New Hope Corporation Limited

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Submission on Queensland Rail's 2015 Draft Access Undertaking

Volume 2

West Moreton Coal Reference Tariff

5 June 2015

Introduction

This Volume 2 of the NHC submission on QR's 2015 DAU comprises NHC's submissions on the West Moreton coal reference tariff and related pricing matters.

It should be read in the context of being part of NHC's 5 volume submission:

(a) Volume 1 – Introductory Submission

(b) Volume 2 – West Moreton Coal Reference Tariffs

(c) Volume 3 – Access Undertaking

(d) Volume 4 – Standard Access Agreement

(e) Volume 5 – Responses to QCA Paper and Adjustment Charges

Consequently it generally does not seek to duplicate submissions made in each of those volumes, each of which relate to QR's 2015 DAU as well. However, Volume 1 of this NHC submission, which discusses the Regulatory Framework (Section 3), and the Regulatory Context for the assessment of Reference Tariffs, is highly relevant to this volume.

In summary, Volume 1 explains that:

(a) The QCA has wide discretion when determining whether it is appropriate to approve an undertaking. The QCA is limited only by the requirement to 'have regard to' the factors set out in section 138(2) of the QCA Act.

(b) The factors set out in section 138(2) may be in conflict. In such a case, a decision can only be reached by applying differing weightings to the factors. There is no one cornerstone, dominant or paramount factor which must be given the most weight.

(c) The QCA has the power to approve an undertaking which is inconsistent with one or more of the factors set out in Section 138(2), including any of the pricing principles set out in section 168A.

(d) In fact, the QCA is bound to seek an undertaking which is inconsistent with the pricing principles in section 168A if it considers that appropriate, having regard to all of the section 138(2) factors.

(e) The QCA is not bound to follow any particular regulatory precedent, and must not follow a precedent if to do so would result in the approval of an undertaking which is not appropriate having regard to the factors set out in section 138(2).

(f) The West Moreton System has a range of unusual characteristics, such that, in NHC's view, it is unlikely that simply following the most commonly used asset valuation approach will be appropriate.

This volume addresses each of the 'building blocks' and other assumptions which lead to the calculation of a ceiling price (or, if different, the reference tariff), and the methodologies employed in those calculations.

NHC considers that it is not appropriate for the QCA to approve QR's 2015 DAU under section 138(2) of the QCA Act for the reasons set out in each of the 5 volumes. Accordingly it requests that the QCA make a decision to refuse to approve QR's 2015 DAU and set out the ways in which the 2015 DAU should be amended, in accordance with section 140 of the QCA Act. This volume sets out the reasons why NHC considers that QR's proposed Coal Reference Tariffs, and the methodologies underlying those tariffs, should not be approved.

Executive Summary in respect of West Moreton Tariff Issues

NHC strongly objects to:

(a) QR's proposed reference tariff of $19.41/'000 gtk.

(b) QR's proposed 'ceiling tariff' of $34.92/'000gtk.

(c) QR's attempt to define the QCA's role as being limited to the determination of a notional tariff which will have no relevance to actual tariffs for the term of the undertaking, while suggesting that QR should be entrusted with the determination of the actual tariff.

(d) The methodologies which QR adopts in order to justify its claims.

The proposed tariff is more than double that of NHC's Australian competitors, yet relates to the poorest quality below rail asset; an asset which causes NHC's above rail costs to be in the order of [redacted]% higher than the average of its competitors on a cents per net tonne kilometre basis. QR suggests that the QCA's role is to determine a ceiling tariff based on QR's preferred methodology, and not to concern itself with matters such as the competitiveness of the actual tariff. We strongly disagree; the competiveness of the tariff and the impact which this has on the competitiveness of current and potential users of the system is clearly relevant to the matters under s138(2)(a),(d),(e) and (h) of the QCA Act. It is key to whether the tariff is appropriate and will result in efficient use of the infrastructure.

The consideration of the reference tariff for QR under the new undertaking did not begin with the 2015 DAU. In fact, the process was at an advanced stage in October 2014 with the release of the QCA's draft decision on the 2013 DAU ("the 2014 Draft Decision"). While we understand the need for the 2015 DAU to be considered on its merits, the key issues remain the same. The 2014 Draft Decision reflected the considered views of the QCA following a rigorous examination of the issues and an extensive consultation process; a process which included the additional step of issuing a Consultation Paper on pricing issues. QR's rejection of the vast majority of the QCA's 2014 Draft Decision is extremely unhelpful and disappointing. The proposed ceiling tariff of $34.92/'000gtk, when compared to the tariff proposed in the 2014 Draft Decision of $14.29'000gtk, demonstrates the extent of QR's failure to seek to resolve this issue.

QR's proposal, if accepted, would make the building block elements and the QCA's role in reviewing those elements all but irrelevant. QR proposes to repeat the mistakes of all previous undertaking processes in regard to the West Moreton System, by proposing a tariff for which no underlying logic exists and which provides no guidance as to how future tariffs will be derived. QR acknowledges, by proposing a separate reference tariff, that the ceiling tariff is not sustainable. In our view, this arises from the application of inappropriate assumptions and methodologies in the development of the ceiling, rather than from any transitory market conditions.

In particular:

(a) The asset valuation does not reflect the age and condition of the network, and the level of service which it is capable of providing. Applying a DORC valuation to an asset which is technically obsolete in comparison to the modern equivalent asset is problematic at best. NHC considers that the historical cost basis, (depreciated actual cost) discussed in the QCA's Consultation Paper provides a practical alternative and is more suited to this system. Alternatively, in the interests of resolving this issue, NHC

would support the approach proposed in the 2014 Draft Decision, which adopts a DORC but does not place a value on life expired assets.

(b) The proposed allocation of asset values and costs between coal and non-coal is inappropriate, and transfers the bulk of QR's risk in regard to non-coal usage of the system to coal producers, including the impacts of the significant loss of volume which QR claims to have experienced in recent times.

(c) Proposed operating and maintenance costs are excessive and ongoing capital expenditure requirements are high in the context of there being no expected requirement for expansions. To the extent that high replacement capex and maintenance is in fact required, this must be reflected in the valuation of the existing asset.

NHC expects that a properly developed building block approach which addresses the above concerns will result in a tariff which is competitive and sustainable and which will not result in further loss of volumes to the system. NHC considered that the tariff presented in the 2014 Draft Decision was at the top end of the range which could be said to achieve these objectives.

Accordingly, NHC considers that it is not appropriate for the QCA to approve a DAU containing QR's proposed tariffs under section 138(2) of the QCA Act, due to the requirement to have regard to the public interest, the interests of Access Seekers and the object of Part 5 of the QCA Act. QR's proposed tariff will not promote the economically efficient operation of, use of and investment in, the infrastructure with the effect of promoting effective competition in upstream and downstream markets. Rather, the proposed tariff places the continuing use of the infrastructure, and any growth in that use, at risk.

Structure of this volume

Section headings throughout the body of this volume are generally based on the structure of Volume 2 of QR's supporting submissions to its 2015 DAU.

1 West Moreton Reference Tariff and Volume Outlook

1.1 Application of West Moreton reference tariff for coal

We note that QR has assessed the building block costs and volumes within two route sections, being Rosewood to Jondaryan and Jondaryan to Columboola, that this differs to the approach used in the 2013 DAU and that QR's stated reason is the closure of the Wilkie Creek mine.

With the information available to us, we are unable to assess the effects of, or need for, this change. We rely on the QCA to assess this change in approach and to provide information in a draft decision which will allow NHC to make an informed submission on this point.

1.2 West Moreton Network volume outlook

1.2.1 Forecast coal services

1.2.1.1 Coal Market Outlook

NHC generally agrees with QR's analysis of the world coal market, which, in summary, is that conditions are currently difficult and prices are low, but demand will grow in the long term.

Difficult market conditions increase the risks involved in setting prices for access which are too high. When a decision is reached to close a mine, or to place it into care and maintenance (as

has occurred with Wilkie Creek), it is not easily reversed. NHC makes this point not to seek any short term relief or special consideration of the current circumstances, but to highlight:

(a) The importance of a robust assessment of tariffs;

(b) The high risks involved in QR's proposed approach to setting the reference tariff, which has little basis beyond the maintenance of the current charge; and

(c) That efficient usage of the rail infrastructure requires a long term competitive tariff.

NHC's position is that a tariff which is **competitive in the long term**, and which is derived from a **repeatable methodology**, is required in order to promote utilisation of the West Moreton System and further investment in mines and infrastructure.

It is clear from QR's own submission that the proposed tariff is not based on a transparent or repeatable methodology. Rather, QR proposes to repeat the mistakes of all previous undertaking processes in regard to the West Moreton System, by proposing a tariff for which no underlying logic exists and which provides no guidance as to how future tariffs will be derived.

NHC also considers that:

(a) The proposed tariff is not competitive. This is demonstrated by the data provided in Annexure A.

(b) This lack of competitiveness extends to above rail costs as a direct result of the characteristics of QR's below rail asset. This is demonstrated by the data provided in Annexure A and is explained further in Annexure B.

(c) Competitiveness does not matter, because it is directly relevant to a number of matters under section 138(2) of the QCA Act. Information relating to the sustainability of the proposed tariff for customers is provided in Annexure C.

1.2.1.2 Are the tariffs competitive with other systems?

Compared to other rail systems used by coal mines in Queensland and New South Wales as shown in Annexure A, the West Moreton system:

(a) Has the highest average below rail charge per tonne and per '000 gtk.

(b) Has experienced the greatest increase in below rail charges since 2006.

[redacted]

(d) Has the lowest allowable axle load.

(e) Has the lowest train payloads; at less than one third of the next lowest system.

(f) Coal mines produce 100% thermal coal whereas all other systems have at least 15% metallurgical coal, making competitiveness critical.

It is interesting to note that, in the case of the Hunter Valley Outer or Gunnedah system in New South Wales, ARTC has elected to under-recover its allowable revenue (through loss capitalisation) in order to set access charges at a competitive level, and has chosen a level which is approximately 25% lower per gtk than the reference tariff proposed by QR. This is despite a far superior service offering in that system (24 hour operation, 30t axle load and payloads of nearly 8,000 tonnes) which results in substantially lower above rail costs. Despite current coal market conditions and the dominance of thermal coal in the Gunnedah system, volumes have continued to grow strongly, in stark contrast to the West Moreton System.

1.2.2.3 FOB cash costs

Annexure C includes confidential information on the position of NHC's New Acland mine on Australian cost curves. The New Acland mine is a low cost [redacted] mining operation on a free on rail basis (coal loaded on train ready for transport). However, once the cost of rail transportation is added, the mine's position on the cost curve deteriorates [redacted] relative to other Australian thermal coal mines.

NHC is currently undertaking a feasibility study in regard to the continuation of the New Acland mine. Key factors to be considered by the NHC board in whether or not to approve the NHC continuation plan will be:

(a) The competitiveness of the mine on an FOB cost basis;

(b) The level of, and expected increases in rail costs over the life of the mine;

(c) The certainty of access and the form of access - does it promote above rail competition; and

(d) And the willingness of QR to engage in meaningful commercial discussions on efficiencies that will lower the cost of rail.

The high Above Rail costs are significantly driven by the life expired and obsolete QR Below Rail infrastructure. The QR proposal of a "ceiling price" (theoretically moderated by negotiation in a poor market) for Below Rail charges has removed any certainty of what QR may do with those charges going forward and are a critical input to the New Acland continuation project assessment.

1.2.2.4 Forecast Coal Services

We note that QR proposes to change its forecasts from contracted volumes to forecast volumes (with forecasts currently exceeding contracts). QR states (page 16) that "*Since the 2013 DAU was submitted, there has been a material change in the contracting environment in the West Moreton Network. Rather than the previous environment, where users set their contracts at a level close to, or even above, their usage, users are now comfortable that capacity will be available on an ad hoc basis and are railing significant tonnages in excess of contract*".

Cost allocation between coal and non-coal is discussed in Section 3.3. In summary, NHC's position is that:

(a) for costs which vary with usage, the numerator and denominator should be the relevant causal factor (for example, gtks or train paths), where the relevant coal units is the numerator, and the total units is the denominator.

(b) for fixed costs, the denominator should be system capacity, while for the numerator, consideration could be given to the use of contract, forecast, or the greater of these measures. Adjustment is then required for the cap on coal services and the impact of metropolitan system constraints.

We do question QR's claim as to the change in contracting behaviour in which coal producers rely on ad-hoc paths rather than seeking long term access rights. This claim, unsupported by evidence, seems inconsistent with QR's statement (page 21 of volume 2 of QR submission) that it has current Access Applications for an additional 42 paths.

NHC can only speak for itself on this issue. [redacted]

[redacted]

1.2.3 Forecast non-coal services

We note QR's description of the significant loss of non-coal volumes, as having been caused by a transfer from rail to road, and that "*there is little evidence that there will be a significant shift from road back to rail (particularly in the West Moreton Network) at any time in the near future*" (page 20).

In stark contrast to Section 2.1.1 of QR's submission, which suggests that QR will act commercially in setting tariffs to maintain revenues, section 1.2.3.1 is completely lacking in any suggestion that QR may have a role in influencing this trend, whether through pricing or otherwise. Instead, QR cites the impacts of seasonality, climate, world prices, exchange rates, government policies, decentralisation of the wheat market and road pricing as the causes of the trend, and suggests no role for QR in seeking to address the issue.

Risks should be borne by the parties best able to manage and mitigate the risk. The impacts of the trend towards road haulage, or any other loss of non-coal volumes, is rightly QR's commercial risk. It is a risk that QR is able to influence through its ability to set prices that are competitive with road transport (even if doing so involved a lower return). It should not be a risk which is transferred to coal producers, who have no ability to control or influence non-coal usage of the network. However, despite that context, QR's proposed method of allocating a number of cost categories (including return on and of the asset base) between coal and non-coal would achieve exactly this risk transfer to coal producers.

That result occurs because the coal share of these costs is calculated as:

forecast coal path usages / total path usages

This means that as non-coal path usages decline (as has already occurred), the coal share of these costs increases. This goes further than transferring QR's commercial risk to coal producers. Given that the cost allocated to non-coal producers is unlikely to be fully reflected in actual charges paid by non-coal users (who are understood to pay lower charges), the decline in non-coal usage under QR's approach will actually provide a substantial benefit to QR, with significant 'notional' non-coal revenue being translated into actual revenue from coal producers (assuming that the resulting tariff does not cause further declines in coal volumes).

NHC strongly objects to this risk transfer and to the perverse incentives which it would create. We seek a method in which:

(a) Any reduction in non-coal usage (including the reduction which has already occurred) remains QR's risk.

(b) QR is incentivised to seek customers to use the capacity of the system.

This issue is discussed further in section 3.3.

2 Proposed reference tariff for coal services

2.1 Proposed West Moreton reference tariff

2.1.1 Queensland Rail's proposed coal reference tariff

NHC does not support:

(a) QR's proposal to create a 'ceiling tariff' of $34.92/'000gtk.

(b) QR's attempt to define the QCA's role as being limited to the determination of a notional tariff which will have no relevance to actual tariffs for the term of the undertaking.

(c) QR's position that QR should be entrusted with the determination of the actual tariff.

(d) QR's proposed reference tariff of $19.41/'000gtk.

2.1.1.1 QCA's role is to determine an appropriate tariff – not a 'ceiling' tariff

QR argues that the undertaking should include a 'ceiling price', and that there should be decoupling of the reference tariff from the ceiling price. The premise of this proposal is that an efficient reference tariff can be determined through commercial negotiation (with arbitration available to resolve disputes). In support of its proposal, QR argues that it is highly incentivised to seek out mutually beneficial arrangements that support the long-term sustainability of the industry.[1]

QR appears to be suggesting that the regulator's role is limited to the determination of a ceiling price, with the decision regarding the actual tariff to be entrusted to QR. QR states:[2]

> "*Fundamentally, the risk that QR's proposed reference tariff is set too high to maintain existing volume and attract new volumes is rightly QR's commercial risk. QR is prepared to accept this commercial risk based on its proposed tariff, knowing that the consequence of the price being set too high is that it will not attract the volume that it requires. In the event that this proves to be the case, QR will reconsider the level of its access charge.*
>
> *In this environment, the QCA clearly has a role to ensure that Queensland Rail's proposed price is no greater than a properly determined ceiling price. However, it is appropriate for QR to determine the extent of the reduction from the ceiling price as this decision is clearly subject to effective market forces. If QR's reference tariff is too high, the market will respond by deferring or reducing demand*".

NHC would be deeply concerned if the QCA were to abdicate its role in setting a reference tariff, and confine itself to only establishing a 'ceiling price'. Setting of the reference tariff cannot be left in the hands of the monopolist. In these circumstances, the QCA clearly has an important role to play in establishing a reference tariff that is consistent with the object of part 5 of the QCA Act, the pricing principles, and the other factors listed in s 138(2). The reference tariff forms part of the undertaking, such that it is difficult to see how the QCA Act can be interpreted as limiting the QCA's role in the way that QR suggests.

In the event that reference tariffs are set too high, QR suggests that "effective market forces" will lead to an efficient outcome. We would welcome any evidence which QR is willing to

[1] QR Explanatory Submission, Volume 2, p 4.
[2] QR Explanatory Submission, Volume 2, p 22.

provide which demonstrates that "effective market forces" are operating in the West Moreton System, other than the recent loss of volumes, which is of great concern. At this point, NHC is genuinely concerned that QR's behaviour will create a 'death spiral' where as further volume is lost, the revenue is sought to be recovered against the remaining customers through higher charges, simply causing more volume to be lost until eventually that vicious cycle results in the West Moreton system ceasing to be utilised.

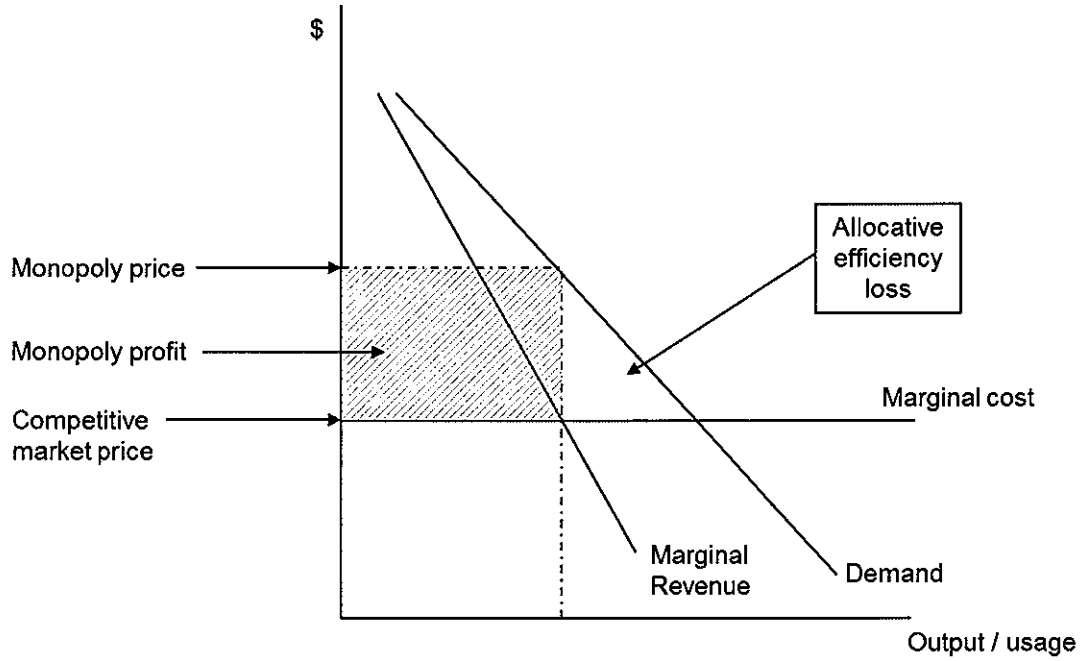
2.1.1.2 QR should not be trusted to set the reference tariff

Leaving the monopolist to set the reference tariff would be like leaving the fox to guard the henhouse. It would go against the rationale for economic regulation – that users of natural monopoly services need to be protected by regulation from the exercise of monopoly power.

While QR may have some incentive to try to avoid inducing significant declines in demand, this is not the same as having an incentive to price at the efficient level. QR does not operate in a competitive market, and therefore does not face incentives to price at the socially optimal level. Rather, QR's incentive is to maximise its profits.

Basic economic theory tells us that a profit-maximising monopolist will set prices above what would prevail in a competitive market. While the monopolist will take into account customers' willingness to pay for the service, it will not face incentives to price at the socially optimal level – that is, where customers' marginal willingness to pay is equal to marginal cost. Consistent with its incentive to maximise profits, the monopolist will set prices above marginal cost, leading to allocative inefficiency (see Figure 1).

Figure 1: Illustration of monopoly pricing incentive



Given its monopoly power, QR cannot be entrusted with setting the reference tariff at a level that promotes 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. Rather, given QR's incentives, it is properly the role of the QCA to set reference tariffs having regard to the matters set out in s 138(2) and s 168A of the QCA Act. To

do otherwise would be to miss the point of the need for declaration of the West Moreton System.

Even if it were true that QR could be entrusted with setting the reference tariff, there would be a high risk associated with this. The market for coal haulage services on QR's network is unlike many other markets, in that there is only a small number of users that have made large complementary sunk investments. In this context, the price discovery mechanism is unlikely to operate in the way it would in a competitive (or workably competitive) market – where pricing can be continually "reset" to identify the optimum market clearing price. In this case, if QR sets the price too high, it is likely to lead to irreversible exit decisions by one or more of the remaining large users and a permanent reduction in network usage. This risk is particularly stark in the West Moreton System which has only 3 operating mines (compared with the Central Queensland Coal Network, for example, with over 50 operating mines). The potential economic impact of QR getting the price wrong on other users is therefore substantial and irreversible. This may be contrasted with the expected response in a competitive market, whereby there is a temporary reduction in demand and an adjustment to pricing in order to restore the market equilibrium.

2.1.1.3 Recent experience highlights risk of allowing QR to set the reference tariff

The closure of Wilkie Creek mine provides a useful indication of the likelihood of QR offering competitive tariffs below reference tariffs in order to sustain demand.

QR is right when it states that "mine operating costs reflect a broad range of inputs, and Peabody's decision to close the mine is likely to have reflected a combination of factors". The closure of a mine rarely reflects a single factor, unless that factor is the depletion of resources. However in the case of West Moreton System mines, the uncompetitive cost of rail is a significant ongoing burden and competitive disadvantage (Annexure A).

In relation to Wilkie Creek specifically, Peabody has confirmed that:[3]

"*the uncompetitive rail costs, including below rail, in the West Moreton System were a material contributing factor in the high cost pressures which contributed to the decision to place Wilkie Creek into care and maintenance*"

Despite this, we are not aware of any attempt by QR to investigate whether a lower access charge might have influenced the decision. Instead, QR simply asserts that "*no approach was made by Peabody or its above-rail haulage provider to indicate that an alternate tariff could have influenced its decision*". We would suggest that Peabody's October 2013 submission to the QCA provided a very clear message to QR regarding the impacts of both the existing and proposed tariffs (our emphasis):[4]

(a) "The proposed tariffs would place an ***uncompetitive cost burden*** on existing West Moreton System users in comparison to other Australian coal supply chains".

(b) "From a mining viewpoint, the operation is a relatively low cost operation, yet with the high cost of infrastructure services it is often ***at a cost disadvantage*** to other mining operations and is consequently a ***marginal mining operation*** in the current low price environment".

[3] QRC submission to QCA, 5 June 2015

[4] Peabody Energy Australia Pty Ltd "Peabody" Submission to the Queensland Competition Authority ("QCA") – Queensland Rail West Moreton Tariff Proposal, 31 October 2013.

(c) "On this basis we believe that the proposed reference tariffs are not in the public interest as ***they threaten the viability of the Wilkie Creek operation*** and consequently the long term interests of Queensland Rail".

(d) "The present costs of the West Moreton System are ***approximately 2 to 3 times that of other dedicated coal supply chains*** and significantly more expensive than comparable multi-use support chains that Peabody utilises with other operations".

(e) "Should the RAB be deemed appropriate we believe that at the very least a mechanism such as Loss Capitalisation as used by ARTC in support of growth regions in the Gunnedah basin in NSW be reviewed as a viable alternative to provide a ***reduction in the existing price structure to create a long term incentive for continued operation***".

Despite this submission, and despite similar submissions from NHC and Yancoal (available on the QCA website), and despite the actual closure of Wilkie Creek, QR proposes continuation of the existing reference tariff plus the creation of a ceiling price which would establish the basis of an increase of up to 80% in the future (or greater, if further volumes are lost). This is contrary to the expected response of a service provider operating in a competitive market. In a competitive market, it may be expected that a service provider would reduce tariffs in response to a decline in demand.

Therefore we are unable to find any basis on which we could conclude that QR ought to be trusted to voluntarily reduce tariffs to a competitive level in order to sustain demand. Rather, we see a clear need for the QCA to ensure that reference tariffs are set at a level which promotes 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.

2.1.1.4 The "apparent demand for capacity at this price"

QR states that "*there is apparent demand for capacity at this price*" (page 21, Vol 2), presumably to demonstrate that the proposed tariff is reasonable. NHC's comments on this assertion are as follows:

(a) The existence of some remaining demand does not necessarily indicate that the tariff is reasonable or sustainable, nor that the tariff is not adversely impacting on demand.

(b) QR is willing to discount the possibility that the level of Access Charges had any role in actual reductions in coal and non-coal volumes, yet is willing to claim that the existence of possible demand is evidence of the reasonableness of prices. We would suggest that, to the extent that trends in volumes are to be taken as an indication of the sustainability of the tariff (as QR seeks to do), the evidence favours a conclusion that the existing tariffs are too high.

(c) For an Access Seeker (or its customer), the relevant consideration is not today's tariff, but the expected long term tariff. [redacted]. NHC does not work from an assumption that the current tariff will be maintained. Rather, NHC considers that the QCA's draft decision on QR's 2013 DAU ("the 2014 Draft Decision") provides the most reliable and independent indication of future tariffs.

[redacted]

In summary, NHC considers that the "*apparent demand for capacity at this price*" indicates nothing about the reasonableness nor sustainability of the tariff, nor about its current or future impacts on demand.

2.1.1.5 The proper role of the QCA

Given QR's monopoly position, the role of the QCA is to approve an appropriate tariff – not a 'ceiling'.

QR point to what they say is the use of 'ceiling and floor' tariff mechanisms in other regulatory contexts. However, the use of ceiling and floor tariffs in other regulatory contexts (including other rail access frameworks) operate very differently to the QR undertaking. In particular:

(a) in most regimes where there is provision for floor and ceiling limits, these limits apply to individual tariffs only and the service provider is also subject to a global revenue cap and/or weighted average price cap. For example under the National Electricity Rules, floor and ceiling limits for individual tariff classes apply ***in addition to*** a global revenue cap or weighted average price cap.[5] Therefore, the service provider does not have complete freedom to set tariffs within the floor and ceiling limits. Rather, the most important constraint is the overall revenue or weighted average price cap that is established by the regulator using the building block method.

(b) NHC is only aware of one Australian regulatory framework in which the regulator ***only*** sets a ceiling and floor tariff, and does not also set a reference tariff or revenue cap. This is the WA rail access regime, where the Economic Regulation Authority (ERA) is only able to establish floor and ceiling limits for tariffs, and is not empowered to establish a reference tariff. The WA rail access regime is considered a 'light handed' regulatory regime, due to the absence of any ERA power to establish a reference tariff.[6] NHC notes that concerns have been expressed in relation to the effectiveness of the WA rail access regime, and that it is currently under review by the ERA.[7] In NHC's view the WA rail access regime is not one that the QCA should be seeking to emulate.

In this case, the QCA is clearly empowered to establish a reference tariff. The QCA's role is not limited to simply setting a ceiling tariff. This is confirmed by the legal advice from Gilbert + Tobin to NHC (enclosed at Annexure I), which states:[8]

...we do not consider that the QCA's role is limited to simply assessing a ceiling tariff, beyond which inefficient bypass might hypothetically occur. The QCA may consider it appropriate, having regard to the factors set out in s 138(2) of the QCA Act, that an access undertaking provide for a reference tariff that is different to the ceiling tariff based on the hypothetical bypass threshold. Moreover, in establishing the reference tariff, the QCA may have regard to a wider range of considerations, beyond the level of tariffs at which bypass might occur.

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[5] The pricing principles for regulated distribution services state that, for each tariff class, the revenue expected to be recovered must lie on or between: (1) an upper bound representing the stand alone cost of serving the retail customers who belong to that class; and (2) a lower bound representing the avoidable cost of not serving those retail customers (National Electricity Rules, clause 6.18.5). However, electricity distributors are also subject to an overall revenue cap which is set by the AER as part of its periodic distribution determinations.

[6] Legislative Assembly, Parliament of Western Australia – Economics and Industry Standing Committee, *The Management of Western Australia's Freight Rail Network*, Report No 3, October 2014.

[7] ERA, *Review of the Railways (Access) Code 2000: Issues Paper*, February 2015. The ERA notes the views of some stakeholders that the WA rail code is not effective in enabling access to railway infrastructure in WA. The ERA also notes that the NCC previously recommended that the WA regime not be declared effective, partly due to inconsistency between the WA regime and the ARTC undertaking which determines access conditions on the interstate route into Kalgoorlie from the east. An important difference between the WA code and the ARTC regime is that the latter is more prescriptive, in that it establishes a benchmark access tariff for a standard service, whereas the WA regime establishes only cost boundaries within which negotiation must take place.

[8] Gilbert + Tobin advice to New Hope dated 03/06/15.

As explained by Gilbert + Tobin (enclosed at Annexure I), the QCA may have regard to a range of factors in establishing a reference tariff. The QCA is not limited to considering the level of tariffs beyond which competitive bypass might (hypothetically) occur. The QCA may also take into account the expected impact of the reference tariffs on customers, and consequent impacts on network usage.

In this case, a particularly relevant factor for the QCA to consider is the potential impact of tariff levels on future demand. There is a real risk that significant increases in tariff levels (or the prospect of such increases occurring in future) may lead to large reductions in demand and further increases in tariffs. This could happen very quickly, given that demand comes from a small number of large customers.

For the reasons above, such as the limited number of mines using the West Moreton System and QR's incentives not to determine an efficient tariff commercially, NHC submits that relying on a 'light touch' tariff ceiling approach for the West Moreton System would be wholly inconsistent with seeking to achieve the object of Part 5 of the QCA Act – and the s 138(2) and s 168A factors.

Instead, NHC considers that the DAU should not be approved unless the QCA is satisfied that the proposed reference tariff is appropriate, having regard to the statutory criteria. The QCA cannot simply trust that QR has set the reference tariff commercially at a level that is consistent with the object of Part 5 of the QCA Act, the pricing principles in s 168A, and the other factors listed is s 138.

As discussed below, NHC considers that an appropriately determined coal reference tariff based on full recovery of appropriately allocated costs, will be substantially below the existing reference tariff. If this is the case, a reference tariff based on a genuine building block approach is the only tariff which ought to be determined.

2.1.1.6 Methodology for determining an appropriate reference tariff

As explained above, the DAU should not be approved unless the QCA is satisfied that the proposed reference tariff is appropriate, having regard to the statutory criteria. This implies that QCA ought to consider an appropriate method for determining the reference tariff which properly takes into account the matters listed in s 138 of the QCA Act. This methodology need not be directed at determining the price that would be charged by a 'hypothetical new entrant'. Rather, the methodology may take into account a wider range of considerations, including the object of Part 5 of the QCA Act and the interests of persons who may seek access to the service.[9]

NHC has a number of concerns with the methodology proposed by QR for determining its ceiling tariff. As it is directed at the narrow task of ascertaining a ceiling tariff which reflects hypothetical new entrant costs, the QR methodology does not properly take into account all of the statutory criteria. Further, this methodology leads to an inappropriate allocation of demand risk between QR and users.

Significant changes would be required to the QR methodology before it could be applied to determine an appropriate reference tariff. In particular, changes would be required to:

(a) the initial asset base valuation (discussed in Section 3.2.1)

(b) the method for allocating costs between regulated and unregulated services (Section 3.3)

(c) maintenance costs (Section 3.2.6)

[9] QCA Act, s 138(2).

(d) the operating expenditure allowance (Section 3.2.7)

2.1.2 Treatment of capacity expansions

Capex carry-over accounts

NHC supports the inclusion of forecast capex in the RAB for the purposes of calculating tariffs, with a capex carry-over mechanism dealing with any variances between actual and forecast capex.

Metropolitan system RAB

NHC has previously submitted that coal traffic in the metropolitan system should pay a tariff which is consistent with other traffic in that system, or should pay a price calculated by reference to the incremental capex which has been incurred specifically for coal traffic since 1995. These positions were not supported by the QCA in its 2014 Draft Decision, and NHC accepts the QCA's conclusions as set out in that document with a view of having an undertaking approved. However, it is not clear to us whether QR's proposed approach is aligned with the 2014 Draft Decision.

Our concerns with QR's approach are as follows:

(a) QR proposes to adopt the West Moreton reference tariff as the initial metropolitan tariff (subject to adjustment for the incremental RAB, discussed below). Our understanding of the approach suggested in the QCA's 2014 Draft Decision was that this tariff would then be escalated at CPI during the term of the current, and future, undertakings. This would mean that the metropolitan tariff would become de-linked from the derivation of West Moreton tariffs. It is not clear to us whether QR is proposing such a de-linked approach in which the metropolitan tariff is escalated at CPI under future undertakings. If this is not the case, then we are unclear as to how the metropolitan tariff will be established under future undertakings.

(b) If it is intended that the metropolitan tariff will be derived from the West Moreton tariff for the last time under this undertaking, and then escalated, we seek feedback on how the QCA can ensure that QR commits to this approach and does not renege on any such commitments. We understand that an undertaking cannot bind QR nor the QCA in regard to the content of future undertakings. We suggest that developing an opening value for the metropolitan system RAB for coal, calculated from the return on asset component of the capital charges within the West Moreton tariff, may provide a partial solution.

(c) The addition of past capex in the metropolitan system (Surat Basin Stages 2 and 3) to the incremental metropolitan RAB appears inconsistent with the concept as explained in the 2014 Draft Decision. To the extent that capex was also incurred in the West Moreton System during the relevant period, the application of the West Moreton System tariff to the metropolitan system effectively 'deems' that similar capex (per gtk) was incurred in the metropolitan system. Adding actual capex of the metropolitan system for the same period appears to involve double counting.

(d) The basis on which capex incurred in the metropolitan system would be added to the incremental metropolitan RAB in the future is not clear. We consider that this should be limited to expansion capex triggered solely by coal services, and that there could be no

expansion capex deemed to be triggered by coal services until contracted coal services exceed their previous peak level.

We encourage the QCA to include guidance on the above comments and an assessment of the extent to which QR's proposed approach is aligned to the 2014 draft decision in the next draft decision.

2.2 Implementation of reference tariff

2.2.1 Tariff structure

NHC was broadly supportive of the approach in the QCA Draft Decision on this issue. NHC relies on QCA to review this item, and will comment in response to the draft decision.

2.2.2 Form of regulation and reference tariff review

NHC was broadly supportive of the approach in the QCA Draft Decision on this issue. NHC relies on QCA to review this item, and will comment in response to the draft decision.

2.2.3 Take or pay arrangements

QR has not adopted QCA's proposal (2014 Draft Decision) that Take or Pay (ToP) collections should be limited to the shortfall in QR's revenue relative to the target revenue used to derive reference tariffs. QR has provided a number of reasons for rejecting this suggestion. Our comments on each of QR's reasons are provided below:

(a) *Expected revenue will fall short of 'ceiling revenue':* In the event that approved tariffs are set at a level which is not expected to recover the (properly assessed) revenue requirement, we would acknowledge that QR ought to be able to retain additional revenue up to the full revenue requirement. At this stage however, it is our expectation that a properly assessed 'ceiling limit' for revenue will result in a viable reference tariff. We base this on the QCA's assessment as reflected in the 2014 Draft Decision, and on our view that the new information since provided by QR should not lead to a material change in this conclusion.

(b) *QR is accepting volume risk, therefore should retain upside:* QR suggests that, as it is basing pricing on a volume forecast which exceeds contract, QR is accepting volume risk and therefore should retain upside. We have a number of comments on this claim:

(i) We do not understand how QR can say that their reference tariffs are based on any particular forecast or, for that matter, on any building block components whatsoever. Our understanding is that the building block components are used only to calculate a virtually irrelevant ceiling price, while the reference tariffs are based only on the existing tariff level.

(ii) In the event that final tariffs are calculated from a building block approach and this reflects forecasts which exceed ToP, we would accept QR's right to retain upside when volumes exceed the forecast. However, it does not follow that it is also appropriate, in these circumstances, to collect ToP. As was noted by QR, ToP has two main purposes, being to support revenue certainty, and to encourage customers to contract only for their genuine requirements. Charging ToP when revenues exceed forecast is clearly not necessary in order to support revenue certainty. It is also not necessary to encourage accurate contracting (discussed below).

(c) *ToP relief will cause over-contracting:* NHC does not consider it credible to suggest that the mere possibility of partial ToP relief, which is dependent on unexpected railings by other parties, is sufficient to cause over-contracting. NHC can confirm that it would not be influenced to over-contract by such a possibility. In regard to QR's claim that over-contracting caused by ToP relief has "certainly" proven to be the case in Central Queensland, we make the following comments:

(i) ToP relief in Central Queensland goes far beyond that which was proposed by the QCA for the West Moreton System. Firstly, ToP under earlier generation contracts ("UT1" contracts) amounts to only around 30% of the Access Charge. Clearly, at such a level, the disincentive to over-contract was weakened. Secondly, forecast volumes in Central Queensland are generally substantially below contract. This means that, where forecasts are not achieved, the ToP which could (subject to capping) be collected is often well in excess of the revenue shortfall, such that capping significantly reduces the actual ToP collections. We therefore do not agree that the Central Queensland experience indicates that the QCA's suggestion of a much more limited capping arrangement will lead to over-contracting in the West Moreton system.

(ii) Holding Access Rights corresponding to a certain tonnage, while targeting a lower annual railings number, does not necessarily constitute over-contracting. This is because the Access Agreements of QR and Aurizon Network do not guarantee that the contracted Access Rights will always be made available, and because miners and rail operators may require some level of surge capacity to recover from unplanned interruptions. Availability of paths can be reduced by unplanned maintenance, force majeure events, operational constraints, incidents and other causes. Therefore a miner who plans to produce and sell a given tonnage of coal in a year may elect to contract beyond this level, in order to have a realistic expectation of achieving the target – this is not over-contracting, and it is not necessarily driven by expectations of ToP relief.

2.2.4 Tariff application date

NHC considers that QR should be required to honour its commitment to backdate the final approved tariff to 1st July 2013. QR represented, when seeking approval for a number of the extensions to the term of the existing undertaking, that the tariffs to be applied for the extension period were "transitional", and that the adjustment charge provisions of the new undertaking would allow for the reference tariff to be backdated upon the approval of the undertaking. For example, QR's letter of 5th of May 2014 to the QCA stated:

> "*QR intends to continue with its proposal that the transitional reference tariffs, being the current reference tariffs escalated at CPI, for the West Moreton System remain and continue to apply up to the approval of AU1. The adjustment charge provisions in AU1 will allow the reference tariff to be backdated to 1 July 2013 upon approval of AU1. QR notes that transitional reference tariffs have been applied in both the 2005 and 2010 Access Undertakings, and is also in practice with Aurizon Network*".

Our further detailed comments on this issue are provided as Volume 5 of this submission.

3 Ceiling Price for West Moreton Network Coal Services

3.1 Ceiling price for West Moreton network coal services

NHC considers that a ceiling price of $34.92/'000gtk, which is nearly 2.5 times the price assessed by the QCA and provided in the 2014 Draft Decision, lacks credibility. We will provide comments on each building block component individually.

3.2 West Moreton Network building block components

3.2.1 Opening asset value

Options open to the QCA:

NHC has previously explained (in this and previous submissions) that the QCA has a broad discretion in determining the initial value of the asset base. The QCA is not confined to using a particular methodology, such as DORC, nor is it prevented from making adjustments to the results of well-recognised valuation methods in order to achieve particular objectives.

The QCA stated in its 2014 Draft Decision that there are a variety of methodologies available for valuing assets, and that these various methodologies each have advantages and disadvantages.[10] We agree with this statement, and observe that is consistent with well-recognised economic principles and regulatory precedent.

This view is supported by the advice from Professor Flavio Menezes to the QCA, which states that either the QCA's proposed DORC method (as set out in its 2014 Draft Decision, with zero value assigned to assets with an expired expected life) or a depreciated actual cost (DAC) method would be open to the QCA. Professor Menezes explains:[11]

> *My preliminary view, based on the reasons outlined below, is that both the proposed DAC approach and the DORC approach – placing zero value on assets with an expired expected life – are likely to satisfy the QCA's statutory requirements to promote the economically efficient operation of the West Moreton System, to provide incentives for QR to efficiently invest in the network and to promote competition in relevant markets.*
>
> *As I explain in this report, it is unlikely that a single asset valuation method (or a single initial value) will satisfy the QCA's statutory obligations. Given the trade-offs involved in achieving allocative, productive and dynamic efficiency, different valuation approaches will likely resolve these trade-offs differently but may still be appropriate for fulfilling the QCA's statutory obligations.*

The QCA's position is also supported by the legal advice from Gilbert + Tobin to NHC (enclosed at Annexure I). Gilbert + Tobin explains:[12]

> *We consider that, in considering whether approval of an undertaking would be appropriate, the QCA is not limited to assessing a ceiling tariff based on a DORC valuation. The QCA may consider it appropriate for an undertaking to include a reference tariff that is based on a different asset valuation methodology, such as historic cost, an 'adjusted DORC' method, or a hybrid method...*
>
> *Under the QCA Act, the QCA has a relatively broad discretion in determining an appropriate asset valuation method. The QCA is required to have regard to a range of factors in assessing a draft access undertaking. These include (but are not limited to), the object of Part 5, the pricing principles (in s.168A), the interests of both the service provider and access seekers, and any other issues which the QCA considers relevant. The list of relevant factors is broad, and different factors may at times point in a different direction, in terms of the most appropriate choice of valuation methodology.*

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[10] QCA, *Draft Decision: Queensland Rail's 2013 Draft Access Undertaking*, October 2014, p 129.
[11] Professor Flavio Menezes, *A preliminary view: Regulatory economics assessment of the proposed West Moreton System asset valuation approaches*, 8 April 2015, p 2.
[12] Gilbert + Tobin advice to New Hope dated 03/06/15.

It may be that, depending on circumstances, a proper balancing of the statutory criteria favours a different methodology over DORC, such as an historic cost methodology. Alternatively, it may be that an 'adjusted DORC' or hybrid method is more appropriate.

Gilbert + Tobin's advice (enclosed in Annexure I) refers to a number of cases in which methodologies other than 'pure DORC' have been adopted. These include cases where an historic cost-based valuation method or an 'adjusted DORC' method has been applied. Some examples are set out in Table 1 below.

Table 1: Examples of regulatory decisions adopting valuation methods other than pure DORC

Decision	Method	Summary of reasoning
ACCC final access determination for declared fixed-line services supplied by Telstra[13]	Adjusted historic cost (DAC).	The ACCC considered a range of valuation methods, including DAC and DORC, and ultimately adopted a value between its DAC valuation and Telstra's proposed DORC. The ACCC used its DAC value as a starting point, and made various adjustments to this value, ultimately arriving at a valuation which allowed it to maintain price stability for one of the fixed-line services (the ULLS), while allowing prices for other services to fall.[14] The valuation ultimately adopted by the ACCC ($17.22 billion as at 1 July 2009) was closer to its DAC valuation than Telstra's DORC value.
Initial asset valuations for Victorian electricity distribution businesses	Adjusted DORC	DORC used as a starting point, but with significant adjustments directed at ensuring uniformity of pricing for customers across urban and rural areas of Victoria. For businesses operating rural parts of Victoria, a downward adjustment to the estimated DORC values was required, while for businesses in metropolitan areas there was an upward adjustment to estimated DORC values.[15]
IPART initial asset valuations for NSW electricity distribution businesses	Adjusted DORC	IPART identified a range for the initial RAB value, between a value representing a roll-forward of a previous value (that previous value having been determined to deliver a particular price outcome[16]) and a DORC value. For some businesses IPART adopted the DORC value as its point estimate, while for other businesses there was a downward adjustment to the DORC value.[17] Where the initial RAB value was set below DORC, this was done so as to avoid real increases in distribution prices.[18]

[13] ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011.
[14] As noted by the ACCC in its final decision, while the ULLS price was to remain relatively stable under its valuation approach, prices for other regulated services would fall (ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, pp 44-45).
[15] Victorian Electricity Supply Industry Tariff Order 1995 (Vic), 5.10(b).
[16] IPART explains that the previous valuation was based on a public exchange of correspondence between IPART and the Government, in which IPART set electricity prices having regard to, among other things, an average 20 per cent real price reduction target for the industry as a whole (IPART, Pricing for Electricity Networks and Retail Supply: Report, Volume I, p 51).
[17] IPART, Pricing for Electricity Networks and Retail Supply: Report, Volume I, section 5.
[18] IPART, Pricing for Electricity Networks and Retail Supply: Report, Volume I, p 69.

Decision	Method	Summary of reasoning
OffGAR access arrangement decision for the Mid-West and South-West Gas Distribution Systems	Adjusted DORC	DORC used as a starting point, but with reductions to ensure that resulting tariffs would be consistent with an acceptable tariff outcome for consumers.[19]
IPART access arrangement decision for the NSW gas distribution network	Hybrid DAC / DORC	IPART adopted a valuation approximately halfway between the DAC and DORC valuations that were before it. The $1.55 billion valuation adopted by IPART was determined having regard to the 'feasible' range set by the DAC ($961 million) and the ODRC ($2.060 billion). IPART took into account both the likely impact of this decision on tariffs and the impact on AGL's financial viability.[20]
IPART price determination for Sydney Catchment Authority	Line in the sand	IPART adopted a 'line in the sand value' reflective of the underlying economic values for SCA assets indicated by Sydney Water's last price determination.[21]

The advice from Gilbert + Tobin to NHC (enclosed at annexure I) and the recent advice from Professor Menezes to the QCA confirm that the QCA has considerable discretion in establishing initial asset base value, for the purposes of determining a reference tariff. There is clearly no one correct approach to valuing the initial asset base. The QCA needs to exercise its judgement in selecting an appropriate methodology and in applying that methodology.

3.2.1.2 QCA approach in its 2014 Draft Decision

In its 2014 Draft Decision, the QCA adopted an 'adjusted DORC' method for valuing the initial asset base.

NHC considers that the adjusted DORC method adopted by the QCA is reasonable, and that it would be open to the QCA to again adopt this method for the purposes of determining reference tariffs in its decision on the 2015 DAU. However we reiterate that other methods, such as DAC, would also be open to the QCA.

We note that the QCA's chosen method is likely to be conservative, in the sense that it is more likely to overstate (rather than understate) the value of the West Moreton System assets. This is because, while the value adopted by the QCA is notionally an 'optimised' value, it is not clear to NHC that the asset base has in fact been appropriately optimised for the purposes of this valuation. In particular:

[19] OffGAR, *Final Decision: Access Arrangement – Mid-West and South-West Gas Distribution Systems – Submitted by AlintaGas*, June 2000, Part A, pp 12-14.
[20] IPART, *Final Decision: Access Arrangement for AGL Gas Networks Limited Natural Gas System In NSW*, July 2000, p 82.
[21] IPART, *Sydney Catchment Authority – Prices of Water Supply Services: Medium-term price path from 1 October 2000*, September 2000, p 17.

(a) **Demand assumptions**. While there has clearly been a significant decline in demand for services on the West Moreton System, the asset base does not appear to have been optimised for this lower level of demand.

(b) **Technology / infrastructure assumptions**. It is not clear whether the DORC valuation adequately accounts for the fact that much of West Moreton System infrastructure is obsolete and imposes high costs on users. For example, use of out-dated below-rail infrastructure in the West Moreton System impacts on the above rail operator's ability to invest in more efficient modern locomotives, thus increasing above-rail costs for NHC and other users (see details below). It is not clear to NHC whether the adjusted DORC method adopted by the QCA adequately accounts for the fact that much of the West Moreton System comprises old, inefficient, and in some cases obsolete, infrastructure. NHC considers that, as for life-expired infrastructure, the cost of any obsolete infrastructure should not be included in a DORC valuation.

Given this, NHC considers that a properly optimised DORC value (appropriately adjusted for life-expired assets) is likely to lie below the QCA's value.

NHC reiterates its view that the QCA ought to have regard to, among other things, the impact of its decision on the initial asset base on tariff outcomes. In considering what methodology to apply (e.g. whether to apply DAC or DORC) and how to apply it (e.g. whether to make adjustments to DORC), it is relevant to consider the impact of these decisions on tariff outcomes for users, and the ultimate impact on service demand. If use of a particular methodology is likely to lead to an uncompetitive tariff which is then likely to lead to a consequent reduction in network utilisation, this should indicate that it is not appropriate to adopt that methodology.

3.2.1.5 QR approach in the 2015 DAU:

In the 2015 DAU proposal, QR has rejected the reasoning of the QCA in the October 2014 Draft Decision and maintained its proposal for an unadjusted DORC valuation.

QR seeks to justify its proposal on the basis that:

(a) "the standard approach to establishing the opening regulated asset value is based on DORC";[22] and

(b) "regardless of the age and condition of the assets, the application of standard regulatory principles requires a forward-looking DORC valuation for the purpose of establishing a ceiling price".[23]

As Table 1 above demonstrates, the statement that DORC is a "standard approach" is simply not true. DORC is one methodology that is taken into account by regulators, but it is by no means the only one. Further, DORC valuations are frequently adjusted and various methodological judgements are made in applying the DORC method. It cannot be said that there is uniform regulatory practice of applying a "standard" DORC method.

Further, as discussed above, we do not agree that the purpose of the asset valuation should be confined to establishing a ceiling tariff. Rather, we consider that the QCA should be seeking to establish an appropriate reference tariff, and for this purpose it should adopt the asset valuation method that it considers most appropriate, having regard to the statutory criteria.

We also note that, even if DORC were considered to be the appropriate method in this case, the QR DORC would require significant adjustment. The required adjustments would include:

[22] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 32.
[23] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 33.

(a) **Removal of life expired assets**. NHC agrees with the QCA's draft position (2014 Draft Decision) that life-expired assets should not be included in the DORC valuation. As noted by the QCA, it is reasonable to consider that these assets have been fully depreciated and including them would amount to 'double counting'.[24]

(b) **Optimisation for lower demand**. As noted above, demand for services on the West Moreton System has declined considerably since the 2009 DORC valuation exercise was conducted. However, QR does not appear to have adjusted its DORC value to reflect lower levels of forecast demand.

(c) **Obsolete infrastructure**. As previously noted by the QCA, it is important that the approach to valuation, and therefore the implied condition of the network, is consistent with the maintenance and capital spending required to keep the network fit for purpose.[25] It would be inconsistent for the valuation to reflect a network that is in good condition, when in reality the network needs a high level of maintenance and capital expenditure to keep it fit for purpose. This implies that where assets are in fact obsolete or require a high level of ongoing maintenance, they should not be valued at new or replacement cost. Rather, the DORC value should reflect either a highly depreciated value for these assets, or a zero value where they are entirely obsolete.

NHC submits that, if a DORC method is to be adopted, the QCA should at least make the above adjustments to the QR valuation, in order to ensure a reference tariff that is consistent with the statutory criteria.

3.2.2 Forecast capex

NHC notes substantial increases in forecast capital expenditure despite volume reductions. The significant redacted information limited our ability to fully comment.

NHC engaged Balance Advisory to review the proposed Capital expenditure and the Asset Management Plan. The Balance Advisory reports are attached (Annexure E and F).

Balance Advisory notes a number of deficiencies including:

(a) no connection between maintenance, capital renewals, capital improvements and capital expansion investments;

(b) the absence of clear linkage to demand levels from customers;

(c) the over-riding focus on capital expenditure in the absence of an affordability and 'fit for purpose' context; and

(d) significant lack of detail on the current asset condition (including metrics) and lack of detail on the scope and development of estimates and investment outcome metrics;

(e) no consideration of alternative controls to manage risk rather than investment only; and a lack of clarity on what the asset goals are.

The capital program has the appearance of a 'wish list' rather than a rigorously analysed and scoped program. Due to the lack of transparency only a few items are able to be meaningfully benchmarked. Re-sleepering costs seem to be around 50% higher than comparable benchmarks. We can only conclude that the capital costs are inefficient and if accepted will unreasonably inflate the asset base.

[24] QCA, *Draft Decision: Queensland Rail's 2013 Draft Access Undertaking*, October 2014, p 138.
[25] QCA, *Draft Decision: Queensland Rail's 2013 Draft Access Undertaking*, October 2014, p 136.

We note that the required level of on-going capital expenditure and maintenance is relevant to the assessment of the asset value.

3.2.3 Depreciation charge

NHC relies on QCA to review this item, and will comment in response to the draft decision.

3.2.4 Forecast asset value roll-forward

NHC relies on QCA to review this item, and will comment in response to the draft decision.

3.2.5 Return on assets

NHC relies on QCA to review this item, and will comment in response to the draft decision.

3.2.6 Maintenance costs

NHC is severely constrained in its ability to comment on maintenance costs due to limited nature of the information provided by QR. Despite this challenge, we engaged Balance Advisory to review QR's claims and to compare QR's costs against relevant benchmarks. The Balance Advisory report (Annexure H) concludes that QR's maintenance costs are of the order of three times the cost of maintaining the New South Wales grain branch lines and selected other benchmarks. Balance Advisory states that, should QR's maintenance costs be adjusted for efficiencies, the average maintenance cost would reduce from approximately $28.6m per annum to under $9.5m per annum.

In addition to the specific comments from Balance Resources regarding QR's expected expenditure, NHC has two more general concerns with QR's proposed operating and maintenance cost allowance:

(a) first, NHC does not consider it appropriate for operating and maintenance costs to reflect the high cost of maintaining an ageing network, in circumstances where a replacement cost method is used for valuing the initial asset base; and

(b) secondly, we consider that the proposed allowance does not properly account for the expected decline in demand for services on the West Moreton System.

Each of these concerns is explained below.

Maintenance and the optimised network

As noted above, QR have proposed a DORC method for valuing the initial asset base. By proposing a DORC method, QR is effectively asking users to pay for the capital cost of an optimised and modern equivalent asset.

However, QR's operating and maintenance cost allowance does not reflect the cost of a new and efficiently designed network. Rather, QR is seeking to recover the much higher operating and maintenance costs associated with an ageing network. Indeed, QR is forecasting annual maintenance costs over the period 2015-16 to 2019-20 to be higher than what was actually incurred over the last two years, due to additional allowances being made for asset management costs, rail renewal and rail management.[26]
NHC considers that QR should not be compensated for:

(a) the capital costs associated with an new and optimally designed network, and at the same time

(b) the operating and maintenance costs associated with an ageing network.

[26] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 43.

As previously noted by the QCA, such an approach would lead to QR being overcompensated for the regulatory and commercial risks involved in providing access.[27]

NHC submits that the QCA should determine an operating and maintenance cost allowance that is consistent with the approach taken to asset valuation. This means that if a replacement cost valuation method is adopted, users should not pay for the maintenance costs of an ageing network. On the other hand, if QR is to be allowed to recover the prudent maintenance costs associated with its ageing network, an alternative asset valuation method (such as DAC) may need to be adopted. Even if the QCA were to adopt an alternative historic cost approach to valuing the asset base, it would still be necessary to assess the prudency of QR's maintenance cost claim. For the reasons set out below, the failure of maintenance costs to fall with substantial reductions in demand is strong evidence of a lack of prudency.

Relationship between operating and maintenance costs and demand

As noted above, QR is forecasting annual maintenance costs over the period 2015-16 to 2019-20 to be higher than what was actually incurred over the last two years.[28] QR states that it has considered the impact of declining demand on its expenditure requirements, but that the impact of declining demand is outweighed by the factors contributing to higher maintenance costs, such as higher asset management, rail renewal and rail management costs.[29]

It is both remarkable and implausible that in the face of significantly falling volumes, QR could prudently seek to recover an increase in maintenance costs. The general causal link between maintenance and rail volumes is long established, and has been the basis for assessing prudency of maintenance in the past by the QCA.[30] NHC is therefore concerned that QR has not adequately taken into account the impact of declining demand on its operating and maintenance expenditure requirements.

While an element of operating and maintenance expenditure may be fixed, it cannot be entirely fixed over the regulatory period. A very substantial reduction in demand of the kind now being forecast must be reflected in a prudent response of substantial expenditure reductions. However such reductions are not forecast by QR.

In assessing the prudency of QR's proposed expenditure, the QCA should consider the relationship between demand and operating and maintenance costs and ensure this is reflected in expenditure allowances.

3.2.7 Operating costs

QR's forecast operating costs, in common with forecast maintenance costs, suggests that there is no opportunity to reduce costs despite substantial forecast reductions in demand. On this basis, we suggest that QR's forecast operating costs are unlikely to be prudent.

Beyond these general comments, NHC is severely constrained in its ability to comment on operating costs, due to limited nature of the information provided by QR. QR's approach appears to be based on escalation of its actual FY2013 costs. We rely of QCA to review this items including:

(a) Assessing whether the FY2013 actual costs were efficient; and

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[27] QCA, *Draft Decision: Queensland Rail's 2013 Draft Access Undertaking*, October 2014, p 136.
[28] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 43.
[29] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 43.
[30] For example, in assessing Aurizon Network's proposed maintenance cost allowance underpinning its 2014 DAU, the QCA took into account the expected impact positive relationship between volumes and maintenance costs. The QCA made an explicit adjustment to the maintenance cost forecast to reflect revised volume forecasts, with this adjustment based on estimates of the elasticity of maintenance costs with respect to demand (QCA, *Draft Decision: Aurizon Network 2014 Draft Access Undertaking – Maximum Allowable Revenue*, September 2014, pp 109-110).

(b) Whether incurring the same real cost for an eight year period (through to FY2020) remains efficient.

3.3 Allocation between coal and non-coal traffics

3.3.1 Allocation of the opening asset value

QR proposes that the general train path allocator – which is applied to the opening asset value and operating expenditure – be based (for both the numerator and the denominator) on forecast train paths, where forecast train paths for both coal and non-coal services are based on the best available information on likely usage. QR's proposed train path allocator differs markedly from that applied by the QCA in its 2014 Draft Decision.

QR argues that under the QCA's method, which is based on available paths (for the denominator) rather than expected usage, it will be prevented from recovering all of the efficient costs of providing access to the rail infrastructure, to the extent that there are any unused paths.[31] QR considers that for this reason, the QCA's method is inconsistent with the pricing principles in the QCA Act.

3.3.1.1 General train path allocation methodology

Appropriateness of QR's proposed methodology:

NHC does not consider that the general train path allocation method proposed by QR is appropriate. QR's proposed general train path allocator is:

forecast coal path usages / total path usages

The allocation is subject to certain adjustments, being the cap on the opening asset value allocation to coal, and the adjustment for pre-1995 metropolitan constraints.

Under the proposed general train path allocation methodology, the risk of declining demand from unregulated services would largely be borne by users of regulated services. Since the denominator in QR's proposed allocator is based on usage (rather than available capacity), any decline in usage by unregulated services will, to a large extent, be compensated for by an increase in the share of costs recoverable from regulated services. In effect, QR is seeking protection through the regulatory framework governing coal tariffs from demand risk for both coal and non-coal services. NHC does not consider that this would be appropriate.

NHC accepts that the regulatory framework for coal services should provide QR with a reasonable opportunity to recover the efficient costs that are attributable to the supply of those regulated services, taking into account the statutory criteria in s 138(2) and s 168A of the QCA Act. However the regulatory framework for coal tariffs need not offer any assurance as to the recovery of costs attributable to other non-coal services. If demand for these services declines, the impact of this decline in demand should not be borne by users of the coal service. Rather, the risk of declining demand for non-coal services should be borne by QR.

QR states that the cause of the forecast decline in demand is that for non-coal freight, rail is being bypassed by road. This is a commercial risk that is rightly borne by QR, not by users of regulated coal services on QR's network. Further, QR has the ability to respond to this risk commercially – for example, by reducing non-coal freight charges – but instead has sought to have the cost of this bypass shifted so that it is borne by coal users.

QR's proposed method for allocation of costs will not promote efficient use of the West Moreton System assets. Since the risk of under-utilisation will largely be borne by users of the regulated

[31] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 46.

coal service, QR will face little incentive to promote efficient use of the system. Therefore, NHC considers that the QR approach to allocation would be inconsistent with the object of Part 5 of the QCA Act.

Appropriateness of the QCA's train path allocator

NHC considers that the train path allocator adopted by the QCA in its 2014 Draft Decision is appropriate.

The key advantage of the QCA's approach is that costs are allocated on the basis of available capacity, not usage. This avoids the problem associated with QR proposed allocator discussed above, that the risk of declining demand from non-coal services is being largely borne by users of regulated coal services. Further, NHC considers that the QCA approach is more consistent with the object of Part 5 of the QCA Act, since it provides stronger incentives for QR to drive efficient use of the available West Moreton System capacity – since the risk of under-utilisation by unregulated services would appropriately be borne by QR, it would face incentives to drive efficient use of the West Moreton System assets.

NHC does not agree with QR that the QCA's method would be inconsistent with the pricing principles in s 168A of the QCA Act. As discussed above, the regulatory framework need not (and should not) offer any assurance as to the recovery of costs attributable to services that do not fall within the same regulatory framework. The risk to cost recovery posed by declining demand for non-coal services is a commercial risk that is properly borne by QR, or which should be shared by non-coal users.

This view is supported by the advice from Gilbert + Tobin to NHC (enclosed at Annexure I). Gilbert + Tobin state:[32]

The QCA is not required to ensure that Queensland Rail can recover its costs across its regulated and unregulated activities, nor can it practically do so. Rather, the pricing principles simply require that where it sets a tariff for a regulated service, the QCA must have regard to the principle that the tariff should generate expected revenue that is at least enough to meet the efficient costs of providing access to the service.

In order to satisfy the pricing principles, what is important is that tariffs for coal services be expected to recover that portion of the cost base that is allocated to those services. It is up to Queensland Rail how it seeks to recover the remaining portion of the cost base that is allocated to other services.

Therefore, we do not agree with QR that the QCA's approach to allocation of the opening asset value will breach the pricing principles. Provided that QR has an opportunity to recover those costs that are attributed to coal services through the regulated coal haulage tariff, the first of the pricing principles will be satisfied. Accordingly, we consider that it would be reasonable and appropriate for the QCA to maintain the approach to allocation adopted in the 2014 Draft Decision.

Options for addressing the issue raised by QR regarding use of contract paths

While we consider the QCA method to be appropriate, we also recognise the issue raised by QR in its submission, regarding the use of contracted paths as the numerator in the allocation formula (i.e. the coal share) in circumstances where forecast demand exceeds contracted demand.

[32] Gilbert + Tobin advice to New Hope dated 03/06/15

In order to address this issue, the QCA's allocator could be modified so that the numerator is equal to the higher of contracted or actual coal paths. This would address the issue raised by QR in relation to the basis for forecasting coal demand, while maintaining the key feature of the QCA's approach, which is that the allocation to coal reflects the coal share of available capacity, based on coal's consumption (by actual usage or contracting) of available capacity, not the share of capacity which is currently in use.

In summary, we consider that allocation on the following basis is appropriate:

(a) For costs which vary with usage, the numerator and denominator should be the relevant causal factor (for example, gtks or train paths), where the relevant forecast coal units is the numerator, and the total forecast units is the denominator.

(b) For fixed costs:

  (i) the denominator should be system capacity

  (ii) for the numerator, consideration could be given to the use of contract, forecast, or the greater of these measures.

(c) Allocations must also be adjusted to reflect the cap on contracted coal paths, and the impact of metropolitan capacity constraints.

3.3.1.2 Cap on allocation of opening asset value to coal services

We support a cap on the allocation to coal services to reflect the limitations placed on the capacity which can be contracted to coal, but request that the QCA considers whether it is appropriate that this limit be applied only for the purposes of capping the allocation of the opening asset value (and not other fixed costs including subsequent capex). It appears inconsistent to NHC that the allocation of the opening asset value is capped, but if the relevant assets are replaced, the cap ceases to apply. Over time, this would result in the cap having no application, despite the potential continuation of the limitation.

3.3.1.3 Treatment of common network capex

Discussed in Section 3.3.4.

3.3.1.4 Adjustment to pre-1995 assets for metropolitan capacity constraints

We support an adjustment to the allocation to coal services to reflect the limitations placed on the use of assets by the metropolitan capacity constraints, but request that the QCA considers whether it is appropriate that this adjustment be applied only to pre-1995 assets (and not other fixed costs including subsequent capex). NHC's ability to use assets is equally impacted by metropolitan capacity constraints regardless of the year of commissioning.

NHC has engaged Balance Advisory to review the issue of the impacts metropolitan capacity constraints. The Balance Advisory report is provided as Annexure H. Balance Advisory considers that the analysis undertaken by QR understates the impact of restrictions in the suburban system on the operation of West Moreton System coal services. Balance Advisory considers that QR has not taken into account the actual consumption of paths by passenger services for restoring on-time performance nor the significant expected growth associated with a 30% increase in fleet size. The previous estimate of 22% by B&H (available on QCA website) is considered understated but more reflective of the actual impact.

3.3.2 Allocation of maintenance expenditure

We note that QR's proposed method of allocation between coal and non-coal is based on the relative proportion of forecast gtks – a method which, as was discussed in Section 3.3.1, we consider is appropriate only for the allocation of a variable cost which varies with the gtks hauled across the system. In the case of QR's maintenance costs, consideration must be given to whether allocation should be based on an assumption that maintenance is a fixed cost, or a variable cost, or should be allocated based on a blend of the approaches. In the event that QR successfully argues that it has little or no opportunity to reduce maintenance costs despite substantial reductions in volumes, we suggest that maintenance costs must be allocated using the method which is applied to fixed costs (i.e. coal usage/capacity). The inability to recover fixed costs as non-coal customers are lost (including in the recent past), is rightly QR's commercial risk; however the proposed allocation has the effect of transferring risk from QR to coal producers.

3.3.3 Allocation of operating expenditure

NHC relies on QCA to review this item. QR proposes to allocate operating expenditure between coal and non-coal based on forecast train paths. We note the substantial reduction in forecast non-coal traffic and the fact that QR forecasts no reductions in operating costs as a result of this loss of volumes. The inability to recover these apparently fixed operating costs as customers are lost is rightly QR's commercial risk; however the proposed allocation has the effect of transferring risk from QR to coal producers. We note that the method of allocation proposed in the 2014 Draft Decision (coal paths/available paths) did not cause this transfer of risk to coal producers, and provided QR with an appropriate incentive to maintain its customer base.

3.3.4 Allocation of forecast capex

NHC consider that forecast capex should be allocated between coal and non-coal using the same allocated as is applied to the opening asset base (discussed in Section 3.3.1). We accept that investment which is required for a particular type of service, and which provides no benefits to other services, should be allocated to the services which required the investment.

3.3.5 Forecast roll forward of allocated RAB

NHC relies on QCA to review this item.

Annexure A – Comparative rail cost data (indicative)

The competiveness of West Moreton System rail costs is a critical consideration because it is relevant to the assessment of:

- The risks of setting tariffs at too high a level.
- Whether asset values have been appropriately optimised.
- Whether the proposed tariff is consistent with each of the s.138(2) criteria, such as the interests of Access Seekers and the public interest and the efficient use of infrastructure.

The QCA recognised this in its July 2005 draft decision, where it concluded that the tariffs paid in other Queensland coal systems were an appropriate benchmark for West Moreton System reference tariffs, and recommended a tariff for the West Moreton System equivalent to the Moura system (the most expensive of the central Queensland systems at the time).

The table below demonstrates the extreme extent to which the proposed West Moreton System tariff is now out of step with below rail tariffs in other systems, particularly when converted to a cents per net tonne kilometre basis either for just the Access Charge or total rail costs.

Indicative Operator and Access Benchmarks	New Acland Western System	Moura	Hunter Valley Inner	Hunter Valley Outer	Blackwater System	Goonyella System
2015 Tariffs $/'000gtk	$21.70*	$13.00	$10.50	$13.60	$9.00	$7.00
Approximate haul distance (km)	225	170-200	90	400	300	200
Indicative Operator Charge $/tonne	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Indicative Access Charges $/tonne	$8.95	$4.00	$1.62	$6.80	$4.60	$2.30
Indicative Rail Cost $/tonne	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Allowable Axle Load	15.75	26	30	30	26	26
Estimated net tonnes per train	1,940	8,200	9,200	7,800	8,200	10,000
Indicative cents/ntk						
Above Rail	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Below Rail	3.98	2.16	1.80	1.70	1.53	1.15
Total cents per ntk	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

* Note two part tariff is equivalent to $21.70 which exceeds the notional headline tariff of $19.41. this is due to the AT_2 per path charge being greater than AT_1

The tariff proposed by Queensland Rail is clearly uncompetitive with other systems, especially when efficiencies are compared.

In each of these other systems, coal trains are able to run virtually 24 hours per day and to carry payloads of at least 7,000 tonnes and in some cases in excess of 10,000 tonnes. QR's proposal is to charge at least 130% more on a cents per ntk basis than the average access charge of 1.7 cents per ntk other systems, while providing a vastly inferior service.

New Hope does not consider this proposal to be reasonable. In order for below rail charges to be equivalent to the highest charges in other rail systems in cents per ntk terms, the proposed West Moreton System tariff would need to reduce by at least $3.60/tonne. However, when the additional

costs imposed on rail operations as a result of the poor below rail service standards are taken into account, for West Moreton System rail costs to be equivalent to the Moura system, the access charge would need to be no more than [redacted] to provide a competitive rail cost (operator plus access) on a cents per ntk basis.

Annexure B – Impacts of below rail on above rail costs

Annexure A provides indicative ranges of above-rail costs in various systems, compared to New Acland mine. The data indicates that New Acland pays [redacted] than the next most expensive above-rail cost in cents per ntk terms. The total cost disadvantage which West Moreton System producers suffer (above rail plus below rail) is estimated between [redacted] (compared to Hunter Valley Outer) and [redacted] (compared to Hunter Valley Inner) depending on comparators used. It should be noted that the Hunter Valley Outer has experienced significant recent increases following very significant capital upgrades, but with a compensating effect of more efficient above rail operations with axle load increasing from 25 to 30 tonnes.

The average cost of rail is estimated at [redacted] per tonne across the five benchmark corridors [redacted] This disadvantage is highly significant in the market for thermal coal.

The causes of the above-rail cost disadvantage all relate to the obsolete below rail service offering.

- **Low system volumes, caused by lack of below rail capacity:**
  Railways have enormous economies of scale. In the case of the West Moreton System, scale is limited by government endorsed restrictions on rail capacity allocated to coal, and legislatively imposed restrictions including passenger priority legislation. Low volumes in the West Moreton System result in higher unit costs of rail services due to loss of economies of scale, and a lack of competition resulting from insufficient scale to sustain more than one operator. This lack of scale also restricts the ability of mines to produce at an optimal mining operation scale, further impacting on unit costs of coal production and hence competitiveness.

- **Restricted operating hours:**
  The primacy of the passenger traffic in South-East Queensland results in an inability to run trains for 24 hours per day, because of the non-passenger train movement restrictions during the passenger peak and shoulder peak periods. Even outside of peaks, Queensland Rail operates a 15 minute frequency of passenger trains on a broad scale. There is also a 30% increase in the passenger fleet proposed within the life of this proposed Access Undertaking.

Beyond this, in recent years Queensland Rail has introduced regular 48 hour closures of the metropolitan system to facilitate the maintenance demands of passenger traffic. These 48 hour closures disproportionately impact coal services, which rely on weekend running to meet service requirements.

The 'blackout' periods and severe shoulder peak restrictions lead to scheduling disruptions for train crew and loss of train movement efficiency. These restrictions impact on the train crew hours required to operate train services as well as the size of the fleet required.

- **Short train lengths and low axle loads limit payloads:**
  The historical limitations of a rail network predominantly built for non-coal traffic result in restrictions to maximum train lengths (crossing loop length) and total axle loads (15.75t), resulting in inefficient payloads of 1,940t. This is very low when compared to 8,200 - 10,000t payloads in Central Queensland and 7,800 to 9,200t payloads in the Hunter Valley.

- **Operational limitations:**
  Operational limitations are a constant feature of the West Moreton System due to obsolete system attributes. This results in:

  - Frequent maintenance closures and consequential loss of throughput.
  - Frequent speed restrictions which impacts cycle times and throughput.

- Obsolete track geometry and signalling systems which impacts cycle time and throughput
- Inability to use modern locomotives primarily because of axle load and size restrictions. Modern locomotives are technically more efficient due to higher adhesion levels, lower fuel burn, lower emissions and lower wayside noise, all of which has a significant impact on our social licence to operate..

- **Prevention of effective above rail competition perpetuating the use of out-dated rolling stock:**
  The nature of the below rail infrastructure, including the 15.75 tonne axle load limit, represents a barrier to entry and reduces the feasibility of above-rail competition. New 15.75 tonne axle load locomotives are generally required to be custom designed and manufactured in low volumes and consequently are more expensive. In contrast with the other rail systems where above rail competition is vigorous, the below rail infrastructure constraints mean that producers have very limited options for encouraging competition in the above rail market.
  If the below rail service offering facilitated more above rail competition, new above rail operators would be more likely to invest and install heavier, longer and faster rolling stock. Additional costs of using the existing rolling stock include:

  - Lower tonnage throughput for the same number of train services and hence lower operator revenue opportunity;
  - Existing life expired locomotives are 30 to 40 years old with a fuel burn around 20-25% greater than the modern diesel engine technology.
  - Lower tractive effort locomotives constrain the maximum payload for two locomotives to less than 2000 tonnes per train consist.
  - Lower horsepower impacts the cycle time through lower average speed and therefore also increases crewing costs.
  - High maintenance costs due to more frequent servicing and unplanned maintenance of older rolling stock.
  - Increased spare part costs are incurred because of low volume manufacturing of out of date spare parts and redesign costs for spare parts substitution.

Annexure C – Sustainability of the proposed tariff

The sustainability of West Moreton System rail costs is a critical consideration because it is relevant to the assessment of:

- The risks of setting tariffs at too high a level.
- Whether asset values have been appropriately optimised.
- Whether the proposed tariff is consistent with each of the s.138(2) QCA Act criteria, such as the interests of Access Seekers, the public interest and the efficient use of infrastructure.

Thermal coal is a global commodity and West Moreton producers are competing in Asian markets on a landed cost basis against coals produced elsewhere in Queensland, New South Wales, the Atlantic (Colombia/USA/ South Africa) and Pacific rims (Indonesia/Russia). QR's uncompetitive tariff therefore has a significant detrimental impact on Western System coal producers' ability to compete in downstream markets.

C1: Free on Rail (FOR) and Free on Board (FOB) Cash Costs

The following graph illustrates the indicative Free on Rail (FOR) and Free on Board (FOB) cash cost curves for Australian coal mines adjusted for energy, and the position of the New Acland mine (NAC) on each basis. The cost curves have been estimated by [redacted]

REDACTED: FOR Cost Curve for Australian Export Thermal Coals (Energy Adjusted)

REDACTED: FOB Cost Curve for Australian Export Thermal Coals (Energy Adjusted)

NAC is in the [redacted] quartile on an FOR basis however once offsite costs are added, the mine's position on the cost curve deteriorates [redacted]. [redacted]
Therefore the shift from [redacted] largely attributable to rail costs.

C2: Is the proposed tariff sustainable?

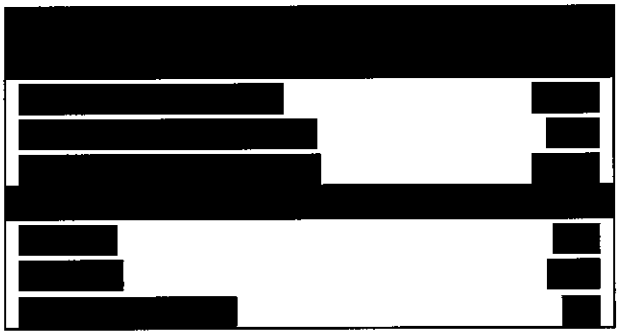
Annexure D provides some detail on costs and current operating margins to assist in demonstrating the risk that the proposed tariff is not sustainable. As stated elsewhere, NHC seeks a tariff which is competitive in the long term. Annexure A demonstrates that the proposed tariff fails this test. The purpose of the Annexure C data (which is short term) is to demonstrate that the uncompetitive tariff matters in terms of potential consequences. Rail comprises approximately [redacted]% of FOB costs which is proportionately much higher than other rail corridors. As discussed elsewhere in the submission, total rail costs on the West Moreton System are comparatively high due to a technically obsolete service offering from QR that causes rolling stock inefficiencies, which in turn lead to high above rail tariffs. NAC's ability to compete in downstream markets is severely compromised by uncompetitive rail costs. Furthermore future investment decisions are skewed towards higher costs mines on other more efficient rail corridors with a lower total FOB cost, leading to a loss of investment and increasing the likelihood of asset stranding on the West Moreton System.

C3: The market perspective

New Acland produces and markets a [redacted] The majority of New Acland Coal produced in the [redacted]

As shown in the table below, rail costs on the Western System have risen rapidly in the past 8 years whilst the AUD coal price has risen much less. [redacted]. This period has also seen significant coal price volatility - in extreme cases thermal coal index prices have halved in a 12 month period.

Comparison of Rail Cost Increases (including QRs 2015 DAU proposal) and Coal Price Increases (Confidential)



When compared against the volatile thermal coal price, and given the level of price competition in coal markets, annual but uncertain (of magnitude) increases in rail costs on the West Moreton System from an already high level will not be matched over a sustained period by the coal price. This leads to significant margin erosion for coal producers, a lack of incentive to invest and ultimately a death spiral for the below rail assets if the situation is not recognised and addressed.

It is also important to note that 100% of coal being transported on the Western System is thermal coal whereas other rail systems in Queensland are carrying predominantly metallurgical coal (e.g. Goonyella system), or at least a much lower percentage of thermal coal. FOB prices received for low ash thermal coal are significantly lower on average than for metallurgical coal. Therefore coal producers on the West Moreton System have the lowest revenue earning capacity per tonne of coal railed, but are asked to pay the highest tariff of all coal rail corridors, for the lowest quality asset.

In addition, the high increase in above rail charges over the period in question brings into focus two issues:

- the lack of competition and the impacts of the below rail service, as discussed in Annexure B; and
- the likelihood that QR's initial split of the integrated rail haulage rates into above and below rail allocated an insufficient amount to above rail. The split was associated with the requirement to have separate above and below rail accounts following the introduction of rail access regulation in Queensland over a decade ago. The effect of this is that the allocated above rail rate did not reflect the true costs of the haulage service and once haulage rates were renegotiated, the rail operator sought a rate that did in fact reflect the full costs of this service. The corollary of this is that the initial split of rates allocated an excessive amount to below rail, which was then treated as providing a contribution towards value of pre-existing infrastructure assets.

C4: Increases in West Moreton tariffs over time

Western System tariffs have increased as follows:

- 2005 draft decision $8.50/'000 gtk.
- 2006 decision $10.50/'000 gtk.
- 2010 decision $16.81/'000 gtk.
- 2015 QR claim $19.41/'000 gtk.

The notional $19.41 per thousand gross tonne kilometres is proposed by QR to be split into a two part tariff of $9.71 per thousand gross tonne kilometres plus a per train path tariff of $4,828. When the two part tariff is calculated it results in an access charge of approximately $8.95 per tonne for New Acland. The $8.95 per tonne is actually equivalent to a single tariff of approximately $21.70 per thousand gross tonne kilometres. The tariff is now proposed to increase to a level 2.1 times that of the 2006 decision level which was a single gtk based tariff, only nine years ago. Given that CPI has risen approximately 29% over this period, it is difficult to understand how such large increases can be justified in the context of the lower WACC which applies under current market conditions, a depreciating asset base and substantial volume increases over time (which have required only limited capital expenditure).

C5: Conclusion:

New Hope submits that the tariff proposed by QR is uncompetitive and that there is a real risk of adverse consequences in the event that such a tariff continues:

- Increases over time have been excessive and have, in large part, been driven by Queensland Rail's escalating demands for recovery of a DORC value of pre-1995 assets.
- The proposed tariff is at least 60% higher on a cents per ntk basis than the highest benchmark but for an inferior and obsolete service offering.
- The below rail service quality in this system has severe impacts on above rail costs and maintains a barrier to entry for new operators.

Annexure D

New Acland Coal costs and margin

Please note the information provided below is to give an indication of the extremely high proportion of New Acland's cost base which relates to rail costs.

The information on revenue and margin is less reliable, as that fluctuates with prices, [redacted] Additional explanatory notes are included in this Annexure below.

TABLE REDACTED

[redacted]

Annexure E

Balance Advisory Report on QR's Capital Submission

balance advisory

New Hope
Corporation Limited

Volume 2 - Annexure E
West Moreton Reference Tariff
2015 DAU Capital Submission
(May 2015)

5/06/2015

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Contents

Executive Summary

The projects undertaken during 2012/13 to 2014/15 have not been subject to significant scrutiny to determine if the scope and construction costs were prudent and efficient.

There are a number of legacy infrastructure problems that are arguably appropriate to be funded under a Government transport service agreement particularly where it is not clear who the funding agency should be. For example, funding level crossing and pedestrian crossing upgrades or government determined changes in radio frequency. The asset plan does not clarify this issue.

As a general comment, investment does not appear to deliver any tangible customer benefits or improve the competitiveness of the Western System. In the case of the Central Queensland Coal network, the introduction of protection equipment allowed increase in axle load limits as the impact loads were measured and monitored. Also the significant check rail works and concrete sleeper works should allow longer trains to operate now that there are fewer train services.

There still seems to be the absence of a well thought through asset strategy. It doesn't seem logical to upgrade bridges on both up and down lines when presumably from a competitive positioning perspective it is desirable to concentrate works on one line to allow an increase in standards for the loaded direction. Also, the scope is not sufficiently detailed in many of the items to give confidence that work is necessary or the highest priority areas are being targeted and that the cost estimates reflect efficient pricing.

Finally, the list of projects appears to have no regard for capacity to pay and there are arbitrary assertions that coal customers should pay. For example, partial replacement of axle counters and re-use of spares may be more economical than full replacement.

Abbreviations

ARTC – Australian Rail Track Corporation

CRIA – Country Rail Infrastructure Authority

IPART – Independent Pricing and Regulatory Tribunal

1. Introduction

This paper provides comment on Appendix 3 Capital Submission. The submission been reviewed by Balance Advisory consultants having considerable infrastructure and commercial experience.

2. Pre 2015 DAU Projects

The projects undertaken during 2012/13 to 2014/15 have not been subject to significant scrutiny to determine if the scope and construction costs were prudent and efficient.

It is noted under Item 4 West Moreton Timber Bridge Upgrades both up and down bridges were being replaced. As part of a coherent asset strategy we would expect only the loaded direction (down track) to be replaced unless there was a good reason to do up and down bridges together.

Items 9, 10 and 11 would appear to be projects normally undertaken as part of a government program.

Item 12 Siemen's axle counters appear to be the first stage in a total replacement program for the Siemen's 350 axle counters. It is not clear in the submission why a proportion only would be replaced to provide maintenance spares.

Item 15 Corridor and Asset Protection Strategy includes a number of protection systems. It is not clear from the submission if there are tangible benefits such as the ability to operate at slightly higher axle loads. The strategy should be part of an overall asset strategy aimed at improving the competitiveness of the western system.

3. 2015 Proposed Capex (2015/16 to 2019/20)

Item 1 Slope Stabilisation of Toowoomba Range lacks specific location information. This is a costly program estimated in excess of $8.4m so it is expected to be scoped in more detail. The lack of detail brings into question the accuracy of the estimate.

Item 2 Formation Repairs is again a costly program. While a scope of 5.65km per year is proposed, more detailed scoping would normally be expected to develop the estimate per location. A robust asset plan would identify exact locations for repair and estimated costs. QR has not provided justification why the work is only for coal services.

Item 3 Timber and Steel Bridge Elimination includes several up and down bridges in the scope. Balance Advisory is of the opinion that a robust asset strategy would prioritise the replacement of bridges in loaded or down direction. Again it is unclear why the replacements are coal specific given coal trains are loaded in one direction only.

Item 4 Replacement of Timber and Steel Bridges with Culverts lacks justification why this is a coal specific investment.

Item 5 Drain Renewals estimated in excess of $8.1m is a significant cost. It is clearly a long term legacy problem and Balance Advisory questions why this is not funded under the Transport Service Contract.

Item 6 Check Rail Curves provides good location information. As a very expensive program there should be benefits such as the ability to run longer trains now that there are fewer paths being used. QR should provide more tangible benefits for such large investments.

Item 7 Relay Program consists of ostensibly relaying 11.86 km of track for in excess of $14.8m. The absence of specific location information does not give confidence that the scope is well considered. The unit cost of approximately $1.25m per km is high by usual benchmarks. For example, Sapere research group in their report "Maintenance costs for grain branch lines in NSW – FINAL report to IPART estimated the cost of $170 to $220 per sleeper inserted based on information provided by CRIA. Adjusting for 2015 dollars gives a range of $182 to $235 per sleeper in 2015 dollars. On a per kilometre basis, the resleepering costs approximately $0.475m. The ARTC completed projects list identifies Broken Hill to Parkes Concrete Resleepering project as having completed 691km of track for $260.244m in mid-2012. Even allowing for inflation, the cost is approximately $0.4m per kilometre for resleepering only. The additional cost of re-railing in association with resleepering is quite incremental, particularly now that steel prices have reduced.

Item 8 Re-railing Program for 17.35km of track at a cost of over $9.4m also exceeds usual benchmarks. The program lacks details of the specific location for re-railing again questioning the robustness of asset planning. A unit cost of $0.54m per km is also above usual benchmarks.

Item 9 Steel Bridges acknowledges that the scope is unknown and that $2m is a nominal figure.

Item 10 Level Crossing Upgrade Program is a program to address legacy deteriorated sleepers at level crossings. It is not clear why this will specifically benefit coal services.

Item 11 Level Crossing Compliance and Item 12 Pedestrian Crossing Upgrade Program are understood to be required under a risk based assessment. Given reduced train services it is assumed the risk rating of some crossings would have improved unless the catalyst for the upgrades are motor vehicle numbers or pedestrian movements. QR should give consideration to seeking government funding for these types of programs.

Item 13 Siemens Axle Counters. As noted above, it is not clear in the submission why a proportion only would be replaced to provide maintenance spares to keep the older units supported in service.

Item 15 Corridor and Asset Protection. As noted above, it is not clear from the submission if there are tangible benefits such as the ability to operate at slightly higher axle loads. The strategy should be part of an overall asset strategy aimed at improving the competitiveness of the western system.

Item 23 Upgrade Asbestos Loc Boxes. This appears to be a legacy issue predating coal operations. Again QR should give consideration to seeking government funding for these types of programs.

Item 24 Train Radio Network Replacement Project is understood to be a mandatory change required by the Australian Communications and Media Authority. QR should give consideration to seeking government funding for these types of programs.

Annexure F

Balance Advisory Report on QR's Asset Management Plan

balance advisory

New Hope
Corporation Limited

Volume 2 - Annexure F
West Moreton System
Asset Management Plan 2015/16

5/06/2015

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Executive Summary

Balance Advisory has reviewed the West Moreton System Asset Management Plan 2015/16 and provided a brief assessment of the plan.

The plan appears to be 'investment led' to achieve lower maintenance costs. There appears to be no evidence of assessment of the least total cost (capital and maintenance) and the tables in the appendices appear to be high level budgets rather than plans.

Shortcomings of the asset plan include:

- no connection between maintenance, capital renewals, capital improvements and capital expansion investments;
- the absence of clear linkages to demand levels from customers;
- the over-riding focus on capital expenditure in the absence of an affordability and 'fit for purpose' context;
- significant lack of detail on the current asset condition (including metrics) and lack of detail on the scope and development of estimates and investment outcome metrics;
- no consideration of alternative controls to manage risk rather than investment only; and
- a lack of clarity on what the asset goals are.

QR would help build trust by providing forums for meaningful engagement and complete transparency with customers on the asset plans.

Abbreviations

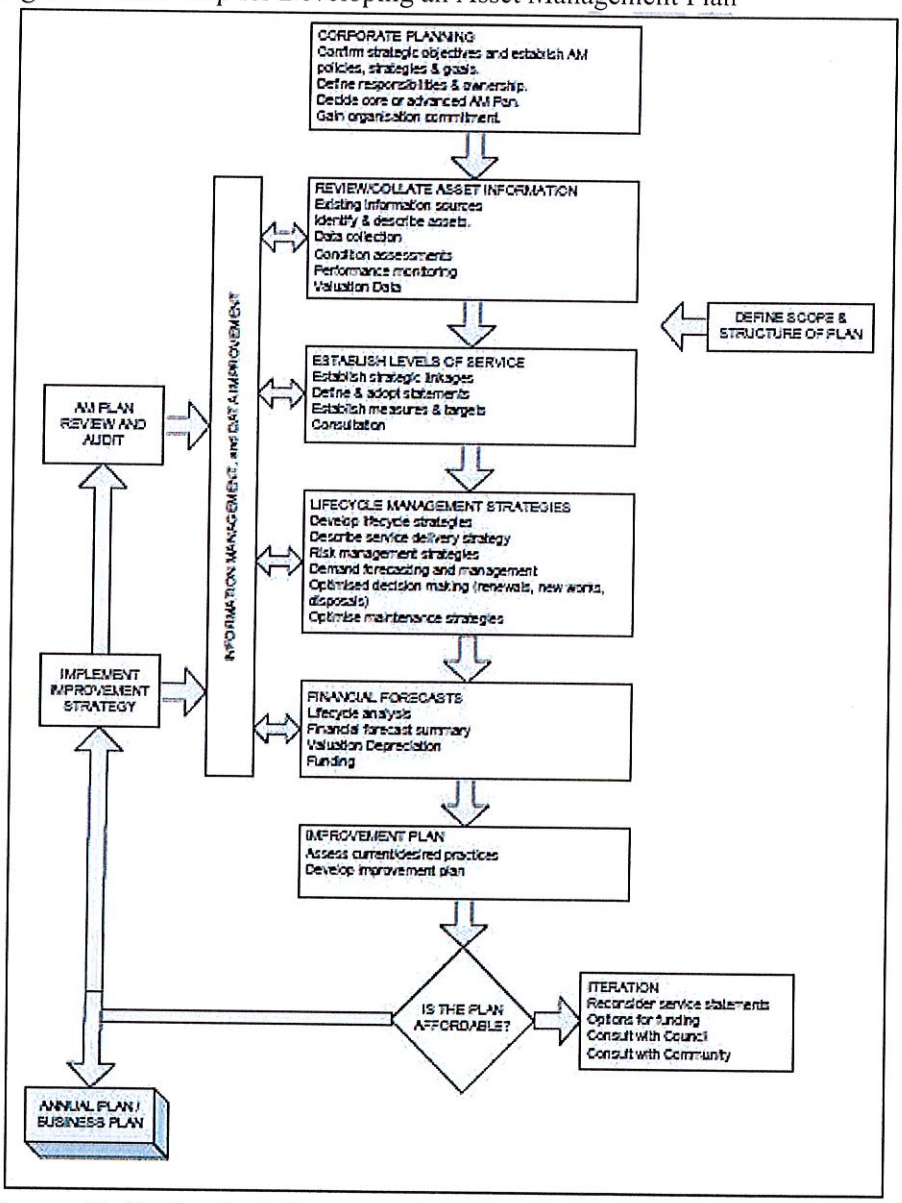
QR	Queensland Rail
TAL	Tonnage Axle Limit

1. Introduction

One Balance Advisory consultant having extensive rail infrastructure experience and another having extensive general rail executive and management experience have reviewed the asset management plan. The consultants experience has included asset management planning.

Figure 1 below shows a useful road map for the development of an asset management plan which may be a better model for QR to consider.

Figure 1. Road Map for Developing an Asset Management Plan



(Source: Guidelines for Infrastructure and Asset Management Plan Template, Local Government Association of South Australia, Draft Version 6, September 2006)

2. Comments on Asset Management Plan

2.1. General Comments

While it is stated by QR that ...*The West Moreton Asset Management Plan (AMP) is based on internationally recognised asset management principles(p3)*....there are a number of significant shortcomings with the plan including:

- the disconnection between maintenance, capital renewals, capital improvements and capital expansion investments;
- the absence of clear linkages to demand levels from customers;
- the over-riding focus on capital expenditure in the absence of an affordability and 'fit for purpose' context;
- significant lack of detail on the current asset condition (including metrics) and lack of detail on the scope and development of estimates and investment outcome metrics;
- the consideration of alternative controls to manage risk rather than investment only; and
- a lack of clarity on what the asset goals are.

A key driver for QR appears to be ...*any decrease in tariff will cause an increase in the TSC funding requirements (p6).* There are other options to avoid impact on the TSC such as more efficient practices and more focus on 'fit for purpose' standards.

Figure 1 includes the key requirements of affordability and consultation. The plan would benefit from extensive consultation with customers while providing complete transparency.

Below are some more specific comments for different rail assets.

2.2 Track and Civil Assets (Section 4.3)

This section could benefit from more specific information such as where are the specific locations of 41kg rail? Also 41 kg rail per se is not a problem other than it has a smaller wear allowance. In other parts of Queensland 41 kg rail has been previously considered acceptable for higher axle loads of 20 tonne axle limit (TAL) e.g. North Coast Line and the Mount Isa Line.

There doesn't appear to be adequate justification for 200km of formation to be upgraded. Specific locations of poor formation should be included in the plan. What measurements were taken? The current axle load is very low by world standards and have other solutions or controls been considered other than significant investment?

The metres of bridging in concrete, steel and timber lack specific detail on locations. Has there been a coherent strategy to achieve customer outcomes such as increasing axle load? Can increases in axle load be achieved with other controls, e.g. there are bridges which have a lower allowable speed of 60kph to control the impact load risk of say 20 TAL.

The asset strategy on page 14 could benefit from supporting analysis. For example, *The strategy for the West Moreton system is to reduce maintenance per tonne by delivering low maintenance innovative solutions*..... The list of investments that followed on page 14 suggests a high capital solution. From a customer perspective lowest total cost (including capital and recurrent expenditure)

is a greater goal than a solely "low maintenance" solution. It is not evident that maintenance activities and methods have been optimised.

2.3 Signals, Control and Train Protection Assets

It is understandable there are problems with technology obsolescence. There are proposals to expand protection systems to new locations. This should provide the opportunity to consider increasing limits in a more controlled environment. Again there appears to be a lack of commercial context for the investments and replacement strategy.

2.4 Telecommunications Assets

Significant investment has been identified. There is no evidence of other alternatives having been considered. Again there appears to be no consideration of affordability.

2.5 Resourcing and Corridor Delivery Strategy

Predictable maintenance closures are desirable as per the A, B, C, and D cycle. Resourcing has a scant reference but there is no discussion of how the works can be undertaken at lowest cost.

2.6 Capital Program

The graph on page 21 highlights a significant "growth" related purpose investment of the order of $50-$60m. Based on the expected low levels of non-coal volumes this investment is counter-intuitive. It is also not clear what investments are TSC related or expected to be funded from coal and other traffics.

2.7 Maintenance Plan

Section 7 provides a redacted table of a series of budgets which limits our ability to undertake any significant assessment. Attachment 2 purports to be a maintenance plan but it is effectively a redacted list of budget expenditure items. We would have expected a maintenance plan to have significant detail of planned maintenance tasks aligned with resourcing and maintenance closures. Routine maintenance not requiring closures would also be identified.

There may also be alternative ways of organising closures that reduce the cost of works such as resleepering. For example one line in South Africa is closed for 10 days to facilitate the annual major periodic maintenance program.

Annexure G

Balance Advisory Report on QR's Maintenance Submission

balance advisory

New Hope Corporation Limited

Volume 2 - Annexure G
West Moreton Reference Tariff
2015 DAU Maintenance Submission
(May 2015)

5/06/2015

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Executive Summary

Balance Advisory has reviewed the QR Maintenance Submission and sought comparable benchmarks to assess QR efficiency.

Balance has concluded that QR maintenance costs are of the order of three times the cost of efficiently maintaining New South Wales grain branch lines and selected other benchmarks. The cost of resleepering exceeds a benchmark by more than $5.1m.

Should QR's maintenance costs be adjusted for efficiencies, based on our analysis, the average maintenance cost would reduce from approximately $28.6m per annum to just under $9.5m per annum.

Abbreviations

ARTC	Australian Rail Track Corporation
MPM	Major Periodic Maintenance
QR	Queensland Rail

1. Introduction

Balance Advisory has reviewed QR's Maintenance Submission. A detailed review has not been possible because of the limited disclosure by QR. In the absence of a detailed review, Balance has reviewed relevant benchmarks to compare with the high level information provided.

Comments of QR's maintenance submission are included below.

2. Comments on QR's Maintenance Submission.

2.1. Resleepering

Table C18-1 identifies 56,848 sleepers are proposed to be replaced by mechanised maintenance. Table 8.5 identifies a cost of $16,987,000 for resleepering which represents a cost of $298.81 per sleeper. Sapere research group in their report "Maintenance costs for grain branch lines in NSW – FINAL report to IPART, April 2012 estimated efficient costs of $170 to $220 per sleeper inserted. Adjusting for current prices gives a cost per sleeper inserted of $182 to $235 in 2015 dollars. Balance Advisory considers that a well-run and efficient program could achieve even lower costs per sleeper inserted. Assuming an average figure of $208.50 (half way between $182 and $235), suggest, the proposed cost of $16,987,000 would reduce to $11,852,808. This suggests inefficiencies in excess of $5.1m.

It could be questioned whether previous resleeping programs were also inefficient leading to higher than necessary tariffs.

2.2. Structures Maintenance

Table 8.3 of QR's submission indicates an average of $4.074m per annum for structures maintenance. Efficient major periodic maintenance for structures was estimated by Sapere at $1,739 per kilometre or $1,889 per kilometre in today's prices as a 10 year average. We appreciate there are geographical differences with comparisons. Assuming 430km of track, the MPM cost of the QR structures would be approximately $0.812m compared with the much higher QR figure. The Sapere estimate does not include routine maintenance; however a separate routine maintenance figure is accounted for below.

Given that there are also significant capital proposals associated with structures, there appears to be either massive inefficiencies, excessive scopes of works or significant legacy issues most likely predating coal operations.

2.3. Other Major Periodic Maintenance

Sapere have also estimated non-sleeper MPM at $8,593 per km per annum or $9,335 per km per annum in today's prices

2.4. Routine Maintenance

Sapere research group in their report "Maintenance costs for grain branch lines in NSW – FINAL report to IPART provided estimates of efficient routine maintenance and major periodic maintenance.

Sapere estimated efficient routine maintenance charges to be $6,294/track-km/year in 2012 dollars. Applying 6.84% CPI adjustment provides an estimated $6,725/track-km/year in 2015 dollars.

Routine maintenance excludes all major periodic maintenance and capital works.

Total Maintenance Cost

It is noted in Section 1 that the annual 'coal' maintenance cost ranges from $41.1m to $22.4m and average $28.6m per annum. Assuming there are approximately 430 track kilometres for the Western System, the maintenance cost is equivalent to around $66,000 per kilometre.

The average cost per kilometre of maintenance costs estimated by Sapere was $20,043 per km or $21,775 per km in 2015 prices.

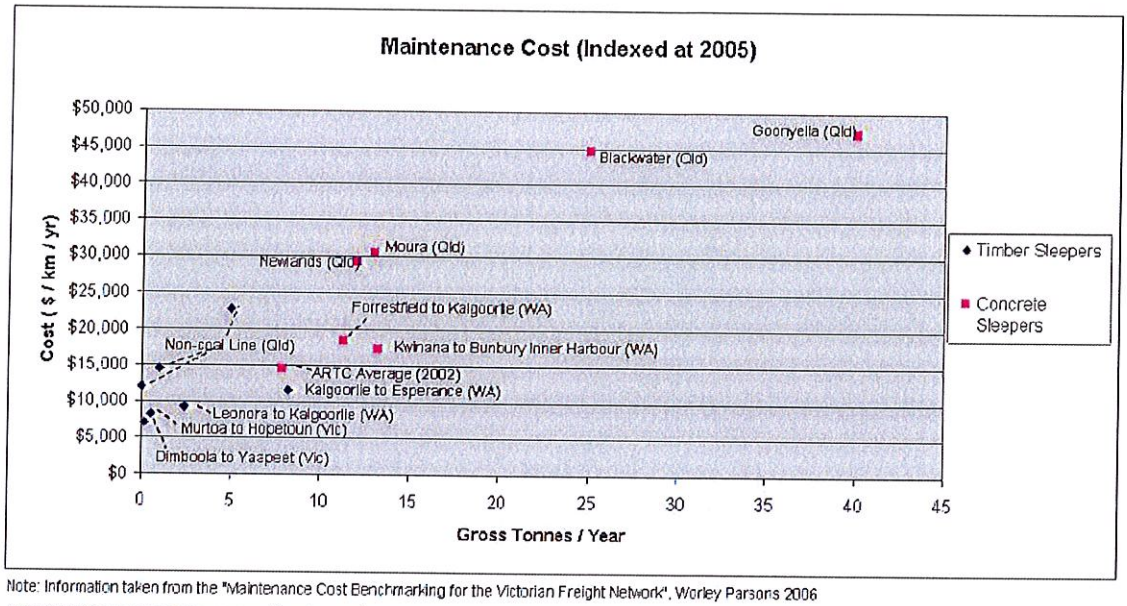
Apart from the more recent coal commencement, grain has been the foundation of traffic on the Western System. Until the last decade the average grain haul was 1.7million tonnes per annum with peaks of up to 2.5 million tonnes. While there are some differences between Grain lines in New South Wales and the Western System, there are certainly similarities.

It is difficult to explain the significant difference between the QR maintenance cost and the Sapere estimate. With QR costs estimated at three times the benchmark, it raises a number of questions about:

- Prudency of scope;
- Prudency of expenditure; and
- State of the asset and its inherent value.

While one reference is used above, the ARTC Melbourne-Brisbane Inland Rail Alignment Study Final Report July 2010, Appendix K Operating Cost of Infrastructure also had similar benchmarks if adjusted to 2015 prices. Graph and table from the report are extracted for information below.

It is noteworthy that the higher benchmarks were all Queensland ones.



Note: Information taken from the "Maintenance Cost Benchmarking for the Victorian Freight Network", Worley Parsons 2006

Note: ARTC Average has a large proportion of concrete

Figure 3-1 Variation of benchmark maintenance costs with traffic volume

Table 3-1 Summary of maintenance costs benchmarks (WorleyParsons 2006)

Region	Traffic details	Assumed traffic level cost drivers	WorleyParsons benchmarks (per km per year)			Other benchmarks (per km per year)	
			Bench-mark	RM	MPM	higher	lower
Regional Fast Rail network	160kmph passenger railcar, freight at 80 km/h, 19t axle load	Regional Fast Rail operation	$21,400	$10,361	$11,039	Moura $29,350	Kwinana to Bunbury $17,292
Residual passenger network	115kmph loco hauled passenger, freight at 80km/h, 19t axle load	Residual passenger, suburban, or freight greater than 5 MGT	$18,412	$5,746	$12,666	Qld Major trunk $22,750	ARTC $14,582
Class 2 & 3 freight only lines	freight at 80 km/h, 19t axle load	freight rail 0.5 to 5 MGT	$15,815	$5,337	$10,478	Qld Major trunk $22,750	Leonora to Kalgoorlie $9,274
Class 4 & 5 freight only lines	freight at 50 km/h, 19t axle load	freight rail less than 0.5 MGT	$9,894	$2,735	$7,159	Qld 'fringe' grain lines $12,000	Yaapeet $7,013

Source: *Maintenance Cost Benchmarking for the Victorian Freight Network*, WorleyParsons, Jan 2006

Annexure H

Balance Advisory Report on Metropolitan impacts

balance advisory

New Hope
Corporation Limited

Volume 2 - Annexure H
Impact of Metropolitan Network on West Moreton Network Capacity May 2015

5/06/2015

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Balance Advisory considers the analysis undertaken by QR in Appendix 5 understates the impact of restrictions in the suburban system on the operation of Western System coal services. QR has not taken into account the actual consumption of paths by passenger services for restoring on-time performance nor the significant growth expected associated with a 30% increase in fleet size.

The previous estimate of 22% by B&H is considered understated but more reflective of the actual impact.

Abbreviations

DTP	Daily Train Plan
MTP	Master Train Plan

1. Introduction

Balance Advisory has prepared this report in association with consultants having a working knowledge of the Western System and the suburban system.

Our understanding is the Master Train Plan for the suburban system is developed for passenger service requirements. Remaining paths are available for returning late passenger services to on-time running. It is also our understanding that the coal paths from the Western System are not developed as continuous paths to the Port of Brisbane as the MTPs are not truly integrated.

There are practical reasons that coal paths are compromised through the suburban system now which are described in Section 2.

The MTP presented does not account for the significant increase in services during the period of the undertaking associated with the passenger fleet being increase by 30% nor the repositioning of services associated with the new maintenance facility or future stabling facility changes. The following is an extract from the Queensland Government website:

The NGR project involves the delivery of 75 6-car trains currently being designed in Queensland and the construction of a new purpose-built Maintenance Centre to maintain the new trains for the next 30 years.

The new trains will replace an aging fleet and increase the current fleet by 30%.

The first train is scheduled for delivery in late 2015 to undergo testing prior to beginning service on the network from mid-2016. The remaining NGR fleet will be progressively rolled out onto the network until late 2018....

..... A significant expansion of the train fleet requires increased train maintenance capacity. A new purpose-built NGR Maintenance Centre is under construction at Wulkuraka, west of Ipswich.

(Source - http://www.tmr.qld.gov.au/Projects/Name/N/New-Generation-Rollingstock.aspx).

High resolution copies of the train diagrams were requested from QR on 7 May 2015. These have been provided on 29 May 2015. Earlier provision of these diagrams would have been useful to demonstrate our arguments.

2. Practical Operational Considerations

2.1 Transition from Master Train Plan (MTP) to Day of Operation

The MTP for the suburban system contains the committed regular passenger trains. There is a Monday to Thursday MTP, Friday MTP, Saturday MTP and Sunday and public holiday MTP reflecting different service levels on those days.

The MTP then converts to a daily train plan or DTP. The DTP includes special events such as football games which typically require significant additional passenger paths to allow for trains to be queued ready to quickly depart large numbers of people from events.

On a day of operations basis, the unallocated paths are firstly used by passenger services for reliability purposes. For example if a passenger train is running late it may cross over from suburban tracks to main lines and skip stations. This consumes a large number of paths to ensure the onerous on-time performance target is achieved.

The mere fact that there are spaces in the MTP or DTP does not mean they are freely available for non-passenger services. The behaviour of train controllers is naturally conservative in ensuring passenger operations are not compromised. Spare paths are regularly used to return late passenger services to on time.

Adding to the challenge is the suburban and Western System MTPs being developed separately and hence the paths are not truly continuous.

Coal services from the Western system need to fit between services on the Ipswich/Rosewood Line, past the Springfield line junction, cross at Corinda then compete for paths with Gold Coast services before finally competing for paths on the Cleveland line. The return journey is similarly challenging.

Actual data from day of operations would demonstrate the challenge of weaving coal services under current conditions, let alone with a significant increase in services commencing later this year which should be taken into account. The increase in Gold Coast services and proposed under river tunnel will not assist in creating capacity for freight paths but constrain the available paths further.

2.2 MTP Brisbane to Miles

It is noted that the MTP on Figure 1 on page 6 of Appendix 5 excludes passenger services. Table 1 in effect outlines the total theoretical paths after allowance for planned maintenance. These paths are not all available as for example, the Westlander passenger service consumes 3 paths in each direction twice per week. That would infer there are theoretically 286 one-way paths available of which a maximum of 87 return coal paths are permitted to be contracted by Government. We understand the capacity for coal trains on the Toowoomba has previously been identified by QR as 77 return paths.

Coal services operate most efficiently when cycle time is minimised. The high level cycle components are loading, transit to port, unload and transit to mine. There are practical considerations

such as it is only economic to have only one loading track at each of the two operating mines. Hence only one train at each location can be loaded at a time. This means that even if there were additional paths they are practically sterilised due to only two loading points.

3. Estimating a Reasonable Impact Percentage

Appendix 3 of the B&H report provided a more independent and valid methodology compared to the QR Appendix 5.

Balance Advisory believes that the B&H analysis is likely to understate the full impact of suburban restrictions, particularly if the growth in services is taken into account. More transparency from QR on actual day of operation losses would clarify the true impact of both peak passenger services and non-revenue passenger services outside of the period 0700 to 0930, and 1500 to 1830 travelling to and from stabling, particularly on the Cleveland Line.

Given the timeframe of the 2015 undertaking, the impact of the future Wulkuraka maintenance and stabling facility and other stabling facilities should also be taken into account.

Balance Advisory suggests the B&H methodology could be refined by considering a wider time band and with access to actual data from QR as opposed to just plans.

The published closure times even if they can be aligned across all the corridors still understate the full impact on coal services. Restarting coal services after closures takes time to return to a steady state system which results in further lost paths which do not appear to be considered.

Balance Advisory concludes that the impact is in excess of the 22% estimated by B&H.

Annexure I

Gilbert + Tobin advice

Memorandum of advice

Confidential and privileged

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4 June 2015

To New Hope Group

From Simon Muys / Geoff Petersen

Subject **Queensland Rail proposal re Western System assets - asset valuation and cost allocation issues**

1 Overview

1.1 Background

New Hope Group (**New Hope**) has sought advice in relation to asset valuation methodologies and methods for allocating costs which may be adopted by the Queensland Competition Authority (**QCA**) for Queensland Rail's Western System assets.

Queensland Rail has advocated a depreciated optimised replacement cost (**DORC**) methodology for valuing its Western System assets, for the purposes of determining a 'ceiling tariff' submitted as part of its May 2015 draft access undertaking. Queensland Rail argues that standard regulatory principles require a forward-looking DORC valuation for the purpose of establishing a ceiling price. Queensland Rail appears to consider that DORC is the only valuation methodology that reflects the objective of the ceiling price, which is to prevent incentives being created for inefficient network bypass.

Queensland Rail has proposed that allocation of the opening asset value be on the basis of forecast usage by coal and non-coal services. Queensland Rail argues that under the allocation method proposed by the QCA in its October 2014 draft decision, which is based on available paths rather than expected usage, it may be prevented from recovering all of the efficient costs of providing access to the rail infrastructure, to the extent that there are any unused paths.

New Hope has sought advice on the methods open to the QCA under Part 5 of the *Queensland Competition Authority Act 1997* (Qld) (**QCA Act**) for determining the initial asset base and allocating the asset base value between coal and non-coal services. In particular, New Hope has asked whether other methods may be open to the QCA, besides those advocated by Queensland Rail.

1.2 Methodology to determine the initial asset value

We consider that, in considering whether approval of an undertaking would be appropriate, the QCA is not limited to assessing a ceiling tariff based on a DORC valuation. The QCA may consider it appropriate for an undertaking to include a reference tariff that is based on a different asset valuation methodology, such as historic cost, an 'adjusted DORC' method, or a hybrid method.

Our conclusions are based on the following:

- our interpretation of the relevant legislative provisions governing the QCA's decision-making, particularly the object of Part 5 of the QCA Act, and the pricing principles;
- the relevant background to these legislative provisions; and

- our review of previous regulatory decisions and judicial authority on asset valuation methodologies which may be adopted under these (or similar) criteria.

Under the QCA Act, the QCA has a relatively broad discretion in determining an appropriate asset valuation method. The QCA is required to have regard to a range of factors in assessing a draft access undertaking. These include (but are not limited to), the object of Part 5, the pricing principles (in s.168A), the interests of both the service provider and access seekers, and any other issues which the QCA considers relevant. The list of relevant factors is broad, and different factors may at times point in a different direction, in terms of the most appropriate choice of valuation methodology.

It may be that, depending on circumstances, a proper balancing of the statutory criteria favours a different methodology over DORC, such as an historic cost methodology. Alternatively, it may be that an 'adjusted DORC' or hybrid method is more appropriate.

The language of the object and pricing principles themselves (which are common to a number of Australian regulatory frameworks) does not indicate a requirement to use any particular valuation methodology, nor does it prohibit the use of any methodology. The pricing principles provide high level guidance on the pricing conditions which will satisfy the objectives, but do not prescribe any methodology for determining the cost base.

Finally, we observe that regulatory precedent does not support a view that there is only one valuation methodology that is appropriate in all cases. On the contrary, regulators consider their choice of methodology on a case-by-case basis, taking into account the specific circumstances of each case. Depending on the circumstances, regulators may apply methodologies other than DORC, or may apply adjustments to DORC or historic cost valuations. In a number of cases, adjustments have been made to DORC or historic cost valuations in order to achieve particular price outcomes.

1.3 Application of the chosen valuation methodology

For the same reasons, there is discretion available in the implementation of the QCA's chosen method, particularly if a DORC (or adjusted DORC) method is adopted. In implementing a DORC method, a number of discretionary decisions will need to be made, including the extent to which network routes are optimised, the assumed choice of technology for replacing network assets, and the assumed capacity requirements for the optimised network.

In the case of Queensland Rail's proposed DORC valuation, there would appear to be several issues requiring consideration by the QCA, including whether the network design used as the basis for the valuation has been adequately optimised.

On these issues, there is unlikely to be one correct approach. Rather, these will be matters for the QCA's discretion, having regard to the statutory criteria.

1.4 Allocation of the opening asset value between coal and non-coal services

There is limited guidance in the QCA Act on how to allocate the cost of common infrastructure between coal haulage and other services, and we do not consider that any particular approach is required (or prohibited) by the QCA Act pricing principles. Therefore the question of how to allocate costs between coal and non-coal services will be one for the QCA's discretion, having regard to the matters listed in s 138(2) of the QCA Act.

We do not agree with Queensland Rail's submission that the QCA's proposed approach to allocation of the opening asset value will breach the pricing principles in Part 5 of the QCA Act. Under the pricing principles, the QCA is not required to ensure that Queensland Rail can recover its costs across its coal and non-coal services, nor can it practically do so. Rather, the pricing principles simply require that where it sets a tariff for the coal haulage service, the QCA must have regard to the principle that the tariff should generate expected revenue *for that service* that is at least enough to meet the efficient costs of providing access to the service (i.e. that the costs allocated to the service can be recovered).

2 Use of DORC to establish the opening RAB value

2.1 Queensland Rail's proposal

Queensland Rail has proposed to use a DORC valuation methodology for the purposes of determining a 'ceiling price' for its western system coal services.

Queensland Rail argues that regardless of the age and condition of assets, the application of standard regulatory principles requires a forward-looking DORC valuation for the purpose of establishing a ceiling price.[1] Queensland Rail appears to consider that DORC is the only valuation methodology that reflects the objective of the ceiling price, which is to prevent incentives being created for inefficient network bypass.[2]

2.2 Legislative framework

(a) Relevant objectives and principles under the QCA Act

The framework for assessment of draft access undertaking is set out in Part 5 of the QCA Act.

Relevantly, Part 5 of the QCA Act sets out the factors affecting approval of a draft access undertaking as follows:[3]

> (2) The authority may approve a draft access undertaking only if it considers it appropriate to do so having regard to each of the following—
>
> (a) the object of this part;
>
> (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 mentioned in section 168A;
>
> (h) any other issues the authority considers relevant.

Many of the factors identified in section 138 of the QCA Act mirror those appearing in other Australian access regimes, including the general national access regime (Part IIIA of the Competition and Consumer Act 2010 (Cth) (**CCA**)) and the telecommunications access regime (Part XIC of the CCA). For example, the references to "*legitimate business interests*" and "*the interests of persons who may seek access*" both also appear in Part IIIA and Part XIC of the CCA.[4]

---

[1] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 33.

[2] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 32.

[3] *Queensland Competition Authority Act 1997* (Cth), s 138.

[4] CCA, ss 44ZZA(3), 152BCA(1).

It is clear that these factors will not always point in the same direction, and hence some balancing may be required. In particular, some balancing between the legitimate business interests of the access provider, and the interests of access seekers, is likely to be required.

The object of Part 5 of the QCA Act (referred to in factor (a)) is as follows:[5]

> "The object of this part 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."

The pricing principles (referred to in factor (g)) are as follows:[6]

> The pricing principles in relation to the price of access to a service are that the price should—
>
> (a) 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; and
>
> (b) allow for multi-part pricing and price discrimination when it aids efficiency; and
>
> (c) 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; and
>
> (d) provide incentives to reduce costs or otherwise improve productivity.

The objects clause and pricing principles also mirror the objectives and principles set out in other Australian third party access regimes.[7] As will be discussed further below, objectives and principles of this nature were originally recommended by the Productivity Commission (**PC**) for the national access regime, and were subsequently integrated into other access regimes (including the QCA Act regime) pursuant to a COAG agreement.

Beyond the overall objective and high level pricing principles, there is no further guidance in Part 5 of the QCA Act in relation to methodologies to be adopted for pricing of access to services. There is no reference to particular methodologies to be used for asset valuation, or for any other aspect of price calculations.

(b) Background to the object and pricing principles

The object of Part 5 of the QCA Act and the pricing principles were both inserted by the *Queensland Competition Authority Amendment Act* 2008 (Qld). As noted in the second reading speech accompanying the amending bill, these changes to the QCA Act implemented certain commitments made by the State of Queensland in the 2006 COAG Competition and Infrastructure Reform Agreement (**CIRA**).[8] The CIRA had included an agreement by COAG to streamline third party access regimes, and include in these regimes a consistent set of regulatory principles.[9]

The objects clause and pricing principles which were agreed to in the CIRA, which now appear in the QCA Act, were originally formulated by the PC as part of its 2001 review of the national access regime. In its final report on the national access regime, the PC recommended the insertion of an objects clause and pricing principles in Part IIIA of the CCA. The PC saw a number of benefits in doing this, including:[10]

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[5] *Queensland Competition Authority Act 1997* (Cth), s 69E.

[6] *Queensland Competition Authority Act 1997* (Cth), s 168A.

[7] For example: CCA, ss 44AA, 44ZZCA.

[8] Queensland, *Parliamentary Debates*, Legislative Assembly, 13 February 2008, 151 (AP Fraser).

[9] Council of Australian Governments, Competition and Infrastructure Reform Agreement, 10 February 2006, clause 2.4.

[10] Productivity Commission, *Review of the National Access Regime: Inquiry Report*, 28 September 2001, pp 126, 143.

- an objects clause would reduce uncertainty by assisting all parties — regulators, the judiciary, access seekers, facility owners and potential infrastructure investors — to interpret the intent of various criteria;

- pricing principles would provide guidance on how the broad objectives of access regimes should be applied in setting more detailed terms and conditions; and

- pricing principles would provide a measure of certainty to regulated firms and access seekers.

The PC recommended that the objects clause be as follows:[11]

> "The object of this Part is to:
>
> (a) promote economically efficient use of, and investment in, essential infrastructure services; and
>
> (b) provide a framework and guiding principles to discourage unwarranted divergence in industry-specific access regimes."

This wording was ultimately adopted in the objects clause for Part IIIA (s 44AA), with only relatively minor amendment. The wording of limb (a) was also adopted in the CIRA, again with only relatively minor amendment. The core of the PC's recommended objective – to promote economically efficient use of, and investment in, essential infrastructure – now appears as the central objective of third party access regimes around Australia, including the QCA Act regime.

The pricing principles recommended by the PC were as follows:[12]

> (a) that regulated access prices should:
>
> > (i) be set so as to generate expected revenue across a facility's regulated services that is at least sufficient to meet the efficient long-run costs of providing access to these services;
> >
> > (ii) include a return on investment commensurate with the regulatory and commercial risks involved;
> >
> > (iii) generate revenue from each service that at least covers the directly attributable or incremental costs of providing the service.
>
> (b) that the access price structures should:
>
> > (i) allow multi-part pricing and price discrimination when it aids efficiency;
> >
> > (ii) not allow a vertically integrated access provider to set terms and conditions that discriminate in favour of its downstream operations, except to the extent that the cost of providing access to other operators is higher.
>
> (c) that access pricing regimes should provide incentives to reduce costs or otherwise improve productivity.

As can be seen, the principles recommended by the PC are very similar to those that were ultimately agreed to in the CIRA and adopted in the QCA Act. The only changes made in the CIRA were to combine limbs (a)(i) and (a)(ii), remove limb (a)(iii), and slightly amend the wording of limb (b)(ii).

In its final report, the PC explained its proposed pricing principles at some length, including how they were intended to be applied in practice. Most importantly, the PC emphasised that its pricing principles were not intended to mandate any particular methodology for determining access prices. Rather, the pricing principles were intended to provide high level guidance on the pricing conditions

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[11] Productivity Commission, *Review of the National Access Regime: Inquiry Report*, 28 September 2001, p 134.

[12] Productivity Commission, *Review of the National Access Regime: Inquiry Report*, 28 September 2001, pp 338-339.

which will satisfy the objectives of the access regime.[13] The PC explicitly noted that "*a range of pricing methodologies will comply with these principles and will be suited to different circumstances*", and that "*the approach taken to implementing any pricing principles depends on the instruments available to regulators and the way they can be applied*".[14]

Specifically in relation to asset valuation, the PC noted various methods may be available to regulators, including DAC and DORC. The PC further noted that each of these methodologies may have strengths and weaknesses, and should therefore be assessed on a case-by-case basis. The PC noted that in many circumstances DAC will have advantages over DORC, particularly in terms of simplicity, transparency and objectivity.[15]

Importantly, the PC concluded that regulators should not be bound to any particular valuation approach. The PC stated:[16]

> "Clearly, the myriad of specific issues that arise across infrastructure sectors means that regulators should not be bound to use one particular asset valuation approach in all situations. Rather, the Commission considers that the approach used should have regard to specific circumstances."

Thus, it is clear that the PC, which originally drafted the pricing principles that now appear in the QCA Act, did not intend for these principles to restrict a regulator in terms of its choice of asset valuation methodology (or indeed its pricing methodology more generally). On the contrary, the PC clearly intended that regulators consider valuation methodologies on a case-by-case basis. The pricing principles were intended to provide high level guidance only on the pricing conditions which will satisfy the objectives of the access regime.

(c) Conclusions on the legislative framework

The QCA Act does not mandate any particular asset valuation methodology to be used in determine prices for access to services.

There is no reference any particular methodologies which are to be used, nor is there any prohibition on any method. If the QCA Act was intended to be prescriptive as to the asset valuation methodologies to be used for access pricing purposes, we would have expected this to have been explicit.

The legislative framework requires that, as with any aspect of a draft access undertaking, in considering a proposed asset valuation methodology the QCA have regard to the factors set out in section 138. Depending on the circumstances of a particular case, a balancing of these various factors may favour one methodology over another. However it seems unlikely that one methodology would be preferable in all cases, having regard to these factors.

The list of relevant factors is relatively broad, and will not always point in the same direction in terms of the appropriate choice of valuation methodology. It may be that in some cases DORC is seen as appropriate because historical cost records are poor, and the outcome of applying this method would provide an appropriate balance between the interests of the access provider and access seekers. However in other cases a proper balancing of the statutory criteria may favour a different methodology, such as an historic cost methodology. For example, if the relevant assets were constructed relatively recently and good historical cost records are available, the advantages of simplicity and transparency inherent in an historical cost approach may outweigh any perceived advantages of DORC. Alternatively, if adoption of a DORC methodology would produce undesirable price outcomes for network users (e.g. prices that are likely to distort usage and complimentary investment decisions), then this may suggest DORC is not appropriate.

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[13] Productivity Commission, *Review of the National Access Regime: Inquiry Report*, 28 September 2001, p 338.

[14] Productivity Commission, *Review of the National Access Regime: Inquiry Report*, 28 September 2001, p 339.

[15] Productivity Commission, *Review of the National Access Regime: Inquiry Report*, 28 September 2001, p 364.

[16] Productivity Commission, *Review of the National Access Regime: Inquiry Report*, 28 September 2001, p 366.

The language of the object of Part 5 and the pricing principles (both relevant factors under section 138) does not indicate that the regulator is to be bound to any particular valuation methodology. The pricing principles simply provide high level guidance on the pricing conditions which will satisfy the objectives of Part 5 of the QCA Act – that is, in order to provide incentives for economically efficient operation of, use of and investment in, significant infrastructure, the service provider ought to be provided with an opportunity to recover at the least the efficient costs it incurs in providing access. However the pricing principles do not prescribe any methodology for determining the cost base.

This interpretation is strongly supported by the relevant background materials. It is clear that the PC, which originally drafted the pricing principles that now appear in the QCA Act, did not intend for these principles to restrict a regulator in terms of its choice of asset valuation methodology (or indeed its pricing methodology more generally). On the contrary, the PC clearly intended that regulators consider valuation methodologies on a case-by-case basis.

2.3 Available asset valuation methodologies

There are a number of valuation methodologies that are recognised as providing the basis for determining a regulatory asset base (**RAB**).[17] The types of valuation methodologies typically identified by regulatory authorities as being available are:[18]

- **Historic cost / depreciated historic cost** – this is the original cost of acquiring the asset including the relevant financing costs during construction. In estimating an initial RAB value, accumulated depreciated will typically be deducted to derive a depreciated historic cost value (sometimes referred to as depreciated actual cost (**DAC**)).

- **Replacement cost** – this is the current cost of replacing the asset with another asset that provides the same service potential. This need not be the same asset, but rather the asset that hypothetically is the best (least-cost) option under current technology.

- **Optimised deprival value (ODV)** – this is the cost to the asset owner if deprived of the asset. In practice ODV equals replacement cost, except where the asset would not be replaced (in which case ODV is the market value of the asset, as determined by the foregone net revenues for supplying its services).

- **Reproduction cost** – this is the cost of reproducing the existing plant in substantially the same form at current prices.

- **Scrap value** – this is the value of the asset in its next best alternative use.

Within each of these types of methodology, there are variations and methodological choices. This is particularly the case in relation to optimised replacement cost methodologies, as various assumptions need to be made about how an optimised asset would (hypothetically) be designed (this is discussed further in section 3 below).

Moreover, under any of these methodologies, there are various ways in which inflation and depreciation of the asset value over time may be treated. In some cases the asset value will be adjusted to account for inflation over time, while in other cases the asset value may be left in nominal terms, with inflation accounted for in some other way (e.g. through the application of a nominal rate of return). Accumulated depreciation may be accounted for in a variety of different ways, including through a simple application of straight-line depreciation, or alternatively by seeking to account for past capital returns.

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[17] "Regulatory asset base" is the term most commonly used by Australian regulators to identify the set of assets used to supply a regulated service. In some cases other terms may be used, such as "regulatory asset value" (RAV) or "depreciated asset value" (DAV).

[18] The ACCC has considered various valuation methodologies in several formative publications, namely: ACCC, *Access pricing principles – telecommunications: a guide*, July 1997 at pp41-43; ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999, at pp39-42.

It is generally recognised that each of these methodologies has strengths and weaknesses. Accordingly, the choice of methodology in any particular case will depend on the circumstances of that case, including the characteristics of the asset, the nature of demand, and any previous practice in relation to valuation of that asset.

In some cases, the valuation ultimately adopted may reflect a blending of two or more of the above methodologies, or an adjusted form of one methodology. Depending on the circumstances, it may be appropriate to adopt an adjusted or hybrid methodology instead of applying one methodology in its 'pure' form (some examples of this are set out in section 4 below). Thus, the set of methodologies set out above will in some cases only provide a starting point for the asset valuation exercise.

As noted by former ACCC Commissioner, Professor Stephen King, in an early paper on asset valuation and access:[19]

> "The choice of an appropriate asset valuation technique will depend on both the questions being addressed and the nature of the relevant assets. There is neither a single valuation method that is appropriate for all circumstances, nor is there always an unambiguously preferred choice of valuation method for any specific situation."

Professor King's paper goes on to explain the strengths and weaknesses of various valuation methodologies, including historic cost, reproduction cost, replacement cost, deprival value and scrap value. He says that his analysis broadly supports the use of historic cost valuation, although he notes that there are various circumstances in which alternative methodologies may be preferable. Professor King concludes:[20]

> "The analysis presented in this paper broadly supports the use of historic or original cost asset valuation for access purposes. The arguments in favour of historic cost are impressive. It is administratively simple and transparent. It involves less subjective assessment and guesswork and usually will provide adequate incentives for investment and equivalent operational incentives compared with alternative valuation procedures.
>
> That said, the case for historic cost is not overwhelming. We have noted a variety of circumstances where alternative valuation procedures may provide better incentives for allocative, productive or investment efficiency. For example, scrap valuation is likely to lead to greater allocative efficiency for existing sunk assets compared to historic cost valuation. Generalised replacement cost valuation will provide improved productive incentives and standard replacement cost procedures may improve investment incentives under certain types of asymmetric information."

The ultimate conclusion of Professor King's paper, which is now reflected in the general practice of Australian regulators, is that asset valuation methodologies should be considered on a case-by-case basis.

2.4 Objective of asset valuation

As noted above, Queensland Rail has argued that the objective of the asset valuation exercise should be to establish a maximum price at which there is no incentive for inefficient network bypass.[21] Queensland Rail appears to consider that the only methodology that would be consistent with this objective is DORC.

In our view this is not what is required under the QCA Act.

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[19] Stephen P. King, 'Asset Valuation and Access' (Discussion Paper No 365, Australian National University Centre for Economic Policy Research, April 1997), p 10.

[20] Stephen P. King, 'Asset Valuation and Access' (Discussion Paper No 365, Australian National University Centre for Economic Policy Research, April 1997), p 19.

[21] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 32.

The QCA may approve a draft access undertaking only if it considers it appropriate to do so having regard to the factors set out in s 138(2) of the QCA Act. These factors do not direct the QCA to establish an asset valuation or ceiling tariff with the sole objective of preventing inefficient network bypass. Rather, the QCA is required to have regard to a range of factors including the object and pricing principles set out elsewhere in Part 5.

As explained above, the object of Part 5 and the pricing principles do not direct the QCA to use any particular asset valuation methodology. On the contrary, the architects of these pricing principles and objectives clearly intended that regulators consider valuation methodologies on a case-by-case basis.

Further, we do not consider that the QCA's role is limited to simply assessing a ceiling tariff, beyond which inefficient bypass might hypothetically occur. The QCA may consider it appropriate, having regard to the factors set out in s 138(2) of the QCA Act, that an access undertaking provide for a reference tariff that is different to the ceiling tariff based on the hypothetical bypass threshold. Moreover, in establishing the reference tariff, the QCA may have regard to a wider range of considerations, beyond the level of tariffs at which bypass might occur.

Finally, we note that tariffs set on the basis of hypothetical new entrant costs may not be appropriate, having regard to the factors set out in s 138(2) of the QCA Act. For example, if the costs of a hypothetical new entrant are substantially higher than the actual cost of providing access, such an approach may lead to over-recovery of costs by the access provider and inefficient use of, and investment in, the relevant infrastructure. As discussed below, in at least one case the Australian Competition Tribunal (**Tribunal**) has rejected pricing based on costs of a hypothetical new entrant, on the basis that this would be inconsistent with the applicable statutory criteria.

(a) Focus on 'hypothetical new entrant' costs not required under the QCA Act

In our view, the Queensland Rail submission reflects an unduly narrow view of the purpose of the initial RAB valuation, and of the role of the QCA in assessing undertakings more generally. The QCA is not limited to considering the costs that would be faced by a hypothetical new entrant in establishing the initial asset base, or in assessing tariffs.

The Queensland Rail submission implies that the sole objective of the QCA in determining tariffs should be to determine the maximum price that could be levied before a new entrant might be induced to bypass the network.[22] This is clearly not consistent with the legislative framework, which:

- directs the QCA 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; and
- requires the QCA to have regard to a wide range of matters in assessing undertakings.

It is widely recognised that the purpose of access regulation is not simply to determine a ceiling price, beyond which bypass might occur. Rather, access regulation is principally directed at preventing the exercise of monopoly power by owners of bottleneck infrastructure. The issue that access regulation seeks to address has been characterised by the PC as follows:[23]

> ... access problems stem from the potential for owners of essential infrastructure facilities (bottlenecks) to exercise market power. A key concern relates to the possibility of outright denial of access — the most extreme manifestation of the exercise of market power — but monopoly pricing of access can have similarly deleterious effects. Thus, access legislation is intended to curb the monopoly power of providers of essential infrastructure services by facilitating access to such services on reasonable terms and conditions.

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[22] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 4.

[23] Productivity Commission, *Review of the National Access Regime: Inquiry Report*, 28 September 2001, p 124.

We observe that it is uncommon for an access regulator to only prescribe a ceiling price, and allow the regulated service provider to determine the applicable tariff. We are only aware of one regulator in Australia that only sets 'floor' and 'ceiling' limits on pricing, and does not prescribe a price within these limits or a global revenue / price cap.[24] It is more common for regulators to either establish a reference price for each regulated service, or to set a global revenue / weighted average price cap, with some flexibility afforded to the service provider to price individual services under the global cap.[25]

In our view, in considering whether approval of an undertaking would be appropriate, the QCA is not limited to assessing a ceiling tariff based on hypothetical new entrant costs. The QCA may consider it appropriate for an undertaking to include a reference tariff that is based on a different measure of costs, such as one that is more aligned with the actual cost of providing access.

(b) Rejection of the 'hypothetical new entrant' standard by the Australian Competition Tribunal

We note that the 'hypothetical new entrant' cost standard has been considered in other regulated industries. The most prominent case of this cost standard being used is in telecommunications access regulation, where it was applied by the ACCC to determine pricing for regulated access services on Telstra's fixed-line network. However the basis for adopting this costing approach in telecommunications access regulation has been called into question, and as a result, it has now been abandoned. It has been determined that the use of a hypothetical new entrant cost standard was not consistent with the object of the telecommunications access regime.

In its 1997 access pricing principles for telecommunications, the ACCC decided to adopt a replacement cost approach to valuation of assets. The ACCC considered that a replacement cost approach was most consistent with the rationale for its 'TSLRIC+' pricing methodology[26], including because this valuation approach would provide for prices that promote efficient 'build or buy' decisions – that is, pricing based on replacement costs would not induce inefficient bypass of Telstra's network.[27]

However the ACCC's original rationale for adopting a replacement cost approach was called into question by the Tribunal in its review of the ACCC's decision on Telstra's 2008 draft access undertaking. The Tribunal indicated that it did not consider this approach would be consistent with the applicable statutory criteria, including because it would not promote economically efficient use of Telstra's network, or efficient investment by Telstra or access seekers. The Tribunal's primary concern was that the costs of a hypothetical new entrant would not reflect the costs actually faced by Telstra in respect of its sunk network assets, and as such, pricing on this basis would not drive efficient investment decisions.

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[24] This is the ERA in Western Australia, which only establishes floor and ceiling tariffs for rail businesses, because it is not empowered to establish a reference tariff under the *Railways (Access) Code 2000*. The WA rail access regime is a 'light handed' access regime, in that only floor and ceiling limits for pricing are established, with negotiation (and arbitration of disputes) allowed within these boundaries. We note that note that concerns have been expressed in relation to the effectiveness of the WA rail access regime, and that it is currently under review by the ERA (ERA, *Review of the Railways (Access) Code 2000: Issues Paper*, February 2015)

[25] For example under the National Electricity Rules, floor and ceiling limits for individual tariff classes apply in addition to a global revenue cap or weighted average price cap. The pricing principles for regulated distribution services state that, for each tariff class, the revenue expected to be recovered must lie on or between: (1) an upper bound representing the stand alone cost of serving the retail customers who belong to that class; and (2) a lower bound representing the avoidable cost of not serving those retail customers (National Electricity Rules, clause 6.18.5). However, electricity distributors are also subject to an overall revenue cap which is set by the AER as part of its periodic distribution determinations.

[26] TSLRIC+ stands for total service long-run incremental cost, plus a contribution to common costs. The TSLRIC+ methodology was applied by the ACCC to determine prices for declared access services in the telecommunications sector until 2011. Since 2011, the ACCC has applied a building block methodology to determine prices for declared telecommunications services.

[27] ACCC, *Access Pricing Principles — Telecommunications: a guide*, July 1997.

The Tribunal stated:[28]

> "[The Tribunal] is troubled by the notion that prices should be set on the basis of hypothetical competition for a market that has natural monopoly characteristics, just as it would be puzzled by a proposal to price access to an electricity distribution network in a way intended to cause users to choose whether or not to overbuild the whole network, replacing it completely...
>
> But in the present case, what is needed is a return to the legislative basis for determining whether a ULLS price is reasonable. The price estimated by the TEA Model is based on the cost of a new entrant starting all over again and building a copper-based CAN from scratch, but using a scorched node approach in which cable routes are constrained to be at best a subset of those laid over many decades in Telstra's legacy access network. Such an approach would not promote competition in the provision of services supplied using the ULLS unless that price reflected Telstra's costs of providing the service (s 152AB(2)(c)).
>
> Such a price would not encourage the economically efficient use of Telstra's network infrastructure unless the price reflects the long-run costs to the community of the resources tied up in, and used to operate, the ULLS (s 152AB(2)(e)). If, say, the costs of a hypothetical new entrant (and hence the price of the ULLS to an access seeker) were higher than Telstra's costs of supplying the ULLS to itself, then Telstra would have an advantage providing retail voice and broadband services to end-users. Given that the network is in place, but is to be or may be in the future replaced by, or at least compete with, the NBN, the long-run costs to the community of those resources are not those of a new entrant hypothetically building a replacement copper access network within the constrictions permitted by the TEA Model at present.
>
> For the same reason, such a price would not encourage efficient investment by access seekers. It would not reflect the true resource costs to the community of providing the ULLS (i.e. the opportunity cost of not being able to use those resources in a higher value way). And such a price would have no bearing on Telstra's investment decisions, since it does not reflect costs actually faced by Telstra, which has trenches, ducts, etc already in place (s 152AB(2)(e))...
>
> Nor would such a price reflect Telstra's legitimate business interests, which are to receive a commercial return on its prudent (past) investment in the infrastructure used to supply the ULLS, not a hypothetical new investment (s 152AH(1)(b)).
>
> Whether such a price had due regard to the interests of access seekers turns on the same condition that determines whether the price would promote (efficient) competition, viz whether they would face the same cost in purchasing the ULLS as Telstra faces in using it to supply retail services (s 152AH(1)(c)). But there is no relation between that cost and that of a hypothetical new entrant. As already stated, such a price does not reflect the direct costs of providing access (s 152AH(1)(d))."

Ultimately, the Tribunal upheld the ACCC's decision to reject Telstra's draft access undertaking.

Subsequent to this decision, the legislative framework for regulation of Telstra's declared fixed-line services has changed, and the ACCC has also changed its approach to the determination of access prices. As discussed below, the ACCC has now transitioned from the TSLRIC+ methodology to a building block model for pricing of Telstra's declared fixed-line services, and in doing so has locked in a value for the underlying assets which is based on historic costs.

2.5 Regulatory practice

Queensland Rail argues that accepted regulatory practice is to establish an initial asset value based on a forward-looking DORC valuation.[29]

In our view, this statement is not accurate.

While DORC (or a form of DORC) has been applied by several Australian regulators, it is by no means the only methodology that has been used, nor is it accepted by regulators that DORC is the only available methodology. Regulators have some discretion in their choice of methodology for valuing

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[28] *Application by Telstra Corporation Limited* [2010] ACompT 1, [239]-[245].

[29] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 29.

the initial asset base, and it is widely accepted that there is no one methodology that will be appropriate in all circumstances. Rather, regulators consider their choice of methodology on a case-by-case basis, taking into account the specific circumstances of each case.

Below are some examples of how regulators have made judgements as to the appropriate asset valuation methodology.

(a) Telecommunications

A recent example of a regulator taking into account various methodologies, and exercising judgement in its final choice of valuation, is the ACCC's 2011 decision in respect of Telstra's fixed-line assets.

As part of a transition from a TSLRIC+ methodology[30] to a building block model for pricing of Telstra's declared fixed-line services, the ACCC needed to establish an initial valuation for the fixed-line assets. In this context, the ACCC considered various methodologies, including DORC, DAC, and indexed (inflated) historic cost. The ACCC derived a DAC value of approximately $13 billion, based on the depreciated value of Telstra's fixed-line assets, as recorded in its regulatory accounts. As an alternative to this DAC value, Telstra had submitted DORC and indexed historic cost values of $32 billion and $28 billion respectively.[31]

In considering these alternative valuations, the ACCC noted that there is no uniquely 'correct' value for the initial RAB, and that an element of judgement is therefore required to determine an appropriate value. The ACCC noted that the key considerations in setting the RAB value include:

- the legitimate commercial interests of the access provider and access seekers;
- the level of past recovery on the assets received by the access provider;
- the incentives for efficient future investments in network assets;
- industry confidence in making future investment decisions; and
- the reliability of the valuation methodology.[32]

In its final decision, the ACCC adopted a value between its DAC valuation and Telstra's DORC. The ACCC used its DAC value as a starting point, and made various upwards adjustments to this value, ultimately arriving at a valuation which allowed it to maintain price stability for one of the fixed-line services (the unconditioned local loop service, or ULLS), while allowing prices for other services to fall.[33] The valuation ultimately adopted by the ACCC ($17.22 billion as at 1 July 2009) was closer to its DAC valuation than Telstra's DORC or indexed historic cost values.

The ACCC explained its reasoning as follows:[34]

> "The ACCC confirms its view that there is no uniquely 'correct' value for the RAB. Consequently, the ACCC considered a number of alternative valuation methodologies including DAC, DORC and current cost accounting in settling on an appropriate initial RAB value. The ACCC also considered the views and

[30] TSLRIC+ stands for total service long-run incremental cost, plus a contribution to common costs. The TSLRIC+ methodology was applied by the ACCC to determine prices for declared access services in the telecommunications sector until 2011. Since 2011, the ACCC has applied a building block methodology to determine prices for declared telecommunications services.

[31] ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 39.

[32] ACCC, *Public inquiry to make final access determinations for the declared fixed line services: Discussion Paper*, April 2011, pp 44-45.

[33] As noted by the ACCC in its final decision, while the ULLS price was to remain relatively stable under its valuation approach, prices for other regulated services, particularly the line sharing service (LSS), wholesale line rental (WLR) and the local carriage service (LCS), would fall (ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, pp 44-45).

[34] ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 43.

> information submitted during the consultation process, the limitations of the historical records (particularly for long-lived assets), and price stability to the extent that it supports past investments and promotes industry confidence in making future investment decisions.
>
> The ACCC has calculated a value within the suitable range of RAB values set by the DAC and DORC values for Telstra's network assets. In calculating an appropriate value within this range, the ACCC used the DAC value as a starting point because the more substantial limitations associated with estimating a DORC value meant that it was not considered an appropriate starting point."

The asset valuation adopted in this decision was "locked in" through a set of fixed principles included in the ACCC's access determination, and will be rolled forward for the purposes of future price resets for Telstra's declared fixed-line services.

(b) Electricity networks

The ACCC has similarly noted in the context of electricity network regulation that there is no singularly correct approach to asset valuation.

In its *Draft Statement of Principles for the Regulation of Transmission Revenues* (May 1999) the ACCC noted the absence of any clear economic answer to the asset valuation question, and emphasised the need for exercise of regulatory judgement in determining RAB values. The ACCC stated:

> "In determining an appropriate asset valuation methodology economic principles and analysis do not provide an unambiguous decision rule for the valuation of existing sunk assets. Rather economic principles provide lower and upper bounds – scrap value and replacement cost. Within these bounds there is opportunity for regulatory judgement."

RAB valuations for most electricity network businesses are now, in effect, locked in under the National Electricity Rules (**NER**), with provision for roll-forward at each price/revenue reset for new capital expenditure, disposals, depreciation and inflation.[35] These locked in valuations are mostly the product of asset valuations undertaken in the 1990s by jurisdictional regulators and/or State Governments, using different methodologies and having regard to various considerations. The National Electricity Code (precursor to the NER) required assets in service prior to 1 July 1999 to be valued at the value determined by the relevant jurisdictional regulator, provided that this did not exceed deprival value.[36]

Most jurisdictional regulators adopted a form of DORC to value electricity network assets, but rarely was a 'pure DORC' method adopted. In most cases either an 'adjusted DORC' or a hybrid DORC / historic cost valuation was adopted.

For example, the valuations for each of the five electricity distribution networks in Victoria were all set around the time of privatisation of those utilities, and were set with the express objective of providing uniformity of pricing for customers across urban and rural areas of Victoria. The objective of price uniformity was given such primacy in the setting of asset values that explicit adjustments needed to be made to estimated DORC values for each of the five businesses in deriving the final valuations. For businesses operating rural parts of Victoria, a downward adjustment to the estimated DORC values was required, while for businesses in metropolitan areas there was an upward adjustment to estimated DORC values. The final valuations for each of the businesses (as at 1 July 1994), and the explicit adjustments made to arrive at these valuations, are set out in Table 1 below.[37]

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[35] National Electricity Rules, Chapter 6, Schedule 6.2 (for distribution), and Chapter 6A, Schedule 6A.2 (for transmission).

[36] National Electricity Code, clause 6.2.3(d)(4) (for transmission), 6.10.3(e)(5) (for distribution).

[37] *Victorian Electricity Supply Industry Tariff Order 1995* (Vic), 5.10(b).

Table 1: Asset valuations for Victorian electricity distribution businesses ($m, as at 1 July 1994)

	Eastern (now SP AusNet)	Powercor	Solaris (now Jemena)	Citipower	United
DORC estimate	1,046	1,227	361	482	743
Adjustment for equalisation of tariffs	(218)	(161)	61	129	136
Adjusted opening asset value	828	1,066	422	611	879

Source: *Victorian Electricity Supply Industry Tariff Order 1995* (Vic), 5.10(b).

Similarly, in NSW, IPART identified a range for the initial RAB value, between a value representing a roll-forward of a previous value (that previous value having been determined to deliver a particular price outcome[38]) and a DORC value. For some businesses IPART adopted the DORC value as its point estimate, while for other businesses there was a downward adjustment to the DORC value.[39] Where the initial RAB value was set below DORC, this was done so as to avoid real increases in distribution prices.[40]

In Queensland and South Australia, a hybrid DORC / historic cost approach was adopted. A DORC value was used for all assets except for easements, with an historic cost method used to value network easements.[41]

(c) Gas pipelines

For gas networks and pipelines subject to tariff regulation, RAB values have been set using various methodologies, including actual/historic cost, DORC, ODV and some hybrid methodologies. This may in part reflect the fact that the previous Gas Code expressly allowed for various valuation methodologies to be taken into account.[42]

The Gas Code (which is no longer in operation) had referred to a range of methodologies which could be considered in establishing a value for a pipeline's initial capital base (**ICB**), including DAC, DORC and "other well recognised asset valuation methodologies".[43] The Code stated that the ICB for pipelines that were in existence at the commencement of the Code normally should not fall outside the range from DAC to DORC.[44]

In the case of the Moomba to Sydney gas pipeline, the High Court was asked to consider permissible asset valuation methodologies under the Gas Code. As observed by the High Court, the objective of the Gas Code access regime was (similar to the objectives of Part 5 of the QCA Act) to allow recovery

[38] IPART explains that the previous valuation was based on a public exchange of correspondence between IPART and the Government, in which IPART set electricity prices having regard to, among other things, an average 20 per cent real price reduction target for the industry as a whole (IPART, Pricing for Electricity Networks and Retail Supply: Report, Volume I, p 51).

[39] IPART, Pricing for Electricity Networks and Retail Supply: Report, Volume I, section 5.

[40] IPART, Pricing for Electricity Networks and Retail Supply: Report, Volume I, p 69.

[41] QCA, Final Determination: Regulation of Electricity Distribution, May 2001; Electricity Pricing Order dated 11 October 1999 pursuant to section 35B of the *Electricity Act* 1996 (SA).

[42] Section 8.10 of the gas code provided for various factor to be taken into account in valuing the initial capital base. These included "the value that would result from taking the actual capital cost of the Covered Pipeline and subtracting the accumulated depreciation for those assets charged to users" (8.10(a)) and "the value that would result from applying the "depreciated optimised replacement cost" methodology in valuing the Covered Pipeline" (8.10(b)).

[43] Gas Code, clause 8.10.

[44] Gas Code, clause 8.11.

of efficient costs for infrastructure owners, while preventing supra-competitive pricing. The High Court observed:[45]

> "The framework for third party access to natural gas pipelines set out above directs attention to the multiple objectives of an approved access regime. Stripped to essentials, such a regime is at least intended to allow efficient costs recovery to a service provider and at the same time ensure pricing arrangements for the consuming public which reflect the benefits of competition, despite the provision of such services by monopolies. The balancing of those objectives properly has a natural flow-on effect for future investment in infrastructure in Australia."

The High Court then went on to identify the range of asset valuation methodologies that were permissible under the Gas Code regime, which included (but were not limited to) DAC and DORC. Importantly, it was observed that a range of methodologies were available, and that the regulator had a "wide but limited" discretion in choosing between them. The High Court noted:[46]

> "The primary and natural significance of the words used in, and the structure of, s 8.10(a)-(d) mandates consideration of values derived from "well recognised asset valuation methodologies" followed by a comparative weighing up of these approaches to valuation. It is clear that a range of well recognised asset valuation methodologies can be considered and within that range a choice of value may be made. The discretion permitted is wide but limited. The reference to well recognised asset valuation methodologies emphasises that valuation, in this context, is a practical exercise."

Consistent with the views of the High Court regarding the degree of discretion available, regulators have adopted various different approaches to asset valuation for different pipelines.

In NSW, the ICB valuation adopted by IPART for the gas distribution network then owned by AGL (now owned by Jemena) was neither a DORC nor a DAC valuation. Rather, IPART adopted a valuation approximately halfway between the DAC and DORC valuations that were before it. The $1.55 billion valuation adopted by IPART was determined having regard to the 'feasible' range set by the DAC ($961 million) and the ODRC ($2.060 billion). IPART took into account both the likely impact of this decision on tariffs and the impact on AGL's financial viability.[47]

In WA, an 'adjusted DORC' valuation was adopted by the West Australian Office of Gas Access Regulation (**OffGAR**) for the Mid-West and South-West Gas Distribution Systems, owned by WA Gas Networks (formerly AlintaGas). The valuation approach for these distribution systems used DORC as a starting point, but with reductions to ensure that resulting tariffs would be consistent with an acceptable tariff outcome for consumers.[48] In adopting this approach the took into account the balance of interests between the service provider and users, and considered various methodologies. OffGAR states in its final decision:[49]

> "In assessing the value of the Initial Capital Base proposed by AlintaGas, the Regulator considered several alternative valuation methodologies, the valuations that arise from these methodologies, and the advantages and disadvantages of each methodology and valuation in the context of the distribution systems.
>
> In determining the most appropriate Initial Capital Base for the AlintaGas gas distribution systems, the Regulator considered a balance of interests between AlintaGas, Users and Prospective Users. The Regulator accepted that AlintaGas's proposal to set the Initial Capital Base to be consistent with retail gas prices expected to prevail in the gas market during the Access Arrangement Period would provide a reasonable balance of interests between the relevant parties."

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[45] *East Australian Pipeline Pty Limited v Australian Competition and Consumer Commission* [2007] HCA 44, [49].

[46] *East Australian Pipeline Pty Limited v Australian Competition and Consumer Commission* [2007] HCA 44, [51].

[47] IPART, *Final Decision: Access Arrangement for AGL Gas Networks Limited Natural Gas System In NSW*, July 2000, p 82.

[48] OffGAR, *Final Decision: Access Arrangement – Mid-West and South-West Gas Distribution Systems – Submitted by AlintaGas*, June 2000, Part A, pp 12-14.

[49] OffGAR, *Final Decision: Access Arrangement – Mid-West and South-West Gas Distribution Systems -- Submitted by AlintaGas*, June 2000, Part A, pp 13-14.

Similarly, in establishing the ICB for the Victorian gas transmission system, the ACCC adopted an 'adjusted DORC' value. The DORC value was reduced to achieve tariffs which were more in line with Government policy that no customer should face higher prices when full retail contestability introduced.[50]

In its decision the ACCC emphasised that there is no one 'correct' method for determining the initial asset value. The ACCC stated:[51]

> "For a new access arrangement being applied to an existing pipeline system the Victorian Access Code (section 8.10) provides for methodological flexibility for asset valuation with DAC normally offering valuations at the lower end and DORC the upper of the acceptable range. This may reflect a recognition in the Victorian Access Code that for an existing pipeline being brought into an access regime there is no economically 'right' valuation for the purpose of tariff determination and market determined approaches will involve a circular analysis.
>
> The applicant has proposed a written down value of DORC, and a number of issues arise in considering the validity of this valuation methodology for determining the initial capital base for the establishment of tariffs. One is whether the DORC valuation is the appropriate one given the historical perspective, the nature of the pipeline and the proposed basis for establishment of tariffs. In considering this, the Commission has also had regard to other possible approaches to asset valuation. This reflects the scope provided under the Victorian Access Code and the consequent obligation on the regulator to exercise judgement in determining an appropriate asset value which can be best reconciled with other criteria in the Victorian Access Code. The Commission has also sought to obtain a DAC valuation alternative by auditing actual cost figures and deriving an estimate for the DAC.
>
> In determining the appropriate asset valuation, given that economic theory does not provide an unambiguous answer, regard to notions of fair treatment and the effects on the different interest groups affected by the pricing approach to the recovery of sunk assets need to be taken into account. The factors in section 8.10 of the Victorian Access Code direct the regulator towards this analysis."

The ACCC also cautioned against drawing any general conclusion as to the appropriateness of any particular asset valuation methodology, noting that this needs to be assessed on a case-by-case basis:[52]

> "The Commission points out that implications should not drawn from this *Decision* for other access arrangements as each access arrangement will be considered on a case-by-case basis, recognising the economic arguments for and against the various valuation methodologies."

(d) Water

In the water sector, asset valuation is commonly based on what is referred to as a 'line in the sand' approach. Under this approach, the initial asset value is not based on any bottom-up measure of asset costs. Rather, the asset valuation is designed to maintain or provide for a particular price outcome at the time it is established.

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[50] ACCC, *Final Decision: Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Principal Transmission System; Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Western Transmission System; Access Arrangement by Victorian Energy Networks Corporation for the Principal Transmission System*, 6 October 1998, p 41.

[51] ACCC, *Final Decision: Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Principal Transmission System; Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Western Transmission System; Access Arrangement by Victorian Energy Networks Corporation for the Principal Transmission System*, 6 October 1998, p 31.

[52] ACCC, *Final Decision: Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Principal Transmission System; Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Western Transmission System; Access Arrangement by Victorian Energy Networks Corporation for the Principal Transmission System*, 6 October 1998, p 41.

For example in determining an asset value for the Sydney Catchment Authority, IPART adopted a 'line in the sand value' reflective of the underlying economic values for SCA assets indicated by Sydney Water's last price determination.[53]

Similarly, in Victoria, the initial value of assets (as at 1 July 2004) was determined by the ESC using a 'line in the sand' approach, which involved reverse engineering the pricing model to determine the valuation that would be consistent with certain return and pricing assumptions.[54]

2.6 Conclusion

We conclude that, in considering whether approval of an undertaking would be appropriate, the QCA is not limited to assessing a ceiling tariff based on a DORC valuation.

The QCA may consider it appropriate for an undertaking to include a reference tariff that is based on a different asset valuation, such as one that is more aligned with the actual cost of providing access.

The QCA has a relatively broad discretion in determining an appropriate asset valuation method. The QCA Act requires the QCA to have regard to a range of factors in assessing a draft access undertaking. These include (but are not limited to), the object of Part 5, the pricing principles (in s.168A), the interests of both the service provider and access seekers, and any other issues which the QCA considers relevant. The list of relevant factors is broad, and different factors may at times point in a different direction, in terms of the most appropriate choice of valuation methodology.

It may be that, depending on circumstances, a proper balancing of the statutory criteria favours a different methodology over DORC, such as an historic cost methodology. Alternatively, it may be that an 'adjusted DORC' method is more appropriate.

The language of the object and pricing principles themselves (which are common to a number of Australian regulatory frameworks) does not indicate a requirement to use any particular valuation methodology, nor does it prohibit the use of any methodology. The pricing principles provide high level guidance on the pricing conditions which will satisfy the objectives, but do not prescribe any methodology for determining the cost base.

Finally, we observe that regulatory precedent does not support a view that there is only one valuation methodology that is appropriate in all cases. On the contrary, regulators consider their choice of methodology on a case-by-case basis, taking into account the specific circumstances of each case. Depending on the circumstances, regulators may apply methodologies other than DORC, or may apply adjustments to DORC or historic cost valuations. In a number of the cases referred to above, adjustments have been made to DORC or historic cost valuations in order to achieve particular price outcomes.

3 Implementation of the valuation method

3.1 Queensland Rail proposal

Queensland Rail's proposed DORC value reflects its 2013 DAU proposal, with two adjustments. Queensland Rail has added some capital expenditure triggered by common activities, and has included an interest during construction

Queensland Rail does not appear to have otherwise changed its method for determining the DORC value. In particular, there does not appear to be any change to the assumed level of optimisation or nature of replacement assets.

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[53] IPART, *Sydney Catchment Authority – Prices of Water Supply Services: Medium-term price path from 1 October 2000*, September 2000, p 17.

[54] ESC, *Metropolitan and Regional Businesses' Water Plans 2005-06 to 2007-08 Final Decision*, June 2005.

3.2 Considerations for determining a DORC value

As discussed above, the QCA has a relatively broad discretion in determining an appropriate asset valuation method. The available methods include DORC, historic cost and hybrids or variations on these methods. The appropriate method for a particular case will depend on the circumstances of that case.

For the same reasons, there is discretion available in the implementation of the QCA's chosen method, particularly if a DORC (or adjusted DORC) method is adopted. In implementing a DORC method, a number of discretionary decisions will need to be made, including:

- the extent to which network routes are optimised;
- the assumed choice of technology for replacing network assets;
- the assumed capacity requirements for the optimised network; and
- related to the above, the scope of assets that are included in the replacement asset base.

On these issues, there is unlikely to be one correct approach. Rather, these will be matters for the regulator's discretion, having regard to the statutory criteria.

This was noted by the ACCC, in its *Draft Statement of Principles for the Regulation of Transmission Revenues*:[55]

> "Discretion is available in deciding how the optimal system configuration should be determined. Even in the absence of alternative technologies there is an issue as to what level optimisation should be considered and whether it should be done in respect of each item of infrastructure or on a system-wide basis. There is clearly an important trade-off involved in the level of detail considered and the cost of conducting the evaluation."

The types of methodological choices which need to be made in applying a replacement cost methodology can in some cases be hotly disputed. For example, when a replacement cost methodology was applied for the purposes of pricing Telstra's fixed-line services (prior to the ACCC moving to an adjusted historic cost method), significant dispute arose as to the extent of optimisation that should be assumed. There were three possible approaches considered (existing network design, "scorched node" and "scorched earth"), along with variations to these approaches. The ACCC sought to apply a "scorched node" approach, which involved taking existing network nodes as given, and optimising cable routes between those nodes. However there was significant dispute between the ACCC, Telstra and access seekers as to how this approach should be applied in practice to determine the optimised network design (and hence the optimised replacement cost valuation).[56]

In the case of Queensland Rail's proposed DORC valuation, there would appear to be several issues requiring consideration by the QCA, including:

- whether the network design used as the basis for the valuation has been adequately optimised. In particular, it is not clear whether the network design has been optimised for the lower levels of demand now forecast by Queensland Rail. It is noteworthy that the assumed level of optimisation does not appear to have changed since the 2013 DAU proposal, despite a significant decline in forecast demand since that proposal;
- whether it is appropriate to allow a modern equivalent asset value that is higher than the historic cost of the assets actually in use, in circumstances where users are not obtaining the benefit of more modern infrastructure. To the extent that users are bearing higher costs due to the age

[55] ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999, p 43.

[56] Some of this dispute is summarised by the Australian Competition Tribunal in its review the ACCC's decision to reject Telstra's 2008 ULLS undertaking (*Application by Telstra* [2010] ACompT 1, [104]-[112]).

and condition of the Queensland Rail network (e.g. higher below rail maintenance costs and/or higher above rail costs due to an inability to use more modern locomotives) this may suggest that it is not appropriate to allow for higher modern equivalent asset costs in the DORC value; and

- whether it is appropriate to include the cost of assets that are fully depreciated.

On each of these issues, the QCA will need to exercise its regulatory judgement, having regard to the matters set out in s 138 of the QCA Act.

4 Allocation of the opening asset value

4.1 Queensland Rail's proposal

Queensland Rail proposes that the train path allocator be based on forecast train paths, where forecast train paths or both coal and non-coal services are based on the best available information on likely usage.

Queensland Rail argues that under the method proposed by the QCA in its October 2014 draft decision, which is based on available paths rather than expected usage, it will be prevented from recovering all of the efficient costs of providing access to the rail infrastructure, to the extent that there are any unused paths.[57] Queensland Rail considers that for this reason, the QCA's proposed method is inconsistent with the pricing principles in the QCA Act.

4.2 Is the QCA's proposed approach inconsistent with the pricing principles?

Queensland Rail's key criticism of the QCA's proposed allocation approach is that it may result in Queensland Rail under-recovering the costs of providing access to its rail infrastructure. The concern appears to be that, as a result of the QCA's proposed allocation approach, Queensland Rail's total revenue across coal and non-coal services may not be sufficient to cover the cost of providing these services.

It is not clear to us that the QCA's proposed method would necessarily result in Queensland Rail under-recovering its costs across coal and non-coal services. This is because Queensland Rail has pricing freedom in respect of non-coal services and therefore can set tariffs as it sees fit to meet its commercial objectives in respect of those services. Since the QCA does not set tariffs for non-coal services, it similarly cannot know how its decisions will impact on Queensland Rail's ability to recover its costs in respect of these services.

In any event, the relevant question in this context is not whether Queensland Rail will have an opportunity to recover its costs across coal and other services. Rather the relevant question under the QCA Act pricing principles is whether the tariff for the coal haulage service is likely to generate expected revenue that is at least enough to meet the efficient costs of providing access to *that* service.[58]

The QCA is not required to ensure that Queensland Rail can recover its costs across its coal haulage and other services, nor can it practically do so. Rather, the pricing principles simply require that where it sets a tariff for the coal haulage service, the QCA must have regard to the principle that the tariff should generate expected revenue that is at least enough to meet the efficient costs of providing access to that service.

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[57] Queensland Rail, *Explanatory Submission – Queensland Rail's Draft Access Undertaking 1 (2015)*, Volume 2, May 2015, p 46.

[58] *Queensland Competition Authority Act 1997* (Qld), s 168A(a).

In order to satisfy the pricing principles, what is important is that tariffs for coal services be expected to recover that portion of the cost base that is allocated to those services. It is up to Queensland Rail how it seeks to recover the remaining portion of the cost base that is allocated to other services.

Therefore, we do not agree with Queensland Rail that the QCA's proposed approach to allocation of the opening asset value will breach the pricing principles. Provided that Queensland Rail has an opportunity to recover those costs that are attributed to coal services through the regulated coal haulage tariff, the first of the pricing principles will be satisfied.

4.3 Considerations for determining the allocation of the opening asset value

There is limited guidance in the QCA Act on how to allocate the cost of common infrastructure between coal and other services. As discussed above, we do not consider that any particular approach is required (or prohibited) by the QCA Act pricing principles.

Therefore the question of how to allocate costs between coal and non-coal services will be one for the QCA's discretion, having regard to the matters listed in s 138(2) of the QCA Act.

In light of the matters listed in s 138(2) of the QCA Act, we note that the Queensland Rail proposal is likely to have a number of disadvantages, including:

- the consequences of declining utilisation of the rail infrastructure, either by coal and/or non-coal services, will be at least partly borne by coal users, since any decline in utilisation (even if this is entirely attributable to non-coal services) will lead to higher unit costs for coal services;
- Queensland Rail's incentives to drive efficient use of the rail infrastructure (including the capacity that is allocated to non-coal services) may be more limited, since some of the risk of declining utilisation will be shifted to coal users; and
- basing allocation on relative usage may lead to greater volatility in tariffs, since the allocation will change as relative usage changes.

These disadvantages would need to be weighed against any perceived advantages of the Queensland Rail approach.

4.4 Regulatory precedent

Allocation of common costs between services has been considered in the context of airport regulation. One method that is sometimes applied for determining regulated airport charges is the 'dual till' method, which requires separate identification of costs attributable to regulated and unregulated activities and the setting of regulated charges based on the costs attributable only to those activities that are regulated.

Cost allocation under the dual till method was considered by the ACCC in its assessment of an aeronautical pricing proposal from Sydney Airports Corporation Ltd (**SACL**). The ACCC emphasised that there is often no obviously fair method of allocating common costs, and there is no simple economic principle which governs this.[59] The ACCC therefore sought to establish a 'fair and reasonable' allocation of common costs, having regard to the matters it was required to take into account in that case.

In its aeronautical pricing proposal, SACL had proposed a method whereby the cost of various activities was either:

- entirely attributed to aeronautical services;
- entirely attributed to non-aeronautical services; or

[59] ACCC, *Sydney Airports Corporation Ltd Aeronautical Pricing Proposal: Decision*, May 2001, p 157.

- allocated between aeronautical and non-aeronautical services.[60]

The key activity that needed to be allocated between aeronautical and non-aeronautical services was use of passenger terminal buildings. For this activity, the allocation of costs was based on the building capacity available to aeronautical and non-aeronautical services, as reflected in the number of square metres devoted to each class of service.

Table 2: Examples of common cost allocation for SACL[61]

Activity	Cost ($)	Allocation
Runways	$244,875,310	100% aeronautical services
Runway lighting and visual aids	$284,507	100% aeronautical services
Domestic aprons	$22,745,689	100% non-aeronautical services
Roads and car parks	$8,639,673	100% non-aeronautical services
Passenger terminal buildings	$178,790,251	59.4% aeronautical services / 40.6% non-aeronautical services, based on the proportion of square metres in terminal devoted to aero/non-aero.

SACL's proposed allocations, including its capacity-based allocation of terminal building costs, was considered reasonable and was accepted by the ACCC.[62]

We observe that the method that was accepted by the ACCC in the SACL case is similar to the method proposed by the QCA for allocation of QR's common costs. The method accepted by the ACCC was based on capacity devoted to each class of service as a proportion of total capacity, rather than on usage. An important feature of this method is that any upside or downside risk in relation to utilisation of airport capacity that is devoted to non-aeronautical services (and revenue from these services) is borne by SACL – that is, SACL is entitled to keep the benefit of any increase in revenue from non-aeronautical services, but is also exposed to the risk of any decline in revenue from (or demand for) these services.

The approach accepted by the ACCC in the SACL case therefore ensures that regulated revenues reflect only the commercial and regulatory risks associated with providing *regulated* services.[63] This approach ensures that regulated revenues do not subsidise, and are not subsidised by, unregulated activities. We observe that the approach proposed by QR to allocation of costs between coal and non-coal services does not appear to maintain this kind of distinction in relation to the Western System.

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[60] Under the relevant declaration, aeronautical services were defined as "aircraft movement facilities and activities" (including runways, aircraft parking, airfield lighting and guidance facilities) and "passenger processing facilities and activities" (including aerobridges, customs/immigration areas, baggage handling and fight information display systems). Non-aeronautical services are all other services provided by the airport, such as parking and retail space. For details refer to: ACCC, *Sydney Airports Corporation Ltd Aeronautical Pricing Proposal: Decision*, May 2001, Appendix A.

[61] ACCC, *Sydney Airports Corporation Ltd Aeronautical Pricing Proposal: Decision*, May 2001, p 153.

[62] ACCC, *Sydney Airports Corporation Ltd Aeronautical Pricing Proposal: Decision*, May 2001, p 159.

[63] QCA Act, s 168A(a).