Queensland Competition Authority

Consultation Paper

Queensland Rail's Western System Coal Tariffs

June 2014

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SUBMISSIONS

Closing date for submissions: 4 July 2014

Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (QCA). Therefore submissions are invited from interested parties concerning its assessment of Queensland Rail's proposed western system coal tariffs. The QCA will take account of all submissions received.

Submissions, comments or inquiries regarding this paper should be directed to:

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PREAMBLE

The western system tariff is paid by users to Queensland Rail for trains that carry coal from mines on the Darling Downs to the Fisherman Islands export terminal at the Port of Brisbane.

Queensland Rail's June 2013 draft access undertaking (DAU) proposed a 2013-14 tariff of $22.22 per '000 gross tonne kilometres (gtk) – a 20% increase from the existing 2013-14 price of $18.56/'000 gtk, driven mostly by significant increases in maintenance and operating costs.

Coal miners said Queensland Rail's price was double the rail access price in competing coal mining regions and that transport costs were making them uncompetitive. New Hope, the largest coal miner on the western system, proposed the price should be less than $7.20/'000 gtk – less than half the existing tariff level and below the price charged 10 years ago.

Stakeholders said Queensland Rail's price was high as the assets were over-valued given the high maintenance and capital expenditure costs. Stakeholders went further and argued there should be no recovery of pre-1995 assets that had a negligible book value before coal trains began operating.

While Queensland Rail should be expected to earn a reasonable return on its efficient costs, the QCA recognises that western system miners face intense cost pressures at a time of low coal prices – e.g. one of the three mines on the western system has already closed.

In this context, the QCA has developed and is seeking comments on two alternative tariff proposals.

The QCA has made adjustments to Queensland Rail's proposed operating and maintenance costs and to its proposed cost allocations between coal and non-coal traffics. These adjustments are reflected in both the tariff options suggested by the QCA.

The primary difference between the two options presented in this paper is the value placed on the western system's assets.

While there are a range of methodologies available to value an asset, Australian regulators have tended to adopt either a Depreciated Optimised Replacement Cost (DORC) or a historic cost roll-forward methodology. Market based valuations have largely been rejected in a regulatory context as they would simply capitalise any potential monopoly profits into an asset value.

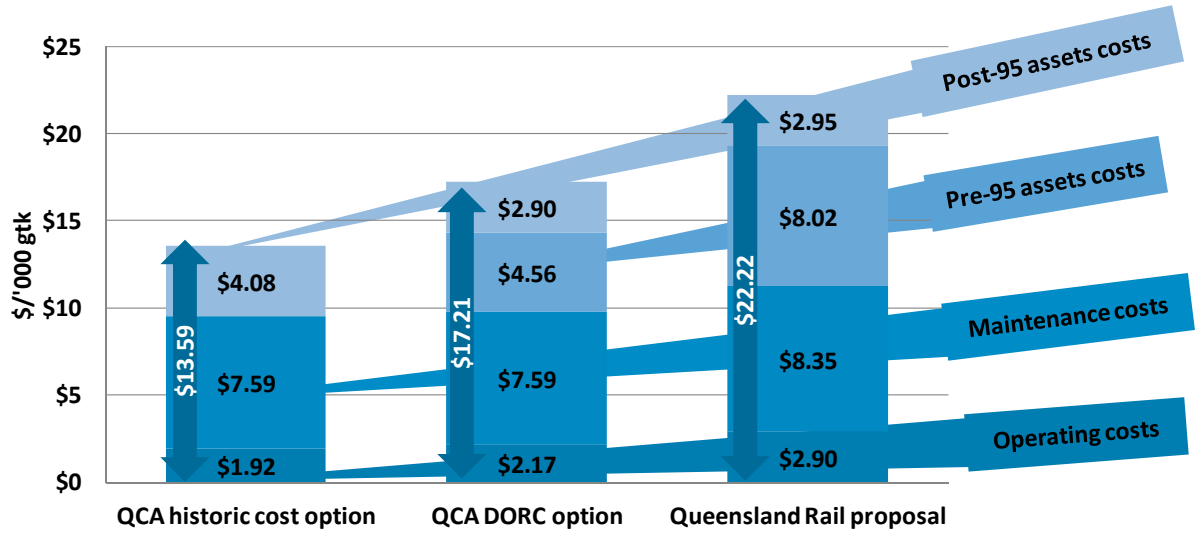
The historic cost valuation is based on Queensland Rail recovering none of the pre-1995 assets and all of the post 1995 capital expenditure. This scenario is based on the observation that the pre-1995 assets are part of a much older network and, in some respects, could be regarded as sunk. Also, much of the growth in traffic on the western system has occurred since 1995, when coal exports from the Darling Downs began. Even though it remains a shared network, Queensland Rail has made substantial investments since 1995 to support that growth and it is reasonable that it should expect to recover those investments.

Under the QCA's revised DORC option, the tariff would be $17.21/'000 gtk for 2013-14. This is 23% below Queensland Rail's proposed tariff of $22.22/'000 gtk, and 7% lower than the existing tariff of $18.56/'000 gtk.

Under the historic cost roll-forward option, the tariff would be $13.59/'000 gtk. This is 39% below Queensland Rail's proposed tariff of $22.22/'000 gtk, and 27% lower than the existing tariff of $18.56/'000 gtk.

See Figure 1 for a breakdown of the cost components of the alternative tariff proposals.

Figure 1: Cost breakdown comparison of tariff options



Note: a) Asset costs are comprised of return on and of capital. b) Operating costs include an allowance for tax.

While the QCA provides two potential prices for a western system tariff, it will be guided by the views of stakeholders in forming a draft and final position. The QCA considers it important to finalise a transparent and repeatable methodology for setting western system tariffs as this matter has not been resolved in the past.

The QCA also notes that the access regime in the QCA Act enables negotiation between an access provider and its customers. The QCA encourages Queensland Rail and its customers to consider and discuss a price and pricing mechanism that balances Queensland Rail's desire to maintain its revenues in the medium term against the need to avoid further mine closures and the possible commercial stranding of western system assets in the longer term.

Way Forward

The QCA expects to publish a draft decision on all aspects of Queensland Rail's 2013 DAU, including the western system tariff, in August, with a final decision by the end of November 2014.

The QCA welcomes comments on the matters raised in this consultation paper. Submissions are due by 4 July 2014.

1 INTRODUCTION

All of Queensland Rail's intra-state network is subject to the declaration, however a reference tariff only exists for coal train services on the western system. This system extends west of Brisbane from Rosewood to Macalister.

Queensland Rail has proposed a western system coal tariff of $22.22/'000gtk. This tariff proposal is based on some of the inputs that underlie the existing tariff, but seeks to change others. Stakeholders have opposed Queensland Rail's reference tariff arguing that it is too high and is uncompetitive when compared with coal tariffs elsewhere.

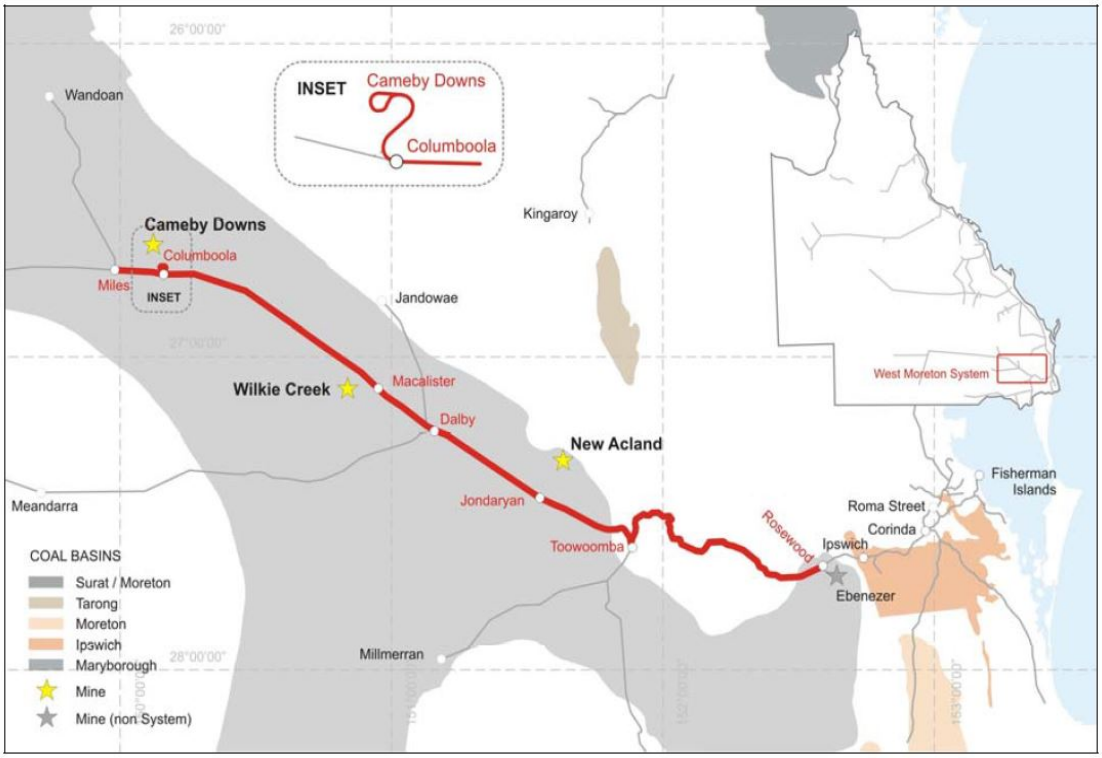
This consultation paper has reviewed Queensland Rail's western system tariff proposal, and stakeholder submissions, and presents two tariff options for stakeholders' comment.

1.1 Background

Queensland Rail is a statutory authority created in 2010 when the Queensland Government split the former QR Ltd prior to privatising QR National Limited (now Aurizon Ltd). Queensland Rail owns all of the former QR Ltd rail network in Queensland, apart from the tracks in central Queensland owned by Aurizon Network Pty Ltd.

One part of Queensland Rail's network is the western system that was originally constructed to connect Brisbane to the agricultural districts of the Darling Downs. Coal exports on the western system began in 1982 from West Moreton mines near Ipswich. Export coal rail services from the Darling Downs coalfields west of Toowoomba began in 1995 when a mine was developed at Wilkie Creek, using the Macalister loading point (see **Figure 2**).

Figure 2: Western System Map



1.2 History of western system tariff

Queensland Rail's intra-state below rail network is declared for access under Part 5 of the *Queensland Competition Authority (QCA) Act 1997* (the QCA Act). It is also subject to the terms of the access undertaking the QCA approved in 2008, as amended by a Transfer Notice at the time of the separation of the former QR Ltd.

While the entirety of Queensland Rail's intra-state network is subject to the declaration and the 2008 undertaking, a reference tariff only exists for coal train services on the western system. Pricing for other train services and the remainder of Queensland Rail's intra-state network is subject to the negotiation-arbitration framework and the pricing principles contained in Part 5 of the QCA Act and in the 2008 undertaking.

A reference tariff for the western system was first introduced into the 2006 undertaking.

QR Network's 2005 draft access undertaking (DAU) proposed a two-part tariff for the western system, with part of the price paid per train path, and the remainder based on weight and distance – i.e. as a charge per gross tonne kilometre (gtk).

The proposed western system tariff was split into three clusters, with the average tariff being around $12.50/'000gtk, which was up to 270% higher than tariffs for other western system traffics.

The QCA rejected that claim and the 2006 undertaking ultimately included a tariff of $10.50/'000gtk. The QCA indicated that

(a) QR Network had 'not proposed a clear or consistent methodology for determining western system coal tariffs'

(b) future western system coal tariffs should be assessed within a well-accepted framework such as assets valued in line with the depreciated optimised replacement cost (DORC) methodology (QCA July 2005: 74; QCA December 2005: 77).

By the June quarter of 2009, the original western system tariff of $10.50/'000gtk had been indexed to $11.99/'000gtk, which equated to an average haulage cost of around $5.36/net tonne.

In the 2009 DAU, QR Network calculated a ceiling price for its western system tariffs reflecting:

(a) a DORC asset value for the non-metropolitan part of the western system – based on allocating pre-1995 assets across all (coal and non-coal) train paths and post-1995 capital expenditure to coal

(b) no adjustment for restrictions on coal trains operating in the metropolitan network

(c) an extension of tariff west of Rosewood across the metropolitan system

(d) an estimate of coal-related maintenance costs

(e) an estimate of operating costs – based on the average of the standard allocators assigned to Moura and Newlands across coal and non-coal assets

(f) the same weighted average cost of capital as for central Queensland

(g) contracted volumes from Macalister to Rosewood

QR Network indicated that this methodology could justify a ceiling price of around $34.00/'000gtk for coal traffics on the network west of Rosewood.

Ultimately, QR Network proposed a tariff of $22.07/'000gtk.

1.3 Summary of 2009 draft decision

The QCA found that the proposed tariff of $22.07/'000gtk was excessive and in its December 2009 draft decision the QCA proposed a tariff of $16.81/'000 which reflected *inter alia*:

(a) a DORC-based asset value for the non-metropolitan section of the western system – this was derived by allocating assets between coal and non-coal traffics based on the proportion of train paths they used on the common network

(b) reducing the allocation of pre-1995 assets to coal to reflect that 20% of potential western system paths were unavailable because of the peak-hour metropolitan blackout

(c) extending the tariff west of Rosewood across the metropolitan system

(d) reducing the maintenance cost allowance to reflect lower estimates of the efficient maintenance costs and a lower margin

(e) reducing operating costs to reflecting the average of the standard allocators assigned to Moura and Newlands across coal-only assets

(f) accepting the same weighted average cost of capital as for central Queensland.

In response to the December 2009 draft decision a tariff of $16.81/'000 gtk was submitted and approved by the QCA.[1] However, in making that proposal (the then) QR Network indicated it did not accept the rationale that sat behind the QCA's earlier draft decision. This meant that, while a reasonable tariff had been approved, the QCA's desire from 2006 that a western system tariff be approved within a well accepted framework had not been met.

Queensland Rail have made a number of submissions of a replacement undertaking, namely the March 2012, February 2013 and June 2013 DAUs. The June 2013 DAU was the first one to include a proposed tariff for western system coal traffics.

1.4 Summary of Queensland Rail's 2013 western system proposal

Queensland Rail's June 2013 tariff reset submission proposed a reference tariff of $22.22 per '000 gtk to be applicable from 1 July 2013. This proposal was based on key aspects of the QCA's December 2009 draft decision, including:

(a) a DORC-based asset value for the non-metropolitan part of the western system

(b) a similar approach to estimating operating costs, although revised to reflect Queensland Rail's separation from Aurizon Network in 2010.

However, the Queensland Rail proposal differs from the QCA's December 2009 draft decision in that it proposes:

(a) a near-doubling of maintenance costs

(b) a Columboola to Macalister tariff, reflecting the commencement of mining at Cameby Downs

[1] The QCA proposed a western system tariff in its December 2009 draft decision on QR Network's 2009 DAU (QCA, December 2009: 69-94). QR Network submitted a tariff largely consistent with the December 2009 draft decision in its 2010 DAU, in April 2010. The QCA proposed to approve that tariff in its draft decision on pricing aspects of the 2010 DAU, on 2 June 2010 (QCA, June 2010a: 87-90). The QCA gave final approval to the western system tariffs in its 30 June 2010 final decision to approve an extension of the 2008 undertaking, with new prices for 2009-10 to 2012-13 (QCA, June 2010b).

(c) most capital expenditure on the common network after 1995 to be allocated 100% to coal services

(d) a 15% (not 20%) blackout period.

1.5 The QCA's considerations

The QCA published Queensland Rail's western system proposal in July 2013 and received 5 submissions (i.e. Aurizon, New Hope, Queensland Resources Council, Peabody and Yancoal).

Stakeholders oppose Queensland Rail's proposed reference tariff, arguing that it is too high given the service offered by Queensland Rail, that the tariff is uncompetitive when compared with other rail systems in Queensland, and that mining operations on the western system are marginal (noting that Peabody's Wilkie Creek mine has recently closed).

The QCA has considered Queensland Rail's western system proposal and stakeholder submissions in preparing this Consultation Paper on an appropriate western system coal tariff. In doing so, it has had regard to the views of its technical rail consultant B&H Strategic Services (B&H).

In preparing submissions on this Consultation Paper, stakeholders should be guided by the assessment criteria in s. 138(2) of the QCA Act, which states that the QCA may approve a DAU only if it considers it appropriate having regard to:

(a) the object of Part 5 of the QCA Act, which is:

> *to promote the economically efficient operation of, use of and investment in, significant infrastructure by which services are provided, with the effect of promoting effective competition in upstream and downstream markets (s. 69E).*

(b) the legitimate business interests of the owner or operator of the service

(c) if the owner and operator of the service are different entities – the legitimate business interests of the operator of the service are protected

(d) the public interest, including the public interest in having competition in markets (whether or not in Australia)

(e) the interests of persons who may seek access to the service, including whether adequate provision has been made for compensation if the rights of users of the service are adversely affected

(f) the effect of excluding existing assets for pricing purposes

(g) the pricing principles in section 168A of the QCA Act, which in relation to the price of access to a service are that the price should:

  (i) generate expected revenue for the service that is at least enough to meet the efficient costs of providing access to the service and include a return on investment commensurate with the regulatory and commercial risks involved

  (ii) allow for multi-part pricing and price discrimination where it aids efficiency

  (iii) not allow a related access provider to set terms and conditions that discriminate in favour of the downstream operations of the access provider or a related body corporate of the access provider, except to the extent the cost of providing access to other operators is higher

  (iv) provide incentives to reduce costs or otherwise improve productivity

(h) any other issues the Authority considers relevant.

The structure of this consultation paper is as follows:

(a) Chapter 2 – considers Queensland Rail's network operations, including the metropolitan blackout and coal volumes

(b) Chapter 3 – considers options for an appropriate regulatory asset base and a rate of return for Queensland Rail

(c) Chapter 4 – considers what are appropriate maintenance and operating expenditure allowances for Queensland Rail to continue operating the western system

(d) Chapter 5 – sets out two tariff options which have regard to the above matters.

The QCA seeks submissions in relation to this consultation paper no later than cob Friday 4 July 2014.

2 NETWORK OPERATIONS AND VOLUMES

Peak hour passenger train services and maintenance shutdowns on the metropolitan network both act to reduce the capacity of the western system as coal and freight trains seek to travel to and from the Port of Brisbane.

Queensland Rail indicated that the metropolitan network reduced the capacity of the western system by around 15% whereas stakeholders argued that it was more and could be as much as 31%. The QCA's view is that it is more likely to be in the order of 22%.

The useable capacity of the western system is then shared between coal and other non-coal freight services. The QCA proposes to accept Queensland Rail's volume forecast that is based on a contract position where 77 of the available 106 train paths are allocated to coal train services.

These capacity constraints and allocations are key inputs into how the assets and costs of the western system are allocated to coal services. The volume forecast is also a key driver of both estimates of input costs (e.g. maintenance costs) and of the reference tariff itself.

This chapter focuses on the 'metropolitan blackout' period and the volume forecasts as they are key inputs into subsequent assessments of asset values (chapter 3), operating and maintenance costs (chapter 4) and tariff estimates (chapter 5).

2.1 Metropolitan blackout period

All western system trains need to cross the metropolitan system to reach the Port of Brisbane. However, there are limitations on coal and other freight traffic travelling on the Brisbane suburban network at the morning and evening peaks.

In its December 2009 draft decision, the QCA accepted advice from QR Network that the 'metro blackout' reduced the available paths on the western system by about 20% (QCA, December 2009: 84).

Queensland Rail 2013 DAU proposal

Queensland Rail said in its tariff proposal that the 20% metropolitan blackout factor the QCA used in the 2009 draft decision was wrong, and the actual proportion of lost paths from the metropolitan peak period blackout was 15%. Queensland Rail noted that there was not a 'strict curfew' during the 7 a.m. to 9:30 a.m. and 3 p.m. to 6:30 p.m. peak periods and added that:

> *Queensland Rail's network planners do have difficulty finding slots for non-passenger trains during these periods. However notwithstanding this, slots in the opposite direction to peak are regularly used by coal carrying trains services during peak periods – i.e. empty trains travelling towards Toowoomba in the morning peak and loaded trains travelling to the Port of Brisbane in the afternoon peak (Queensland Rail, sub. no. 36: 9).*

Stakeholders' comments

Aurizon said Queensland Rail's assessment focused only on the peak period blackouts, and did not consider any of the other impacts on the western system, including increases in the morning and afternoon peaks. Aurizon noted that Queensland Rail had sought in its DAU to 'put in place a strict curfew for non-passenger services during peak periods'. Aurizon said a simpler way to assess the effect of the metropolitan constraints would be to assess what the capacity on the western system would be if the supply chain did not include the metropolitan system (Aurizon, sub. no. 43: 9).

New Hope said the mobilisation of passenger trains before and after the morning and evening peak periods meant the effect on coal trains extended beyond the periods when the peaks were in force. This was mitigated to some extent by coal trains that were able to run against the traffic in the peaks, but the effect was that the morning 'curfew' was four hours, rather than the 2.5 hours suggested by Queensland Rail, and the afternoon peak was at least four hours, rather than 3.5 hours. This meant that eight hours out of each weekday should be excluded, or 24% of the overall western system capacity. The effect of frequent maintenance shutdowns took the metropolitan effect to 31% (New Hope, sub. no. 44: 12-14).

QCA analysis

The metropolitan peak-hour blackout is one of the key constraints on the use of the western system's infrastructure, particularly given that there is limited ability to marshall trains west of Rosewood to maximise use of off-peak metro train paths. It means that for several hours each weekday, the rail infrastructure west of Rosewood is unused because trains cannot finish (commence) their journey to (from) the port. The maintenance practices on the metropolitan system also have a significant impact on train paths available for carrying coal and other freight from Rosewood to the port.

Queensland Rail has argued that, because some coal and freight trains do operate during the blackout, the effective reduction in weekly capacity is 15%, compared with the 20% previously advised by QR Network. On the other hand, New Hope has argued the blackout and maintenance have the effect of reducing capacity by as much as 31%.

The QCA's consultant, B&H, has advised that the metropolitan network impact is made up of:

(a) suburban passenger operations on weekdays that reduce available paths by 20 out of a possible 102 loaded paths over the five days

(b) weekend maintenance shutdowns at times when closures are not required on the western system that reduce available paths by 8 out of a possible 42 loaded paths.

B&H calculated that the combined effect of these two factors is to reduce capacity by 28 out of 144 possible loaded paths a week, or 19.4%. B&H added that:

> *It is also relevant that for various reasons, QR is not planning to the full extent of the potential of the system, even with our rounding to 30 minutes for the longest sectional running time. The effect of QR's planning approach is to under-estimate the potential by 36 [total loaded and unloaded] paths in 288 (B&H: 134).*

B&H applied this under-estimate of potential loaded and unloaded paths (36 out of 288, or 12.5%), to adjust the metropolitan effect on the western system to 22%.

The QCA considers this is a reasonable and balanced approach, that takes into account information from both Queensland Rail, the train operator and end users. The QCA therefore proposes to apply B&H's 22% metropolitan adjustment in assessing the western system tariff.

2.2 Train paths and volumes

The QCA's proposed western system tariffs for 2009-10 to 2012-13 in the 2009 draft decision were calculated with contracted volumes reported by the then QR Network. These volumes were based on forecast capacity usage that rose from 58 loaded coal paths in 2009-10 to an average of 80 weekly loaded paths over the term of the undertaking, out of 106 available paths – i.e. coal was contracted to use 75.6% (80/106) of the total paths on the western system.

This percentage was used to allocate the western system asset base between coal and non-coal traffics (see section 5.2 of this paper for a discussion of this allocation).

As it turned out, actual western system volumes fell short of the forecasts (i.e. the contracted volumes) during the 2009-13 period over which the tariff was calculated (see **Table 1**).

Export tonnages, however, were more than 1 million tonnes a year higher than the actual western system volumes. The 'extra' volumes were coal railed from Ebenezer, a loading point east of Rosewood, whose services operate solely within the metropolitan system, and do not use western system infrastructure (see last two rows of **Table 1** for the QCA's estimates of Ebenezer's volumes).

Table 1 Western System Volumes – forecast vs. actual (million tonnes)

	2009-10	***2010-11***	***2011-12***	***2012-13***
Forecast (mt)	5.5	6.4	7.5	7.5
Actual (mt)	5.25	4.81	7.38	7.32
Variance (mt)	-0.25	-1.59	-0.12	-0.18
Variance (%)	-5%	-25%	-2%	-2%
Export Tonnages	6.61	6.30[2]	8.57	8.58
Additional Ebenezer tonnages	1.36	1.49	1.19	1.26

Source: Forecasts are final figures used in 2009 DAU, for 2009-10 to 2012-13. Actual figures provided by Queensland Rail. Export tonnages are exports reported by Port of Brisbane. Additional Ebenezer tonnages are calculated by QCA (difference between export tonnages, and western system actual tonnages).

Queensland Rail 2013 DAU proposal

Queensland Rail proposed to use contracted coal volumes for the 2013-14 to 2016-17 undertaking period, with the same forecasts used for each year. This amounted to 77 weekly loaded paths, or 7.55 million tonnes a year for the western system.

Queensland Rail said coal mines had 77 out of 106 contracted loaded train paths on the western system, or 72.6% of the total. Non-coal freight services had 27 paths, and passenger services two (Queensland Rail, sub. no. 36: 8).

Queensland Rail said that, as most contracts expired at the end of 2014, it was taking the volume risk for the remaining years of the regulatory period, including the risk that new access agreements would be for paths from a loading point closer to the Port of Brisbane (Queensland Rail, sub. no. 36: 15). Queensland Rail excluded the volumes from Ebenezer, east of Rosewood, in calculating the western system tariff.

Queensland Rail said the total number of paths available for western system services (after taking into account the metropolitan constraint) was 112, of which 106 were contracted. Queensland Rail noted that:

[2] In 2010-11, the range crossing was shut for three months to repair damage caused by the December 2010-January 2011 floods.

> *Government have not indicated a willingness to contract additional coal services and in relation to non-coal freight, above rail operators have not shown a willingness to contract additional services (Queensland Rail, November 2013(a): 5).*

Stakeholders' comments

New Hope said western system coal volumes had exceeded forecasts, particularly over the past two years, and this represented a windfall for Queensland Rail. New Hope said *ad hoc* railings had very low incremental cost to Queensland Rail. They also had less value from a user perspective, because they were not guaranteed, and could therefore not be used to justify signing off on major investments. New Hope suggested that the volume forecasts could be adjusted to reflect expected actual railings, but its preferred option would be a discounted tariff for uncontracted paths that reflected the incremental cost of providing those paths, given the fixed costs were fully recovered through contracted paths (New Hope, sub. no. 44: 17-18).

Aurizon said that, to the extent a modern engineering equivalent (MEE) was used to value the assets, the volumes used to derive the tariff should be higher to reflect the greater capacity of a MEE railway (Aurizon, sub. no. 43: 9).

Aurizon also said developing the reference tariff using the contract volumes was a conservative estimate. It said this, combined with the limited ability to review the volumes over the term of the undertaking could result in Queensland Rail earning revenue above the efficient cost of providing the services, contrary to the QCA Act (Aurizon, sub. no. 43: 13).

QCA analysis

Queensland Rail has used the total contracted capacity of 106 weekly loaded paths as the basis for assessing the share of coal and non-coal services on the western system.

The QCA considers that, while there may be more paths than 106 available on the western system, the contracted number of paths is verifiable, and reflects clear evidence of customer demand. Therefore, the QCA proposes to accept Queensland Rail's number of 106 contracted paths when assessing the share of coal and non-coal services on the western system.

This gives an allocation to coal of 77 out of 106 paths, or 72.6%.

New Hope and Aurizon said actual volumes on the western system exceeded forecast volumes between 2009-10 and 2012-13, and therefore volumes higher than contracted levels should be used to calculate the tariff.

The QCA notes that volumes exported through the Fisherman Islands terminal at the Port of Brisbane have exceeded western system forecast (i.e. contracted) volumes. However this has been due to coal railings from the Ebenezer loading point, that operate entirely within the metropolitan system, and therefore do not use the western system.

Given this, over the past four years at least, western system volumes have consistently been below contracted levels, even in the years that were not affected by the 2011 floods (see **Table 1**).

While Queensland Rail is protected from under-railings by take-or-pay provisions, those only cover 80% of contracted paths. Queensland Rail has also absorbed the risk that it may contract paths for shorter distances, thereby reducing its overall revenue. And it has elected to leave the contracted volumes for the Macalister loading point in the tariff calculation, even though the Wilkie Creek mine served by Macalister closed in December 2013.

Queensland Rail's proposed volumes therefore appear reasonable, given that past volume forecasts (based on contracts) have not been achieved, and this may be repeated in the future.

The contracted volumes also provide a significant incentive in a price cap regime for Queensland Rail to find extra train paths.

Therefore, the QCA proposes to accept Queensland Rail's contracted volumes of 77 paths a week, or 7.5 million tonnes a year, as the basis for assessing the 2013-14 to 2016-17 tariffs for the western system.

The QCA notes that Queensland Rail's proposed western system tariff calculation does not include the volumes from the Ebenezer loading point, east of Rosewood. The approach to the Ebenezer volumes is discussed in more detail in section 5.3.

Questions

- **Do you agree with the QCA's estimate that the effect of the metropolitan blackout is a reduction of 22% of possible western system train paths? If not, please provide supporting evidence with reference to the analysis in Appendix 3 of B&H's report.**
- **Do you agree with the QCA's proposed approach to use contracted train paths in determining the volume estimate? If not, why not, and please provide supporting evidence.**

3 REGULATORY ASSET BASE AND REGULATED RETURN

Queensland Rail proposed a common network opening asset value of $419.6 million and a coal-specific opening asset value of $292.6 million. Stakeholders said the opening asset value was excessive given the poor condition of the infrastructure and the high capital and maintenance requirements. Indeed, stakeholders went further and said the pre-1995 assets should be excluded from the asset base.

Given these concerns, the QCA has developed two alternative asset values for the western system rail infrastructure.

First, the QCA agrees that the higher maintenance and capital costs suggest that the earlier asset valuation was excessive. However, the recent expenditure has extended the remaining life of the asset which has an offsetting effect of increasing the asset value. An updated valuation using the widely accepted depreciated optimised replacement cost (DORC) approach values the assets at $427.0 million.

Applying a train path allocation of this DORC-based asset valuation to coal train services gives a July 2013 coal asset value of $259.0 million.

The second approach is, in effect, a historic cost roll-forward approach whereby the pre-1995 assets are treated as sunk costs and are excluded from the asset base. The post 1995 capital expenditure is then fully allocated to coal as this was the growth traffic over that period. This approach gives a coal-specific opening asset value of $133.3 million.

For the purposes of this paper, the QCA has relied on the WACC estimate proposed by Queensland Rail. Queensland Rail has requested a date pre-agreed between the QCA and Queensland Rail for setting the risk free rate and debt margin parameters.

3.1 Introduction

This chapter reviews Queensland Rail's proposed:

(a) opening asset value at 1 July 2013 (section 3.2)

(b) incremental capital expenditure for the period 2013-14 to 2016-17 (section 3.3)

(c) weighted average cost of capital (WACC) (section 3.4).

3.2 Opening asset value

As part of its assessment of the 2009 DAU, the QCA proposed a DORC value ($278.5 million) for the western system between Rosewood to Macalister. A portion of this DORC value was then attributed to coal traffics based on their relative use of the network (see Chapters 1 and 2 of this paper).

On this basis, the QCA's December 2009 draft decision proposed a coal-specific opening asset value of $176.5 million at 1 July 2009 for assessing western system coal tariffs between Rosewood to Macalister.[3,4]

[3] The DORC asset value was as at August 2007 that was then rolled-forward to July 2009 by: including capital expenditure completed between August 2007 and June 2009; and excluding forecast capital spending that

As noted in Chapter 1 of this paper, the network owner (QR Network at that time) disputed the QCA's approach so it was not formally adopted as part of the tariffs that have applied since 2009-10.

Queensland Rail 2013 DAU proposal

In its 2013 DAU, Queensland Rail modified the QCA developed DORC value of $278.5 million for the Rosewood to Macalister section by:

(a) adding back capital expenditure deducted in the December 2009 draft decision stating that the expenditure reflected the asset replacement works required to maintain the quality and serviceability of the network

(b) adjusting tunnel allocations by moving the amount incorrectly allocated to the Macalister to Columboola section back to the Rosewood to Macalister section, as all tunnels are in the Rosewood to Macalister section (Queensland Rail, sub. no. 36: 12-13).

The revised DORC value of $323.4 million was at August 2007.

Queensland Rail then rolled-forward the revised DORC value to July 2013 by:

(a) including capital expenditure completed before the commencement of the regulatory period (of 1 July 2013)

(b) modifying the assumed lives of certain track assets by combining them into a single asset class to reflect its asset records.

This gave an opening asset value of $340.9 million (Queensland Rail, sub. no. 36: 13).

To split the opening asset value between coal and non-coal traffics, Queensland Rail retained some aspects of the 2009 draft decision, but it proposed allocating to coal services 100% of the post-1995 common network investment it said was carried out to facilitate coal volumes – a departure from the 2009 draft decision (this is discussed further in Section 5.2 of this paper).

That gave a coal-specific opening asset value of $241.8 million at 1 July 2013 between Rosewood to Macalister.

Table 2 summarises Queensland Rail's approach.

would have increased the standard of the infrastructure to the level assumed in the DORC valuation (QCA, December 2009: 82-84).

[4] Macalister to Columboola section did not form part of QR Network's 2009 western system reference tariff proposal.

Table 2 Coal-specific opening asset value between Rosewood to Macalister

QCA developed DORC value (at August 2007)	$278.5m
Added back capital expenditure deducted in the December 2009 draft decision	$18.9m
Added tunnel allocation adjustment	$26.0m
Revised DORC value (at August 2007)	$323.4m
Rolled-forward DORC value at 1 July 2013 (i.e. opening asset value)	$340.9m
QUEENSLAND RAIL'S COAL-SPECIFIC OPENING ASSET VALUE AT 1 JULY 2013	**$241.8M**

Source: Queensland Rail, sub. no. 36: 10-16

Queensland Rail followed a similar process to value the Macalister to Columboola section of the network that was included in the 2013 DAU. That gave an opening asset value of $78.7 million at 1 July 2013, reflecting a coal-specific opening asset value of $50.8 million between Macalister to Columboola.

Thus, for the western system as a whole, i.e. between Rosewood and Columboola, Queensland Rail proposed a:

(a) common network opening asset value of $419.6[5] million as of 1 July 2013

(b) coal-specific opening asset value of $292.6 million for assessing western system coal tariffs (Queensland Rail, sub. no. 36: 10-16).

Stakeholders' comments

Stakeholders said Queensland Rail's proposed opening asset value was excessive, given the poor condition of the infrastructure and the resultant high maintenance and capital expenditure requirements. They wanted Queensland Rail's proposed asset value reduced to reflect the condition of the assets and the poor service standards of the infrastructure (Aurizon, sub. no. 43: 22-27, 30; New Hope, sub. no. 44: 14-15; Peabody, sub. no. 45: 2; Queensland Resources Council, sub. no. 46: 2). New Hope said:

> *An alternate approach would be to reflect, in the assumed depreciation of the assets, that the infrastructure is close to being technically obsolete (New Hope, sub. no. 44: 15-16).*

New Hope and Aurizon wanted the QCA to reverse Queensland Rail's treatment of the capital expenditure, which was originally deducted in the December 2009 draft decision (New Hope, sub. no. 44: 16). New Hope said that capital expenditure was necessary to bring the assets up to the assumed valuation standard and, as such, the full value should be deducted from the opening DORC valuation.

New Hope said that Queensland Rail's revised asset lives substantially shortened the life of certain assets, and said that the 'asset lives should be revisited taking into account the actual infrastructure in place' (New Hope, sub. no. 44: 16-17).

Aurizon also questioned the relevance of a DORC methodology for valuing western system assets. It said that DORC was an information intensive and highly subjective process when

[5] This excludes work funded by transport service contract payments from the Queensland government.

applied to assets that were 'substantially different from a modern engineering equivalent'. It also stated that 'a robust defence of the application of DORC to determining an efficient price for coal carrying train services has not been established' (Aurizon, sub. no. 33: 8; sub. no. 43: 18-22).

Stakeholders said the pre-1995 assets should be optimised (New Hope, QRC), as

> *in 1995, QR (as it was then known) valued its western system rail infrastructure at a scrap valuation ... neither party would have expected that Queensland Rail would recover the full DORC value of its pre-existing assets (New Hope, sub. no. 44: 3-4).*

QCA analysis

The QCA has reviewed Queensland Rail's opening asset value for the western system rail infrastructure in light of stakeholders' comments. In undertaking that assessment, the QCA considered a range of issues, namely

(a) an appropriate asset valuation methodology

(b) Queensland Rail's proposed

  (i) treatment of capital expenditure

  (ii) changes to asset lives

(c) stakeholder views that the planned capital and maintenance works revealed that the earlier valuation was over-stated.

Asset valuation methodology

There are a variety of methodologies available for valuing regulated assets, which can be broadly categorised into market-based and cost-based methodologies.

Market-based approaches generally have been rejected in a regulatory context as they would simply capitalise any potential monopoly profits into an asset value.

For asset intensive natural monopolies such as ports, rail and electricity networks, regulators have generally applied cost-based approaches such as:

(a) discounted actual cost – which represents the original cost of acquiring the asset adjusted by the proportion of the asset's service potential which has expired

(b) DORC – which seeks to measure the cost to construct a replacement asset (using today's prices and technology) that has the same service potential as the existing assets.

The QCA's decision for QR Ltd's original 2001 undertaking found that DORC was suited to the nature of the rail assets because it provided the best indication of the opportunity cost to the owner and to the economy of the resources devoted to providing access (QCA, December 2000: 140-144). The QCA added that a DORC valuation:

(a) ensured obsolete, poorly sized or poorly located assets were optimised from the capital base and therefore not paid for by users

(b) allowed for technical change as the valuation reflected current rather than outdated technology

(c) addressed the issue with historic costs (as used in a discounted actual cost approach) not reflecting current values or costs (QCA, December 2000: 140-141).

The ACCC also accepted a DORC valuation method for ARTC's rail network assets for both its interstate and Hunter Valley rail access undertakings.

However, ARTC proposed setting access charges below the recovery of economic cost (i.e. below DORC valuation) in the Gunnedah basin system, as it considered the existing volumes and level of market affordability did not permit full recovery of its economic cost. The ARTC proposed to recover the capitalised losses from access holders once volumes increased (ACCC, December 2013: 32).

The QCA notes that Queensland Rail has applied a DORC-based approach for its proposed western system tariffs in the June 2013 DAU. It has used financial modelling and regulatory depreciation to roll forward the 2007 DORC valuation to a 2013 opening asset value.

The proposed Queensland Rail approach draws on proposals in the QCA's December 2009 draft decision. However, the then QR Network did not accept aspects of those proposals at the time, and the QCA never formed a final view on an appropriate methodology for setting an opening asset value.

B&H's DORC assessment

In undertaking its assessment of an appropriate asset value, the QCA engaged B&H to reconsider the appropriate DORC value for the western system assets. The QCA considers this would address stakeholder concerns, including that the earlier valuation was over-stated.

B&H's review focussed both on:

(a) *the estimated expired life of an asset* compared with its economic life. In that context, B&H noted that the capital expenditure (e.g. track and sleepers) since 2009 has extended the useful life of the network i.e. these western system assets would depreciate more slowly than similar assets in central Queensland given the lower traffic volumes

(b) *the condition of the assets,* based on Queensland Rail's proposed maintenance activities and capital works. B&H indicated that aspects of the network were dilapidated (e.g. some underlying earthworks and the old timber bridges), and suggested reducing their value to reflect their poor condition (B&H: ii-xi, 56-59).

On this basis, there is a difference between B&H's and Queensland Rail's estimates for remaining asset lives. For example, for track and sleepers (including turnouts), B&H estimated that the remaining life was 27 years, in contrast Queensland Rail estimated the remaining life at 15 years. Ultimately, for all western system assets combined, B&H estimated the remaining life was 31 years, compared with Queensland Rail's estimate of 23 years[6].

The asset life and condition aspects of B&H's review had opposite effects on B&H's assessed DORC value – whereby, the longer asset lives tended to increase the DORC value and the condition assessment reduced the DORC value.

B&H has ultimately concluded that the DORC value of the western system from Rosewood to Columboola was $427.0 million at June 2013.[7] This is not dissimilar to Queensland Rail's proposed opening asset value of $419.6 million - a difference of $7.4 million (1.8%).

Conclusion

The QCA accepts that B&H has adopted an alternative approach to Queensland Rail in calculating an opening asset value. B&H's revised DORC assessment has considered both

[6] These are DORC-weighted asset lives.
[7] This estimate excludes work funded by transport service contract payments from the Queensland government.

Queensland Rail's and other stakeholders' concerns about the DORC value in the QCA's December 2009 draft decision.

Considering B&H's assessed DORC value and applying our proposed approach to allocating this asset value between coal and non-coal train services (see Chapters 2 and 5 of this paper) gives a coal-specific opening asset value of $259.0 million at 1 July 2013 for the western system between Rosewood to Columboola. This is 11% lower than Queensland Rail's proposed value of $292.6 million.

Alternatively, if the pre-1995 assets were excluded from the asset base, and a corresponding change made to the allocation of the post-1995 assets (see Chapter 5 of this paper), the coal-specific opening asset value will be in the order of $133.3 million. This is 54% lower than that proposed by Queensland Rail.

Table 3 provides a breakdown of the two asset values, by asset class.

Table 3 B&H assessed assets values split into pre-1995 and post-1995 (2013-14 $)

Asset class	*Pre-1995 asset value*	*Post-1995 asset value*	*Total asset value (i.e. 2013 DORC)*
Track (incl. turnouts)	$95.3m	$100.4m	$195.7m
Roads	$14.1m	$0.0m	$14.1m
Fences	$5.3m	$0.0m	$5.3m
Signals	$12.9m	$1.8m	$14.7m
Bridges	$25.3m	$8.7m	$34.1m
Culverts	$8.4m	$3.7m	$12.1m
Earthworks	$21.1m	$2.2m	$23.2m
Tunnels	$100.9m	$0.0m	$100.9m
Land Acquisition	$0.0m	$0.0m	$0.0m
Telecom	$24.1m	$0.4m	$24.5m
Land	$0.5m	$0.0m	$0.5m
Power Systems	$1.8m	$0.0m	$1.8m
TOTAL	**$309.8M**	**$117.2M**	**$427.0M**

Source: B&H; QCA calculations. Estimates exclude work funded by transport service contract payments from the Queensland government.

The impact on prices of these different opening asset values is considered in Chapter 5 of this paper.

3.3 Incremental capital expenditure

The processes for assessing capital expenditure in the 2008 undertaking[8] were for the central Queensland coal network (CQCN), and were included when it applied to the former QR Ltd. The 2008 access undertaking does not contain any similar provisions for assessing the reasonableness of Queensland Rail's actual or planned capital expenditure on the western system.

[8] Schedule FB: Maintenance of Regulatory Asset Base for central Queensland coal network.

Queensland Rail 2013 DAU proposal

Queensland Rail's 2013 DAU proposes:

(a) *a capital indicator process* – where a provision for future capital expenditure is reflected in the proposed reference tariffs (Queensland Rail sub. no. 36: 24, 53)

(b) *a subsequent prudency assessment process* – where the prudency of capital expenditure is assessed for inclusion in the regulatory asset base and permanently reflected in the reference tariffs. This detailed process is designed to examine the scope, standard and cost of the works (Queensland Rail sub. no. 36: 43).

Queensland Rail's proposed two-step process is similar to that adopted in the 2010 DBCT and 2010 Aurizon Network access undertakings.

Under these processes, Queensland Rail requested approval for:

(a) $79.7 million in past capital expenditure (pre-AU1), including:

  (i) upgrades to facilitate expanded volumes from the Jondaryan loading point (i.e. re-sleepering, bridge replacement and track conditioning)

  (ii) track upgrades and a new spur and balloon loop to facilitate the opening of the Cameby Downs mine (near Columboola and to the west of Macalister)

  (iii) replacing 15 existing turnouts.

(b) $81.7 million in proposed future capital expenditure (during AU1), including:

  (i) slope stabilisation works on the Toowoomba range reflecting monitoring and repairing locations along the length of the range crossing, particularly where there are signs of movement

  (ii) formation repairs throughout the western system to address mud holes and ballast pockets under the rail

  (iii) strengthening and replacing timber bridges.

Stakeholders' comments

New Hope said Queensland Rail's proposed capital expenditure from Rosewood to Macalister appeared excessive and cited extracts of information from Queensland Rail's own consultant Worley Parsons to support its case.

Given this, New Hope requested the QCA to review Queensland Rail's proposed capital expenditure (New Hope, sub. no. 44: 18).

QCA analysis

The QCA has reviewed Queensland Rail's past and proposed capital expenditure having regard to the analysis of its consultant B&H. On this basis, the QCA accepts that Queensland Rail's not insignificant capital program largely reflects the age and condition of the western system, namely it is:

(a) more than 100 years old and was built using out-dated construction techniques

(b) carrying significant tonnes of coal and freight but is a relatively lightly constructed railway (i.e. at 15.75 tonne axle load compared with 26 tonne axle load for the CQCN). Indeed, B&H noted that the western system is the lowest axle load mainline railway in Australia.

Moreover, Queensland Rail's approach to capital expenditure is also very much conditioned by the limitations imposed by the Brisbane metropolitan network whereby the transit of coal through Brisbane is not assured over the long term:

> *[g]iven the current State Government approval of railings of coal from Toowoomba through the Port of Brisbane is committed until 2024; any proposed investment needs to be considered carefully as the risk of stranded assets is possible (Queensland Rail, November 2013(b): 12).*

Against this background, B&H concluded that Queensland Rail's total capital expenditure (both past and present) was overall reasonable and was needed given the likely continued operation of coal trains. Nevertheless, B&H did identify a number of deficiencies with Queensland Rail's capital expenditure program.

Shortcomings in approach to capital expenditure

B&H's review focussed on Queensland Rail's broad approach to undertaking capital expenditure and whether it was properly considered in light of alternatives and inter-relationships with other aspects of infrastructure. In this context, B&H concluded that:

> *... there appeared no strategy for the line except to provide service and to retain confidence in the organisation as a reliable supplier (B&H: 38).*

Moreover, B&H noted that Queensland Rail appeared to do only what was absolutely necessary given its concerns of asset stranding. For instance, B&H noted that:

(a) Queensland Rail was only undertaking capital expenditure on a small proportion of its bridges (13) and this was insufficient to address all problem areas and make the assets efficient

(b) for track reconditioning (i.e. replacing ballast, sleepers and rail), the works were in response to problems identified on a priority and not strategic basis (B&H: 37, 41).

While such an approach could be rationalised given the relatively short term commitment to coal haulage on the western system, B&H identified a number of other deficiencies that were unrelated to a short term view of coal operations on the western system. In particular, B&H said there was a lack of adequate business planning for projects, for example:

(a) for aspects of the Jondaryan track works, Queensland Rail's options analysis was to either do nothing or do the proposed set of works

(b) Queensland Rail applied differing standards across different assets with no clear rationale, including:

  (i) low profile sleepers for use in tunnels with 20 tonne capacity but at same costs as the 26.5 tonne sleepers

  (ii) 50kg/m rail on concrete sleepers with a 20 tonne axle load capacity up from 16 tonne axle load capacity

  (iii) bridges to 30 tonne capacity, up from timber bridges with 15.75 tonne capacity

  (iv) 60 kg/m rail turnouts with a 26.5 tonne capacity, up from 41kg/m rail with a 16 tonne capacity (B&H: 34, 40).

There is, therefore, a risk that some capital expenditure may not be properly considered or may be excessive. For instance, B&H noted that:

> *50kg/m rail turnouts are common throughout Australia and can easily accommodate the 15.75 tonne axle load on this line ... In view of the tonnage and axle load requirements on this line, the use of 60kg/m swing nose concrete bearered turnouts is excessive ... [p]erhaps the only*

> *mitigating factor is these turnouts can be used elsewhere but if not provide a very low maintenance solution (B&H: 37).*

and that:

> *[t]he bridges that are being replaced will provide for a 30 tonne axle load and the re-railing and concrete sleeper installation will provide for a 20 tonne axle load capacity, the extent of the mismatch with track capacity is surprising (B&H: 42).*

Given the above shortcomings, the QCA is of the view that the capital expenditure program for both past and proposed capital expenditure does not reflect an integrated strategy.

Capital expenditure during the regulatory period to be reviewed in detail

However, that in itself is not a sufficient reason to reject capital expenditure, particularly past capital expenditure. B&H did not consider this capital expenditure unnecessary or excessive, but rather was of the view that it did not occur in the context of an integrated strategy that evaluated alternative solutions for many projects. Indeed, B&H concluded that:

> *[i]n operating purely in a responsive manner, sometimes after the event in 'clean-up' mode, QR has carried out minimum scopes of work in order for it to survive (B&H: 38).*

The QCA accepts that Queensland Rail needs to make capital improvements to its ageing railway to meet the demands of its users and the additional stress generated on the tracks due to coal traffics. In Section 3.2 of this Consultation Paper, the QCA took past (pre-AU1) capital expenditure into account in forming a view that Queensland Rail's opening asset value was appropriate (which by implication means accepting past capital expenditure into the regulatory asset base).

However, as previously noted, that capital expenditure (both past and proposed) is occurring in an environment where:

(a) long term access through the metropolitan system is not assured

(b) alternative solutions for many projects do not appear to be rigorously considered.

Given this, while the QCA is inclined to accept Queensland Rail's planned expenditure for the purposes of the capital indicator, the QCA will subsequently assess the prudency of the works in detail through an annual process as has occurred for Aurizon Network. A key aspect of this assessment will be to determine whether Queensland Rail has appropriate frameworks within which capital expenditure is considered, including exploring the feasibility of alternative solutions.

3.4 Weighted average cost of capital

The QCA approved tariffs for the western system before QR Limited was separated into Aurizon Network and Queensland Rail. However, in doing so the QCA did not explicitly approve a weighted average cost of capital (WACC) for Queensland Rail's western system.

The approved western system tariffs were the same as those set out in the QCA's December 2009 draft decision and were based on a WACC of 9.41%, with a WACC margin of 4.12%.[9,10]

[9] The WACC margin is the difference between the WACC and the risk free rate. As the risk free rate, and therefore WACC, varies over time the WACC margin seeks to highlight changes in the time invariant WACC parameters.

Queensland Rail 2013 DAU proposal

Queensland Rail has proposed to adopt the WACC methodology and (time invariant) parameters that were used to calculate the approved WACC in the 2010 QR Network access undertaking. For the purposes of their submission, this resulted in a WACC of 6.93% following the March 2013 quarter (see **Table 4**). However, Queensland Rail has suggested the risk-free rate and debt margin should be set at a date pre-agreed between the QCA and Queensland Rail.

Table 4: WACC Parameters

Parameter	***QCA June 2010 Draft Decision***	***Queensland Rail 2013 DAU***
Credit Rating	BBB+	BBB+
Risk-Free Rate	5.19%	3.12%
Market Risk Premium	6.0%	6.0%
Asset Beta	0.45	0.45
Gearing	55%	55%
Equity Beta	0.80	0.80
Gamma	0.50	0.50
Equity Margin	4.80%	4.80%
Cost of Equity	**9.99%**	**7.92%**
Debt Margin (Pre Allowances)	3.62	1.87%
Refinancing Risk Allowance – Credit Default Swap (Proxy)	0.83%	0.83%
Refinancing Risk Allowance – Interest Rate Swap	0.175%	0.175%
Debt Issuance Allowance	0.125%	0.125%
Debt Margin	4.75%	3.00%
Cost of Debt	**9.94%**	**6.12%**
WACC Margin	4.77%	3.81%
WACC	**9.96%**	**6.93%**

Source: Queensland Rail, sub. no. 36: 14.

Stakeholders' comments

Both New Hope and Aurizon said the proposed WACC parameters should be assessed for reasonableness, despite the parameters being based on the 2010 QR Network access undertaking.

[10] The western system and CQCN tariffs were effectively finalised in the QCA's June 2010 pricing draft decision. That decision included tariffs for the CQCN that had been updated from the time of the December 2009 draft decision and were based on a revised WACC of 9.96%, with a WACC margin of 4.77%. The western system tariffs in the June 2010 pricing draft decision were not revised from those set out in the December 2009 draft decision.

New Hope argued that while Queensland Rail had limited downside risk due to take or pay arrangements and limited liability for failure to perform, it had an upside 'windfall' if above-contract tonnages were hauled (New Hope, sub. no. 44: 17).

Likewise, Aurizon requested the QCA consider whether or not the WACC will appropriately balance the interests of Queensland Rail, operators and end users (Aurizon sub. no. 43: 15).

QCA analysis

The pricing principles in s. 168A of the QCA Act require that the price should:

> *... include a return on investment commensurate with the regulatory and commercial risks involved [for the regulated entity].*

In forming a view on this matter, it is relevant that the QCA is undertaking concurrent deliberations for both the Queensland Rail and Aurizon Network 2013 DAUs. Given this, there is a threshold issue on the extent to which the QCA's views of an appropriate WACC for Queensland Rail should be guided by its corresponding views for Aurizon Network.

There are some similarities between Queensland Rail's and Aurizon Network's coal network activities. Both entities provide monopoly rail infrastructure services in Queensland and have their demand risks limited through customers' take or pay obligations.

At the same time, there are some differences in business activities which can have an impact on WACC parameters, including:

(a) *basis for tariffs* – while both manage long term demand risks through take-or-pay contracts, the revenue requirement:

  (i) Aurizon Network has proposed is recouped through a revenue cap, which provides an extra layer of revenue certainty but not the possibility of additional revenue from above contract railings

  (ii) Queensland Rail has proposed is recouped through a price cap, which does not provide the extra layer of revenue certainty but which provides the possibility of additional revenue from above-contract railings

(b) *service diversification* – Aurizon Network's infrastructure largely transports coal whereas Queensland Rail's western system also has a significant non coal freight business – but where the latter does not pay the full tariff and is subsidised by the Queensland government (through Transport Service Contracts)

(c) *sources of revenue* – Aurizon Network's revenue is from around 50 mines and over 15 companies across the CQCN. In contrast, the majority of Queensland Rail's revenues is from two coal mines (Cameby Downs and New Acland) on the western system

(d) *differences in coal product and market impacts*– Aurizon Network transports a large proportion of higher margin coking coal and its coal traffic has not traditionally been related to Australian (or Queensland) economic and stock market cycles. In contrast, Queensland Rail provides for the transport of relatively low margin thermal coal, where one mine has recently closed (Wilkie Creek).

For purposes of this Consultation Paper, the QCA has relied on Queensland Rail's submitted WACC parameters; that is, the QCA has used a WACC of 6.93% (reflecting a WACC margin of 3.81%).

This estimate may change as Queensland Rail has requested that the risk-free rate and debt margin be re-set at a date pre-agreed between the QCA and Queensland Rail. This estimate

may also be affected by the QCA's considerations of an appropriate WACC for a coal railway that it is conducting in relation to Aurizon Network.

Questions

- **What is the appropriate asset valuation methodology for the western system? Please provide supporting evidence.**
- **Are B&H's asset valuation and related asset lives appropriate? If not, why not?**

4 MAINTENANCE AND OPERATING COSTS

Queensland Rail has estimated the western system's maintenance costs of $104.5 million for 2013-14 to 2016-17. The Macalister-to-Rosewood share of these costs is 82% higher than those embodied in the current tariff.

The QCA has reviewed these costs and proposes a 10% reduction. The QCA has also proposed a new reporting mechanism to provide an incentive for Queensland Rail to improve its maintenance planning.

Queensland Rail's operating cost allowance of $23.5 million was based on 2011-12 information. More recent (i.e. 2012-13 data) and the QCA's benchmarking analysis of train control costs indicates that operating costs should be around $20.4 million.

4.1 Maintenance costs

In its December 2009 draft decision, the QCA approved a coal-specific maintenance cost allowance of $40.1 million (real 2007-08 $) over the four-year life of the undertaking, for the western system between Rosewood to Macalister (QCA, December 2009: 89).

Around 75% of that maintenance program was for track maintenance and the remainder was for maintenance of trackside systems and structures.

Queensland Rail 2013 DAU proposal

Queensland Rail estimated total maintenance costs of $104.5 million for the period 2013-14 to 2016-17, for the western system extending from Rosewood to Columboola.[11]

Queensland Rail allocated around 90% of this to coal traffics ($95.2 million) with around 90% of this being allocated to the section of track between Rosewood to Macalister and 10% to the track between Macalister to Columboola (Queensland Rail, sub. no. 36: 18). These allocations were based on forecast gtks which, as Queensland Rail noted, was an approach that was consistent with the QCA's December 2009 draft decision (Queensland Rail, sub. no. 36: 17-18).

Around 83% of this proposed coal-specific maintenance program was for track maintenance (e.g. mechanised resurfacing and resleepering) with the remainder being maintenance of trackside systems, structures and facilities (Queensland Rail, sub. no. 36: 18-19).

Queensland Rail acknowledged that its proposed maintenance costs were significantly more [around 82% higher[12]] than those approved in the QCA's December 2009 draft decision and that this was largely due to:

(a) *higher volumes* that are forecast to be 50% higher in 2013-14 (2.7 billion gtks) than in 2009-10 (1.8 billion gtks)

[11] For presentation purpose, we use Columboola as the western end of the western system, recognising that it actually extends 15 km west of Columboola to Miles.

[12] By comparing maintenance costs (in June 2013 $) for the Rosewood to Macalister section, which works out to $81.7 million over the term of the 2013 DAU compared with $44.8 million over the term of the existing undertaking.

(b) *poor asset condition and configuration* that requires a more intensive maintenance program to handle contracted volumes

(c) *ensuring service quality* to enable maximum throughput in a capacity constrained environment (Queensland Rail, sub. no. 38: 4-6, 44).

Stakeholders' comments

Stakeholders said that Queensland Rail's proposed maintenance costs were very high and reflected inefficiencies. Therefore, they requested the QCA to assess these costs for prudency and for the costs to be reduced to 'normal levels' (New Hope, sub. no. 44: 19-20; Aurizon, sub. no. 43: 36). In particular, New Hope said that Queensland Rail's proposed:

(a) track maintenance (excluding mechanised resleepering) cost was around $50,000 per km per year that was significantly higher than the $8,920-12,870 per km per year maintenance cost (excluding major periodic maintenance) that the ACCC had identified for QR Network's central Queensland coal network[13]

(b) mechanised resleepering cost was around $339-352 per timber sleeper replaced, which was three times the cost of full replacement with 'all new low maintenance' concrete sleepers (about $100 per sleeper inserted)

(c) maintenance cost was 82% more than that in the last undertaking, which was difficult to comprehend given 'efficient rail organisations improved productivity by around 2% per annum' (New Hope, sub. no. 44: 19-20).

New Hope said that it suspected the high maintenance costs were due to inefficient work methods and poor possession practices, and observed:

> *QR's practices could benefit from more efficient work methods, e.g. one iron ore railway has a 10 day annual closure which allows highly efficient maintenance activities which would achieve much lower resleepering costs. Plant, equipment and human resources are marshalled for the 10 day annual closure and then reallocated to other parts of the network. This approach facilitates efficient plant and labour utilisation (New Hope, sub. no. 44: 20).*

New Hope and Aurizon said that Queensland Rail's gtk-based method of allocating maintenance costs was inappropriate as:

(a) the allocation of costs between line sections was inconsistent with the costing manual, which generally identified maintenance costs to the line section on which they were incurred (Aurizon, sub. no. 43: 36)

(b) certain maintenance costs should be allocated on a track kilometre basis as they were unrelated to usage, in particular fixed track maintenance costs (e.g. costs of inspections and time based maintenance activities), mechanised resleepering, and trackside systems (New Hope, sub. no. 44: 19).

Aurizon said that Queensland Rail did not provide adequate information to enable an assessment of the prudency of its maintenance program (Aurizon, sub. no. 43: 31-36).

[13] This information was based on benchmarking undertaken by the ACCC in its decision on the ARTC's 2008 interstate undertaking.

QCA analysis

Queensland Rail's proposed maintenance costs are around 82% higher over the term of this undertaking, compared with the existing undertaking. This increase is moderated somewhat i.e. a 64% increase if compared on a gtk basis.[14,15]

Queensland Rail said the high costs reflected intensive maintenance program to ensure service reliability on a poor condition network. However, stakeholders said the costs were inflated and reflected inefficiencies, and wanted the QCA to assess them for prudency.

The QCA engaged B&H to assist in reviewing Queensland Rail's total maintenance costs of $104.5 million for the western system in light of stakeholders' comments.

B&H's assessment

B&H observed that the western system was one of the most difficult railways in Australia to maintain because it was not designed as a heavy-haul freight railway. It said that Queensland Rail's maintenance program indicated that the network was not fit for purpose (B&H: 15).

In its analysis, B&H identified that almost half the total maintenance cost reflected usual maintenance activity and were comparable with benchmarks from other jurisdictions. It observed:

> *... if it were not were for the rebuildinng tasks being performed ... the maintenance costs would be comparable to other well documented benchmarks" and "Once the improvements and strengthening are completed … there is sufficient evidence to suggest that the western system maintenance costs will revert to more normal levels (B&H: vi, 26)*

B&H said that the remaining half of the maintenance costs (e.g. mechanised resurfacing and mechanised resleepering) was associated with improving the standard of the existing infrastructure to compensate for its poor state (B&H: 15).

In that context, B&H found the proposed unit cost for mechanised resleepering ($346 per timber sleeper) were excessive, compared with rates observed in other jurisdictions (i.e. around $200 per sleeper). B&H observed that Queensland Rail said it intended to undertake works other than resleepering, but had not provided any justification. B&H's view was that those 'other works' may not be required. Therefore, it recommended adjusting the resleepering unit cost, reducing Queensland Rail's proposed mechanised resleepering costs by $10 million (i.e. from around $24 million to around $14 million) (B&H: 7-8).

B&H added that Queensland Rail's maintenance activities were not informed by any coherent business strategy that resulted in application of inconsistent standards and potentially wasteful activities. For instance, Queensland Rail proposed resleepering part of the Toowoomba to Jondaryan section with timber sleepers during the 2013 DAU regulatory period. However, Queensland Rail also intended to resleeper that track again with concrete sleepers, before the life expiry of the replaced timber sleepers (B&H: iv-v, 9).

[14] The forecast volumes on the Rosewood to Macalister section are higher by 11% over the term of the 2013 DAU (at 10 billion gtks) compared with the existing undertaking (at 9 billion gtks).

[15] Queensland Rail's proposed maintenance spending on the track between Rosewood to Macalister works out to $8.20/'000gtk (in June 2013 $). This compares with $5.00/'000gtk (in June 2013 $) in the QCA's December 2009 draft decision.

B&H recommended continuous monitoring of the maintenance program to ascertain the exact scope of the activities, so that future scope of the maintenance program could be appropriately assessed (B&H: 28).

QCA's approach to total costs

The QCA accepts B&H's assessment that Queensland Rail's maintenance costs, in particular the unit rates for mechanised resleepering, are excessive – which is consistent with New Hope's claims. Therefore, the QCA proposes to reduce the mechanised resleepering costs by $10 million. That gives a total maintenance cost of $94.5 million for the western system as a whole (i.e. from Rosewood to Columboola), which is 11% lower than Queensland Rail's costs of $104.5 million.

The QCA also notes B&H's observation about the lack of a coherent business strategy in Queensland Rail's maintenance program. That in itself is not a sufficient reason to reject aspects of Queensland Rail's proposed maintenance costs, as B&H considered the costs were reasonable – but there is, however, a risk of wasteful activities and excessive costs.

Some aspects of Queensland Rail's planning for maintenance appear to be conditioned by the uncertainty about the long-term transit of coal through the Brisbane metropolitan network. That said, Queensland Rail should be expected to do proper business planning for maintenance, e.g. by evaluating alternative solutions for planned activities, and measuring the performance of its maintenance program.

Therefore, the QCA is considering to require Queensland Rail to report annually on actual versus forecast maintenance costs and activities. That assessment will put at risk Queensland Rail's maintenance costs allowance if it under-delivers on its planned maintenance scope. Conversely, Queensland Rail will be allowed to keep any cost efficiencies it achieves by doing its planned scope at a lower cost. That assessment should also review whether Queensland Rail has explored the feasibility of alternative solutions.

Maintenance cost allocations

Stakeholders said allocating maintenance costs to coal and track sections, based on gtks, was unreasonable as some categories of costs were unrelated to the level of usage.

The QCA accepts that over a short term (e.g. the four-year regulatory period) most maintenance costs are fixed, as they do not vary with the level of usage. However, over a longer term maintenance costs are generally influenced by the level of usage.

That said, the maintenance costs on the western system are largely driven by the coal traffic, and therefore should largely be allocated to coal traffic. As the gtk share of coal traffic on the western system is very high (about 90%), the QCA is minded to form a view that gtk-based allocator for coal and non-coal traffics is appropriate.

The QCA understands the proposed maintenance costs relate to the common network and allocating them to line sections is immaterial for tariff purposes. That is because the forecast gtk-share of coal traffic is almost the same on the Rosewood to Macalister and the Macalister to Columboola track sections.

Therefore, the QCA proposes that apportioning the maintenance costs based on gtks is reasonable. That gives a coal-specific maintenance cost allowance of $86.0 million for the western system for the term of the 2013 DAU, comprising $78.9 million for the Rosewood to Macalister track section and $7.1 million for the Macalister to Columboola section.

4.2 Operating costs

In its December 2009 draft decision, the QCA approved an operating cost allowance of $11.2 million (real 2007-08 dollars) over the four-year life of the undertaking, for the western system between Rosewood to Macalister (QCA, December 2009: 89-90).

Queensland Rail 2013 DAU proposal

Queensland Rail said the operating cost allowance approved in the QCA's December 2009 draft was no longer appropriate for the western system, following the separation of QR Limited into Aurizon and Queensland Rail. That was because QR Limited's costs structures and allocators were not applicable to Queensland Rail (Queensland Rail, sub. no. 36: 19).

Rather, Queensland Rail used the total operating costs of $10.1 million[16] reported in its 2011-12 below-rail financial statements, and worked out a coal-specific operating cost allowance for the Rosewood to Macalister section by:

(a) escalating the 2011-12 cost ($10.1 million) with CPI to calculate the 2013-14 notional cost ($10.4 million)

(b) allocating the escalated cost to the Rosewood to Macalister section, applying its proposed allocator based on gtks and train kilometres (tkms) ($9.6 million)

(c) apportioning that cost to coal traffic, applying its proposed coal train path allocations (see Chapter 2 of this paper) ($6.9 million)

(d) adding a working capital allowance to the coal-specific cost to work out the benchmark operating cost for 2013-14 ($7.1 million).

Queensland Rail then:

(a) escalated the 2013-14 benchmark cost with forecast CPI to get the annual costs for the other years of the regulatory period

(b) reduced those yearly costs by applying its proposed glide path to efficiency that accounted for its planned efficiency improvements

(c) ultimately proposed a coal-specific operating cost allowance of $22 million over the four-year term of the 2013 DAU.

Table 5 summarises Queensland Rail's approach.

[16] Comprised of train control costs ($3.1 million), corporate overhead ($2.9 million), other expenses ($3.2 million) and return on buildings, plant, etc. ($0.9 million).

Table 5 Coal-specific operating cost allowance for the Rosewood to Macalister section

Adjustments	*Amount*			
Reported operating cost (for 2011-12)				$10.1m
CPI escalated operating cost (for 2013-14)				$10.4m
Allocated to the Rosewood to Macalister section (91.4% cost based on 50% tkms + 50% '000 gtks)				$9.6m
Apportioned to coal (72.6% cost based on coal train path allocations)				$6.9m
Added working capital allowance				$0.2m
Benchmark coal-specific cost (for 2013-14)				$7.1m
	2013-14	2014-15	2015-16	2016-17
CPI escalated annual operating costs over the term of the 2013 DAU	$7.1m	$7.3m	$7.4m	$7.6m
Planned efficiency factor (i.e. glide path to efficiency)	80.0%	76.5%	73.0%	70.0%
Total Coal-specific operating cost allowance over the four-year term after applying efficiency factor				$22.0m

Source: Queensland Rail, sub. no. 36: 20-21.

Queensland Rail followed a similar process to propose a coal-specific operating cost allowance of $1.5 million for the Macalister to Columboola section.

Thus, for the western system as a whole, i.e. between Rosewood to Columboola, Queensland Rail proposed a coal-specific operating cost allowance of $23.5 million over the term of the 2013 DAU.

Queensland Rail stated that the 2011-12 reported operating cost included an allocation for insurance premiums, so it did not include any additional risk premium in its proposed operating cost allowance (Queensland Rail, sub. no. 36: 19).

Stakeholders' comments

Stakeholders said that Queensland Rail's proposed operating cost allowance was inefficient and wanted an assessment of its reasonableness (New Hope, sub. no. 44: 20; Aurizon, sub. no. 43: 37).

New Hope said Queensland Rail's proposed operating costs were higher than would be expected from an efficient service provider. It said the train control costs of $3.1 million in Queensland Rail's 2011-12 financial statements were three times its estimate of $1 million, and corporate overhead allocations at 47% of total operating expenses exceeded the normal accepted levels of 10%.

New Hope also said:

> *[it] does not agree with the 'glide' to efficient costs. QR should be incentivised to improve its efficiency by being compensated for efficient costs only from the start of the undertaking (New Hope, sub. no. 44: 20).*

Aurizon wanted Queensland Rail's 2011-12 operating costs assessed against those reported in the 2010-11 and 2012-13 financial statements, to test their reasonableness as the benchmark for the proposed operating cost allowance. It also wanted the standard allocators in

Queensland Rail's costing manual assessed for reasonableness, as Queensland Rail used them to work out its below-rail costs in the financial statements (Aurizon, sub. no. 43: 37).

QCA analysis

Queensland Rail's proposed operating cost allowance is around 64%[17] higher over the term of this undertaking, compared with the existing undertaking.

The initial starting point of the QCA's review was to consider Queensland Rail's proposed operating costs (which were based on 2011-12 data) in the context of the more recent data from its now published 2012-13 financial statements (see **Table 6**). This comparison shows the total operating costs in 2012-13 were $3 million (or 30%) lower than Queensland Rail's benchmark year of 2011-12.

Table 6 Queensland Rail's operating costs: 2011-12 and 2012-13 financial statements

Category	*2011-12 (escalated to 2012-13$)*	*2012-13*	*Difference (%)*
Train control	$3.1m	$2.8m	-10%
Corporate overhead	$3.0m	$1.6m	-47%
Other expenses (including return on buildings, etc.)	$4.2m	$3.0m	-29%
TOTAL OPERATING COST	**$10.3M**	**$7.3M**	**-29%**

Source: Queensland Rail's below-rail financial statements; QCA calculations

The QCA engaged B&H to assist in reviewing Queensland Rail's total operating costs reported in the 2011-12 and 2012-13 financial statements in light of stakeholders' comments.

B&H's assessment

B&H assessed the costs against comparable benchmarks from other jurisdictions and concluded that while both 2011-12 and 2012-13 operating costs were high, the 2011-12 costs exceeded the benchmarks.

In doing so, B&H noted that train control costs at $3.1 million and $2.8 million for 2011-12 and 2012-13 were significantly higher than for comparable jurisdictions (e.g. 130-160% above those for ARTC on a per km basis).

B&H concluded these costs reflected inefficiencies and estimated that efficient train control costs should be approximately $2 million per annum (B&H: 50-52).

QCA's approach to costs

The QCA accepts B&H's assessment, in particular that Queensland Rail's 2011-12 costs are inefficient, and therefore proposes to reject operating cost allowance based on those costs. The QCA also proposes on this occasion to reject Queensland Rail's glide path to efficiency in large part because Queensland Rail is yet to demonstrate that it has a business plan for delivering efficiency improvements.

[17] By comparing coal-specific operating costs (in June 2013 $) for the Rosewood to Macalister section, which works out to $20.7 million over the term of the 2013 DAU compared with $12.6 million over the term of the existing undertaking.

Given this, the QCA considers that a better basis for establishing an allowance for operating costs should be those in the 2012-13 financial statements (see **Table 6**) but with an adjustment for train control costs – i.e. proposes a train control cost of $2 million per annum. That is, an operating cost allowance of $6.5 million for 2012-13 and escalated at forecast CPI for the regulatory period.

Operating cost allocations

Aurizon wanted the QCA to assess the reasonableness of the standard allocator in Queensland Rail's costing manual, which is used to allocate Queensland Rail's network-wide costs to the western system.

The QCA has reviewed the method for calculating the standard allocator and considers it is reasonable, as it appropriately reflects the faster growth in western system coal revenues compared with other parts of Queensland Rail's network.

The QCA also considers reasonable Queensland Rail's proposed allocator for splitting operating costs between:

(a) *different sections of the track* based on 50% tkms and 50% gtks, as it reflects separate elements of infrastructure usage, i.e. frequency of train movements (tkms) and intensity of infrastructure usage (gtks)

(b) *coal and non-coal traffic* based on the train path allocations, as it reflects the relative proportions of train services.

Applying those allocations and CPI escalation, the QCA proposes a coal-specific operating cost allowance of $20.4 million for the western system for the term of the 2013 DAU, which is 13% lower than Queensland Rail's proposed allowance of $23.5 million.

Questions

- **Is the QCA's proposed approach to maintenance costs for the western system appropriate? Stakeholders are requested to have regard to the B&H report.**
- **Is the QCA's proposed approach to operating costs for the western system appropriate? Stakeholders are particularly invited to comment on the QCA's proposed estimate of train control costs.**

5 TARIFF APPROACH

Queensland Rail has proposed a tariff of $22.22/'000 gtk. This proposed tariff is 20% higher than the existing western system tariff of $18.56/'000 gtk and more than double the average tariff in central Queensland.

The QCA has confirmed that Queensland Rail's tariff proposal has been accurately calculated based on its cost proposals and that this increase is largely due to a near-doubling of maintenance and operating costs and a change in the way the shared assets are allocated between coal and non-coal traffics.

However, stakeholders have said that Queensland Rail's proposed and indeed existing tariffs are too high, compared with prices paid for similar hauls on competing coal chains in Australia. They argued this has made their mines marginal, even though mine-on-mine costs are competitive.

Stakeholders have suggested that the high price reflects an excessive value for a deteriorated asset. They have said that either the valuation should be adjusted to reflect the high maintenance costs and capital spending proposed by Queensland Rail, or assets from before western system coal trains began running in 1995 should be excluded from the tariff calculation.

The QCA has derived two potential tariffs based on these approaches to the recovery of asset related costs, namely:

- *$17.21/'000 gtk – where asset values are adjusted to reflect forecasts costs, and shared assets are allocated between coal and non-coal traffics based on their use of the network*
- *$13.59/'000 gtk – where coal services only pay for post-1995 capital spending.*

The QCA is seeking stakeholders' responses on the merits of both approaches set out in more detail in this chapter.

5.1 Introduction

The issues with the western system tariff structure remain much the same as they were when the QCA published its 2009 draft decision. Relatively low volumes of coal are hauled long distances on an old, expensive-to-operate rail line, shared with other freight traffics, that includes the busy metropolitan system.

QCA's 2009 tariff proposal

In the 2009 draft decision, the QCA proposed to accept the building block approach proposed by QR Network for the western system tariff, with some adjustments to the proposed cost allowances and DORC valuation.

However, the QCA proposed to address the mixed nature of the western system by allocating the common network RAB based on the proportions of the available train paths used by coal and non-coal services. The QCA applied this asset approach, and allocations of maintenance and operating costs, to calculate a proposed tariff of $16.81/'000 gtk for 2009-10, that was split into:

(a) a $3,962 charge per train path, and

(b) a distance- and load-based charge of $8.41/'000 gtk.

The then QR Network rejected the QCA's proposed methodology for deriving the western system tariff. However, QR Network accepted the QCA's proposed tariff and two-part tariff structure.

This tariff was approved in June 2010, and has since escalated by CPI to $18.56/'000 gtk, split into $4,374/train path, and $9.29/'000 gtk, for 2013-14. However, in approving the tariff, the QCA said it had:

> *... not achieved its desired objective of finalising a repeatable and transparent methodology for deriving the western system tariff. However, in order for there to be greater certainty about future tariffs, the Authority is keen to work with QR Network to develop an agreed approach for future undertakings (QCA June 2010a: 89).*

Queensland Rail's 2013 DAU tariff proposal

Queensland Rail's 2013 DAU proposed a 2013-14 tariff of $22.22/'000 gtk – 20% higher than the existing tariff for 2013-14.

Queensland Rail has based this proposed tariff on:

(a) a mechanism that provides for 100% recovery of most new common-network investment on the western system from coal miners, but holds the recovery of the pre-1995 assets at a fixed percentage

(b) contracted tonnages for the volumes used to calculate the tariffs (see Chapter 2)

(c) a proposed near-doubling of maintenance and operating costs (see Chapter 4).

QCA analysis

The QCA has sought to apply a number of basic principles in assessing the coal tariff for the western system, and in seeking a repeatable, transparent approach that will reduce uncertainty in the future.

We have done this in order to develop a tariff that balances a number of competing criteria, including a reasonable return on investment for Queensland Rail, efficient costs, the need of the miners for a price that allows them to compete in downstream markets, and the public interest which includes developing Surat Basin coal resources.

This chapter takes the asset values and operating and maintenance costs assessed in Chapters 2 to 4, and proposes options for a coal tariff.

The QCA is seeking comments on the tariffs set out below, to help form its view in its draft and final decisions on the 2013 DAU. In doing so, stakeholder comments are sought on whether the proposed options provide an appropriate balance of the QCA's assessment criteria.

However, there also remains the possibility that Queensland Rail could seek a negotiated outcome with its coal customers that achieves an alternative commercial outcome. The QCA may be inclined to approve such a tariff if it was resubmitted to the QCA with the support of all relevant parties.

In considering these matters, this chapter is structured as follows:

(a) the treatment of the asset base (section 5.2) – proposes ways to allocate costs between coal and non-coal traffics

(b) the charge for using the metropolitan system (section 5.3) – refines the approach to extending the western system tariff

(c) the Columboola tariff (section 5.4) – considers the best approach to developing a tariff for the train service to a new mine

(d) form of regulation and the tariff structure (section 5.5) – considers approaches for deriving the tariff

(e) tariff levels (section 5.6) – sets out proposed tariff options, and reviews approaches to address the low volumes on an expensive system.

5.2 Asset base for western system coal services

On a shared system, the costs need to be allocated amongst the different classes of users – a key element of these costs is the return of and on the asset base.

Coal trains are the largest traffic on the western system and they are contracted to use around three-quarters of the paths on the critical constraint, the range crossing. As it turns out, the capacity of the range crossing is reduced by the blackout periods for coal and freight traffic in the metropolitan network during the morning and afternoon peaks for commuter traffic (see section 2.1).

The 2009 draft decision sought to address these constraints by:

(a) allocating 75.6% of post-1995 additions to the common network asset base on the western system to coal services, reflecting the proportion of available train paths they used.[18] The QCA's reason for this was that both coal and non-coal services benefit from the common network.

(b) allocating 60.5% of the pre-1995 common network asset base to coal. This reflected a further adjustment to the path allocation to reflect the capacity sterilised by the metropolitan peak-hour blackout (e.g. 80% metro adjustment of 75.6% path allocation giving 60.5% of the common network asset value).

In its 2009 draft decision, the QCA did not apply the metro blackout assumptions for post-1995 assets, as 'investment decisions were made on the basis of the traffic actually using the infrastructure' (QCA, December 2009: 84).

The rationale for treating pre-1995 assets separately was to ensure that Queensland Rail did not receive a return for sunk costs when western system coal train services began in 1995, that related to paths that were not available to those trains because of the metropolitan capacity constraints.

Queensland Rail 2013 DAU proposal

Queensland Rail proposed that western system coal services pay for:

(a) 100% of the post-1995 spending on the common network that Queensland Rail required miners to underwrite to gain access or Queensland Rail determined to be required for coal services.

(b) 62% of the pre-1995 asset base. This reflected a 72.6% train path allocation, and a further adjustment of 85% (of the 72.6%) to reflect the metropolitan blackout.

[18] A similar approach had earlier been adopted in developing and approving a reference tariff for the Minerva mine in central Queensland (QCA, August 2009: 2).

Queensland Rail said 100% recovery of coal-specific capital spending was necessary because Queensland Rail provided a rebate of coal miners' capital contributions under Access Facilitation Deeds (AFDs) out of its tariff revenue.

> *Permitting 100% of end-user funded assets to be included in reference tariff building blocks aids Queensland Rail's investment decisions as it would be unacceptable to proceed with an investment, even if it is end-user funded, in circumstances where only a partial return is included in reference tariff building blocks but a full return is rebateable to end users (Queensland Rail, sub. no. 36: 10).*

Stakeholders' comments

New Hope said it accepted that investments incurred specifically for coal services should be fully allocated to coal services in the tariff. Similarly, investments in non-coal services should be fully allocated to those services (New Hope, sub. no. 44: 14). New Hope also said:

> *While we agree that it is appropriate for Queensland Rail to earn a return on investments made for the purposes of providing access to coal services, we do not believe that this should guarantee a return on the DORC valuation of pre-existing assets, particularly where those assets had previously been valued at a scrap valuation (New Hope, sub. no. 44: 22).*

QCA analysis

An appropriate asset allocation for the western system coal tariff needs to reconcile two objectives:

(a) Queensland Rail's reasonable desire to recover the investment it has made in the network to support the growth of coal traffic

(b) Coal miners' interest in not paying for assets they are unable to use, whether that be because those paths are contracted to non-coal traffics or where a significant portion of capacity cannot be contracted because of restrictions that provide priority to passenger services on the metropolitan system.

As a baseline, it is difficult to justify coal services paying for less than Queensland Rail's costs of upgrading and maintaining the network since 1995 when coal exports from the Darling Downs first started.

At the same time, without coal services, the pre-1995 network would generate revenues below its operating cost, and would be unlikely to cover even the lower capital spending that would have been required for Queensland Rail to keep the track safe and operable.

Approach to allocating costs

Queensland Rail has sought to address this sharing by identifying some infrastructure on the common network as 'coal-only', to be paid for entirely through coal tariffs, and other infrastructure as being for non-coal services, and excluded from the coal asset base.

The QCA proposes that coal services should pay for the incremental costs they impose on the western system. It follows that:

(a) for coal-only assets, coal services should pay

(b) for non-coal assets, coal services should not pay.

However, if an asset is shared, there should be some allocation mechanism.

In this regard, the QCA does not consider Queensland Rail has demonstrated that the money spent on common network infrastructure (i.e. the mainline) has been entirely coal related. While some investment on the western system has been brought forward by the pressure of

traffic from coal trains, the next highest volume comes from grain services, whose trains have almost the same operating characteristics as a coal train, including the same axle load.

Most of the post-1995 western system capital expenditure has been on the shared network. The extra capacity provided to coal could (and has) come from non-coal services vacating paths. But just because some business (coal) is growing and another business (non-coal) is not – that is not a reason for coal to pay for 100% of the new infrastructure. Indeed, it is possible that some of that investment could have been avoided if more of the existing paths were allocated to coal. Moreover, much of the western system spending has been more of the nature of replacement capital expenditure. Both of these points underscore the shared nature of the network and of the investments.

On the one hand, the pre-1995 asset base and post-1995 spending can be shared between the coal and non-coal traffics. Alternatively, it might be reasonable that all of the post-1995 spending on the common network, and none of the pre-1995 asset base be allocated to coal. But it does not seem reasonable, as Queensland Rail has proposed, to allocate to coal a share of the pre-1995 assets and all of the post-1995 investments.

With these considerations in mind, the QCA has developed two options for setting the asset base for coal tariffs.

Option 1: Asset allocation approach

The asset allocation option is similar to that in the December 2009 draft decision. It would give a reasonable level of recognition of Queensland Rail's pre-1995 assets in constructing the coal tariff, while allocating all the post-1995 assets on the common network (the mainline) based on the basis of the proportion of train paths used. Under this approach, the asset base would be shared so that coal services are allocated:

(a) 72.6% of post-1995 capital investment on the western system common network, reflecting an updated train path allocation to coal of 77 out of 106 paths (this compares with an allocation of 75.6%, or 80 out of 106 paths, in the 2009 draft decision – see section 2.2 of this paper)

(b) 56.6% of pre-1995 assets, reflecting the 72.6% train path allocation, and a further 78% adjustment to reflect the effect of the metropolitan blackout (see section 2.1). This approach will compensate Queensland Rail for post-1995 user-funded infrastructure which will only be partially recognised in the asset base.

Option 2: Historic cost approach

The historic cost option is based on an incremental cost methodology, that allocates 100% of the post-1995 capital spending on the shared asset base to coal but does not recover any of the pre-1995 sunk costs through coal tariffs.[19] This is consistent with the comments from New Hope, that Queensland Rail should not be guaranteed a return on assets to which it has previously given a scrap value (New Hope, sub. no. 44: 22). An actual/historic cost approach has also been adopted by regulators for valuing easements for electricity distribution and transmission networks.[20]

[19] This would not affect the sharing of maintenance and operating costs between coal and non-coal traffics (Chapter 4).

[20] See IPART 1999: 51-52; ACCC 2004: 39; QCA 2001: 58-61.

Stakeholder comments are requested

The QCA is seeking stakeholders views on which option best provides Queensland Rail with a reasonable return on efficient investment, consistent with the pricing principles in the QCA Act (s.168A(a)), while also having regard to the interests of access seekers and holders and their customers (ss.138(2)(e) and (h)). Just as importantly, the QCA seeks views on which option provides Queensland Rail with incentives to invest to improve service and add capacity, consistent with the object of Part 5 of the QCA Act (ss.138(2)(a) and 69E), while having regard to the effect of excluding assets for pricing purposes (s.138(2)(f)).

Either option will apply to the western system and the metropolitan system. The overall approach to the complexities of the metropolitan system portion of the tariff for western system coal trains is discussed in the next section.

5.3 Metropolitan system

Passenger services are the dominant traffic on the Brisbane metropolitan system. Surat Basin coal trains travel through the metropolitan system for more than one-quarter of their journey from mine to port. The Surat coal trains' journey on the metropolitan system:[21]

(a) starts on a passenger line (Rosewood to Corinda)

(b) uses a link largely devoted to freight services (Corinda to Yeerongpilly)

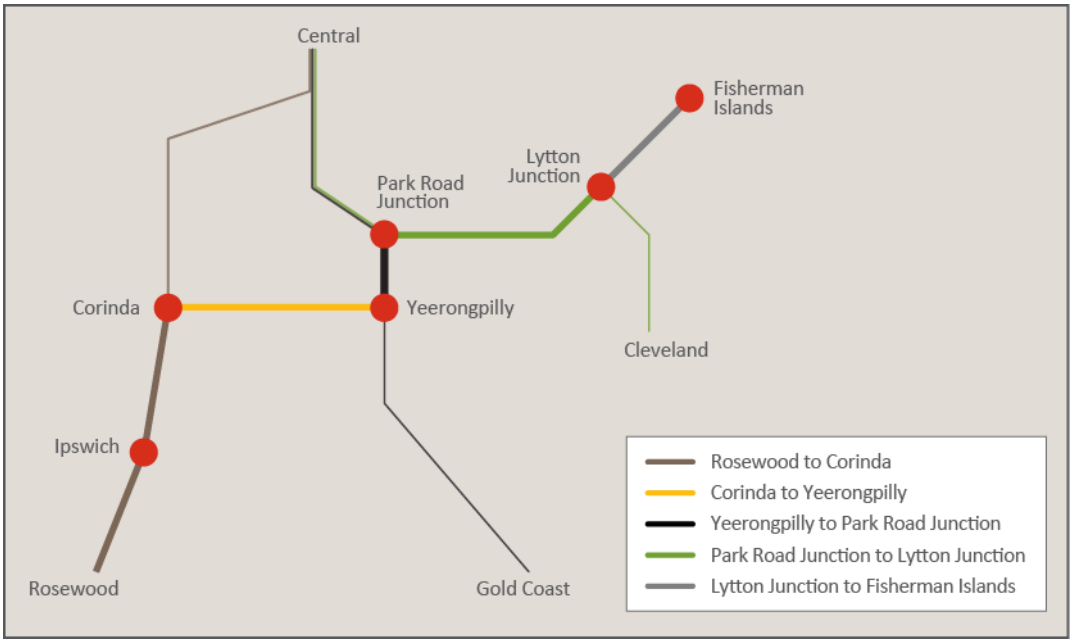
(c) travels on two more commuter lines (Yeerongpilly to Lytton Junction)

(d) finishes on a dedicated freight connection to the port of Brisbane (Lytton Junction to Fisherman Islands) (see **Figure 3**).

This journey on the metropolitan system is across varied terrain, including several creeks. The metropolitan rail infrastructure is built to a variety of standards and with axle load ratings that are higher than the western system, as this is required to give a smooth ride for passengers.

[21] Coal trains from the Ebenezer loading point, near Ipswich, to the port travel entirely within the metropolitan system.

Figure 3: Schematic of western system coal services' route through the metropolitan system



Source: QR Network 2009 DAU submission

Any methodology for directly deriving coal services' share of the costs of the various lines they used while crossing through Brisbane would be complicated, and subject to a wide range of subjective assessments about the proportion of overall costs that they should bear for each individual line.

Therefore, in the 2009 draft decision, the QCA accepted QR Network's proposal that the tariff derived for the Rosewood to Macalister line be extended across the metropolitan system. In particular the QCA:

> *... [accepted] that coal trains should pay the costs of the wear and tear they impose on the tracks in metropolitan system that they use, and should make a material contribution to the cost of providing that part of the network (QCA, December 2009: 92).*

The QCA also proposed that QR Network should receive a return on and of capital on incremental capital expenditure on the metropolitan system that was solely required for coal services, and on freight-related investment, subject to a pro rata adjustment for coal's share of freight paths.

Queensland Rail 2013 DAU proposal

Queensland Rail has again proposed that the tariff derived from a cost build-up for rail infrastructure between Rosewood and Columboola (i.e west of Rosewood) be applied to coal services' travel across the metropolitan system (i.e. east of Rosewood).

Queensland Rail said this was reasonable as it was likely:

(a) an asset valuation for the metropolitan assets would be appreciably more than that for assets between Rosewood and Columboola

(b) 'subsequent optimisation and allocation processes ... would be complex and difficult to carry out' (Queensland Rail, sub. no. 36: 7-8).

Queensland Rail said its proposal relied on the assumption that capital spending was proportional to the shares of gross tonne kilometres between the metropolitan and western

systems. This would mean that the tariff per '000 gtk for one section would not be unreasonably increased by spending on another section.

> *Concerns regarding an artificial uplift of this contribution when additional capital expenditure is spent in the Rosewood to Macalister and Macalister to Columboola sections are abated as long as there is proportional capital expenditure in the Fisherman Islands to Rosewood section; the proportion being 3/7ths of Rosewood to Columboola (i.e. Fisherman Islands to Rosewood represents approximately 30% of total 000 GTKs (Queensland Rail, sub. no. 36: 7).*

Stakeholders' comments

New Hope said the only justification Queensland Rail provided for extending the Rosewood to Columboola price across the metropolitan system was that a ceiling price would be complex to calculate and was likely to be higher. However coal and freight traffics were incremental users of the metropolitan system, that received 'lower service levels from the infrastructure manager'. Other freight services paid 'much lower tariffs through the metropolitan system' and it was fair and equitable that all freight services paid a similar level tariff through the suburban network (New Hope, sub. no. 44: 12).

QCA analysis

The QCA considers that any pricing for the metropolitan system needs to have regard for an appropriate allocation of costs across the whole length of the rail infrastructure that serves coal and freight services.

In this context, the QCA proposes to accept Queensland Rail's broad approach of extending the tariff derived for the rail infrastructure between Columboola and Rosewood, so it applies for the sections of the metropolitan system used by coal trains. However, while that approach avoids the complicated and potentially inconclusive task of determining specific costs and asset values for the metropolitan section, it creates other issues.

Appropriate recovery for metropolitan investments

The QCA does not accept Queensland Rail's assertion that there will be a consistent split in future capital investment between tracks to the east and west of Rosewood (Queensland Rail, sub. no. 36: 7). The QCA notes that both sections of track have their own, separate issues. New rail projects in the metropolitan system need to be built within a crowded urban area, while there are significant technical issues in upgrading both the range crossing and the sections across the Darling Downs. It is difficult to predict which challenge will prove more expensive to address.

The QCA also considers that there needs to be an explicit mechanism for Queensland Rail to recover coal- and freight-specific investment in the metropolitan network, in order to create the correct investment incentives. Simply extending the tariff between Columboola and Rosewood across the metropolitan system does not provide for this (see **Box 1**).

Box 1: Metropolitan Investment Example

A key bottleneck that drives the metropolitan peak-hour blackout is the 'flat junction' at Corinda, where inbound loaded coal trains and other freight services need to cross the outbound track used by suburban passenger trains (see section 2.1). If Queensland Rail constructed a flyover to remove this bottleneck, it would be appropriate for it to seek to recover this investment from the coal and freight services that used it.

Such an investment could potentially be a more efficient alternative to an infrastructure enhancement west of Rosewood, and it would not be appropriate for Queensland Rail's analysis to be clouded by a tariff structure that meant it was not able to recover its investment, purely because it was in the metropolitan system.

Indeed, extending the Columboola to Rosewood tariff across the metropolitan system would create an incentive to:

(a) not invest in coal or freight infrastructure on the metropolitan system as this new investment could not be recouped through a tariff increase

(b) over-invest on the Columboola to Rosewood section as that investment would be recouped over the entire journey to the port.

These incentives could be corrected through two linked measures.

First, by maintaining an asset base for future investment in the metropolitan system. This asset base would consist of investments required to develop additional capacity for coal and freight traffics, that can be rolled forward (i.e. including inflation, return on and of capital) like that for the western system. The annual revenue requirement from this asset base would be added to the tariff developed from the western system building blocks, to derive the tariff for crossing the metropolitan system. This asset base would resolve concerns about giving Queensland Rail an incentive to make efficient investments in the metropolitan system to serve coal and freight traffics.

Second, by fixing the tariff for crossing the metropolitan system at the level derived in approving the 2013 DAU, and then increasing it annually by CPI. This approach resolves the concern that, as the tariff extended from the western system will include new capital spending west of Rosewood, the metropolitan tariff will rise because of investment in a separate part of the network. This is not reasonable, as that would in effect be 'double-counting' of the investments west of Rosewood, when there was already a specific mechanism for Queensland Rail to recover investment within the metropolitan system.

The QCA notes that this 'grandfathering' approach for the extended tariff means the western system asset value, as applied to the metropolitan system, will inflate but not depreciate. This is reasonable, as:

(a) the ongoing contribution from coal services for capital spending on the metropolitan system will remain steady in real terms, and the 'non-depreciation' will compensate Queensland Rail for the cost of replacement capital expenditure on the shared tracks

(b) the separate metropolitan asset base will cover Queensland Rail's capital spending required specifically for coal services.

As a result, the amount western system trains are charged for crossing the metropolitan system would then be:

(a) the 2013-14 western system tariff in $/'000gtk, indexed by CPI, plus

(b) the amount necessary to provide the annual revenue requirement for the depreciated value of new metropolitan assets built to serve coal services.

On balance, this will be a simple approach for separating the treatments of the western system and metropolitan system asset bases, and provide the appropriate incentives for future investment in both systems. It will also include a reasonable contribution from western system coal services towards maintenance and operating costs in the metropolitan system.

The QCA notes this will also address concerns raised by Queensland Rail about being able to incorporate assets backed by capital underwriting (AFDs) into its tariff base. There has been substantial AFD-backed investment in the metropolitan system, including new coal-only sidings at Fisherman Islands. A metropolitan asset base for incremental capital spending would ensure that Queensland Rail not only has an incentive to make such investments, but also has the revenue to cover the rebates it will pay to end users for the capital underwriting.

The QCA also notes New Hope's concern that other, non-coal services may pay a lower tariff than coal services through the metropolitan system. The QCA considers this difference in tariffs is reasonable, as long as the lower price is not charged to competing coal services on the western system, and the coal services do not subsidise the below-ceiling prices for non-coal haulage.

Ebenezer Volumes and Metropolitan Asset Base

Queensland Rail has left Ebenezer volumes out of its proposed calculation of the western system tariff. The QCA considers this is reasonable, given that Ebenezer trains do not use the western system tracks.

However, as Ebenezer trains will benefit from any new investment to enable coal trains to cross the metropolitan system, the Ebenezer volumes should be taken into account when calculating the component of the tariff that recovers that new investment.

The QCA therefore proposes that the charge per train path that is added across the metropolitan system to recover incremental capital spending in the system be calculated using total train paths including the Ebenezer paths.

5.4 Columboola tariff

The approved undertaking for Queensland Rail does not include a reference tariff for the new Yancoal mine at Cameby Downs near at Columboola, so the 2013 DAU is the first time the QCA has had to consider a coal tariff for that section of the western system.

The pricing principles in the 2008 undertaking say that a tariff should be no higher than the standalone cost of providing a service or group of services, and no lower than the incremental cost.

In the CQCN, the tariff structure has sought to achieve this by ensuring that a coal service covers:

(a) the incremental cost of the service, which has been considered to be the cost of that mine's 'spur' – e.g. any rail infrastructure that is solely used to serve that mine, plus

(b) a reasonable contribution to common costs on the parts of the rail infrastructure it shares with other users.

Queensland Rail 2013 DAU Proposal

Queensland Rail's proposed pricing principles in the 2013 DAU included pricing limits (i.e. floor and ceiling revenue limits) that are generally equivalent to those in the 2008 undertaking.

Queensland Rail proposed that the Columboola tariff be calculated as part of the overall western system tariff. However, it proposed to allocate to coal 50% of the asset base for the Macalister to Columboola section, based on the proportion of contracted train paths that were used by Columboola coal services[22] (Queensland Rail, sub. no. 36: 8).

Queensland Rail said a single western system tariff including Columboola was a reasonable approach as the tariff for other users would be higher if Yancoal-funded assets and the Columboola volumes were not included in the tariff calculation. Queensland Rail said:

> *... [t]he difficulty with a separate Columboola tariff, as opposed to a single all-inclusive tariff, is determining what constitutes an equitable contribution; the quantum of the contribution influencing whether non-Columboola loading points pay more or less under a single all-inclusive tariff (Queensland Rail sub. no. 36: 7.)*

Queensland Rail also said that establishing a RAB for Macalister to Columboola assets provided a base for rebates applicable to Yancoal-funded assets west of Macalister.

Stakeholders' Comments

Aurizon said the pricing limits in Queensland Rail's 2013 DAU and past undertakings, including the requirement that each user pays at least its incremental costs, were intended to ensure that 'no party is worse off as a result of additional users being introduced to the system'. Aurizon said it was not clear from Queensland Rail's proposal whether the Columboola tariff covered the incremental cost of providing the service (Aurizon, sub. no. 43: 38-42).

New Hope said that, as the information on the Columboola tariff was not transparent, it would rely on the QCA to determine a fair and equitable allocation of common costs (New Hope, sub. no. 44: 11).

QCA Analysis

The QCA considers that the central Queensland pricing principles are a reasonable starting point for assessing the Columboola tariff, and the prices for any future mines that may use the western system. Both the existing undertaking and the 2013 DAU propose that a tariff must sit between incremental and standalone costs.

This means Yancoal's Cameby Downs mine will need to cover at least the extra cost imposed by adding the service to the system (i.e. Columboola to Macalister), plus a reasonable share of the costs on the 'common network' that serves all users (i.e. the Macalister to Rosewood sections and through to Fishermans Islands).

Queensland Rail has sought to address the lower utilisation of the track west of Macalister, by applying a 50% train path allocation to the coal tariff on those sections, compared with the 72.6% allocation to coal on the rest of the western system tracks used by coal services.

[22] The other 50% of the paths on the Columboola to Macalister sections are contracted to non-coal services, including cattle, freight and passenger trains.

The QCA notes that the Columboola tariff proposed by Queensland Rail provides enough revenue to cover:

(a) the incremental cost of having the Columboola service on the network, including return on and of the value of the assets west of Macalister, plus maintenance and operating costs for those sections; and

(b) a reasonable and material contribution to the cost of providing the infrastructure between Macalister and Rosewood, that is shared with other western system users. Less than half of the tariff payments for Columboola services are required to cover the incremental cost of the track and balloon loop west of Macalister.

The QCA therefore considers it is evident that Queensland Rail's approach to developing the Columboola tariff has been reasonable.

Notwithstanding this, the QCA has a number of concerns about the individual components of the proposed Columboola tariff and these concerns are similar to the QCA's concerns for the proposed Rosewood to Macalister tariff – this is discussed further below in Section 5.6.

5.5 Form of regulation and tariff structure

The QCA's 2009 draft decision, and 2010 pricing paper, set out a price cap form of regulation for the western system coal tariff. The western system coal tariff was based on the undertaking's pricing principle that, for the purpose of assessing revenue adequacy on a capacity constrained system, the QCA could assume all services were paying the highest tariff (2008 undertaking, clause 6.3(b)(ii)). The QCA also considered that the tariff worked to:

> *... provide QR Network with sufficient revenue to meet its efficient costs, including a return on its investment, while allowing it to capture gains from productivity improvements during the term of the undertaking.*
>
> *... reward efficient investment and protect the interests of QR Network by using a multi-part pricing structure.*
>
> *... provide the transparency and certainty required for all above-rail operators that rely on the western system (QCA December 2009: 94).*

Queensland Rail 2013 DAU Proposal

Queensland Rail proposed that the 2013 undertaking would retain the provision from the 2008 undertaking that on a capacity-constrained network, all services could be assumed to be paying the highest tariff, when assessing a ceiling revenue limit.

Queensland Rail said it should therefore keep the revenue from above-contract railings. This was because all traffics were assessed as paying the same price, so above-contract railings should be viewed as substitutions of coal for non-coal paths (Queensland Rail, sub. no. 36: 15).

It proposed a two-part tariff, split between a train path charge, and a weight-and-distance-based component (i.e. $/'000 gtk). This was consistent with the structure in the QCA's 2009 draft decision and June 2010 pricing decisions.

Stakeholders' Comments

Aurizon Holdings said a price cap form of regulation should include a mechanism for sharing an efficiency dividend between the network provider and users. When QR Network had a price cap in central Queensland, this took the form of a reduced tariff when volumes increased above an identified range. Queensland Rail's proposal was asymmetric, as it gave all the benefit of efficiency improvements, either through reduced costs or increased volumes, to Queensland

Rail. At the same time, Queensland Rail was protected from downside risks by take-or-pay arrangements that would largely recover revenue lost to non-performance of contractual services. This created the risk that:

(a) Queensland Rail would reduce maintenance spending, leading to a reduced level of service

(b) the tariff would remain high, even if volumes increased because of supply chain improvements that did not require below-rail investments.

Aurizon Holdings also said that, given the tariff recovered fixed costs related to coal, in a high fixed cost environment

> *the total revenue earned will exceed the maximum allowable revenue. That is, every additional tonne is recovering a proportion of fixed costs that are already fully recovered. When the reference tariff is not adjusted for increases in volumes the network provider earns a windfall gain, not consistent with the standalone test (Aurizon Holdings, sub. no. 43: 11-12).*

QCA Analysis

The QCA accepts Queensland Rail's proposal for a price cap approach to the tariff as it provides incentives for Queensland Rail to support volume increases, on a high-cost system (i.e. low volume relative to the asset base and operating costs) with a significant capacity constraint (i.e. the Toowoomba range crossing and the metropolitan network).

However, in considering this matter the QCA has sought to structure the tariff so it balances:

(a) Queensland Rail's interest in a tariff that covers its efficient costs, and provides a reasonable return on investment, with

(b) the interest of access holders/seekers and their customers in a tariff that provides incentives for good performance, yet does not over-compensate Queensland Rail.

A two-part tariff, with half of the revenue requirement recovered through a charge per train path, and the other half through a volume-and distance-based charge ($/'000 gtk) achieves these objectives as:

(a) both tariff components give Queensland Rail an incentive to find extra train paths, and to work with train operators to find ways to use more intensively the existing paths

(b) the train path charge limits the gains for increases in volumes per rail consist (i.e. increases caused by above-rail investment in new rollingstock), as it does not vary with cargo size.

The QCA notes Aurizon's concerns that under the proposed price cap regime, Queensland Rail may over-recover its asset base if volumes rise above forecasts. The QCA considers that a tariff with the asset base allocated between coal and non-coal services based on train path utilisation provides significant incentives for Queensland Rail to find innovative ways either to provide extra coal train paths or to more intensively use the available train paths. The benefits from such innovation are likely to persist beyond the term of a single undertaking and are likely to outweigh any potential over-recovery over the term of this undertaking.

The risk of over-recovery is also reduced if the western system asset base is allocated to coal traffics now, based on forecast path utilisation, and is not revisited over the term of the undertaking. Logically, if coal is allocated more train paths it should also attract a greater proportion of the infrastructure costs. For example, if coal services used 100% of the paths they should also pay for 100% of the asset base, which would not be over-recovery.

This additional revenue could then be returned to the State, and the people of Queensland, to offset the Transport Service Contract payments that also ensure that the western system continues to operate for the benefit of a range of non-coal producers and communities.

It is noted that there is potential for coal services to recover more than 100% of the post-1995 assets from the historic cost tariff, under a price cap approach, if actual volumes are higher than forecast volumes.

However, since the tariff would only be for the term of the undertaking, any over-recovery of revenues would be reassessed and re-set at the end of the four-year tariff period.

5.6 Tariff level

Queensland Rail has proposed a tariff of $22.22/'000 gtk based on the methodology in its submission.

Stakeholders' comments

Stakeholders said the western system tariffs were much higher than those charged on other comparable and competing rail systems including the Moura system in central Queensland, and the Hunter Valley coal network in New South Wales (see **Table 7**).

Yancoal said its Cameby Downs mine was 'one of the most efficient and cheapest on site producers in the country'. However the high rail costs and market downturn meant it was 'becoming a non-profitable operation'.

> *The current tariff as it stands is already expensive by comparison to other networks on the Australian East Coast. Its pricing acts as both an inhibitor to ongoing sustainability of operations which utilise the Western System, as well as a deterrent to future capital investment in the region (Yancoal, sub. no. 47: 1-2).*

Peabody made similar comments, just prior to the closure of its Wilkie Creek mine (Peabody, sub. no. 45: 1-2).

Table 7: Comparisons of below rail costs

Year Tariffs Apply to Selected Coal System	*2013 Tariffs*	*2013*	*2006 Tariffs*	*2006*	*Increase 2006-2013*	*Proportion Coal Type*
Selected Systems	*$/'000gtk*	*Indicative $/net tonne*	*$/'000gtk*	*Indicative $/net tonne*	*Indicative % increase*	*Metcoal/ Thermal Coal %*
QR West Moreton	24.6	10.13	10.5	4.3	134%	0/100
Blackwater AT1-4	~9	3.8	~5	2.3	65%	64/36
Goonyella AT1-4	~7	2.4	~5	1.7	41%	88/12
Moura	~9	2.8	~8	2.5	12%	28/72
Gunnnedah (Zone 3), NSW	7.2	5	Not Available	Not Available	Not Available	15/85
Hunter Valley (Zone 1), NSW	~10	1.5	~7	1	50%	15/85

Source: New Hope, sub. no. 44: 6.

Stakeholders added that:

(a) the western system miners' competitive position was further hampered because they produced only thermal coal, and not the higher-margin coking coal produced in competing systems in Australia (New Hope, sub. no. 44: 5-9)

(b) a transparent and repeatable methodology for assessing reference tariffs should not automatically mean they were set at the price ceiling. Instead the primary objective is to establish what is the reasonable level of tariffs, taking into account the efficiency and fairness pricing criteria, and then to specify a framework for repeating this process in the future (New Hope, sub. no. 44: 5-9).

(c) Queensland Rail's proposed approach did not take into account restrictions that resulted in significantly lower levels of utilisation compared to a modern railway (Aurizon Holdings, sub. no. 43: 8-9). For example, New Hope said that the level of below-rail service (e.g. lower-capacity trains and restricted hours of service) limited above-rail competition. The low axle load meant it was not economic to replace the 30- to 40-year-old rollingstock that was more fuel intensive than modern diesel technology (New Hope, sub. no. 44: 5-9).

Stakeholders proposed an alternative tariff methodology to address their concerns.

The QRC, Peabody, and New Hope said ARTC had established a precedent for recovering less than the full RAB value, with the forgone revenue deferred until a time when volumes rise enough to justify recovering the full amount. Peabody said this would reduce the price structure and 'create a long term incentive for continued operation' (Peabody, sub. no. 45: 2).

The QRC said this could be done through either deferral of depreciation, or 'loss capitalisation' (adding foregone revenue to the RAB).

> *This approach is used by ARTC in the Gunnedah region of NSW to ensure that below rail tariffs are efficient and do not disincentivise use of the infrastructure. ... ARTC has found it necessary to reduce access charges to around half of the levels proposed by QR in order to promote use of its infrastructure (QRC, sub. no. 46: 3).*

New Hope said it understood the western system tariff was originally derived in the late 1990s based on a nominal split of a negotiated integrated haulage rate.

> *The below rail portion was understood to be an amount equivalent to recovering the coal traffic's share of recurrent costs and incremental capital, but not a return on sunk capital (New Hope, sub. no. 44: 1).*

QCA analysis

The QCA has confirmed that Queensland Rail's tariff proposal (i.e. $22.22/'000 gtk) has been accurately calculated based on its cost proposals and that its proposed increase is largely due to a near-doubling of maintenance and operating costs and a change in the way the shared assets are allocated between coal and non-coal traffics.

The QCA has not accepted all of Queensland Rail's cost and cost allocation proposals. The QCA's inputs include a:

(a) metropolitan blackout of 22% (see section 2.1)

(b) capital indicator of $81.7 million over the four-year undertaking period (section 3.3)

(c) maintenance spending of $86.0 million over the four years (section 4.1)

(d) operating costs of $20.4 million over the four years (section 4.2)

The QCA has used these inputs to calculate two different tariff options, consistent with the two approaches discussed in section 5.2, the train path allocation, and the incremental cost approach.

For the asset allocation approach, the QCA has applied a:

(a) train path allocation to coal of 72.6% (50% for Macalister to Columboola) and annual volumes of 7.5 million tonnes (section 2.2)

(b) opening asset value for Rosewood to Columboola of $259.0 million (section 3.2)

This gives a tariff of $17.21/'000 gtk, split into $4220 per train path and $8.61/'000 gtk. This is 23% less than the tariff of $22.22/'000 gtk proposed by Queensland Rail, and 7% lower than the existing 2013-14 tariff of $18.56/'000 gtk.

For the historic cost approach, the QCA estimates that a price of $13.59/'000 gtk would provide for recovery of post-1995 capital spending of $133.3 million, and ongoing operating and maintenance costs, but nothing for pre-1995 assets. This would be split into $3,332 per train path, and $6.79/'000 gtk.

The QCA notes that both the train path-allocated and historic cost tariffs provide enough revenue from the Columboola services to cover the incremental cost of those services, plus a contribution to common costs on the parts of the network Columboola shares with other services.

The QCA has also calculated required train path charge for the metropolitan incremental asset base, as discussed in section 5.3. The opening asset value is $11.78 million, largely reflecting the spending on new coal-only holding tracks at Fisherman Islands, that were built during the 2009-13 tariff period. The required addition to the 2013-14 charge to recover the return on and of capital on this amount is $124.81/train path. Therefore, Ebenezer trains will pay either the

$17.21/'000 gtk tariff or the $13.59/'000 gtk tariff extended from the western system, plus an additional charge of $124.81/train path.

Addressing stakeholder concerns

Stakeholders have said both Queensland Rail's existing and proposed tariffs are too high, compared with prices paid for similar hauls on competing coal chains in Australia. They argue this has made their mines marginal, even though on-mine costs are competitive. In this context it is noted that with the existing 2013-14 coal tariff and at a time of low coal prices, one of the three mines using the western system has recently ceased operations.

The QCA notes that in not dissimilar circumstances, the then QR Network and the operator of the Minerva mine negotiated a lower tariff based on a lower recovery of the pre-existing asset base. One option raised by stakeholders is deferring recovery of a portion of the asset base, in a similar way to that adopted by the ARTC in the Gunnedah Basin. The QCA is seeking stakeholders' views on the best approach for the western system.

The access regime in the QCA Act enables negotiation between an access provider and its customers. The QCA encourages Queensland Rail and its customers to consider and discuss a price and price mechanism that balance the need to avoid further mine closures against the commercial stranding of western system assets.

Questions

- **What is the appropriate approach for determining the regulatory asset base for western system coal tariffs in the context of the QCA's approval criteria in s. 138(2) of the QCA Act? Stakeholder comments are sought on the QCA's proposed options – the asset allocation approach and the historic cost approach.**
- **Is there a way to address stakeholder concerns about high tariff levels while recognising the interests of Queensland Rail in receiving adequate revenue?**
- **Is extending the western system tariff across the metropolitan system reasonable?**
- **Is it reasonable to have a separate asset base for coal and freight-specific investment in the metropolitan system? Please explain and justify any alternative approaches.**

GLOSSARY

A	
ACCC	Australian Competition and Consumer Commission
AFD	Access Facilitation Deed
ARTC	Australian Rail Track Corporation
AU1	Queensland Rail's 2013 DAU (2013-14 to 2016-17 period)
B	
B&H	B&H Strategic Services Pty Ltd
C	
CPI	Consumer price index
CQCN	Central Queensland coal network
D	
DAU	Draft Access Undertaking
DBCT	Dalrymple Bay Coal Terminal
DORC	Depreciated optimised replacement cost
G	
gtk	gross tonne kilometre
K	
kg/m	kilogram per metre
M	
MEE	Modern engineering equivalent
Q	
QRC	Queensland Resources Council
R	
RAB	Regulated asset base
T	
tkm	Train kilometres
W	
WACC	Weighted average cost of capital

APPENDIX A: LIST OF SUBMISSIONS

Organisation/individual	*Submission number*
Asciano	6, 7, 26, 31
Association of Mining and Exploration Companies	8
Aurizon	9, 10, 27, 33, 43
New Hope	11, 12, 28, 32, 44*
Peabody	13, 34, 45
Queensland Rail	1, 2, 3, 4, 5, 18, 19, 20, 21, 22, 23, 24, 25, 35, 36*, 37*, 38*, 39*, 40, 41, 42
Queensland Resources Council	14, 46
Xstrata Queensland	15, 16, 29, 30
Yancoal	17, 47*

*Claims of confidentiality have been made for part or all of these submissions

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