate or 56% of the adjusted ballast treatment allowance;);

6    An 'X factor' was applied to the final maintenance cost allowance in anticipation of efficiency improvements over the period.

Together these adjustments reduced the maintenance allowance by $185.6 million or 26% over the period of UT3 as illustrated in Figure 9.1.

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[45] Queensland Competition Authority (2009), p.57.

**Figure 9.1  Maintenance Cost Allowances Adjustment Factors**
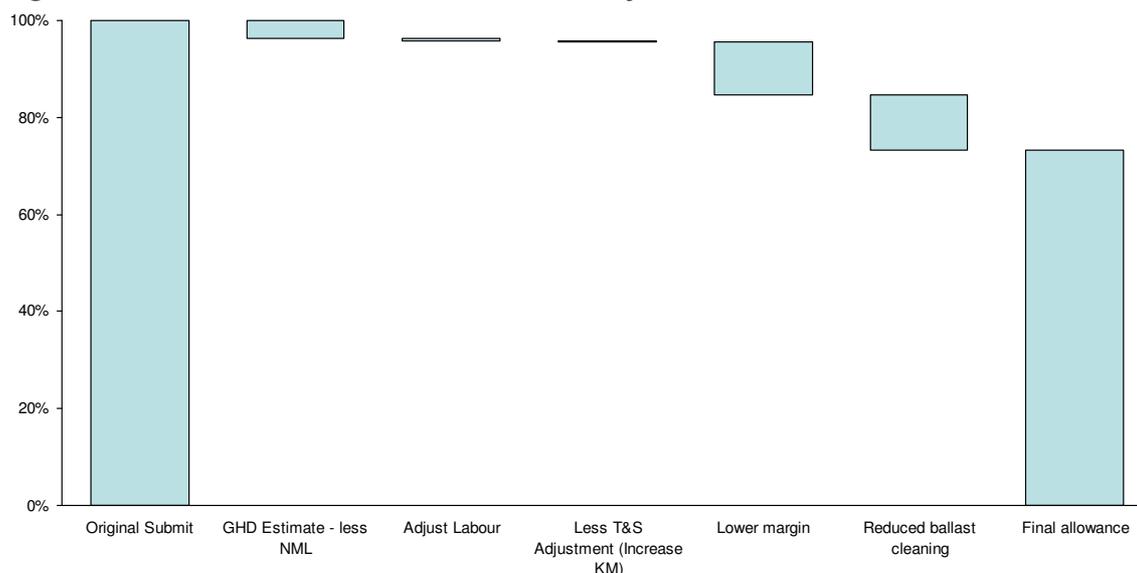


The following response to the QCA's decision is broken down into six sections:

1       A review of the benchmarking that was undertaken by the QCA and its consultant;

2       Details of the GAPE adjustment made and a proposed revised adjustment process;

3       The provision of further detail on the rationale for the margin and its make-up, and a proposed alternative formula to calculate it;

4       Responses to specific questions raised by the QCA on QR Network's approach to ballast fouling on the network;

5       A review of the rationale for the application of an X-factor over the UT3 period; and

6       A proposed revised maintenance cost allowance, benchmarked against other railways.

QR Network has addressed the two adjustments proposed to the track and structures budget through direct correspondence with the QCA.

In arriving at its proposed maintenance cost allowance, the QCA and GHD have made material errors in the adjustments made to the margin and ballast undercutting and the inter-relationship between the two.  In the first instance GHD has not correctly adjusted for the margin (effectively applying a margin reduction in excess of 17%) and the QCA's reduction in the ballast undercutting costs did not make any adjustment to the

margin deductions made by GHD to reflect the consequential change in the direct costs to which the margin was applied.

QR Network also re-affirms that the direct labour costs for track gangs and labour did not include a 4% real wage cost increase. This was clearly evident in the 'real and nominal' maintenance cost worksheet provided to the QCA in June 2009.

## 9.2    Benchmarking

GHD conducted a high level benchmarking exercise of QR Network's proposed maintenance costs using three different rail operations as comparators:

- WestNet Rail
- ARTC Hunter Valley (2006/07)
- ARTC – non coal.

The results of this benchmarking analysis are presented in Figure 9.2.

**Figure 9.2  Comparison of QR Network, ARTC and WestNet unit Maintenance Costs ($07/08), excluding GAPE**
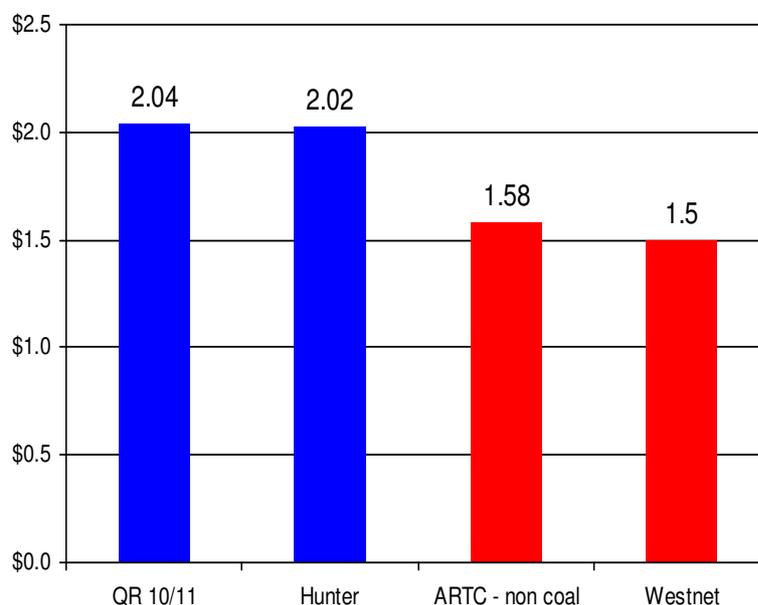


Source: GHD (2009), Queensland Competition Authority, Report for QR Network Access Undertaking: Assessment of Operating and Maintenance Costs for UT3, September, p.42 and 44.

There are a number of methodological issues with the GHD approach which have distorted the analysis:

1. GHD noted that QR Network's 2009/10 maintenance costs are not a useful comparator given the unexpected drop in throughput in this year. It therefore used 2010/11 as the comparator in the above chart. However, in subsequent discussions and graphical presentations it has reverted to using 2009/10 as a comparator.

2. The report notes that a significant proportion of the CQCR is electrified but GHD does not extract the costs of traction from the QR Network data when making comparisons with other networks.  There is no rationale given for this decision and the net impact is to increase the average cost of QR Network's maintenance by 6% to 7%, unnecessarily distorting the comparisons with other networks.

3. The report uses only ARTC's maintenance estimate for 2006/07 despite the 2007/08 actual numbers being published in January 2009, 11 months before the QCA published its draft decision.

4. WestNet's maintenance cost forecasts are used as a comparator. However we question wether this is an appropriate comparator given the significant difference between the regulatory models in WA and Queensland.  In WA the tariffs are calculated on the basis of a gross replacement value (GRV) and none of the asset replacement costs are included in the maintenance cost allowance. These differences have not been recognised in the report.  Based on the following observation by the Western Australian Economic Regulatory Authority the actual maintenance costs rates are likely to be a reasonable multiple of the regulatory allowance which GHD has benchmarked:

    *The Authority notes that for the SWM, the WNR proposed maintenance rate of $17,610 per km is some 27% below the 2006 actual maintenance rate of $24,087 per km …... The SWM underwent a significant upgrade over 2004 and 2005 across most of the route, with sleeper and ballast replacement and therefore would likely have a lower proportion of MPM costs in 2006.*[46]

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[46] Economic Regulatory Authority (2007) Final Determination on the Proposed Floor and Ceiling Costs for Westnet Rail, p.35
http://www.era.wa.gov.au/cproot/5711/2/20070626%20Final%20Determination%20-%20WestNet%20Rail%20Floor%20and%20Ceiling%20Costs%20for%20Certain%20Rail%20Lines%20-%20June%202007.pdf

Figure 9.3 presents a revised high level summary of the costs associated with the various networks.  The QR Network costs exclude traction costs. The actual 2007/08 Hunter Valley maintenance costs are included for completeness.

**Figure 9.3  Comparison of QR Network, ARTC and WestNet unit Maintenance Costs ($07/08), excluding GAPE**
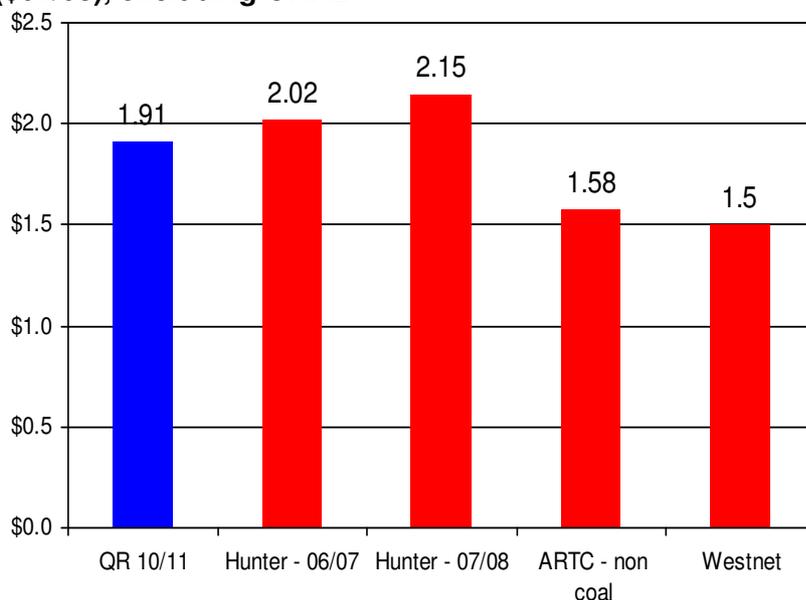


Source: GHD (2009), Queensland Competition Authority, Report for QR Network Access Undertaking: Assessment of Operating and Maintenance Costs for UT3, September, p.42 and 44; ARTC (2009), 2007-08 Submission to the Independent Pricing and Regulatory Tribunal in Respect of the Hunter Valley Regulatory Network: Roll Forward Asset Base, Ceiling Test, Unders and Overs Account, January.

In Figures 9.3 and 9.4 QR Network's maintenance costs are presented with the full cost of ballast cleaning included in the cost build up.  The comparisons in Figure 9.3 show that excluding electric traction costs, QR Network's costs are below those of the only direct comparator, which is ARTC's Hunter Valley network. This conflicts with the summary of the GHD report presented in the QCA's draft decision which states:

> *QR Network's maintenance costs are on par with other networks (e.g. the ARTC's Hunter Valley coal network) if ballast cleaning costs are set aside…[47]*

QR Network's costs are on par with, or below those, of ARTC's Hunter Valley network with ballast cleaning costs included.  If the significant reductions the QCA is proposing to QR Network's maintenance cost allowance are included in the benchmarking analysis, QR Network's maintenance allowance (excluding traction costs) falls below that of WestNet, which as noted above is governed by a different regulatory model.

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[47] Queensland Competition Authority (2009), p.55.

QR Network's costs also fall 30% to 35% below that of ARTC's Hunter Valley coal network, which is the more comparable network to the CQCR. This is shown in Figure 9.4.

**Figure 9.4  Comparison of QR Network, ARTC and WestNet unit Maintenance Costs ($07/08), excluding GAPE**
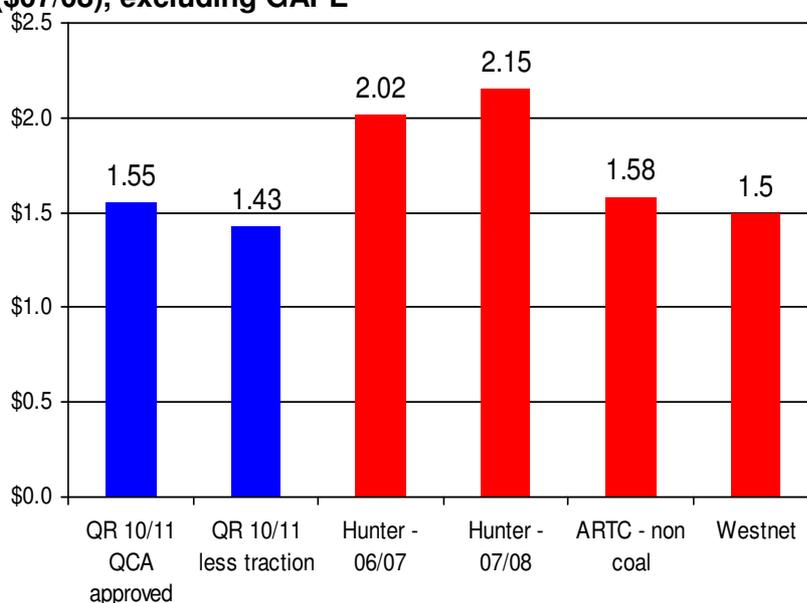


While the GHD report notes that it would expect QR Network's maintenance costs to be lower than those of ARTC due to the economies of scale associated with the higher total volumes on the network (measured in gross tonne kilometre (gtk) terms), it provides no justification of magnitude to justify such a significant variation.  Moreover, the GHD report does not make any allowance for a number of factors which would be expected to work towards increasing the cost of below rail maintenance in the CQCR compared to the Hunter Valley.  These factors include:

- The relative proximity of the Hunter Valley to major population centres, which would be expected to make it more attractive to staff and reduce the cost of both skilled and unskilled labour.
- Standard gauge networks are significantly more common than narrow gauge networks and this works to increase the supply of standard gauge equipment relative to narrow gauge track maintenance machines.
- There are three major standard gauge networks within 200 km of the Hunter region, being ARTC's coal network, ARTC's freight network and the Railcorp network.  All of these provide significant opportunities for track maintainers to

bid for work and as a result resources can be shared across different networks. In comparison the CQCR has only the lightly used non-commercial freight lines west of Emerald and the north coast which offer only relatively limited opportunities for resource utilisation.

In undertaking a benchmarking study we would have expected that the Consultant would have given some consideration to drivers of maintenance costs and undertaken a qualitative assessment. For example, a benchmarking study undertaken for Network Rail's Periodic Review 2008 identified a considerable number of drivers for inclusion in the econometric model.[48] One of the drivers identified in this study is the ratio of single track to route kilometres (as a measure of the extent of single / multiple track).

In reviewing ARTC's compliance with the ceiling test for the constrained network in 2005/06 CRA International noted:

> *Most of the Queensland system is single track, meaning that trains cannot run at all when the track is being maintained. In contrast, the constrained group in the Hunter Valley is almost entirely double-tracked. Much of it quadruple-tracked. This multiple track configuration means that trains can continue to run when one track is closed for maintenance. To determine conclusively which system has the lowest-cost maintenance opportunities is not straightforward.[49]*

Other drivers not included, but recognised as important in the benchmarking study (p. 8) is the impact of different safety and possession regimes. The September 2008 submission discussed in detail the impact of reduced possession opportunities for track maintenance and the consequential impacts on maintenance costs. GHD makes the following observation of its understanding of the interaction between maintenance and capacity:

> *We understand that the way network capacity for coal trains is calculated takes into account an allowance for maintenance, Therefore QR Network's assertion that opportunities for maintenance have decreased are presumably as a result of other pressures and if that is the case QR Network has been compromised in its*

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[48] International benchmarking of Network Rail's maintenance and renewal costs: an econometric study based on the LICB dataset. (2008) University of Leeds, http://www.rail-reg.gov.uk/upload/pdf/pr08-itslicb-301008_20081117141529.pdf

[49] CRA International (2007), Review of Compliance of ARTC with NSW Rail Undertaking Ceiling Test for 2004-05, p.23.

*ability to carry out maintenance. In the long term this is detrimental to the
capability of the network.*[50]

There is a distinct trade-off between maintenance and capital.  Maintenance costs may
be lowered by increasing the size of the capital base.  However, QR Network has
responded to industry's request for network availability which imposes substantial
discipline on the Network Manager and Maintenance Provider to maximise the
available possessions.  It was noted in the original submission that the increased traffic
task was being met with limited increase in the number of planned possessions.  QR
Network also notes that the ARTC capacity modelling assumes an additional 15%
surge capacity.   This should provide greater flexibility in performance of the
maintenance task and improved opportunities to obtaining possessions for routine
maintenance activities.

Overall the data presented by GHD in its benchmarking report does not support the
conclusion that QR Network's proposed maintenance cost are inefficient and should be
reduced by over 25%.

## 9.3    Adjustment for GAPE

The original QR Network submission included an allowance for maintenance of GAPE
that at the time, was forecast to become operational in 2010/11.  Since QR Network
submitted its draft 2009 Undertaking in September 2008 the GAPE development has
been delayed. The QCA has therefore sought to extract an estimate of the incremental
cost of maintaining the expanded Newlands system from the maintenance cost
allowance.  GHD appears to have done this by extracting the total maintenance cost
allocated to the GAPE users ($11.7 million in 2007/08$) across all the maintenance
activities, as per Table 9.1 below.

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[50]   GHD (2009), p.51.

**Table 9.1 Total maintenance cost by major activity: QR Network (original) and GHD (adjusted for a 'no GAPE' scenario) 2007/08$**

|                                        | QR Network original | GHD (adjusted) | Change ($m) |
|----------------------------------------|---------------------|----------------|-------------|
| Ballast treatment                      | 46.9                | 43.9           | -3.0        |
| Mechanised Resurfacing                 | 22.3                | 20.9           | -1.4        |
| Rail Grinding - Mainline               | 10.9                | 10.2           | -0.7        |
| Rail Grinding - Turnouts               | 3.5                 | 3.3            | -0.2        |
| Track Geometry Recording (RRV)         | 0.4                 | 0.4            | 0.0         |
| Track Geometry Recording (UGMS)        | 1.5                 | 1.4            | -0.1        |
| Ultrasonic Testing Ontrack Machine     | 1.3                 | 1.2            | -0.1        |
| Track, structures and facilities       | 59.3                | 55.5           | -3.8        |
| Trackside systems                      | 26.7                | 25.0           | -1.6        |
| Traction                               | 11.2                | 10.5           | -0.7        |
| Total                                  | 184.0               | 172.3          | -11.7       |

Source: GHD (2009), Queensland Competition Authority, Report for QR Network Access Undertaking: Assessment of Operating and Maintenance Costs for UT3, September

GHD's approach introduces two accounting errors to the analysis:

1. By assuming that the costs allocated to the GAPE users equated to the incremental cost of the additional maintenance required, the total reduction in the maintenance budget takes no account of the economies of scale generated by the GAPE development. As a result the proposed reduction in the maintenance allowance for Newlands is equivalent to a 51% reduction in real terms despite volumes on the system being forecast to remain stable

2. By assuming that the all maintenance activities would be reduced in scope by the removal of the GAPE-related costs, there is a distortion in the final allocation by maintenance product. For example, QR Network's proposed Newlands maintenance costs included no allowance for ballast cleaning, but the ballast cleaning allowance was still reduced as a result of the exclusion of GAPE.

As was detailed in QR Network's original maintenance cost submission, the proposed allowance was built up by determining the additional resources and activities that would be required to maintain the additional track kilometres and higher tonnages on the Newlands network. The resources required were detailed in QR Network's maintenance cost submission and included:

- 12 additional track gang members at the Merinda depot and associated increase in consumables;

- 20 additional trackside workers (electricians, cable maintainers and technicians) to maintain the newly electrified corridor);

- An additional 120km of mainline resurfacing in 2012/13 (a 6% increase in the total mainline resurfacing requirement);

- An additional 12 turnouts to resurface in 2012/13 (a 4% increase in the total switch grinding requirement);

- An increase of approximately 4% increase in the mainline and switch grinding requirements.

These were the only additional costs that were included in the cost build up and they are the only savings that have resulted from the delay of GAPE. The final allocation between the Newlands and GAPE users was then determined on the basis of their percentage of the total GTKs on the system.

**Table 9.2  Total maintenance cost by major activity: QR Network 2012/13 original and QR Network revised (less GAPE) 2007/08$**

|  | QR Network original | QR Network less GAPE | Change ($m) |
|---|---|---|---|
| Ballast treatment | 46.9 | 46.9 | 0.0 |
| Mechanised Resurfacing | 22.3 | 21.8 | -0.5 |
| Rail Grinding - Mainline | 10.9 | 10.6 | -0.3 |
| Rail Grinding - Turnouts | 3.5 | 3.5 | 0.0 |
| Track Geometry Recording (RRV) | 0.4 | 0.4 | 0.0 |
| Track Geometry Recording (UGMS) | 1.5 | 1.5 | 0.0 |
| Ultrasonic Testing Ontrack Machine | 1.3 | 1.3 | 0.0 |
| Track, structures and facilities | 59.3 | 56.5 | -2.8 |
| Trackside systems | 26.7 | 25.3 | -1.4 |
| Traction | 11.2 | 10.5 | -0.7 |
| Total | 184.0 | 178.3 | -5.7 |

The relatively small reductions in the allowance for those activities which involved major on-track machines, such as grinding and resurfacing, is a result of the inability of the service provider to simply reallocate the assets utilised to another client. For example, the decision to purchase single pass rail grinding machines at a total cost of over $45 million was driven by the requirement to minimise the impact of maintenance activities on the CQCR. The alternative of cheaper multi-pass grinding machines would have been adequate for the rest of the network. The funding of the machine

was based on a specific coal / non-coal annual shift split. There is no capacity to simply re-allocate shifts to other systems as these systems do not have the incremental funding required to pay for these additional shifts.

As illustrated in Table 9.3, the net impact of the QCA's GAPE adjustment is to reduce the Newlands maintenance allowance over the period of UT3 from around $7 million in 2009/10 to under $4 million in 2012/13.  The incremental Newlands analysis undertaken by QR Network suggests that the allowance should have actually increased to around $10m in 2012/13.

**Table 9.3  Comparison of alternative maintenance allowances (2007/08 $M), Newlands**

|  | 2009/2010 | 2010/2011 | 2011/2012 | 2012/2013 |
|---|---|---|---|---|
| QR Network including GAPE | 9.3 | 12.8 | 15.4 | 17.3 |
| QCA less GAPE | 7.4 | 5.6 | 4.1 | 3.6 |
| QR Network less GAPE | 9.3 | 9.9 | 10.7 | 11.0 |

The QCA's proposed allowance for Newlands therefore materially underestimates what QR Network considers to be the reasonable and efficient costs of maintaining the network in this system, excluding the impact of GAPE.

## 9.4    Margin

The September 2008 maintenance cost submission included a 15% margin on direct costs as part of the maintenance cost build up.  The QCA asked for more details of this margin in its information request under its S.185 Notice to Produce Information by 14 November 2008 and in response QR Network provided:

- A cost allocation schedule that detailed how it was determined if a cost were included in 'direct costs';
- An alliance model structure to show how the different elements of the margin would be used to incentivise efficient behaviour;
- Details of a KPMG report which was used to benchmark the proposed margin and ensure that the proposed alliance structure was consistent with alliance models used for similar maintenance contracts;

- A discussion of the 15% margin that detailed how it was intended to cover both a service provider incentive and the cost of corporate overheads associated with the business;
- A rationale for why an alliance arrangement is considered the best means of managing QR Network's maintenance task;
- An estimate of the WACC that the service provider would earn if they were paid the full margin (i.e. met all performance targets and came in within budget).

The QCA's draft decision accepts GHD's view "that a margin should be applicable to only certain items"[51] and thus accepted the reduction in margin calculated by GHD and the application of a 15% margin to only a portion of direct labour costs (approximately 90% of the direct labour cost calculated by QR Network).

In its report to the QCA, GHD put forward the following reasons why a margin should not be applicable to either consumables or asset charges:

- Rail maintenance clients usually retain staff to specify and monitor the quality and suppliers are under obligation to warranty those products;
- The clients retain control over large purchases and being government clients can usually negotiate better rates;
- These client and warranty costs are either inbuilt into the product cost or are a direct labour cost already accounted for;
- "A margin applied to asset charges implies a residual risk after the funding of capital expenses for which a risk premium would have been charge by QR. Interest charges themselves contain an element of risk some of which is accounted for in a margin." Therefore a portion of the margin on asset charges is considered double counting.[52]

In summary GHD stated:

*The only area we see justification for margin is in the direct labour component of the service where health and safety and other risks such as absenteeism, while manageable to some extent, is not entirely without risk. We do not think it*

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[51] Queensland Competition Authority (2009), p.57.

[52] GHD (2009), Queensland Competition Authority, Report for QR Network Access Undertaking: Assessment of Operating and Maintenance Costs for UT3, September, p.65,

*is appropriate to apply a margin to superannuation, payroll tax, worker compensation or long service leave (on-costs).*[53]

The GHD report made no mention of the information provided by QR Network to the QCA, which detailed how the maintenance costs had been built up. This showed how the costs relating to corporate overhead functions and the equity component of the asset funding had been excluded, on the basis that these costs would be covered by the margin.  Under the funding model proposed by the QCA:

- The corporate functions and working capital will be basically unfunded;
- There is no incentive for the organisation to invest in any machinery as there will be no equity returns;
- QR Network is left with little incentive / contingency with which to manage its alliance arrangements.

In follow-up discussions with the QCA and GHD, it is understood that a key concern with QR Network's proposal is that it did not qualify what risks or costs the 15% margin is intended to capture.   QR Network acknowledges that the September 2008 submission and any additional information provided to the Authority did not deconstruct the 15% margin into its components.  .

To support the QCA consideration of the reasonableness of the proposed margin, QR Network engaged Deloitte to advise on the appropriate costs structures typically observed in maintenance alliance agreements and whether the margin proposed by QR Network lies within a reasonable range based on industry benchmarks.  This report is provided at Appendix F.  The findings from the Deloitte review are informative as to the how risk and cost should be shared between the asset owner and the service provider.  The Deloitte report suggests that the approach of applying an 'all-up' margin to direct costs employed by QR Network is not typical of models used in alliance arrangements.   However, the report also notes that GHD's recommendations if implemented are likely to have detrimental effects on maintenance and ultimately network performance.

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[53] GHD (2009), p.65.

On the basis of the comparator alliance models reviewed by Deloitte the original proposal by QR Network of applying the 15% margin to direct costs lies within a reasonable range. Notwithstanding this conclusion, QR Network has sought to employ a more conventional building block approach to the maintenance costs estimates as suggested by the Deloitte report. This also allows for a more transparent consideration of the relevant components of the original margin.

Each of these issues is addressed in the following sections.

### 9.4.1  Corporate overhead

Corporate overhead costs involve the provision of services such as finance, employee relations, information technology and the activities of the Chief Executive. The main corporate functions which have not been included in the direct cost build up are:

- Office of the Chief Executive and Board
- Human Resources
- Finance
- Information Systems
- Capital projects expensed
- Systems development (particularly safety standards)
- Legal
- Audit
- Procurement costs.

An allowance for these costs is included in any maintenance contract but it is normal for the contractor to take the risk on the actual overhead costs rather than allow a full pass through. As was stated in the original maintenance cost submission (and evident from the details of staffing provided), these costs were extracted from the original cost build up. In the past, QR Services had corporate overheads which are higher than those of comparable companies primarily because it did not have the incentives to ensure that as many costs as possible were allocated to specific tasks. It is QR Network's intention that during UT3, QR Services will be paid only an industry standard corporate overhead allowance. Research suggests that this is between 6% and 8% of total direct costs.

### 9.4.2   Working capital

Working capital represents the capital required to provide for timing differences between cash inflows (revenues) and cash outflows (expenses) over the short term operating cycle of the entity.  As the service provider typically gets paid two weeks after the end of the month but pay wages, salaries and cash costs weekly, they require the equivalent of approximately one month cash outflows to be available in the bank to cover their costs.  Assuming an overdraft interest rate of 9% this equates to a working capital allowance of 0.75%. This is applied as follows:

Working capital = Direct costs (less depreciation and return to equity) / 12 * 9%

Working capital = Direct costs (less depreciation and return to equity) * 0.0075%

The specification of a margin on labour alone provides no funding source for these costs.

### 9.4.3   Incentives to invest

As detailed above, as a consequence of the QCA's decision, QR Network will be unable to recover the equity component of any asset funding. In other words, this effectively assumes that investments in the assets required to maintain the network will be debt funded.  This approach therefore provides no incentive for the maintenance provider or QR Network to invest in these assets.

Private business, including QR, has access to only limited capital and it will look to invest these funds in the most attractive investments it has available to it.  By debt funding the QR maintenance equipment as proposed by GHD, QR will limit its capacity to invest in other assets and any asset that provides equity returns above the cost of debt will be more attractive than the investment in maintenance equipment.  The result will be a highly competitive environment for marginal investment including critical investments in maintenance equipment which may not meet requirements and the investments will not be made.

The on-track machines are not a regulated asset and as such they carry considerably more risk than, for example, the investment in a mine spur.  In determining whether or not to invest in a new piece of machinery the service provider must consider a number of major risks, including the potential that: their contract will be given to another

operator in the next regulatory period; changes to the network demand will reduce the demand for their services; technological change will make their services less marketable; machine reliability will be significantly worse than anticipated; and/or the machine will not be able to deliver its expected output.  All these risks will need to be priced into the cost of the asset.

Under the original QR Network proposal the actual WACC implied by the 15% margin was unclear and moreover, by applying to all work areas equally it was effectively providing a higher return to assets employed in areas such as trackside maintenance, which are dominated by labour and consumable costs, and a relatively low return to those asset classes which required significant fixed asset investment.

QR Network acknowledges that this is the case and in its revised costings it has used a WACC of 12% based on assumed asset beta of 0.8 implied by appropriate benchmark of companies that also invest in major plant that is used to provided services for maintenance contracts. A summary of the selected companies and the beta estimation is provided at Appendix G. The proposed margin is then not applied to returns generated by the WACC.

### 9.4.4   Incentive and contingency

Establishing a defined fixed budget for maintenance over the regulatory period for a fixed fee contractual arrangement between a network owner and its service provider would not be an efficient or effective means of managing the maintenance of the network for a number of reasons. These include:

- *A shallow market for rail maintenance services in the region.*  The CQCR is narrow gauge and located over 1000km from the nearest capital city, Brisbane. As a result a service provider would need to price the full cost of their assets to the coal maintenance task.
- *The variability of the exact maintenance task.*  As was detailed in QR Network's original maintenance cost submission, there is significant variability in the exact scope of work from year to year due to climatic and operating conditions.  Fixed price contracts invariably provide relatively low prices for an agreed planned scope of work and much higher prices for unplanned work.  By having an open alliance agreement QR Network has the ability to apply the resources it is paying for flexibly without bearing penalties for variations from scope.  If QR

Network asked QR Services to provide a fixed price for the maintenance contract it would either price in the cost of a full range of possible variable events or put together a contract which limited its potential for cost overrun by limiting the potential for scope variations.

- *The significant administrative cost associated with having a maintenance product list and associated pricing for the full suite of potential maintenance activities that are undertaken on the network.*

As a result QR Network and QR Services have historically operated on the basis of an open alliance in which QR Services passes on the full cost of the maintenance services that it provides to QR Network and in return provides QR Network with full disclosure of the resources employed and cost incurred in undertaking these services. This information was used to produce the maintenance cost estimates included in the draft 2009 Undertaking, as was detailed in the associated maintenance cost submission.

It is intended that a similar open alliance arrangement will exist during UT3, in that QR Network will agree to pay for the direct cost of the maintenance task, but there will be two importance differences:

1. QR Network will not pay for the allocated cost of QR Services' corporate overheads;
2. QR Network will pay QR Services an incentive fee on top of its direct cost and in return it will share in the benefit or cost of any cost overruns.

These costs are to be covered by a margin applied to the total direct costs of the operation.  This arrangement is more consistent with traditional alliance agreements than the simple cost pass through arrangement that has existed in the past. This arrangement will provide an importance mechanism for QR Network to ensure that QR Services makes every effort to operate within budget and/or explain any variations from budget.

Under the previous model, while QR Network made every effort to scrutinise and manage QR Services' costs, the full cost pass through meant that QR Network effectively carried the commercial risk of QR Services' operations but QR Services managed the day to day operations and cost control.  This represents a misalignment of responsibilities and rewards.

By offering QR Services a profit incentive to perform to expectations, QR Network will gain the capacity to reward QR Services financially if it meets forecast.  If cost overruns do occur they are likely to have a negative impact on QR Services' performance as well as QR Network's.  Importantly the direct cost estimates were put together with the expectation that the alliance would operate with this alliance structure in place (i.e. cost pass through of direct costs with a margin used to incentivise good performance).  No specific contingency was built into services cost estimates and without a margin QR Network would have no incentives to offer QR Services to keep to budget.

For this incentive structure to work, this margin on costs should apply to all line items in the cost build up. Importantly this will incentivise QR Services to maximise performance in all areas, even if QR Network is covering the direct costs of operations. By applying the margin to only labour QR Services could be incentivised to skew its expenditure to ensure it meets it labour related targets at the expense of a more efficient operation.

An alternative to the margin will be a shift to a much less flexible environment where QR Network may have to impose strict spending limits on QR Services to ensure that it does not exceed its maintenance allowance or risk cost overruns.

During UT2 QR Network spent approximately $100m more than its maintenance cost allowance on network maintenance. This was largely due to the disconnect between the fixed funding arrangement that QR Network agreed with the QCA and the direct pass through of maintenance costs from QR Services. Despite these losses QR Network acknowledges that the benefits to the supply chain of it having a flexible service contract with its maintenance provider are significant.

### 9.4.5   Summary

The original margin of 15% was benchmarked against maintenance service contracts (which were constructed in a similar manner) and was intended to cover the costs associated recovering an appropriate return on assets, corporate overhead, working capital and a profit incentive/contingency margin.  As per discussions with the QCA, the margin has now been broken down into its components and an explicit return on

assets has been included in the cost build up (but excluded from the direct cost calculations). This is shown in the Table 9.4 below.

**Table 9.4  Revised Margin, Working Capital and Corporate Overhead Charges**

|  | % of direct costs |
|---|---|
| Corporate overhead | 5.0% |
| Working capital | 0.75% |
| Incentive / contingency | 5.0% |
| Return on assets | Na |
| Total | 12.75% |

The corporate overhead charge is calculated on all charges excluding the margin and the incentive/contingency margin is calculated on all charges except the asset charges.

## 9.5    Ballast undercutting

While the QCA consultant that reviewed the UT3 maintenance cost budget did not reduce the ballast treatment budget (with the exception of a reduction in margin) the QCA draft decision cut the ballast treatment allowance by 50% on the basis that:

- In the past QR Network has indicated that 50% of the fouling is due to coal spilling from the wagons, whether that be off the top of over filled wagons or through leaky bottom doors;

- Since that time there has been no apparent change in QR Network's handling of the matter;

- No action appears to have been taken to reduce overfilling of wagons, add any form of cover (chemical or otherwise) to wagons, address the leaky dump doors or clean away the contamination caused by ballast ploughing (e.g. by washing the underside of the wagons;

- As the owner of the infrastructure has a responsibility to ensure that its ballast is not excessively fouled by users;

- ARTC does not have this problem in its Hunter Valley coal network to anywhere near the same extent as QR Network, and therefore incurs substantially lower maintenance costs in respect of ballast cleaning;

- Prima facie, QR Network's current approach is not efficient from the perspective of the track owner.[54]

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[54]  Queensland Competition Authority (2009), p.57.

There are a number of technical issues with the decision to reduce the ballast treatment budget by 50%, most notably the implication that a 50% reduction in the kilometres of ballast treated would result in a 50% reduction in the cost.  The ballast treatment consist involves the use of a range of specialist staff and machinery which would be required if the consist operated for 160 shifts as is currently planned, or if it only operated for 80 shifts.

In the absence of any ballast fouling QR Network would still be required to undertake ballast undercutting to address ballast degradation from natural attrition.  Given the fixed nature of many of the cost associated with the ballast treatment operation the savings would not be linear and, unlike in the Hunter Valley, there are no other customers which could use the consist when it was not required on the coal network.

The fundamental issue, however, is the comment by the QCA that the current approach is not efficient from a track owner's perspective.  QR Network strongly disagrees with this comment and since that time QR Network has met with the QCA to discuss its approach to ballast fouling on the coal network.  At this meeting it became clear that there were a number of critical factors that are material to the ballast fouling issue that have not been adequately communicated to the QCA, specifically:

1.  The rationale for the difference between the loading practices of narrow gauge and standard gauge coal wagons; and
2.  The activities QR Network has been undertaking to reduce coal fouling.

### 9.5.1  Differences between the Loading Practices of Narrow Gauge (QR Network) and Standard Gauge (Hunter Valley) Wagons

QR Network's track is narrow gauge while the Hunter Valley Network is a standard gauge rail network.  The additional width of the standard gauge allows the wagons to be built with a higher centre of gravity and as a result the standard gauge wagons have higher sides than the narrow gauge wagons.  At the same time the wider bogies allow more coal be stored at the base of the wagons.  The net impact of these factors is to increase the cubic capacity of the standard gauge wagons.  As detailed in Table 9.5 the wider wheel base of the Hunter Valley coal wagons allows the carrying capacity of the wagons to increase by more than the increase that would be expected simply because of the increase in the maximum axle load.

**Table 9.5  Comparative Specifications of Hunter Valley and Queensland Rail Coal Wagons**

|  | Maximum axle load | Height (m) | Width (m) | Tare (t) | Maximum weight (t) | Capacity m$^3$ |
|---|---|---|---|---|---|---|
| Hunter Coal Wagon | 30 | 4.104 | 3.206 | 21 | 120 | 107.8 |
| QRN coal wagon | 26.5 | 3.444 | 3.200 | 20 | 106 | 90 |
| Percentage variation | 15% | 19% | 0% | 5% | 13% | 20% |

Source: QRNetwork Technical Drawings

If coal had a relative density of 1[55] or above this would not have an impact on coal fouling as the cubic capacity of both wagons combined with their tare is enough to exceed the maximum allowable axle load.  In Queensland crushed coal, however, has a relative density which is around 0.85 while crushed coal in the Hunter Valley, with its slightly higher moisture content has a relative density of 0.9.  As detailed in the summary of QR Network's modelling in Table 9.6, at any given coal density the standard gauge wagons are closer to operating at the maximum allowable axle loads when loaded to the sill (close to 100%), compared to the narrow gauge wagons (which only load to 91% of the maximum allowable axle load based on the relative density).

At the typical coal density, wagons in the Hunter Valley are loaded to within 0.2% of the maximum axle load and loading above the sill is correlated with an operator operating a non standard train.  As a result the ARTC has a policy of requesting operators of any wagons that enter the port with coal loaded above the sill to be weighed and if the wagon is over weight the operator is fined.

**Table 9.6  Percentage of Maximum Allowable Axle Load – Loaded to Sill**

|  | Coal density = 0.8 | Coal Density = 0.85 | Coal Density = 0.9 |
|---|---|---|---|
| Hunter Coal Wagon | 90.9% | 95.4% | **99.8%** |
| QRN coal wagon | 86.8% | **91.0%** | 95.3% |

Source: QR Network Modelling

At the typical coal density in the Central Queensland region the weight of a wagon loaded at the sill is 9% below the maximum allowable axle load (equivalent to a wagon weight of approximately 96 tonnes compared to a maximum allowable weight of 106 tonnes).  To maximise coal throughput the narrow gauge wagons are systematically

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[55] At a relative density of 1 a cubic metre of product equates to a tonne in weight.  A relative density of 1 is approximately equivalent to that of water.

loaded above the sill. QR Network allows this to occur because analysis has shown that the value of the additional coal throughput to the supply chain has been greater than the incremental cost associated with the increase in ballast fouling. The benefits to the mines are threefold:

1. Lower below rail access prices per tonne for any given use of train paths;
2. Lower above rail costs per tonne because less train movements are required for any given tonnage;
3. Increased revenue from coal sales for any given use of train path.

For UT3 if the wagons were loaded at the sill each train would conservatively carry 7% less coal than it currently does. All other things being equal, 7% less coal would be carried to the port and access prices would be expected to be 7% higher on a per tonne basis. This would increase the average price per tonne by around $0.30 (refer Table 9.7). As a result the savings in below rail access fees that accrue to industry from having wagons loaded above the sill alone, more than pay for the full cost of the full ballast treatment program that was proposed as part of the draft 2009 Undertaking.

**Table 9.7  Impact of Loading to Sill on Access Charges Compared to the Cost of Ballast Cleaning**

|  | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
|---|---|---|---|---|
| ARR published | $867.1 | $905.9 | $974.3 | $1,007.7 |
| Base tonnage forecast | 220.8 | 224.6 | 230.5 | 230.5 |
| Base price per tonne | $3.9 | $4.0 | $4.2 | $4.4 |
| Revised throughput | 205.4 | 208.9 | 214.3 | 214.3 |
| Revised price per tonne | $4.2 | $4.3 | $4.5 | $4.7 |
| Net increase per tonne | $0.30 | $0.30 | $0.32 | $0.33 |
|  |  |  |  |  |
| Saving from overloaded wagons | $60.7 | $63.4 | $68.2 | $70.5 |
| Total cost of ballast cleaning | $28.9 | $40.8 | $47.9 | $46.9 |

Note: Based on the data submitted to the QCA as part of QR Network's Draft Undertaking, September 2008

The alternative to paying more per tonne for above rail charges would be to have more train movements to carry the same tonnage of coal with wagons that are filled only to the sill. This would require around 7% more trains (with complementary below rail expansion) and since the above rail charge is typically greater than the below rail charge for coal haulage the net impact on mines' income would be greater than that illustrated in the above scenario – even given the unrealistic scenario that existing

below rail infrastructure could cope with the additional train movements. Similarly, based on conservative estimates of mine operating cost surplus of between $60 to $80 dollars per tonne for metallurgical coals, the net benefit to industry significantly exceeds the costs associated with ballast undercutting.

However, as indicated in QR Network's September 2008 submission on maintenance costs, ballast fouling is sustainable only to the extent that the rate of cleaning is at a sufficient level to avoid the rate of fouling resulting in the network exceeding the contamination threshold of 30%.  The rate of cleaning required to support future traffic levels and throughput means that past loading practices are no longer sustainable. The actions that QR Network is undertaking to reduce the fouling rate are discussed in the following section.   Notwithstanding these actions, ballast fouling will not be completely eliminated and there is also likely to be a lag of seven to ten years to address ballast fouling which has yielded considerable net economic benefit to the Queensland Coal industry in the past.

Concerns have been expressed elsewhere in the draft decision regarding the perceived lack of incentive on QR Network to increase throughput. This provides an example of a decision that QR Network has made in order to ensure that this can occur. Clearly, there are tradeoffs with such a decision that need to be recognised. Activities that QR Network has therefore been undertaking to address the coal fouling problem are set out below.

In basing the reduction in the ballast undercutting costs on comparisons with the task requirements between the Hunter Valley and Central Queensland Coal Region the QCA is effectively optimising on the basis of gauge. A fundamental assumption in the "0" NPV model which the Authority has made reference to in its consideration of the cost of capital is the concept of capital maintenance.  However, capital maintenance is both financial capital and physical capital maintenance.  Therefore, in order for the regulatory model to align the NPV assumption consideration also needs to be given to ensuring the same principles which apply to optimisation of the asset base also apply to the optimisation of the maintenance scope.

### 9.5.2   Activities undertaken by QR Network to Reduce Coal Fouling

QR Network has documented demonstration of proactively trying to address the coal loss issue since the late 1990s when QR commenced dust monitoring on coal rail corridors. QR was also instrumental in establishing preliminary spray station trials at Curragh mine in 2001, with the first trial spray station established by QR at Boorgoon mine in 2005. Another was later installed at South Walker Creek mine.  Initial studies identified that there were three major causes of coal fouling

Over the past 3 years QR Network has invested considerably in the Coal Loss Management Project.  The project is aimed at identifying the primary causes of coal loss and mitigating those causes on behalf of its clients so that they meet future environmental standards in sensitive rail corridors; especially those in populated and environmentally sensitive areas.

An independent environmental evaluation has been undertaken by Connell Hatch which investigates sources of coal loss and provides a number of recommendations. A copy of the report can be found on the Coal Loss Management Project website.[56]  A key finding from the report is that a large proportion of coal loss is attributable to the wagon surface as shown in Figure 9.5.   The proportion of coal loss attributable has been verified by further independent studies by Aurecom Hatch.  Specifically, the Final Report on Coal Leakage from Kwik-Drop Doors, which may also be found on the Coal Loss Management Project website presents the following results of the study:

> *Based on these results, the preliminary upper bound estimate of the amount of coal dust emitted from the ballast (originating from the doors) of 400 tonnes per annum, presented in Section 4.2 of the Environmental Evaluation does not increase. This infers that the estimated 6% contribution of coal from the doors to coal emitted from the rail corridor is an upper bound estimate, with the average figure likely to be less than 6%.[57]*

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[56] http://www.qrnetwork.com.au/About-us/Environmental-policies/Coal-loss-management.aspx

[57] Aurecom Hatch (2009) Coal Leakage from Kwik-Drop Doors, p. 15

**Figure 9.5  Sources of Coal Loss**
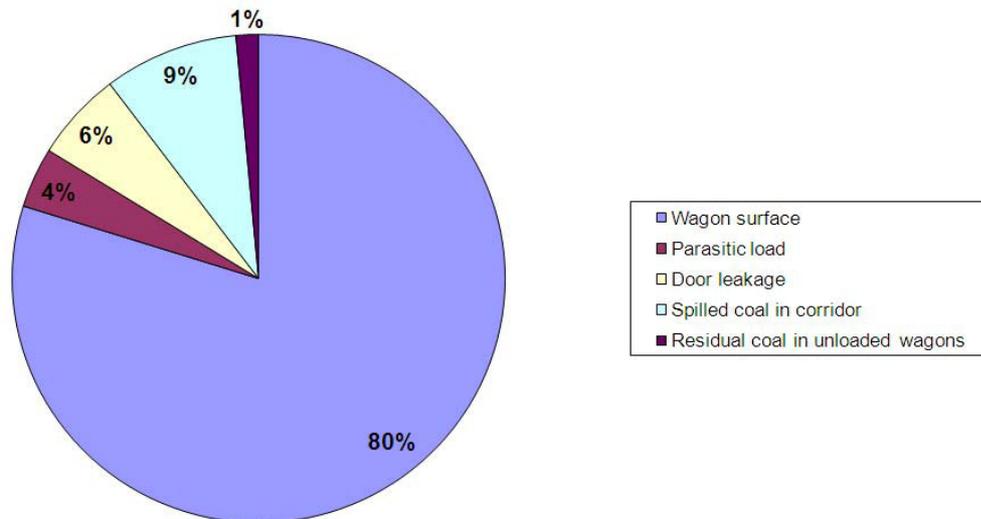


In addition, the studies show that a large proportion of the coal loss is predicted to fall within the rail corridor with particular concentration around the track infrastructure. This is shown in the Figure 9.6 which has been taken from the page 81 of the environmental report.

**Figure 9.6  Cross-section of predicted maximum 24-hour average ground-level concentration of TSP (µg/m³) due to 2006/07 train movements on the Blackwater System. Train speed is 80 km/hr.**
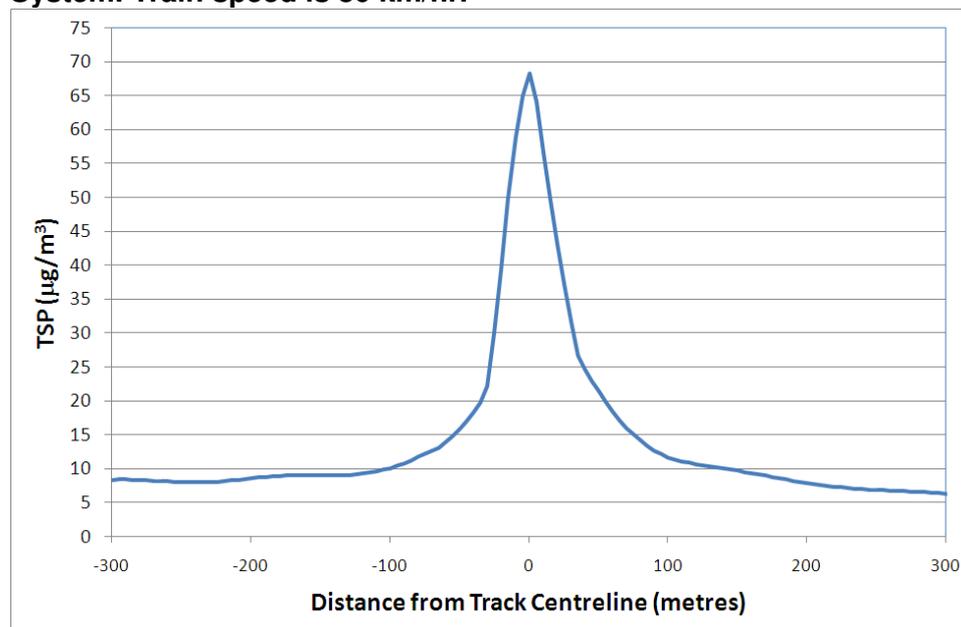
As part of this project QR Network has proactively provided a number of options to the Central Queensland coal supply chain for mitigating coal dust, in particular a variety of approaches to the installation of spray stations to reduce dust from the surface of the loaded coal. Despite a two and a half year transparent consultative approach, which has identified a number of opportunities for addressing this issue, the majority of the coal supply chain, under the guidance of the Queensland Resources Council, is yet to agree to the installation of spray stations.

Other work undertaken by QR Network has included active involvement in the design of coal load outs at the various port developments.  In order to reduce instances of parasitic coal, QR Network has revised the standard load out design so that the distance between the coal wagons dropping their coal and the conveyor belt is longer. This gives operators at the port more time to react to any problems with the exit conveyor.  At the same time the rail is now built so there is a gap between the rail and the concrete floor so that if the coal chute is blocked and full of coal the coal falls below the height rail and does not rise up around the wheels to be carried off and dropped on the track.  This has been installed at recent new coal loadout constructions.

As shown in the previous tables coal density can vary between mine sites and even from the same mine depending on a number of factors.  Therefore, it is feasible for a coal wagon to be significantly over-filled while not breaching the required overload or wagon/overhead clearance limits.  In these circumstances the producer has an incentive to ensure it maximises the product transported in a given consist.  This can result in load profiles similar to that in Figure 9.7.

**Figure 9.7  Example of an overfilled coal wagon**



QR Network is seeking to constrain these practices through the negotiation of Transfer Facility Licences with individual mine owners which will aim to improve loading practices and implement the preferred garden bed profile.

### 9.5.3  Investment in ballast undercutting equipment

The September 2008 maintenance forecasts included further investment in MFS Spoil Management Wagons.  These have been identified as necessary to address issues of spoil within the rail corridor from ballast undercutting activities and to significantly improve the productivity of the ballast treatment task within the available possession constraints. The original submission also advised that this equipment has significant procurement lead times.  QR Network initially envisaged that these wagons would become progressively available from 2010/11.  However, due to the delay in finalisation of UT3 and the significant and justified regulatory risk associated with committing to a large scale rollingstock investment program orders for these wagons have not been placed.

The delay in finalisation of UT3 has also provided QR Network and QR Services the opportunity to review the ballast treatment strategy for the purpose of optimising the program to ensure QR Network delivers value for money to its Customers. Accordingly, the resubmitted maintenance costs will not include investment in the MFS wagons.  QR Network proposes to submit a revision to the maintenance costs via the

proposed Review Event mechanism during the UT3 period to reflect the outcomes from this review.

## 9.6  Efficiency factor

As noted by the QCA incentive regimes typically include a mechanism to ensure that benefits associated with economies of scale and productivity improvements can be shared between the regulated business and its customers.[58] In its draft decision the QCA imposed a 25% X- factor reduction in its revenue adjustment amount calculations, on both operating and maintenance costs.  The reduction applies to the CPI or MCI increase in any given year and was justified on the basis that "QR Network has not made any provision for productivity gains in its forecasts"[59]. This is examined further in section 10 below.

## 9.7  Revised estimate and benchmarking (with new data)

Table 9.10 presents the revised forecasts and Figure 9.8 presents the reasons for variation from the original submission.  The key cause of variation is the removal of the costs associated with the purchase and operation of the spoil management wagons.

**Table 9.10  Comparison between Original QR Network Submission and Revised Estimate (2007/08$)**

|                       | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
|-----------------------|---------|---------|---------|---------|
| Submitted             | 152.8   | 171.4   | 183.4   | 184.0   |
| Submitted less GAPE    | 152.8   | 168.5   | 178.5   | 178.3   |
| Revised               | 150.5   | 153.5   | 155.8   | 156.1   |
| Percentage variation  | -1.5%   | -8.9%   | -12.7%  | -12.4%  |

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[58] Queensland Competition Authority (2009), p.59.

[59] Queensland Competition Authority (2009), p.59.

**Figure 9.8  Reasons for Variation in Total UT3 Maintenance Budget, Original Submission to Revised Estimate (2007/08 $)**
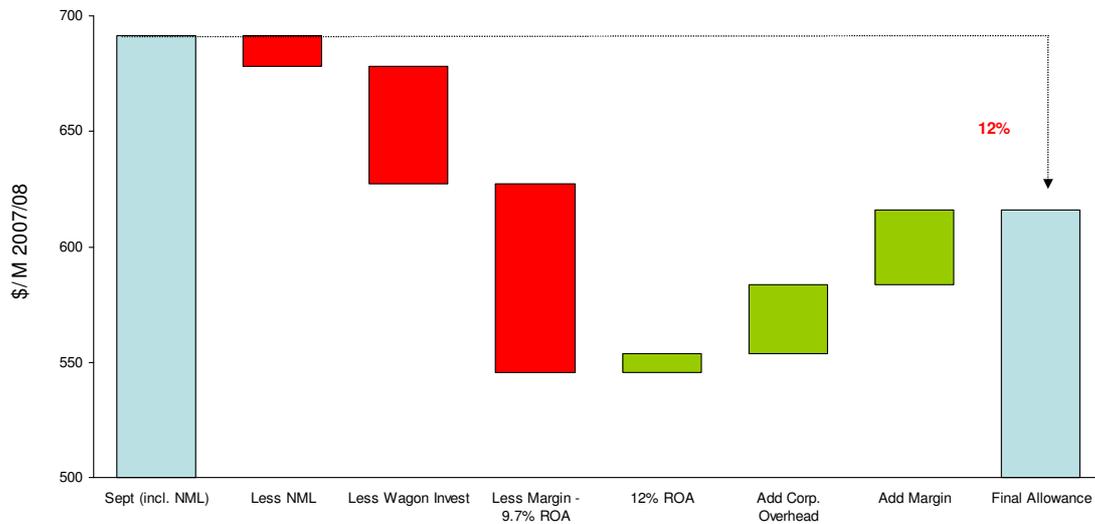


When benchmarked against the ARTC the revised 2010/11 forecast (including ballast cleaning costs) is 10% less than the ARTC's Hunter Valley maintenance costs in 2006/07 and 16% less than the ARTC's Hunter Valley maintenance costs in 2007/08.

**Figure 9.9  Comparison between Revised QR Network Submission and Revised Estimate**
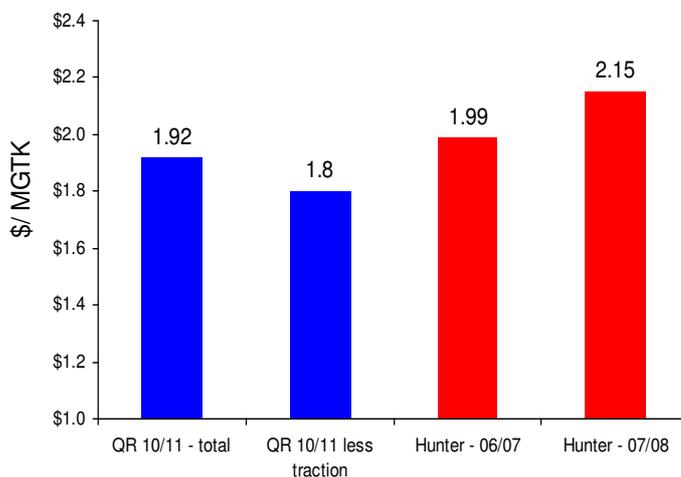


As noted by the QCA's consultant it is generally expected that as network utilisation increases there would be some economies of scale for the maintenance task.  QR Network would agree that all other things being equal this is the case and as illustrated in Figure 6, this is clearly the case when comparisons are made between the individual systems in Queensland and the Hunter Valley.

**Figure 9.10  Maintenance Cost Relative to Network Utilisation – Major Australian Coal Systems**
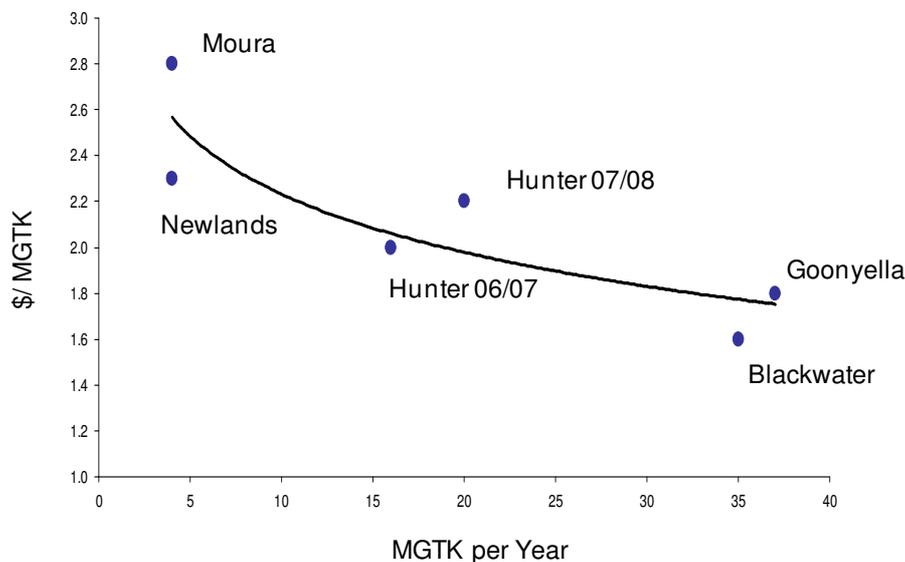


However, such comparisons should be tempered by an assessment of the specific characteristics of an individual system that could distort this comparison. For example, on the above chart Moura is significantly more expensive than the Newlands system because there is no ballast undercutting forecast for the Newlands system in 2010/11. Newlands does not have any ballast undercutting forecast because there is a capital works funded upgrade of ballast forecast to occur during UT3. There are a whole range of differences between the Hunter Valley and Central Queensland coal systems which would impact on this comparison but despite this in aggregate the pattern evident in Figure 9.10 is indicative of the expected scale economies in railway maintenance.

## 9.8  Conclusion

In summary, **QR Network does not accept the QCA's proposed maintenance cost allowance.** QR Network has proposed a revised allowance, as set out in Table 9.10 above.

# 10.    PROPOSED X-FACTOR ADJUSTMENT

## 10.1   Overview

QR Network did not propose an X-factor adjustment for either its operating or maintenance cost allowances. In the maintenance cost forecasts, it proposed to deal with this by building a number of efficiency measures into the forecasts themselves.  In the operating cost forecasts, it was proposed to apply an 'efficiency dividend' by assuming that labour costs (which reflect a significant proportion of the cost base) are indexed at inflation rather than the wage price index. This is based on the persistent differential that has been observed between inflation and wages growth.

The QCA has rejected QR Network's proposal based on the advice of its consultant, GHD, who examined QR Network's operating and maintenance cost forecasts. GHD did not consider that the efficiency measures built into the maintenance cost forecasts were valid. It also rejected QR Network's proposed 'efficiency dividend' on the basis that while wage movements are seen as being more volatile than CPI, they continue 'on the same general trend'. GHD has therefore proposed the application of an X-factor based on a report it prepared for the Economic Regulation Authority (ERA) in 2004.

QR Network has a number of concerns with this proposal. These are set out below.

## 10.2   Relationship between CPI and wages growth

QR Network's proposal to increase wages growth by CPI (rather than the wage price index) was based on the long-term differential that has persisted between the CPI and the wage price index, with wages growth remaining at some margin above CPI. There is clearly a relationship between the two and that relationship is a strong one, with changes in wages ultimately flowing through to prices, although usually with a lag.

GHD has misinterpreted this argument and in effect, all it has done is show that there is a relationship between CPI and wages growth (as per Figure 20 in its report to the QCA). QR Network agrees that CPI and wages growth follow the 'same general trend' in the long-run. However, that does not mean that wages growth and CPI have converged, or will do so in the future. QR Network's proposal was based on the

observed differential between these two indicators. Given CPI growth has been lower, indexing labour costs on this basis will understate QR Network's actual wages growth.

The following chart shows the difference between the CPI and wages growth (based on a range of indices) since 1994. This includes all of the indices referenced by GHD in its analysis.

**Figure 10.1  CPI and Key Wage Indices – 1994 to 2009**
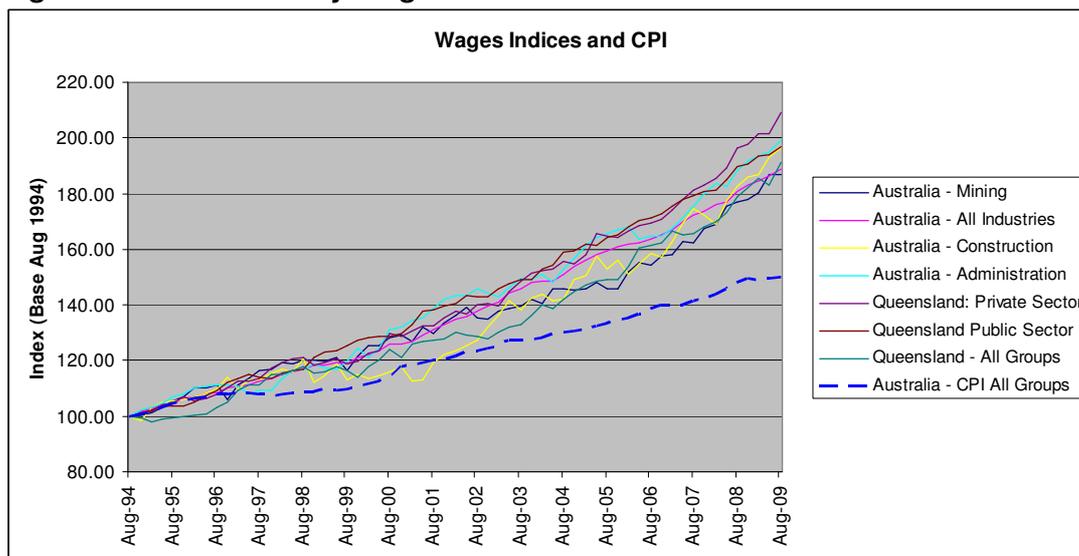


Source: Australian Bureau of Statistics

The lowest dashed line is the CPI. All of the other series are wage indices. This clearly shows that wage growth has remained consistently above CPI, with only one very brief exception (being Construction, in 2000/2001).

While forecasts of inflation and wages growth only tend to be reasonably short-term, this relationship is expected to continue in the near future. In the Queensland State Budget Papers for 2009/10, Queensland Treasury's forecasts were as follows:

**Table 10.1  Forecast CPI and Wages Growth, Queensland**

| Year | Inflation | Wage price index |
|---|---|---|
| 2009/10 | 1.75% | 3.25% |
| 2010/11 | 1.50% | 3.25% |
| 2011/12 | 2.00% | - |
| 2012/13 | 2.50% | - |

Source: Queensland Government (2009), State Budget 2009-10, Budget Strategy and Outlook, Budget Paper No.2, p.27.

The forecast wage price index reflects expected growth in wages across the entire economy. As has previously been observed, wage pressures have been particularly strong in industries such as mining and construction. Access Economics' forecasts for Queensland wage growth in key sectors, which extend out to 2017/18, are shown in the following table.

**Table 10.2  Queensland wage forecasts (annual percentage change)**

| Sector | 09-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 |
|---|---|---|---|---|---|---|---|---|---|
| QLD | 2.9 | 3.3 | 3.8 | 3.8 | 3.8 | 3.7 | 3.8 | 4.0 | 4.1 |
| Utilities | 3.5 | 3.5 | 3.8 | 4.0 | 3.9 | 3.8 | 3.8 | 3.9 | 3.9 |
| Mining | 4.0 | 2.7 | 3.6 | 3.9 | 4.2 | 4.1 | 4.0 | 3.9 | 3.8 |
| Construction | 3.2 | 3.0 | 3.6 | 3.7 | 4.1 | 4.2 | 3.5 | 3.4 | 4.1 |
| Manufacturing | 3.4 | 3.5 | 4.0 | 4.0 | 3.9 | 3.9 | 4.0 | 4.2 | 4.0 |

Source: Access Economics (2009) Forecast growth in labour costs[60]

These forecasts remain well above the forecast CPI. It is also noted that the Reserve Bank's forecast for CPI (Australia) does not exceed 2.5% for the duration of its forecast horizon (which is currently to 2012).[61]  The Reserve Bank tends to use 2.5% for its longer-term forecasts of inflation because this is the mid-point of its target band for inflation.

GHD claims that "in the very near future" QR Network's efficiency dividend will turn negative. This claim is not substantiated, and only appears to be based on an observed dip in CPI and wages in late 2008. The data above confirms that wages are expected to continue to grow by more than inflation and hence shows that GHD's conclusion is not a reasonable one to draw.

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[60]
http://www.aer.gov.au/content/item.phtml?itemId=732147&nodeId=a5dee8d1f7cc910cbff9747324f56e1b&fn=Access%20Economics%20report%20-%20Energex%20and%20Ergon.pdf

[61] Reserve Bank of Australia (2009), Statement on Monetary Policy, November.

## 10.3  GHD's X-Factor estimate

GHD's recommended X-factor is based on a report it prepared for the ERA in 2004 (in conjunction with the ICRC), in which it was asked to estimate CPI-X in the WA rail industry.[62]  GHD is proposing to apply the X-factors estimated in that report directly to QR Network.

QR Network does not agree that this data can be used to set an X-factor to be applied to its rail network. The X-factor developed by GHD/ICRC was based on the specific characteristics of this network and its regulatory regime.  For example, in order to estimate Total Factor Productivity (TFP), an output price is required. GHD/ICRC indicated that ideally, this would be based on a single measure (and hence ultimately, there would be a single X-factor) for rail infrastructure in Australia as a whole. In the absence of this data, GHD/ICRC used the revenue cap determined by the ERA.

There are a number of immediate differences here. For example, the ERA applies a Gross Replacement Value approach, whereas the QCA (and a number of other Australian regulators) used Depreciated Optimised Replacement Cost. GHD/ICRC also noted the similarities between TFP and their estimated change in input prices. This was because of their use of the revenue cap to proxy for output, acknowledging that an Australia-wide benchmark would have been appropriate. In other words, the estimates they produced were specific to the characteristics of the WA rail network and its regulatory regime.

GHD/ICRC acknowledge a number of limitations of their approach. For example, they state:

> If, however, CPI-X regulation as outlined in this paper is used as a replacement to current regulatory practices (see Section 6.2), then empirical estimation of input elasticities for the rail industry as a whole will need to be undertaken as part of a more in-depth examination of rail industry TFP in Australia…[63]

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[62] The Institute for Research into International Competitiveness and GHD Pty Ltd (2004), Estimation of CPI-X in the WA Rail Industry, May.

[63] The Institute for Research into International Competitiveness and GHD Pty Ltd (2004), p.12.

*We stress that this is not the ideal solution. Indeed, it cuts right to the heart of the problem inherent in economic regulation in Australia; the excess of self-reference and the lack of an external reference point with which to judge outcomes...[64]*

*We have assumed that the MEA of the ERA is correct, and does represent efficient practice. Also, we have not investigated whether it has incorporated cost reducing technological change that is only temporary in nature. It is not really possible to do this in the context of this study, as we only have MEA to examine...[65]*

*...if CPI-X regulation as outlined in this document is to replace the current system, and regulators are to change X-factors only with extreme caution for the reasons outlined in Section 2.1, it will behove them to devote more effort to the calculation of TFP than has been possible here.[66]*

In other words, there were a number of significant qualifications that they clearly put on this study. Apart from not addressing any potential differences between QR Network and the WA regime, in applying these estimates to QR Network, GHD has not acknowledged any of these limitations.  In its 2004 paper, it highlighted the need to "devote more effort to the calculation of TFP than has been possible here", particularly if regulators are to change X-factors.

It is therefore not considered appropriate to apply these estimates to QR Network. Apart from the differences between the regulatory regimes, and the heavy haul networks, the GHD/ICRC study was constrained by data limitations and hence its conclusions were heavily qualified.   There are also some very significant differences between the Western Australian Rail Access Regime and the Queensland model which need to be considered in apply benchmarks developed in one regime to another. As discussed above the Gross Replacement Value model requires both asset values and operating costs to reflect changes in replacement cost and technology. Therefore, there is a stronger basis to applying an X-factor in the ceiling costs calculations.

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[64]  The Institute for Research into International Competitiveness and GHD Pty Ltd (2004), p.16.

[65]  The Institute for Research into International Competitiveness and GHD Pty Ltd (2004), p.24.

[66]  The Institute for Research into International Competitiveness and GHD Pty Ltd (2004), p.24.

Also, as QR Network is not aware of any corridor on this network that is generating sufficient revenue to meet the ceiling costs test, the application of the X-Factor in that model may not have actual financial consequences for the network owner.  This can be contrasted with the CQCR where regulatory error in determining the X-factor has real financial consequences and would lead to an outcome where the prices are not sufficient to '**at least**' recover the efficient costs of providing the service.

QR Network agrees that there are significant difficulties in developing an appropriate X-factor, particularly given the lack of suitable external benchmarks. It was for this reason that it submitted its alternative proposals to ensure that its cost estimates did include some form of efficiency target, albeit imperfect ones. The QCA's response to these targets was that "QR Network has not made any provision for productivity gains in its forecasts"[67].

This statement conflicts with both QR Network's maintenance cost report and the report provided by the QCA's own consultant.  QR Network did anticipate a number of explicit efficiency measures and built them into the forecasts. These measures were listed in the GHD report and included:

- A reduction of 9% in the forecast consumption of indirect consumables over the four years of the undertaking;
- A reduction of 9% in the forecast amount of overtime booked by the resurfacing crews over the four years of the undertaking;
- A reduction over 9% in the forecast cost of plant maintenance for the ballast undercutter and resurfacing operations over the four years of the undertaking.

In addition, when new equipment was introduced (such as the refurbished resurfacing machines) it was assumed that maintenance costs would reduce by 50% and it was anticipated that the productivity of the resurfacing machines would increase by 14% as a result of better planning.  The net impact of the changes listed above on the original forecasts is presented in Table 10.3.

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[67] Queensland Competition Authority (2009), p.59.

**Table 10.3  Impact of Efficiency Improvements Costed By QR Network (2007/08 $M)**

|  | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
|---|---|---|---|---|
| Financial Impact of assumed efficiency improvements | 0.00 | -0.9 | -1.7 | -2.5 |
| % Reduction | 0.0% | -0.5% | -0.9% | -1.4% |

The net impact of these changes is similar in percentage terms to the savings anticipated by the introduction of the X-factor (Table 10.4), yet the X-factor has been determined without taking their impact into account.

Also at no stage of the GHD or QCA analysis is any consideration given to the magnitude of the X-Factor and whether the assumed productivity gains implied by setting X to 25% are in fact realisable.  Given that assets charges and technology is generally fixed over the regulatory term and that at least 75% of the labour cost comprises permanent staffing (and would need to be higher to ensure maintenance of capability), then at least 50% of the costs are fixed.

As shown in Table 10.4 the financial impact of the X-factor on the maintenance costs is to assume very deep reductions in variable costs.  This can only be achieved through significant reductions in maintenance flexibility which has consequential effects on network reliability and availability.  While QR Network's Customers did not respond to our request for comments on the service level and maintenance cost trade-offs, based on our understanding of the expectations of the supply chain this outcome would not align with those expectations.

**Table 10.4  Impact of X-Factor on QCA Approved Maintenance Allowance**

|  | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
|---|---|---|---|---|---|---|
| Revised allowance 2007/08 $M |  |  | $ 121.63 | $ 125.85 | $ 128.49 | $ 126.91 |
| MCI | - | 1.55% | 2.94% | 3.45% | 3.48% | 3.34% |
| Cumulative | 1 | 1.016 | 1.045 | 1.081 | 1.119 | 1.156 |
| Nominal QCA allowance before X factor $M |  |  | $ 127.15 | $ 136.10 | $ 143.79 | $ 146.76 |
| MCI Adjusted for X-Factor |  | 1.17% | 2.20% | 2.59% | 2.61% | 2.51% |
| Revised cumulative inflation | 1 | 1.012 | 1.034 | 1.061 | 1.088 | 1.116 |
| Nominal QCA allowance after X factor $M |  |  | $ 125.76 | $ 133.49 | $ 139.84 | $ 141.58 |
| Impact of X factor $M |  |  | $    1.39 | $    2.61 | $    3.94 | $    5.18 |
| Percentage Reduction |  |  | 1.09% | 1.92% | 2.74% | 3.53% |
| Fixed Cost Ratio | 49.25% |  |  |  |  |  |
| Percentage Reduction |  |  | 2.15% | 3.78% | 5.40% | 6.95% |

While QR Network believes there are some efficiencies which may be gained over the period of the undertaking and will continue to model the savings assumed above, it does not believe there is rationale for the additional imposition of an X-factor which the Western Australian Economic Regulation Authority itself has indicated requires review for its continued appropriateness.[68]  No such review has been undertaken by GHD as to the reasonableness of its application to the UT3 maintenance costs.

In addition it is important to note that in the interest of facilitating a timely response to the QCA's draft decision and minimising the effort the QCA will need to put into reviewing any information provided, QR Network has chosen not to revisit the detail of the maintenance cost forecasts.

If this did occur it is likely that the impact of a number of new safety related directives would be significant.  For example it is no longer possible to operate a resurfacing machine without either a physical barrier between operational plant and the people working around the machine; or the machine is stopped, secured and operator removed from the seat or staff are in a exclusion zone.  In response as many as two additional staff may be required to work with the machines to ensure they do not lose significant operational time.  Since this issue has yet to be resolved this has not been

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[68] Economic Regulation Authority (2009) Draft Determination on TPI's Costing Principles , p. 48
http://www.era.wa.gov.au/cproot/8118/2/20091124%20The%20Pilbara%20Infrastructure%20Pty%20Ltd%20(TPI)%20Draft%20Determination%20on%20TPIs%20Costing%20Principles.pdf

costed but it is almost certain that the net impact on operating costs of these safety initiatives will be increased costs, at least in the short term.

However, if an inappropriate X-factor is applied, this could have a significant impact on QR Network. It not only could fail to provide an effective incentive to pursue productivity gains, but it could also result in it failing to recover its efficient costs, which it is entitled to do under the pricing principles. Indeed, it could create perverse incentives, such as reducing service quality to the level that QR Network considers it is being compensated for (which may not be acceptable to users). The tariffs QR Network is able to charge also need to be sufficient to satisfy physical and financial capital maintenance.

## 10.4   Conclusion

QR Network therefore does not agree with the QCA's proposed X-factor. In relation to operating costs, it maintains that its proposal to index labour costs by CPI will result in a realisable efficiency dividend over the course of the regulatory period. With respect to maintenance QR Network considers that the level of maintenance costs proposed by QR Network is efficient relative to known and available benchmarks. Given the efficiency gains factored into the original maintenance cost estimates and the material risk that actual maintenance costs are likely to exceed those original estimates, this justifies not applying an X-Factor to maintenance costs and certainly not one of the magnitude proposed by GHD.

# 11.   WESTERN SYSTEM REFERENCE TARIFFS

## 11.1   Introduction

As evident in the submissions lodged by QR Network, QRC and key stakeholders the pricing of coal carrying train services within the Western System presents some unique challenges in determining that price using the conventional building blocks model.

QR Network accepts that the Reference Tariff included in the September 2008 submission represents a material increase on the UT2 Reference Tariff and does not provide a transparent and repeatable framework for the evolution of that Reference Tariff over time.  As indicated in the QCA's draft decision, QR Network sought to address this concern by presenting an alternate train path based allocation model which could form the basis of future regulatory decision-making.

The QCA is proposing to reject this model and determine its own approach to arriving at the applicable Reference Tariff.  QR Network has some specific concerns regarding some of the assumptions underpinning the QCA's approach to asset valuation and cost allocation.  .

QR Network considers that the apportionments of the residual DORC, after Everything Infrastructure's claims, are based on unreasonable assumptions, especially in relation to the interface with the Metropolitan network and the implications of passenger priority legislation. Also, allocating costs related to post-1995 capital expenditure does not recognise that the driver of these capital programs has been the growth in coal carrying train services.

The proposed reductions in system wide operating costs, while logical in their approach, seem to have been made without consideration of the reasonableness of the results implied. QR Network questions the implication of such a low residual operating costs pool when it is expected to effectively and efficiently run such a complex, large business subject to the identified constraints.

While QR Network considers the Western System Reference Tariffs derived by the QCA to be an equitable outcome, it believes that outcome can be provided in a way which is consistent with regulatory precedent and provides strong drivers for all stakeholders to improve throughput in the Western System.

QR Network is prepared to accept the proposed Reference Tariff, subject to a derived RAB which adequately reflects the relevant constraints, the current and future value to users of the network, and does not create uncertainty as to the commercial basis of negotiations with customers in relation to past and future rail infrastructure enhancements.

In summary, QR Network proposes to accept:

- The quantum of the QCA's proposed Western System Reference Tariff, subject to adjustment for maintenance and operating costs; and
- The QCA's proposed reference tariff structure.

QR Network does not accept:

- The Authority's adjustments to the DORC valuation; and
- The methodology for the allocation of the asset value and future capital expenditure.

In order to derive the QCA's proposed Reference Tariff, QR Network proposes to:

- Amend the depreciation profile of assets obtained from the application of DORC principles; and
- Apply a cost allocation methodology which is consistent with the underpinning rationale of the draft decision but provides greater certainty to QR Network and users who underwrite future capital works.

The following sections address specific issues in relation to the derivation of the Western System Reference Tariff.

## 11.2   Decision 1.4 - Asset lives for tariff-setting and rebate calculations

QR Network accepts the QCA's decision to table appropriate asset lives for the lifespan of rebates and asset classes for depreciation. However in the setting of these lives, QR Network questions the low assumption for rail within the system. The asset lives proposed by the QCA are comparable to those applied in the CQCR.

While the age of assets in the Western System is varying, the active capital expenditure program to enhance the quality of the infrastructure, along with the lower levels of network utilisation, imply a notional level of average life parity with assets in the CQCR. It is intuitive that longevity of the product in recognition of its actual utilisation should be taken into account when making the determination. For example, while it could be argued that those assets, especially rail, along the Toowoomba range incur high levels of wear and tear, assets west of Toowoomba have much lower levels of utilisation.  This approach was also applied and accepted by the QCA in relation to the West Blackwater Reference Tariff.

**QR Network is prepare to accept the asset lives proposed by the QCA in decision 1.4 subject to an increase in the assumed physical asset life of rail to 30 years.**

**Table 11.1 Assumed asset lives – Western System**

| Asset Category | Assumed Asset Lives (Years) |
|---|---|
| Sleepers (concrete) | 50 |
| **Rail** | **30** |
| Turnouts | 20 |
| Ballast | 20 |
| Top 600 | 50 |
| Roads | 38 |
| Fences | 20 |
| Signals | 20 |
| Bridges | 50 |
| Culverts | 50 |
| Earthworks | 100 |
| Tunnels | 100 |
| Land Acquisition | 50 |
| Telecom | 20 |
| Power Systems | 20 |

## 11.3 Decision 6.7 - Western System Access Facilitation Deeds and Renewal Rights

The QCA's decision in relation to the Western System Access Facilitation Deeds suggests a misunderstanding of the purpose and application of AFDs.  This is evident in the following statement:

> These AFDs typically include provisions for QR Network to pay back to a miner the money it has provided to underwrite an asset, over the life of the asset. The rebate period is set to equal the asset life determined by the Authority in setting the initial reference tariffs that apply to the assets covered by the rebate.[69]

The purpose of the AFD is not to pay back to an end-user the full amount of the original contribution. The AFD is intended to transfer the commercial and regulatory risk to the incremental user.  On this basis, should coal carrying train services discontinue on the Western System in say, 20 years then the counterparty to the AFD bears a comparable level of risk to QR Network in relation to its own network investments.  In the event that coal carrying train services continue to the end of the

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[69] Queensland Competition Authority (2009), p.77.

physical or economic life of the original investment, only then will the full amount be returned.

QR Network also notes that the QCA has sought amendments to 6.5.2(d)(i) to require the rebate to be payable for a period no longer than the approved asset lives. As discussed in section 7.2.4 of volume 1 such an amendment is unnecessary. The rebate is an agreement to return the capital charges associated with the relevant assets which are included in access charges levied on the party to the agreement. Any obligation to pay a rebate ceases once those assets have no value in the RAB. This can occur independently of the term of the rebate agreement. In addition, should the rate of return or the asset lives change over time then the rebate will be amended to reflect those conditions.

QR Network also notes the QCA's comments regarding the issue of Renewal Rights and accepts that a mine owner may seek long term certainty of access rights to underwrite large scale mining investments. However, whether a party is subject to an AFD is not a relevant consideration in rights renewal as the AFD is effectively a financing arrangement. Provided the rebate arrangements allow for the payment of a rebate irrespective of which mine utilises the capacity provided by those investments, then AFDs and renewals are mutually exclusive.

**QR Network accepts Decision 6.7 to provide for renewal rights for coal carrying train services within the Western System subject to the relevant passenger priority legislative exclusions**.

## 11.4   Decision 1.5 - Opening Asset Value to be used for determining Reference Tariffs for Coal Carrying Train Services on the Western System

### 11.4.1 Proposed adjustments for capacity constraints

The QCA has sought to make a number of adjustments to reflect the capacity constraints in the Western System. QR Network notes that the QCA has applied clause 6.3.1(b)(ii) as a basis for assuming that given the capacity constraints on the Toowoomba range. QR Network's decision to provide access to non-coal carrying train services while there is unmet demand by coal carrying train services should be reflected in the Maximum Allowable Revenue.

QR Network accepts the QCA's decision to apply a train path allocation approach to reflect constraints on the Western System.  QR Network also notes that in maintaining a price cap form of regulation where prices are determined against 'contracted' levels of capacity, QR Network will obtain the full benefit of future train planning and path availability which allocates additional paths to coal carrying train services.

The relevant constraint here relates to the Toowoomba range.  QR Network does not support the QCA's decision to make further adjustments to reflect the metropolitan blackout period. While QR Network recognises that the peak hour restrictions in the metropolitan system reduce the availability of paths, it notes that the overall paths are not influenced by this down-time. Western System coal trains are not wholly constrained by passenger priority rules, but more by the constraints imposed by the Toowoomba range, given the physical impediments of the track and associated maintenance window tasks.

It should be noted that despite the downtime implied, maintenance windows on the Toowoomba range can also provide an opportunity for delayed or cancelled train services to pass if there are tasks to perform. Further, it should be noted that, while coal trains do not operate inbound during the peak passenger periods, outbound empty coal trains are not restricted.

In considering the further 20% capacity-based 'optimisation' for the metropolitan network the QCA has not addressed the sovereign risk implications of the metropolitan network in relation to the passenger priority legislation. While optimising based on a capacity allocation decision made by QR Network may be reasonable, passenger priority is not within the control of QR Network and therefore should not be used as a basis for optimisation. As stated in its original submission on Western System Coal Tariff Development:

> *The constraints caused by the metropolitan system are not unique to coal or freight services in Brisbane. In March 2008 the ACCC commissioned PriceWaterhouse Coopers (PWC) to conduct a review of the ARTC DORC valuation of its interstate network conducted on ARTC's behalf by Booz Allen Hamilton[4] (BAH). In its review PWC noted that "Sydney has total restrictions on freight operations during weekday peak periods and although this is outside this DORC valuation, these restrictions have an external impact on ARTC's optimising the functional capacity of the network close to suburban or in outer*

*suburban areas". The review also identified that congestion occurred in the relationship between freight and passenger services in Melbourne and Adelaide during peak passenger periods. The practical effect of this is that optimisation of the ARTC network needed to recognise these constraints.*

*Similarly, for the Western System volume growth is constrained by the relevant capacity at the port and within the Metropolitan Network. The passenger priority arrangements for allocation of train paths and the reliance on Government funding for financing infrastructure enhancements in the Metropolitan network effectively replicates the horizontal separation that exists for the Interstate Network through Sydney. In this regard, capacity allocation and investment decisions are to an extent exogenous to QR Network and should be recognised as such in the consideration of Western System optimisation. (Section 4.2 Brisbane Metropolitan Network)*

QR Network therefore does not accept the capacity-based optimisation of its DORC as proposed by the QCA and proposes that this percentage be reinstated to the actual Train Paths, at 75.6%, as per its September 2008 submission.

### 11.4.2 Treatment of non-coal traffics

QR Network also notes that stakeholders perceive coal carrying train services to be only a marginal traffic within the metropolitan system. However, this view only holds for a limited number of track sections within the metropolitan network. As evident in Table 11.2 coal carrying train services are a significant user of the network based on its proportion of train movements. To the extent that the QCA maintains a reduction of 20% for the perceived capacity issues relating to the metropolitan network (as set out above), then QR Network reserves the right to include DORC-related costs for the relevant sections of the metropolitan network in future regulatory reviews.

**Table 11.2  Proportional Coal Use of Metropolitan Network**

|  | Rosewood - Ipswich | Ipswich - Corinda | Corinda - Y'pilly | Y'Pilly - Park Road | Park Road - Lytton Jct (inc, Dual) | Lytton Jct - Fish. Is. (inc, Dual) | Total WS Coal (Metro Section) |
|---|---|---|---|---|---|---|---|
| Route | 18.373 | 26.989 | 4.315 | 7.745 | 30.487 | 11.53 | 99.439 |
| Coal Services | 24.76% | 12.25% | 38.05% | 7.98% | 76.78% | 74.74% |  |

The QCA has also sought to apply the train path allocation to all assets, including AFD and non-AFD investments and future capital expenditure. QR Network has some significant reservations with including AFD investments in the train path allocation.

The QCA has taken the position that as a grain train and a coal train have similar train length and axle load characteristics, then any investment subject to an AFD provides a benefit to non-coal services. Grain trains are a seasonal traffic and may not always be utilised at their contracted levels. In addition, not all non-coal trains are grain trains and therefore the average gross tonne kilometre per train path of non-coal trains is not equivalent to the gross tonne kilometre per train path for a coal carrying train service.

Where an investment has been undertaken subject to an AFD to support additional coal train paths, this investment is triggered by the incremental coal traffic.  Should coal traffic not operate in the Western System the infrastructure standard and configuration would most likely be markedly different from current rail infrastructure. Accordingly, it is incorrect to assume that non-coal services obtain a benefit from the additional investment.  The requirements of the user of the incremental train path triggered that investment and hence that user obtains that benefit.

The QCA's decision to apply the train path ratio to AFD assets also has commercial implications for the payment of rebates under those agreements.  As the coal access charge is established with reference to the allocated RAB value then the rebate is reduced to reflect the asset charges included in the Western System Reference Tariff.

The QCA has also sought to apply the coal/non-coal train path allocation to future investment while at the same time acknowledging that it does not have a detailed break-down of the related capex for the metropolitan system.  As a consequence, the QCA has not considered the coal-specific nature of enhancements to the metropolitan network which QR Network is seeking to include in the AFD Agreements.  It should also be noted that track sections in the metropolitan network, such as the Swanbank and Ebeneezer loading and unloading facilities, are dedicated coal assets.

In summary, QR Network does not support application of a coal/non-coal reduction factor to infrastructure enhancements subject to an AFD.

## 11.5   Adjustments to the DORC valuation for standard

The application of the DORC principle in railway infrastructure valuation is well understood.  In the CQCR the QCA has also supplemented these principles with the concept of financial capital maintenance.  This requires that once a RAB has been established in accordance with the DORC, there is no ex-post optimisation of the original valuation (subject to limited exceptions).   All capital expenditure is subsequently included in the RAB where it satisfies the relevant tests of prudency.

These principles are not reflected in the approach to determining the opening asset value (OAV) for pricing purposes in the Western System.  The DORC valuation has a datum date of 1 July 2007 and is based on a modern engineering equivalent (MEE). Decisions which seek to deduct from the DORC valuation capital expenditure which is deemed to not provide additional capacity is an incorrect application of the MEE principles.

If the DORC is based on a MEE then any capital expenditure which increases the standard of the existing infrastructure can also be considered as replacement of life-expired assets in the original DORC.  Therefore, the basis for reducing a DORC value based on MEE is not that the future capex is bringing the existing facility up to that standard, but that the original valuation as at 1 July 2007 did not include appropriate expired life assumptions.

The report by Everything Infrastructure does not challenge the life assumptions in the original DORC.  On this basis QR Network does not support the deduction from the RAB those capital expenditure amounts which represent replacement of what is effectively life-expired assets.  Notwithstanding this position, any deductions from the DORC valuation should not be based on nominal forecast amounts.  Rather the nominal amounts should be deflated to 2007-08 dollars, being the same year as DORC datum date.

QR Network also rejects Everything Infrastructure's comments that a MEE is unsuitable for the purpose of scaling assets in the Western System. This is standard industry practice and is the same approach employed by regulators in other jurisdictions, including the QCA for determining the West Blackwater Reference Tariff. In other words, the QCA has made a determination which is incompatible with its own regulatory precedent.

The Everything Infrastructure report notes the standard of track west of Toowoomba and recommends costing based on a lower MEE. QR Network disagrees with this assessment as the track infrastructure between Toowoomba and Macalister provides a service level compatible with the MEE and significant upgrades have occurred along this track section to bring this rail infrastructure up to a higher track standard (i.e. the route speed of 80 km/hr is the same as east of Toowoomba). This is identified in the Western System Information Packs that Everything Infrastructure has relied on for various aspects of its analysis.

QR Network can only presume that Everything Infrastructure has formed this view based on the standard of track infrastructure *west* of Macalister which is subject to a lower standard and also a lower service quality in relation to maximum speed. QR Network acknowledges that adjustments comparable to the approach employed in the valuation of the Springsure Branchline would need to be made to the DORC valuation west of Macalister. However, while the DORC valuation undertaken in 2007 included the track section from Macalister to Columboola this did not form part of the RAB. Therefore, Everything Infrastructure's conclusions on track standard are erroneous in relation to the appropriate asset value from Rosewood to Macalister and should be dismissed.

Following release of the draft decision the QCA provided to QR Network a reconciliation of Everything Infrastructure's adjustments to the original DORC valuation. Everything Infrastructure has arrived at a valuation for the Rosewood to Macalister section by making a proportional track kilometre-based reduction in the DORC valuation. While QR Network accepts that this type of adjustment is reasonable for cost elements which were determined by application of a unit rate to track kilometres, it is not a suitable practice for making adjustment to an itemised DORC valuation where those assets are identifiable and separable.

The DORC valuation was undertaken during a five day site visit which included cataloguing and verifying every component of rail infrastructure along that route. To make arbitrary adjustments such as reducing tunnel valuation in the RAB by 29% is again inconsistent with the DORC principles. Similarly, as the optimised line section between Macalister and Columboola also included a limited number of track connections, the quantum of turn outs between Rosewood and Macalister significantly exceeds the implied number (83 * 71%) assumed in the QCA's proposed RAB.

In summary, QR Network does not support Everything Infrastructure's approach to assessing the DORC valuation and proposes that where the DORC specifically identifies an asset then this forms the basis of asset values to be included in the RAB.

## 11.6 Adjustments to the DORC – specific matters

### 11.6.1 Construction cost environment

The Everything Infrastructure report concludes that the unit rates applied in the DORC valuation of August 2007 are inflated as the valuation was undertaken in the middle of a cyclical peak in the construction market. Accordingly, it considered that a more appropriate use of prices would be the longer-term average. QR Network considers this conclusion to be flawed.

In responding to Everything Infrastructure's report on the DORC valuation, QR Network engaged Aurecon Hatch (AH) to objectively review the assessment and the reasonableness of its conclusions.  The summary report prepare by AH is included at Appendix H.

It is noted that financial sector ramifications of the GFC, including higher costs of debt, have lead to a drop in the number of forecasted major non-building projects. This is predominantly engineering-based construction projects to be commenced during the UT3 period. However, this trend is in direct challenge to the actual input/output prices of the industry and therefore associated construction costs.

QR Network does not believe that Everything Infrastructure has presented any evidence which supports its claim that the rates are unreasonably high or that they exceed longer term averages. In fact, the fundamental query relevant to the consideration of the DORC valuation is whether the unit rates are reasonable in the context of the market for the relevant goods and services at the date of the valuation. QR Network has not sought to undertake an asset valuation at a particular point in time to take advantage of prevailing market conditions.

In relation to the timing of the cycle, the Australian Bureau of Statistics' (ABS) price index for Road and Bridge Construction in Queensland[70],shows a steady rise in prices from the time of the DORC valuation, through to the end of the 2008/09 financial year. The measure is considered to adequately reflect the labour, material and plant input costs of projects, where bridge construction is inclusive of both roads and railways. The Figure 11.1 clearly shows that benchmark costs were not peaking at the time of DORC valuation.

**Figure 11.1  Producer Price Index, Road and Bridge Construction, Queensland**

**627 - Producer Price Indexes, Australia, Jun 2009**
**Price Index of the Output of the General Construction Industry**
**Road and Bridge Construction  QLD**
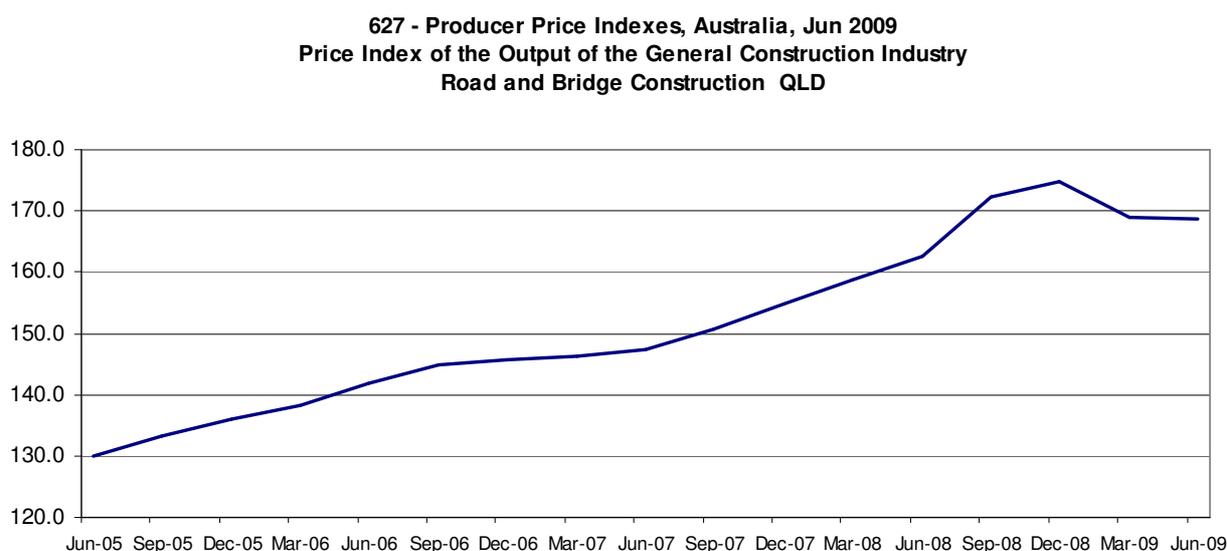


QR Network also notes that the purpose of the valuation was to effectively bring qualification and limitations on the asset base for preservation at a certain point in time; this effectively enables the provision of a platform for the asset base to be quantified and scaled reflective of a fit-for-purpose coal system. Ex-post changes to the primary inputs in this method effectively erode away the value of the exercise.

This is echoed in AH's report, where it commented that:

> *The DORC valuation should represent the replacement cost at a given date, not the lowest cost achievable if the provision of components are taken at their lowest possible rate.*[71]

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[70]  Australian Bureau of Statistics (2009), Table 15 - Price Index of the Output of the General Construction Industry, of 6427.0 - Producer Price Indexes, Australia, June.

[71]  Aurecon Hatch (2010), Peer Review of QCA Draft Decision, QR Network 2009 Draft Undertaking, Western System DORC, QR Network.

In the absence of clear and definitive evidence presented by Everything Infrastructure in relation to its claim regarding the proposed unreasonableness of the unit rates used in the DORC valuation, the QCA should accept those proposed by QR Network's consultant.

### 11.6.2  Unit price of rail

QR Network considers Everything Infrastructure's conclusions on long-term cost trend for rail to be unreasonable and unsupported.  Everything Infrastructure's conclusion appears to be drawn from observing two numbers and then concluding that one is higher than the other (the higher rate being the rate that was applied), which in turn is seen to indicate that the applied rate is above the long-term average.  Everything Infrastructure does not consider the countervailing argument that the lower number is substantially below the long term trend.

AH in its analysis cited the historic trend of Iron and Steel as reported for metallic materials used in the fabricated metal products industry, as part of the ABS's Producer Price Index. As is evident in Figure 11.2 the unit rates for rail used by QR Network are comparable to the long-run average price of steel.

**Figure 11.2  Producer Price Index, Iron and Steel, Australia**



6427.0 - Producer Price Indexes, Australia, Dec 2009
Indexes of metallic materials used in the fabricated metal products industry, index numbers - Iron and Steel
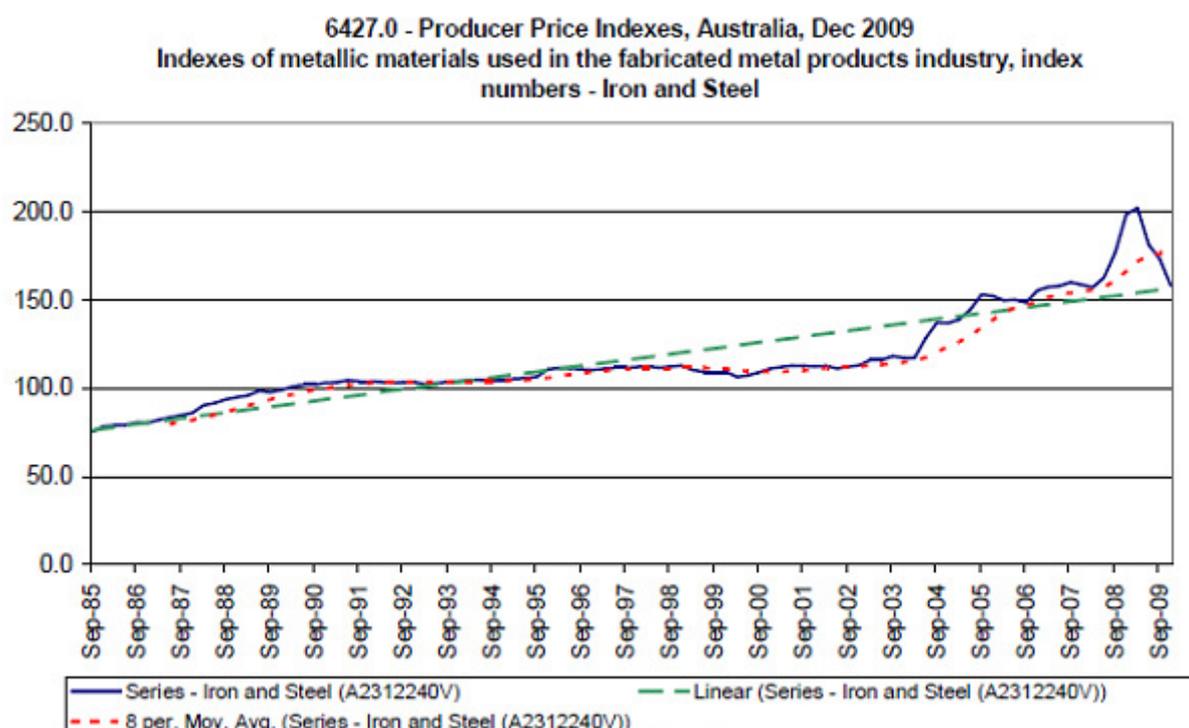
Used as an indication of the market price for rail, the index shows a steady increase in prices since the valuation date, and therefore is contrary to Everything Infrastructure's claims.

QR Network sees this as further evidence that the long-term price average quoted by Everything Infrastructure for many of its input claims are incorrect.

### 11.6.3  Reduction: sleeper price

As stated in the AH report, it is unclear how Everything Infrastructure arrived at the proposed reduction for sleepers, given the proposed decrease in unit price should result in a larger reduction to the all-up installed unit rate.

### 11.6.4  Removal: equipment refuges and backtracks

AH notes that given Everything Infrastructure's propensity to apply percentage of total reductions rather than apply reductions by line item, it is not clear what sidings were removed to reach the $2.0m reduction claimed. In keeping with Everything Infrastructure's reasoning, AH recommended the removal of the following sidings:

- Yarongmulu
- Murphy's Creek
- Spring Bluff
- Harlaxton
- Willowburn
- Oakey
- Dalby No.1 Dock
- Macalister East

These removals result in a reduction of only $0.6m from the ORC.

### 11.6.5 The length of tunnels

QR Network notes that there appears to be a small error in the System Information pack provided in the public domain, whereby Holmes tunnel start 142.37km with end listed in error at 142.11. Reviewing the available information, a length of 80m as judged by Speed Boards is deemed to be more appropriate. QR Network has therefore advised AH to alter is estimate in the DORC model.

### 11.6.6 Bridges

The discrepancies noted by Everything Infrastructure in their report appear to stem from the nominal percentage split of assets, based on kilometres, mentioned previously. Taken directly from the AH model, the actual total length of bridges recorded totals 2,364 metres, which is less than the totals contained in the Information Pack.

While QR Network acknowledges the inaccuracies within its Information Pack, it notes that the DORC valuation presents a more reliable and accurate representation of the inventory of its assets due to the site visit. Based on the proposed recommendation by Everything Infrastructure regarding an uplift in the unit rates, AH has advised that the DORC valuation for bridges between Rosewood and Macalister should be increased by $3.8 million to reflect:

- length of 2,364 metres as recorded in DORC at various unit rates, plus 5%; and

- an additional 31% mark-up for indirect costs.

### 11.6.7 Turnouts

AH concurs with Everything Infrastructure's comments that turnouts should have been originally included in the DORC. However, it notes that nine out of the 83 turnouts given in the line diagrams are within the Macalister to Columboola section, and should therefore be excluded.

AH uses a unit rate of $85k per turnout, calculating the total replacement cost for the remaining turnouts to be $6.29 million with an ORC of $8.24 million, factoring in the standard 31% mark-up for indirect costs.

### 11.6.8 Summary

This section has reviewed the QCA's proposed adjustments to both the DORC Valuation and the reductions undertaken to reflect the capacity constraints within the Western System. QR Network is particularly concerned with the resultant commercial uncertainty and the potential for disputes to arise with applying non-coal allocators to infrastructure enhancements subject to AFDs. **For this reason and the reasons outlined above in relation to cost allocation and adjustments to the DORC valuation, QR Network cannot accept Decision 1.5**. However, QR Network has proposed an alternate model in section 11.9 which it believes can address these issues and satisfy the QCA's underlying policy concerns.

### 11.7   Decision 1.6 - Western System operating costs

The QCA's draft decision rejects QR Network's proposed operating costs on the basis that the quantum of the allocated costs is seen as unreasonable. QR Network applied the mid-point of the Newlands and Moura allocator to arrive at a reasonable operating costs allowance, which is still substantially lower than the costs relevant to stand-alone railway. The QCA has sought to reduce this allocation by 50% but has not considered the reasonableness of the resultant operating cost allowance in the context of a stand-alone cost. The resultant allowance of $2.5 million per annum is materially deficient

and does not provide sufficient revenue to meet the efficient costs of providing coal carrying train services in the Western System.

**QR Network rejects Decision 1.6 as it is not considered to be in the legitimate business interests of the access provider and therefore maintains its original operating cost claim**.

## 11.8  Decision 1.7 - Western System maintenance costs

The QCA has proposed to reduce QR Network's proposed maintenance costs to reflect the apparent easing of upward pressure on costs.  QR Network has concerns that the QCA has relied on subjective opinion regarding changes to cost pressures.

QR Network does not support the adjustments made to the Western System maintenance costs.  These costs were based on continuation of unit rates applied at the time of the development of the submission.  They were not inclusive of estimated cost variations above or below CPI as implied by Everything Infrastructure with its reference to the maintenance cost factors associated with the Central Queensland Coal Region.  In other words Everything Infrastructure is assuming deductions in uplifts which where not actually included in the cost build-up.  Accordingly, there is no justification for reductions in maintenance costs which include only a CPI escalation. Maintenance activities on the Western System are highly labour intensive and QR Network does not consider that labour costs will escalate at rates lower than CPI. This issue was discussed in detail in section 10 of this volume.

Everything Infrastructure has made a similar error to GHD in evaluating the applied efficiency dividends on operating costs by assuming that short term variations in input prices correspond to longer term structural adjustments.  This is also incompatible with Everything Infrastructure's position that unit rates should reflect long term averages. The apparent inconsistency is evident in the following comment in the Everything Infrastructure report:

> *Given the current conditions and the trends for the mining industry over the next 12 months, it is EI's opinion that, due to the likely lower pricing of the cost*

> *inputs, the forecast maintenance costs should be 7.5% lower than the costs*
> *currently claimed.[72]*

Everything Infrastructure is not reviewing a 12 month forecast and at no stage considers the potential economic recovery and the impact that this mayl have on unit prices as service providers seek to recover lost margins from inventory adjustments over that 12 month period.

In addition, the Western System was not subject to a detailed cost build-up similar to the CQCR as the nominated reference tariff was materially lower than the ceiling price. As a consequence it should not be assumed that the maintenance costs weightings applicable for the Western System will align with the CQCR.  As the Western System does not have significant undercutting requirements the asset charges are likely to reflect a lower contribution to the overall maintenance cost requirements for this system.  The maintenance requirements on the Toowoomba Range are also labour intensive due the inspection requirements associated with the strains and stresses applied to those track sections.  Therefore, the application of 15% to direct labour costs would yield a margin greater than the 4% assumed by the QCA.

Accordingly, QR Network does not support the QCA's position with respect to the appropriate margin for maintenance services in the Western System. The detailed maintenance cost submission has prepared a robust build-up of what comprises the margin. As the Western System maintenance cost build-up and risks are not directly comparable to the CQCR, QR Network proposes to apply the 11% recommended by Everything Infrastructure.

## 11.9   Decision 1.8 - Western System Reference Tariff and Tariff Structure

As discussed at the commencement of this section, **QR Network proposes to accept Decision 1.8 relating to both the quantum of the proposed reference tariffs and the tariff structure subject to any changes in operating or maintenance costs**. However, based on QR Network's evaluation of the QCA's methodology, QR Network considers that approach does not represent a reasonable balance of interests between

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[72] Everything Infrastructure (2009) Assessment of the Western System Asset Valuation, p.25
http://www.qca.org.au/files/R-2009DAU-EI-AssessofWstSys-1209.pdf

the access provider and the access seeker. **QR Network therefore proposes an alternative method to be applied in estimating the Reference Tariff in the future,** which achieves the same outcome but provides greater commercial certainty and incentives for the efficient utilisation and investment in rail infrastructure.

QR Network proposes to:

- Employ a correct depreciated optimised replacement cost valuation of $350. million at 1 July 2007 and an opening asset value for coal carrying train services of $264 million;
- Include **all** past and future investments subject to Access Facilitation Deeds in the Regulatory Asset Base;
- Apply the coal/non-coal train path allocation to all capital expenditure not subject to an AFD;
- Backload depreciation on pre-1995 investments to arrive at the required tariff outcome.

QR Network believes that as the AFD arrangements are intended to transfer commercial and regulatory risk to another party, it is also reasonable that this party be subject to a similar degree of exposure in terms of the future utilisation of the corridor. However, QR Network does note that this assumption should be tempered by the inclusion of the full value of the AFD covered investments in the Reference Tariff and therefore proposes to limit the backloading of deprecation to pre-1995 investments.

The backloading of depreciation on pre-1995 investments is consistent with regulatory approaches which recognise the potential for further growth in future volumes. This principle is embodied in a number of frameworks including the National Gas Rules, which allows for the depreciation profile reflected in tariffs to vary over time, in a way that promotes efficient growth in the market for the relevant services.[73] Where QR Network undertakes future investment which improves the productivity of each train path and that investment yields economies of scale, then QR Network should be entitled to recover a greater proportion of the pre-1995 assets via an increase in the depreciation charge. This approach also preserves the incentives provided by the two-part tariff to promote above rail investment.

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[73] National Gas Rules (2009), Section 89(1)(a)

**QR Network submits this alternate approach to the QCA for consideration.** QR Network considers this approach, coupled with the tariff structure, will provide strong incentives for both the service provider and users in the Western System to improve the capacity and throughput of coal in the Western System.

### 11.9.1 Inclusion of Coal Carrying Train Services west of Macalister in the Western System Reference Tariff

Coal carrying train services originating west of Macalister are expected to commence during the UT3 period.  Given the relatively low volume levels this represents, QR Network does not currently consider there is a material benefit in incorporating the rail infrastructure west of Macalister into the Western System RAB.

QR Network's alternate and preferred approach is to extend the Western System to include coal carrying train services originating west of Macalister within the System description and apply the Western System Reference Tariff to the origin to destination. This will result in an incremental cost for the use of this line segment of $8.41 per thousand gross tonne kilometres.