Brookfield Rail

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11 June 2015

Mr Stephen King
Alternate Chairman
Economic Regulation Authority
Level 4, Albert Facey House
469 Wellington Street
Perth WA 6000

Dear Stephen,

I refer to the notice "Publication of Further Submission Material and Call for Further Comment" issued on 7 May 2015 by the Economic Regulation Authority. This notice related to the release of submissions to the "Review of the Railways (Access) Code 2000 Issues Paper" issued in February 2015.

In the attached submission, Brookfield Rail (**BR**) provides comment on the issues raised in submissions and additional issues regarding the suitability of the Railways (Access) Code 2000 as it relates to giving effect to the Competition Principles Agreement of 11 April 1995, amended 13 April 2007.

In support of its submission, BR has engaged Synergies Economic Consulting to produce a report addressing issues concerning the prescriptiveness of the Regime and the valuation methodology for infrastructure costs, and that report is attached.

Please note that due to the limited time available for reply, BR has not commented on each issue raised in the public submissions. The absence of such commentary does not imply agreement with submissions, and in general BR's position remains that stated in its previous submission.

BR thanks the ERA for the opportunity to comment and believes its contribution assists the ERA in shaping its recommendations on how the ability of the Code to give effect to the goals of the Competition Principles Agreement may be improved.

Yours sincerely

Paul Larsen
Chief Executive Officer
Brookfield Rail Pty Ltd

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BR Submission to ERA notice "Publication of Further Submission Material and Call for Further Comment" issued on 7 May 2015 by the Economic Regulation Authority

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1. GRV Cost Calculation Method

1.1 Purpose and Historical Significance

1.1.1 In inviting additional submissions, the Economic Regulation Authority (**ERA** or **Regulator**) has requested feedback specifically on the means of establishing an asset value for the purposes of calculating capital costs. The *Railways (Access) Code 2000* (**Code**) utilises the gross replacement value (**GRV**) method of valuing infrastructure, and has done so since its inception in 2000.

1.1.2 The purpose of valuing the infrastructure in a regulatory context is to replicate the outcomes that would occur in a competitive market. The cost should be that which a rival could afford to supply the product if there was competition, and a price that does not exceed this ensures that access seekers will pay no more for access than they could if they could acquire the service in a competitive market.

1.1.3 GRV is a method which takes the value of the modern equivalent asset (**MEA**) of the railway infrastructure, and uses this as the basis for an efficient cost of railway infrastructure provision.

1.1.4 Brookfield Rail (**BR**) reiterates its objection to a change away from GRV, on the basis that GRV formed a fundamental pricing tenet for both the privatisation of the government Westrail business, and later to Brookfield's purchase of the lease over the network. Any change to the valuation method undermines the basis of those transactions, and is contrary to BR's legitimate business interests.

1.1.5 BR considers that although there are alternative methods of valuing infrastructure, GRV is an effective way to do so. There is no evidence that a move to another asset valuation methodology would improve the efficiency of the costing process consistent with the objective of the *Railways (Access) Act 1998* (**Act**) and the Code (collectively, the **Regime**) and the Competition Principles Agreement of 11 April 1995, amended 13 April 2007 (**CPA**), and in fact such a move would incur considerable cost to railway owners and the Regulator. Departing from a valid valuation technique must have adverse implications for the credibility of the Regime and with it, incentives which are contrary to economic efficiency.

1.2 Transparent and Straightforward In Operation

1.2.1 Submissions have asserted that the GRV method of cost calculation is complex and not transparent. BR disagrees with this assertion. A major virtue of the GRV methodology is the fact that it is conceptually easy to understand, ultimately being of the form:

$$[Count\ of\ rail\ infrastructure\ inventory] * [Price\ for\ each\ unit\ of\ inventory] = [Gross\ replacement\ value\ of\ railway\ infrastructure]$$

1.2.2 This process is applied to all elements of the railway infrastructure (earthworks, rail, sleepers, ballast, culverts, bridges, signals, communications, etc.) as well as elements of their construction (tracklaying effort etc.). The GRV therefore represents the cost of building the railway infrastructure at a point in time, where that point in time is defined by the detail of the asset inventory and unit prices.

1.2.3 Elements of the GRV are easily converted into an annuity which when aggregated, represent the capital component of the ceiling cost. This annuity is the annual amount of revenue needed over an assets economic life to recover the GRV, based on a rate of return determined by the Regulator.

1.2.4 The standard form of the annuity formula is used:

$$Annuity = PV \,/ \left[\left\{\frac{1-(1+i)^{-n}}{i}\right\} * (1+i)\right]$$

Where:

Annuity	The annuity value.
PV	The present value, i.e. the GRV minus the present value of any salvage value (which will be zero in most cases).
i	The interest rate, i.e. the weighted average cost of capital (**WACC**) determined by the Regulator.
n	The number of periods of the annuity, i.e. the economic life expressed in years.

This can be easily replicated in Microsoft Excel.

1.2.5 Items that are not capital costs and are already in the form of annual amount, such as annual operating costs (e.g. overheads, maintenance etc.), are used as they are in the calculation of the ceiling.

1.2.6 Simply put, the ceiling price is the sum of all of those relevant capital annuities, as well as the annual operating costs.

1.2.7 BR submits that the above steps, which constitute the foundation of how the GRV valuation process is employed, are simple and transparent. Section 9(1)(c)(ii) requires

the railway owner to follow the above steps, and make its own assessment of the costs involved, which it then provides to the access seeker and the Regulator.

1.2.8 Both an access seeker and the Regulator make their own assessments of the railway owner's costs. In the case of the recent access proposal from Co-operative Bulk Handling Limited (**CBH**), BR provided only the outputs of BR's own calculation of costs to CBH. This is because BR opted to utilise confidential commercial information when making its own determination of costs, and it would not have been appropriate to share this information with CBH. This did not prevent CBH from making its own independent assessment of the costs, utilising the asset inventory and unit pricing that it deemed appropriate.

1.2.9 However, in order to make the ERA's task of assessing the costs easier, and because BR had faith in the integrity of the ERA in relation to adherence to confidentiality, BR did share its input information with the ERA. The ERA was therefore in a position to assess not only BR's outputs, but also the inputs to the cost calculations. The ERA utilised its own internal modelling resources, and also engaged a technical consultant, in order to conduct a detailed critique of BR's cost submission. On the basis of this critique, the ERA assembled its own determination of costs, relying in part on BR's input information, and in part on the ERA's own input information.

1.2.10 Any interested party can assess the market prices for railway infrastructure by obtaining its own quotes. It can make its own assessment of the industry standard quantities needed to build the railway infrastructure, and thereby come to its own conclusions regarding costs. In comparison to other valuation methodologies, the GRV method has the advantage of not requiring it to assess the condition of the existing infrastructure and therefore the remaining life, which would be extremely difficult to do, particularly when assets are old and there is no available information on construction dates.

1.2.11 BR submits that the ease by which the GRV valuation method can be independently employed in this way by any party seeking to make its own independent assessment of the railway infrastructure is a vital and valuable facet of the GRV not available via other valuation approaches.

1.3 Transparency and Independent Assessment of Costs

1.3.1 Submissions have suggested that the Code be changed to require the railway owner to provide more detailed and transparent pricing information at a preliminary stage before negotiations commence. This is so an access seeker may audit the cost calculations of the railway owner, as well as the associated floor and ceiling prices.

1.3.2 By virtue of the process outlined in section 1.1, BR submits that such a change is not necessary. By design the GRV method, in contrast to other valuation methods, allows for an entirely independent assessment of costs.

1.3.3 It is not necessary (nor, where confidential commercial information has been utilised by the railway owner, appropriate) for an access seeker to conduct an audit of the calculations performed by the railway owner, because this is the role of the ERA as an independent assessor in the cost determination process. As an unbiased body, the ERA is at liberty to critique inputs, calculations and outputs ***on their merits alone***, and also is imbued with the authority to force the adoption of an alternative set of costs as it deems appropriate, via Sch.4 cl.10(3) of the Code.

1.3.4 The access seeker's opinion of the railway owner's own cost calculations does not have any relevance to the access process, except to the extent that the access seeker chooses to comprehensively address the elements in question with the Regulator. If the access seeker takes issue with the railway owner's costing, then the access seeker should seek to redress that issue by independently raising it with the Regulator. It should be noted that the Code allows an access seeker to put forward an unsolicited submission to the Regulator at any time.

1.3.5 Indeed, Sch.4 cl.9(1) of the Code gives the Regulator the power to determine costs if it 'considers that it is likely that a proposal will be made to the railway owner in respect of a route', and Sch.4 cl.12 gives the Regulator the power to review and redetermine costs if there is justification (due to a material change in circumstances) for doing so. Clearly, this power is broad and open ended, and gives an access seeker (or indeed, any party) ample opportunity to raise relevant issues for unbiased assessment of the Regulator.

1.3.6 To BR's knowledge, this is a unique and powerful aspect of the Code compared to alternatives. Certainly, the Regulated Asset Base (**RAB**) as utilised in a Depreciated Optimised Replacement Cost (**DORC**) valuation method is unlikely to be as open to revision in this same manner, and particularly not in the partisan fashion (that is, entirely at the Regulator's discretion where the review was triggered by information provided by an access seeker) allowed by the Code.

1.3.7 A RAB based on DORC methodology may provide for the principles of financial capital maintenance via certainty about the Regulator's adoption of that asset value for pricing. While for access seekers, this will give them confidence that real increases in replacement value will not cause an increase in asset value, the downside of this is that new arguments cannot be raised in terms of whether that value remains appropriate. This stands in contrast to the GRV valuation method.

1.3.8 As a railway owner, BR accepts that there is some risk to its own interests inherent in the GRV approach. However, BR submits that the value provided to all parties from having the asset valuation open to review where that review is based on an ***assessment of the merits*** of any material information presented to the Regulator far outweighs the benefit of less responsive certainty from other valuation methodologies and regulatory frameworks.

1.3.9 In this regard, the Code functions efficiently and effectively to integrate the concerns of all relevant parties into the calculation of efficient infrastructure costs. It does this in a manner entirely consistent with the economic principles underpinning the stand alone cost assessment as it is intended to replicate the outcomes in a competitive market.

1.4 GRV and MEA as an Uncontentious Valuation Option

1.4.1 Any regulatory regime based on the notion of annual revenue being related to a set of infrastructure, its cost of operation and a reasonable rate of return must make some assumption about what the value of that infrastructure should be. Although there are alternative approaches, the Regime addresses this issue by reference to the GRV of the modern equivalent asset and has done so since 2000.

1.4.2 This means that, given infrastructure described by reference to certain characteristics (e.g. rail of a certain weight, sleepers of a certain type and frequency), the value of that infrastructure is assessed as being the cost of replacing that infrastructure where any obsolete components are replaced with their modern equivalent – the assumption being that modern equivalents would be cheaper than costly to obtain legacy items.

1.4.3 In this way, the cost of the infrastructure is assembled on the basis of an assessment of what the efficient, contemporary characteristics of the infrastructure should be, as well as an assessment of the contemporary market cost of implementing those characteristics. As a result, reference can be made to industry standards and prices of the day for the infrastructure components and services.

1.4.4 BR submits that this is a great strength of the GRV-MEA valuation methodology, because both industry standards and market prices of the day are easily obtainable and verifiable by the Regulator. By virtue of their contemporary use, industry standards and market prices are indisputably reflective of what they are intended to be. All parties are equally capable of independently assessing these values, should they wish to.

1.4.5 In contrast, other valuation methodologies involve more contentious options, which their advocates notably acknowledge. For example, the common DORC method requires an assessment of assets that are in place, and that a judgement is made on their value, economic life and residual life – all three of which are potentially contentious by virtue of their subjective nature. This is exemplified by the example of BR's network – a large and varied network of axle loads, rail gauge, sleeper types, rail tasks i.e. train consists, frequency and load, as well as assets at different stages of economic life.

1.4.6 Another method considered in submissions is to utilise a past asset valuation that has been suitably rolled forward. However, this is also a highly contentious methodology by virtue of its availability (both in time and in detail), but also because it represents a subjective assessment at a point in time, whose context may no longer be relevant nor bear relation to the provision of the assets, depending on the roll forward method. Accurate roll forward approaches are information intensive and costly to maintain.

1.4.7 In light of these considerations, BR submits that the GRV-MEA valuation methodology is very effective in the way that it provides an unambiguous, contemporary benchmark which any interested party can assess, and by which efficient costs can be uncontroversially calculated because they are clearly defined with reference to modern practices and prices.

2. GRV and Efficient Cost of Infrastructure Provision

2.1 Avoiding Distortion in Other Markets via Contemporary Costs

2.1.1 Section 6.5 (a) of the CPA states that an access regime should contain clauses that promote the economically efficient use of, operation of and investment in, significant infrastructure thereby promoting effective competition in upstream or downstream markets.

2.1.2 The emphasis on competition in upstream and downstream markets is because in theory, a regulated natural monopoly has no competition and could distort the operation of these markets.

2.1.3 It should be recognised that although there may not be competition within an industry, there might be competitive effects between industries that serve the same downstream markets - as in the case of road and rail transport in WA.

2.1.4 Competition, where it can be effectively fostered, is assumed to lead to the best possible outcomes for market participants. It is therefore desirable to cultivate an environment in markets which includes, as effectively as possible, the true contemporary cost of operating in that market. The absence of accurate cost recognition admits the possibility of market distortion, e.g. via cost subsidy, the result of which is the potential for externalities to be imposed on parties not directly involved in the transaction, such as the community or the environment.

2.1.5 It is in this context that the Code, with the GRV-MEA valuation methodology embodied in the ceiling price, operates. BR submits that as a mechanism to ensure that market participants are exposed to costs reflecting the contemporary cost landscape in which are engaged, that the GRV-MEA method is the most direct and testable method that achieves that goal.

2.1.6 This matter is particularly relevant for BR as it relates to transport of grain by CBH, for two reasons.

2.1.7 Firstly, the nature of road infrastructure funding by government (subsidisation) has meant overuse of road in preference of rail. Submissions make note of the heavy externalised costs of this distorted market outcome on communities and society at large, e.g. from ruined roads and dangerous traffic. Submissions also note that other infrastructure may be a very poor substitute compared to the rail infrastructure. However, infrastructure that is a poor substitute would only be utilised if the full cost of that infrastructure was not properly experienced by the user.

2.1.8 Exposing users such as CBH to the full, contemporary cost of their use of transport infrastructure is the most effective way to reduce the burden of externalities on society, and the Code allows railway owners to do this by virtue of the GRV-MEA method, which ensures contemporary costs are calculated for use in the ceiling price.

2.1.9 Secondly, for reasons primarily political in nature, CBH have experienced less than the full cost of rail access for many years. As the single consumer of rail services on large parts of the network, CBH have been the only party who have benefited from the provision of dedicated grain railway infrastructure. For historical reasons, prices paid have not reflected the full cost of providing that infrastructure, and because major capital injections at intervals have been funded by government, the effect has been that CBH has benefited from the 'mining' of government investment without having to bear the associated cost.

2.1.10 Capital injections have fallen due or will be due within the term of the CBH access agreement, and it is necessary for BR to halt the market distortion caused by this infrastructure subsidy and expose CBH to the true efficient cost for its use of the railway infrastructure. The GRV-MEA mechanism provided by the Code allows for efficient, modern costs of railway infrastructure to be independently assessed and presented to an access seeker such as CBH.

2.1.11 In this way, the GRV-MEA valuation method is effective at avoiding distortion in up and downstream markets because it presents market participants with efficient, contemporary costs of infrastructure access. BR submits that for this reason, the GRV-MEA valuation method is more effective than alternatives at giving effect to the CPA by preventing market distortion and promoting effective competition in upstream or downstream markets.

2.2 Mitigation of Valuation Gains and Losses

2.2.1 Submissions have stated that because the Code (correctly) allows for regular updating of valuations to reflect efficient modern equivalent costs that windfall gains or losses accrue to the access provider with the passage of time.

2.2.2 BR submits that under the negotiate-arbitrate model of the Code, this is an unlikely outcome because there are no mechanisms available to the railway owner to ensure it is the case.

2.2.3 Additionally, the CPA prioritises effective competition in up and downstream markets and is concerned with the gains or losses made by the infrastructure owner only to the extent that efficient use and operation of, and investment in that infrastructure is promoted.

2.2.4 The only circumstance where it is possible for a railway owner to experience the effect of changes in valuation is where each and every year it recovers, from all customers, an amount equal to the ceiling. The ceiling price test in the Code ensures that a railway owner cannot recover more from operators under the Regime than the efficient cost of providing the railway infrastructure.

2.2.5 However, neither the ceiling nor the floor price tests provide a mechanism for the railway owner to be reimbursed in the event that it does not collect sufficient revenue, as might happen in the event of a low grain harvest on dedicated grain rail lines, for example.

2.2.6 Instead, the Code prioritises the flexibility afforded by the negotiate-arbitrate model. By this approach, the railway owner and the access seeker are free to negotiate an access price that is satisfactory to both parties. Rather than seeking to recover the full ceiling in all cases, particularly where there may not be sufficient value in the service to cover all sunk costs from all participants, negotiation provides a way of determining the proportion of each participant's sunk costs that will be recovered.

2.2.7 The railway owner may endeavour to offset the loss of those revenues by negotiating cost savings in other areas, such as capacity availability, or service quality. An access seeker is similarly free to commit to the payment of the full, efficient contemporary cost of its use of the railway infrastructure each year, or it might negotiate to lock in an alternative amount in exchange for other terms and conditions.

2.2.8 It is not realistic to suggest that each access seeker would demand an identical set of terms and conditions in its contract for access to the railway infrastructure. For example on the network BR controls, there exists a wide variety of users in a wide variety of markets, each with their own specific price and operational requirements. Without modifying price, the railway owner is restricted in its ability to offer terms and conditions tailored to the needs of access seekers.

2.2.9 Submissions also state that because railway infrastructure is sunk, as long as the price for access exceeds the marginal cost of access, the access provider will continue to provide access. This claim directly contradicts the notion of valuation gains accruing to the railway owner: prices just above marginal cost of access cannot be at the ceiling to experience windfall gains/losses. Having invested sunk capital, the access provider may

be at liberty to under-recover that capital, owing to the fact that the price may only need to exceed the marginal cost of access rather than include a recovery of the capital. (This will not be the case if the infrastructure is expected to remain perpetually operable and not degrade, however.) In any case, this factor is one which would produce downward pressure on price, not upward pressure, and so further reduces the risk of valuation gains being an outcome under the Code.

2.2.10 Section 6(5)(b) of the CPA stipulates that prices should be set to meet efficient costs, provide for a return on investment commensurate with the risks involved, allow pricing discrimination when it aids efficiency, and provide incentives to reduce costs and improve productivity – all factors which form the terms and conditions of an access agreement and which must therefore be decided in negotiation, along with a commensurate price.

2.2.11 BR submits that by virtue of this mechanism, the possibility of valuation gains accruing to a railway owner is remote and undesirable, for the fact that it implies an absence of flexibility in negotiation. The importance of negotiation to the Code process allows commercially capable parties to mitigate the issue, and in this way gives effect to s.6(4)(a) and s.6(5)(b) of the CPA.

2.2.12 Submissions also postulate that if there is a tendency for replacement costs to increase over time, that this facilitates income transfers from the railway owner to the access seeker. It is not a given that replacement costs will increase (over and above normal inflation) over time. A principle goal of the modern equivalent asset concept is to ensure that modern infrastructure is considered in preference to inefficient obsolete infrastructure. Where changes in infrastructure standards facilitate this process, it should lead to lower cost valuations.

2.2.13 An additional offsetting factor is the issue of ‘greenfields’ vs. ‘brownfields’ construction. By design, the Code and the GRV-MEA valuation methodology make no provision for the cost of brownfields construction – that is, the additional costs borne by the railway owner from the process of performing works on an operational railway. Assuming the railway owner collected the full ceiling at all times, any valuation gains would be substantially offset by the additional costs incurred from brownfields construction during the normal undertaking of maintenance and capital works. In this way, the possibility that valuation gains represent an income transfer is significantly diminished.

2.3 Natural Monopoly and Avoiding Inefficient Infrastructure Duplication

2.3.1 The CPA stipulates that an access regime should be established to facilitate access by third parties to significant infrastructure where it would not be economically feasible to duplicate that facility. Such infrastructure is usually a natural monopoly – a situation where the infrastructure can accommodate all use and in turn offer the lowest average cost per use. Preventing the duplication of significant infrastructure in this situation is a positive outcome for society and an implicit aim of the CPA.

2.3.2 Submissions to the note that the Code, by design, offers a 'build or buy' signal to the access seeker. Submissions additionally assert that a build signal is not relevant, because railway networks have strong monopoly characteristics and are not contestable.

2.3.3 However, BR submits that this is not accurate. Infrastructure only exhibits natural monopoly characteristics where it can service all the demand put upon it; when capacity becomes scarce, duplication would serve the legitimate purpose of making more capacity available. Evidence of this is found in the Pilbara, where capacity limitations have triggered the construction of several separate railway networks servicing the same region.

2.3.4 Submissions further assert that if the Regime produced an incentive for access seekers to build alternative infrastructure, that such investment would be inefficient. As noted above, this is not the case if the infrastructure in question was limited in the capacity it could offer. In other cases, the access seeker would only come to prefer the 'build' option if it were presented with a cost greater than the contemporary market cost of constructing the infrastructure and where the cost presented did not reflect the capacity offered.

2.3.5 By design, the Code prevents the railway owner from ever exposing the access seeker to more than the efficient, contemporary cost of providing that infrastructure, because the GRV-MEA methodology represents precisely that. Furthermore, the access seeker will only be presented with a share of the costs commensurate with its use, whereas the creation of new capacity with natural monopoly characteristics implies that excess capacity will be created, and the build decision therefore includes the cost of underutilised capacity.

2.3.6 The Code also contemplates, and negotiate-arbitrate approach ensures, that the price for access will reflect, the standard of the infrastructure concerned and the operations to be carried on it. If the access seeker and the railway owner cannot negotiate an appropriate price that reflects the capacity offered, then the arbitrator will decide a fair price.

2.3.7 Inefficient duplication of infrastructure is of particular interest to BR, because the narrow gauge grain network is a microcosm of that problem. Having been built according to historical patterns of land use when farms were much smaller and transport infrastructure was smaller scale (e.g. horse and cart), some of the lines are built parallel and in places less than 50km apart, while being substantially underutilised for the majority of their operational lives. Underutilisation by CBH (who have themselves rationalised grain

receival sites that duplicate infrastructure) has resulted in insufficient funds being available to keep these lines in operational status without substantial capital injections.

2.3.8 In order to avoid repeating the inefficient investment of capital in the duplication of infrastructure that occurred in the first place, and in the absence of a funding commitment which reflects the efficient, contemporary costs of restoring the operational status of those lines, they have been made non-operational.

2.3.9 BR submits that the risk of inefficient duplication of infrastructure under the Code is low. This is because the nature of the GRV-MEA costing methodology is that it presents an accurate contemporary price for infrastructure access, and that negotiation/arbitration ensures that an access seeker will pay the appropriate price for its use of the infrastructure provided. As such, the Code is effective at giving effect to s.6(5)(a) of the CPA which requires efficient investment in significant infrastructure.

2.4 GRV and Pricing Certainty

2.4.1 Submissions assert that changing asset valuations are antithetical to negotiated outcomes by virtue of the uncertainty regarding the value of the asset base over time. Submissions also suggest that it would be necessary to 'lock in' a RAB and rate of return in order for an access seeker to secure pricing certainty.

2.4.2 BR submits that this is not correct. Sch. 3 of the Code stipulates that access agreements should provide for matters such as 'prices and charges'. It does not however, limit how a pricing arrangement should be structured nor what it should achieve. In this way, the access seeker and the railway owner are at liberty to negotiate whatever pricing arrangements satisfy their needs. In particular, there is nothing preventing locked-in prices for the term of the access agreement.

2.4.3 It is BR's view that subject to the floor and ceiling boundaries (and the ceiling test), there should be no material difference in the way an access agreement under the Code is arranged with regard to pricing, compared to a normal commercial arrangement outside of the Code.

2.4.4 Submissions concerned with pricing in access agreements and the valuation of the infrastructure presume a causality that is unfounded in practice. Access seekers and railway owners alike have an incentive to lock in stable, predictable pricing, because this facilitates investment in and use of the network by virtue of guaranteed cost recovery and access costs. Negotiation (and if that fails, arbitration) is the key mechanism in the Code which facilitates an outcome; nowhere does the Code mandate volatile pricing must be used.

2.4.5 In fact, from the perspective of the access seeker, the ability to lock in pricing via negotiation, combined with the ceiling price test in the Code provides that the only volatility will be in their favour – that is, they will pay for access the amount negotiated, or, in the unlikely event that the railway owner has managed to breach the ceiling price test, less than the negotiated amount.

2.4.6 BR submits that by this mechanism, the Code is well equipped to give effect to s.6(5)(b) of the CPA, because the railway owner is entitled to recover only efficient costs, while both parties are able to negotiate pricing arrangements which provide certainty, mitigate risk, promote efficiency and incentivise productivity as necessary.

2.5 GRV and Investment in Infrastructure

2.5.1 Submissions question the nature of the economic relationship GRV should have with actual investments made by railway owners, considering whether price should be modified to reflect that relationship.

2.5.2 As noted above, the flexibility in negotiation allows the railway owner to accept a price for access lower than the ceiling, for example in circumstances where the market cannot bear the full cost of the service. The railway owner may find itself in a position to accept a price substantially lower than the cost of providing access, in the full acknowledgement that such a process will effectively 'mine' the existing infrastructure to the extent that it is not able to be maintained in perpetuity and will require a capital injection at a point in the future. In this way, the price may be linked to actual investments by reflecting the absence of sufficient ongoing investment to keep the infrastructure operable, allowing the access seeker to benefit from the existing infrastructure without needing to invest to secure the future of that infrastructure.

2.5.3 This facet is particularly relevant for BR, as it mirrors the actual history of the dedicated narrow gauge grain lines. For political and historical reasons, CBH (as the only user of such lines) have not been required to pay the full cost of access which would allow those lines to be sustained in perpetuity. Light utilisation and low prices have meant that the economic value accruing to CBH has come primarily in the form of a transfer from the investor of the capital – in the case of the grain lines, the government – to the sole user of the lines – CBH.

2.5.4 If the infrastructure is not to be operable in perpetuity, then this approach can be an efficient way to utilise existing infrastructure. In the event that unusual circumstances conspire to make this the most efficient outcome, and if the railway owner and the access seeker understand the inevitable consequences, then the fact that the Code does not prevent this arrangement from occurring is a strength of the Regime that gives effect to the efficient use object of s.6(5)(a) of the CPA.

2.5.5 Furthermore, BR submits that a consideration of the status of the infrastructure in pricing is already anticipated in the Code, by virtue of the pricing guidelines in Sch.4 cl.13, which contemplate that prices should reflect, as far as is reasonable practicable, the standard of the infrastructure concerned and the operations proposed to be carried on by the proponent. In negotiation, and failing that, in arbitration, the parties will come to agreement on the appropriate service being exchanged for an appropriate access price.

2.5.6 Submissions assert that the GRV methodology and the ceiling price fails to incentivise the railway owner to invest developing or maintaining the network because the railway owner is already compensated on the basis that it has invested in a new network. With regard to maintenance of the network, this assertion dismisses the vital and fundamental role that an access agreement would play in representing the commitment of the railway owner to provide the capacity the access seeker is paying for at the standard and for the term that has been agreed.

2.5.7 As with any contract for service, the railway owner and the access seeker will determine in negotiation the capacity and operational standards required by the access seeker, and the railway owner will commit to provide the service according to those standards, and all of the commitments will be binding as per the terms of the access agreement. In order to comply with these commitments, the railway owner is compelled by weight of contractual obligation to maintain the network to at least a standard that provides the access seeker with the access they have agreed to pay for. In the event that the railway owner fails to provide that access by virtue of failing to maintain the network, then the access seeker will have recourse through normal contractual remedies.

2.5.8 With regard to the incentive to invest, contractual commitments provide sufficient incentive to encourage the railway owner to inject capital into the network. BR has engaged in significant capital expenditure in the Midwest (upgrading the capacity of the line to accommodate heavy, frequent iron ore traffic) and Southwest (the extension of crossing loops) regions in recent years, and these projects were undertaken because there was a long term commitment by major users to pay for access to that infrastructure. Because of that commitment, and because the capacity negotiated could not be provided without capital investment in the infrastructure, and because BR received sufficient payments for access, BR was incentivised to invest in the network.

2.5.9 Similarly, it is only in the presence of a commitment by the access seeker to use and the railway owner to provide the network that incentivises investment in the network, and this is the case whether or not the price for access allows for full recovery of costs (as it would at the ceiling) or not. Indeed, without a commitment from users that capacity provided by investment would be utilised effectively, any such investment by the railway owner would be inefficient and an undesirable use of resources, because it would create a ‘gold plated’ network with no users.

2.5.10 BR submits that the Code as currently structured, with its emphasis on flexible negotiation and the formation of mutually agreeable access agreements with customised terms and conditions and performance and supply commitments, provides an effective mechanism to that gives effect to s.6(5)(a) of the CPA, which seeks to promote the efficient use, operation of and investment in the significant infrastructure.

3. Fixed RAB and an Inflexible Regime

3.1 Pricing Certainty and Prescriptive Reference Tariffs

3.1.1 Submissions suggest that the Code should offer greater price certainty by being more prescriptive, such as through the use of reference tariffs.

3.1.2 BR submits that such a change would fundamentally alter the nature of the Regime. A framework would be created that offered parties unacceptably restrictive and inflexible conditions, to reach outcomes which significant commercial entities can readily achieve through negotiation.

3.1.3 The preference for flexible negotiation has been well demonstrated in practice. BR has been able to successfully agree all its access agreements on mutually acceptable terms without recourse to the Code.

3.1.4 Far from demonstrating a failure of the Code, it is testament to the value received by BR and its customers via free and flexible negotiations that the Code has not been required even as a backstop, let alone a first port of call. The recent engagement of the Code process by CBH represents the first time that negotiations have not otherwise been successful.

3.1.5 BR has strong incentives to negotiate in ways that support continued operation and expansion of rail services, as BR's commercial outcomes are inextricably linked to the ongoing demand for access. Submissions criticise the Code because it sets only the upper and lower bounds within which parties negotiate. However, it is clear that even in the absence of those bounds, mutually acceptable negotiated outcomes are achievable. History has shown that there is not a significant marginal benefit to be gained by changing to a more prescriptive pricing regime, particularly in comparison to the cost of that change.

3.1.6 Submissions note the lack of Regulator involvement in setting access prices, suggesting that a lack of oversight is ineffective in giving effect to the objectives of the CPA. BR submits that with Regulator involvement in the setting of prices, then the efficiency of the negotiation process is significantly diminished; not only in relation to the negotiation of a tariff , but also the process of actually establishing reference tariffs. Experience in other regimes shows that this is a time consuming, complex and costly process.

3.1.7 A process of setting reference tariffs effectively outsources the work of arriving at a mutually acceptable price to the Regulator (in turn, the government). Access seekers and railway owners alike are significant commercial entities who have the ability to engage professional services at their own expense to facilitate negotiation as well as legal and financial review. The suggestion that foisting this role upon a government body with limited funding and no stake in the outcome would yield more effective results is not one that stands up to significant scrutiny.

3.1.8 Furthermore, the construction of reference tariffs implies that there is a standard reference service that it could be developed for on BR's network. However, the network under BR's control has unique characteristics in that there is a wide variety of tasks described by an even wider variety of operating parameters, such that any single reference tariff would have extremely limited applicability. To be useful, a very large range of reference tariffs would have to be developed by the Regulator, otherwise these predetermined prices would fail to provide the pricing guidance desired by submissions. This would be an enormously information intensive and costly exercise for the Regulator, and in the event that the reference tariff was not exactly aligned to the specific operational parameters of an access seeker, would be ineffectual in practice.

3.1.9 Submissions have suggested that the floor and ceiling is too broad a range for negotiation and that reference tariffs and prescriptive pricing will solve this issue. BR argues that it is the nature of railway assets that a broad range between the floor and ceiling occurs, and it is necessary to establish the appropriate price. Transferring this to a regulatory process changes the time at which that assessment is made. It requires the price to be set by the Regulator outside the context of a specific negotiation, where the Regulator is remote from the commercial objectives and imperatives of the parties to the negotiation.

3.1.10 In any case, it is not typically the role of reference tariffs to establish the appropriate price between the floor and ceiling. Instead, tariffs are usually set at the ceiling, in order to ensure that the infrastructure owner is recovering exactly what it is allowed to recover each year, no more and no less.

3.2 Certainty in Pricing and via Access Agreements

3.2.1 BR disagrees with submissions that suggest a fixed RAB and prescriptive reference tariffs would improve negotiation process efficiency by offering price certainty.

3.2.2 This suggestion fails to acknowledge the ability of a flexible negotiation process to lock in terms and conditions (including price), and that prescriptive reference tariffs prevent the adoption of terms and conditions to suit the needs of each different access seeker.

3.2.3 Prior to the negotiation period, the GRV (i.e. the RAB) is determined, and floor and ceiling prices set, which provide the boundaries within which the parties then negotiate the price for access paid. Future cost determinations need not affect a negotiated access price, and unless the railway owner recovers sufficient revenues to fail the ceiling price test, then changes to the valuation will not affect either party.

3.2.4 In this regard, parties are already at liberty to negotiate contractual obligations that provide the sort of certainty that submissions reasonably assert is important to the effectiveness of the Regime.

3.3 Relevance of Contemporary WACC and GRV in Negotiation

3.3.1 Submissions assert that the WACC and GRV are difficult to resolve in a negotiation process because they largely involve transfers between parties rather than affecting the real allocation of resources. Submissions further suggest these should be set prior to negotiation.

3.3.2 BR asserts that this already occurs. BR also submits that in the context of creating an access agreement at a point in time, these contemporary factors are very relevant to the considerations of both parties. They relate to the market conditions that will be faced by the railway owner in the future, and it reflects what would be faced by the access seeker if it opted to utilise the next best alternative.

3.3.3 Negotiation will be based on future flows with WACC and GRV reflecting the contemporary cost of funding and infrastructure. It is these flows the asset provider will encounter as it incurs maintenance and replacement costs to support revenues. In this way it is extremely relevant to the real allocation of resources.

3.3.4 Regardless, the Code process stipulates that the Regulator will independently determine these aspects before negotiations commence. Submissions suggest that disputes between the access seeker and the railway owner over the value of these items during negotiation would cause negotiations to be ineffective. However, such a dispute only occurs prior to negotiation, where there is already scope for rectification by virtue of the Regulator's determination process.

4. Negotiating Power and Information Asymmetry

4.1 Security from Arbitration

4.1.1 BR disagrees with submissions that assert the Code should be changed to address perceived negotiating advantage possessed by the railway owner. BR submits that the Code already protects access seekers from this, and that some of the perceived advantages are minimised because the access seeker possesses a parallel advantage.

4.1.2 The Code provides both parties with a mechanism that assesses their claims on merit, in an unbiased manner, and which can form conclusive outcomes regarding the terms, conditions and price for access. If the parties fail to agree within a 90 day timeline, negotiations will inevitably proceed to arbitration. In arbitration, the railway owner loses any advantage it may have held during negotiation.

4.1.3 It should not be forgotten that the railway owner and access seekers are all significant commercial entities, who should have the wherewithal and resources to successfully negotiate mutually agreeable terms and conditions.

4.1.4 The arbitration provisions in the Code ensure that in the event agreement cannot be reached, a reasonable outcome can still be obtained. For this reason, BR submits that the Code already sufficiently protects access seekers from imbalanced negotiations.

4.2 Information Asymmetry Mitigation

4.2.1 BR disagrees with submissions that assert that because a railway owner is already in the market and has the option of denying access, that this is a negotiating advantage because the access seeker cannot compel the owner to grant access.

4.2.2 The Code ensures that access seekers cannot be denied access if they agree to pay the appropriate price for access, which is reinforced if the railway owner is compelled to via arbitration. Even without that protection, a railway owner is incentivised to offer access where the price paid by the access seeker is greater than the cost of granting that access.

4.2.3 Submissions also claim that a railway owner generally has much greater information about its own network than an access seeker, and that this is a negotiating advantage. The reasoning is that an understanding of the costs of providing access is information on which the access seeker depends in negotiation but does not have. The logical extension of this argument is that an access seeker has intimate knowledge of its own cost of operations as well as the economic value extracted from use of the infrastructure, and that this bestows significant negotiating advantage upon the access seeker.

4.2.4 Both parties in an access negotiation have upper and lower price bounds which they are not seeking to cross. However, as required by the Code, the railway owner's boundaries are known by the access seeker in advance.

4.2.5 Standard commercial negotiation processes between professional entities still apply – each party must haggle within those boundaries to achieve a mutually satisfying outcome. However, it does not follow that an access seeker is disadvantaged in negotiations without recourse to the railway owner's information simply because the railway owner understands its own business.

4.2.6 Submissions canvas a range of further considerations regarding the provision of asset and cost information prior to negotiation. With regard to cost information, BR has already noted the transparency and ability to independently assess the cost information, and the role of the Regulator as an unbiased assessor. BR submits that other information, such as performance standards, is the type of information that will be requested and provided in the normal course of negotiation as it becomes relevant. No change to the Code is necessary in this regard.

4.2.7 However, BR notes the submissions that call for an improvement to the information made available via Sch.2 of the Code, such as by replacing gross tonnes with GTKs. BR agrees that some items in Sch.2 are of limited use or are not clearly defined. BR supports a consultative review of this Schedule in order to improve the information made available to access seekers on a routine basis.

5. Timeliness of the Code Process

5.1 Streamlined Timeframe in Normal Process

5.1.1 Submissions reference claims that potential access seekers expressed concern about the acceptability of the timeframes of the Code process, claiming excessive delay and the uncertainty of those timeframes.

5.1.2 BR submits that rather, when the parties correctly adhere to the requirements in the Code process and do not have fundamental disagreements about matters perceived to be plain fact, the Code process runs from commencement to completion in a timeframe that rivals normal commercial process. Indeed, this remains so even considering the timeframe changes BR put forward in its previous submission.

5.1.3 Supporting this position, the following timetable of events shows what can be achieved:

Code Reference	Day Number	Action
s.7(1)	1	Preliminary information request made by access seeker.
s.7(2)	15	Preliminary information provided by railway owner.
s.8	16	Access Proposal made by access seeker.
s.9(1)	23	Floor and ceiling price, costs and costing principles provided by railway owner.
s.14/s.15	24	Information regarding financial/managerial capability and capacity provided by access seeker.
s.18	31	Notification of satisfaction of s.14/s.15 requirements by railway owner.
Sch.4 cl.10(3)	53	Determination of costs by Regulator.
s.9(3a)(b)	60	Provision of draft access agreement.
s.19(1)	61	Notification of readiness to commence negotiations provided by railway owner.
s.19(3)	68	Notification of readiness to commence negotiations provided by access seeker.
s.20(1)	69	NEGOTIATIONS COMMENCE
s.20(3)	159	NEGOTIATIONS END

5.1.4 Assuming parties utilise all days allowed at each step, negotiations can begin less than 70 days after the initial request for information, and less than 60 days after the access

proposal. This is a very fast timeline in consideration of the substantiveness of the infrastructure involved, and the typical long term access commitments involved. A firm cap of 90 further days is placed on negotiation time, unless the parties agree to a shorter timeframe.

5.1.5 Additional time is added to the process in the event of an extension/expansion being necessary, or if the proposal for access is one that seeks exclusive use of the railway infrastructure (an arrangement that must be assessed and approved by the Regulator), or if the access seeker is unable to demonstrate to the railway owner's satisfaction that they are capable of engaging in the proposed operations capably. These are all legitimate causes of delay, and the Code details firm limits to the delay from each, in any case.

5.1.6 BR recognises that in its previous submission, it sought to increase the timeframes involved, at least by changing references to days into business days, and to increase some of the timeframes absolutely.

5.1.7 BR calculates that the absolute increase to timeframes it proposed means the parties would be able to commence negotiation some 40 additional business days later. In addition to the business days change, this would increase the time to negotiation to about 5.5 months, versus the 2 months that is currently the case. BR submits that this is still in line with normal commercial practices for access to significant infrastructure on a long term basis.

5.2 Delays in Code Process

5.2.1 Submissions have referred to the time that has elapsed without settlement occurring since CBH launched formal proceedings under the Code in December 2013. In particular that this reflects a capacity for the provisions of the Code to be exploited by the railway owner.

5.2.2 Rather, BR notes that the substantial delays have been caused either by CBH, or the arbitration process which the Code guided the parties to after an irreconcilable difference of understanding between BR and CBH.

5.2.3 In the first instance, CBH failed, in BR's opinion, to provide a valid access proposal. BR repeatedly requested that CBH clarify their access proposal, but did not receive the necessary information. CBH in turn launched legal action through the Supreme Court of WA, and the parties subsequently engaged in a process of mediation. The outcome of this was a clarified access proposal from CBH – one which could have been provided from the outset. This difficulty added significant delay to the access process.

5.2.4 Secondly, in the process of determining the costs provided by BR, the ERA requested two extensions to the deadline in Sch.4 cl.10(3) from CBH, as per Sch.4 cl.11(2) of the Code. In this case, the decision to permit such extensions rested entirely in CBH's hands, and BR was unaware of them until the ERA issued the public notice stating so.

5.2.5 In both cases, BR had readied itself to continue the next steps in the process immediately following the expected date of the determination, and in both cases had to revise its planning. Regardless, BR adhered to all timeframes applicable to it, as required by the Code.

5.2.6 Thirdly, it is the case that BR and CBH have required recourse to arbitration. This, ultimately, regarded fundamentally different views on what access the railway owner could and could not provide, given the definitions in the Code and the condition of the infrastructure. If the Code had not provided recourse to arbitration to independently determine the matter, the issue would have likely taken longer to resolve. In any event, the arbitration took the necessary time to review all the evidence presented by each party and form a view, which is now informing further progress through the Code process. That delay was caused by this step is indicative of the difficulty of reconciling two very differing positions.

5.2.7 Submissions assert that the railway owner will have strong incentives to delay entry into negotiations, in particular where there is a risk that arbitration will lead to lower prices. The railway owner does not have any opportunity to delay, outside of the scope of utilising the full timelines available to it in the Code. In the event that the railway owner does not comply with those timelines, the access seeker can pursue legal action to rectify the situation. Any assertion that the railway owner can 'game' the system for its own benefit is simply not true – the railway owner has no open-ended timelines available to it.

5.2.8 Additionally, BR disagrees with submissions that assert there is very little incentive for access seekers to submit frivolous requests. In fact, the Code has fewer binding provisions on the access seeker, and most of the steps that an access seeker undertakes do not prescribe an onerous set of actions.

5.2.9 The access seeker is free to withdraw its proposal at any time outside of arbitration (as per s.9A of the Code), and is not bound by the results of an arbitration. BR submits that in fact there is substantial scope for frivolous access requests, and that is why in its previous submission BR suggested that arbitration should be binding on both parties, in order to provide a concrete and unavoidable resolution to a disputed access process.

6. Arbitration – Availability and Importance

6.1 Recourse to Arbitration

6.1.1 Submissions have stated that the hurdle for seeking arbitration is presently too high for it to represent an effective safeguard should commercial negotiations fail. Submissions have also sought to demonstrate that the threshold to show that parties are unable to reach agreement is low in other regimes.

6.1.2 BR submits that not only is recourse to arbitration available at important junctures in the Code process, but also that the access seeker is largely in control of this recourse.

6.1.3 Arbitration becomes an option if an access seeker has made a proposal that complies with the Code, and the parties are in dispute because:

- the railway owner has refused to negotiate as per s.13 of the Code;
- the access seeker has (at least) twice provided information to the railway owner intended to demonstrate the financial and managerial capability of the access seeker and the capacity of the operations to be accommodated on the network, and the railway owner is not satisfied;
- negotiations have commenced, but the time limit set by parties has expired with no agreement; or
- the parties agree in writing that negotiations have broken down.

6.1.4 Therefore, prior to negotiation, recourse to arbitration is available entirely at the access seeker's behest potentially as soon as 21 days after the access proposal is made.

6.1.5 At the beginning of the negotiation period, recourse to arbitration is immediately available to the access seeker if the railway owner does not commence negotiations with the access seeker.

6.1.6 During negotiation, if the predetermined time for negotiation expires (at most 90 days and may be less), recourse arbitration is immediately available to the parties. If they jointly agree that negotiations are not progressing, arbitration may be available even sooner.

6.1.7 BR submits that this capacity for recourse to arbitration in the Code presents a very low hurdle, and in that regard gives good effect to s.6(4)(g) of the CPA, which requires a dispute resolution mechanism to be available in the event that parties cannot agree on terms and conditions for access to the service.

6.2 Importance of Arbitration Mechanism

6.2.1 As previously discussed, recourse to arbitration provides an important and independent backstop to negotiations under the Code, one which weighs evidence and arguments provided by each party on their merits and without bias. For this reason, it is a fundamental part of the Code process, and as BR has previously submitted, one that should be strengthened by making arbitration binding on both the access seeker as well as the railway owner.

6.2.2 BR disagrees with submissions that suggest the Regulator should act as an arbitrator or mediator. The Regulator is not a body that necessarily possesses the required resources or skillset to perform arbitration or mediation activities, nor should it be. BR reiterates that it is much more preferable for parties to be involved in the appointment process of an independent arbitrator, with the Regulator having final decision. BR suggested this in its earlier submission, and notes that other submissions supported this approach.

6.2.3 BR disagrees with suggestions that arbitration decisions should be made public in order that they could be used for their precedent value. BR notes that they are currently subject to the strict confidentiality requirements imposed by the *Commercial Arbitration Act 2012*. Arbitrations under the Code should conform to the requirements of this Act. The purpose of arbitration in the Code is to resolve specific disputes which exist in a context relevant to a specific time and place. The nature of an arbitration is that it occurs without prejudice in order to reach the fairest, independently assessed agreement.

7. Other Items

7.1 Regulator Assessment of Railway Owner Compliance

7.1.1 Submissions discuss the notion that it is problematic that access seekers are unable to assess whether the railway owner has breached the ceiling price test, citing the unavailability of cost information, particularly in the case of an absence of a determination.

7.1.2 BR submits that it is not the role of access seekers to make this assessment. Section 20(1) of the Act makes the Regulator responsible for monitoring and enforcing compliance by railway owners with the Act and the Code. The Regulator may conduct reviews and audits as it sees fit to ensure that, for example, the railway owner has not breached the ceiling price test.

7.1.3 The Regulator is at liberty to exercise these powers at any time, and the railway owner's failure to comply with a request from the Regulator carries with it significant financial penalties. By virtue of these powers, parties can be confident that sufficient oversight of the railway owner's activities will occur.

7.2 Assessment of Ceiling and Costs outside Regime

7.2.1 Submissions suggest that it is problematic that the ceiling test is not performed if there are no access agreements inside the Regime, and that costs are not determined if there is no proposal inside the Regime.

7.2.2 Section 6(4)(a) of the CPA states that the first principle of a regime is that access to a facility should be on terms and conditions agreed by the owner and the person seeking access. If such an agreement cannot be reached, then the government should establish a right (and mechanism) to negotiate that access.

7.2.3 BR submits that if, as per 6(4)(a) of the CPA, the parties are able to agree, then recourse to any of the elements and backstop guarantees of the Regime is not necessary or intended by the CPA. Additionally, the administrative cost of implementing them, to the railway owner and especially to the Regulator, is significant, and it is efficient to avoid those costs where it is demonstrably not necessary by the absence of access seekers engaging the Regime.

Review of WA Railways Access Code

A report prepared for Brookfield Rail

June 2015

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Contents

1 Introduction

1.1 The Code review

The WA rail access regime is established by the *Railways (Access) Act 1998* (the Act), together with the *Railways (Access) Code 2000* (the Code). The Act establishes a rail access regime with the objective of encouraging the efficient use of and investment in railway facilities by facilitating a contestable market for rail operations.[1]

The Code is established as subsidiary legislation under the Act, and addresses the requirements specified under Part 2 of the Act, including the process for negotiation of access agreements between the railway owner and the access seeker, the arbitration of any resulting disputes and the ERA's role in these processes.

In accordance with the provisions of the Act, the ERA is required to undertake a review of the Code at five yearly intervals. The purpose of this review is to assess the suitability of the provisions of the Code to give effect to the Competition Principles Agreement (CPA) in respect of railways to which the Code applies.[2]

The ERA is in the process of undertaking a review of the Code in accordance with this requirement. As part of this review, in February 2015, the ERA sought submissions from stakeholders on a range of issues associated with the effectiveness of the Code. Following review of these stakeholder submissions, on 7 May 2015, the ERA called for further stakeholder comment on two issues that it noted were raised in all submissions:

- the prescriptiveness of the Code; and
- the Gross Replacement Valuation method prescribed by the Code.

In particular, the ERA has sought stakeholder responses on comments made in submissions in relation to these matters and, in particular on alternative approaches that would better promote the efficient use of, and investment in, railway facilities by facilitating a contestable market for rail operations and give effect to the CPA.

1.2 Guiding principles for Code review

The Act provides guiding principles for the Code review. The Act specifically requires that the review assess the suitability of Code in giving effect to the CPA, which provides high level guidance as to the content of an access regime. More fundamentally, however,

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1 *Railways (Access) Act 2000 (WA)*; s 2A

2 *Railways (Access) Act 2000 (WA)*; s 12(2)

the Act establishes the objective of the WA rail access regime which is focussed on the promotion of efficiency. Note, this overall objective directly reflects the equivalent objective of access to third party infrastructure as established in the CPA. In this regard, s 2A of the Act specifies:

> The main object of this Act is to establish a rail access regime that encourages the efficient use of, and investment in, railway facilities by facilitating a contestable market for rail operations.

Efficiency is a multi-faceted concept, which includes the following elements:

- *Productive efficiency*: achieved by maximising output for given set of inputs;
- *Allocative efficiency*: achieved where resources are allocated to their highest value to provide maximum benefit to society;
- *Dynamic efficiency*: creates incentives to invest in future innovation to improve efficiency, including in relation to the upstream and downstream markets;
- *Transactional efficiency*: minimises transaction costs, including costs of providing information, and reduces exposure to opportunistic behaviour and hold-ups.

As always, there is tension between these concepts, and care must be taken that, in promoting once aspect of efficiency, regulation does not undermine other aspects of efficiency.

This context is important in the ERA's review of the Code, as a number of submissions have argued for amendments to the Code in order to increase efficiency, but in doing so only focus on partial aspects of efficiency. For example, arguments for reference tariffs in order to increase the efficiency of negotiations focus heavily on their ability to streamline the negotiation of individual access agreements, which is an aspect of transactional efficiency. However, if the introduction of reference tariffs were to undermine other aspects of efficiency, such as allocative efficiency because the reference tariff meant that the parties failed to negotiate an agreement that best meets their needs, then they may fail in the overall efficiency objective. Therefore, it is necessary to examine proposals for amendment to the Code in terms of their differing impacts for transactional, productive, dynamic and allocative efficiencies.

1.3 Synergies' report

In in order to inform its response to the ERA on these issues, Brookfield Rail has requested that Synergies prepare a report addressing the following issues:

1. Would increasing the prescriptiveness of the Code better promote efficiency, consistent with the requirement of the Act and the objectives of the CPA?
2. Would alternate asset valuation arrangements, including for example a DORC asset valuation methodology or a 'line in the sand' approach to valuation, better promote efficiency, consistent with the requirements of the Act and the objectives of the CPA?

This report addresses these issues.

2 Prescriptiveness of Code

The ERA has sought feedback from stakeholders on their views on the level of prescriptiveness that should be contained in the Code. The Code currently establishes a light handed negotiation framework, but provides for more prescriptive arrangements to be developed for certain issues via the Part 5 Instruments.

While the ERA has not been specific about what elements of the Code could be amended to include greater prescription, in stakeholder responses to the ERA's initial issues paper, this was typically interpreted as a question of whether the Code should be more prescriptive in relation to the terms and conditions upon which a railway provider will provide access to an access seeker, for example through the development of ERA endorsed reference tariffs.

2.1 Negotiate-arbitrate model

The WA rail access regime has been established as a negotiate-arbitrate model. This is consistent with the CPA, which establishes a clear preference for access agreements to be developed via commercial negotiation, stating that:[3]

> Wherever possible third party access to a service provided by means of a facility should be on the basis of terms and conditions agreed between the owner of the facility and the person seeking access.

This presumption in favour of a negotiate-arbitrate model reflects the overwhelming consensus that negotiated solutions are more effective than regulated solutions in maximising economic outcomes.

2.1.1 Why is negotiate-arbitrate preferred over prescribed regulatory outcomes?

Compared to prescriptive regulation, commercial negotiations are more likely to achieve:

- outcomes that reflect the specific needs and priorities of a particular user – and this is especially the case where different users of the network require different service characteristics and are willing to contemplate variation in service characteristics in order to get the best outcome;

[3] Competition Principles Agreement, cl 6(e)

- an efficient allocation of risks between the parties, as the parties will trade off risks and benefits through the negotiation process in such a way that risks are allocated to the party who is best able to manage or accept the risk;
- develop agreements that support investment in the infrastructure where this is necessary to meet the needs of access seekers; and
- minimise the risk of regulatory error.

This view is supported by the Productivity Commission, who has confirmed a preference for negotiated outcomes over prescribed regulatory outcomes on numerous occasions. A key concern is that a regulator is very remote to the negotiation parameters that are most valuable to a particular customer at a particular time and as such is very poorly placed to establish prescriptive arrangements, which, once established, inevitably anchor commercial negotiation. When analysing light-handed regulation, the Productivity Commission concluded that the benefits of a model that encourages negotiated solutions are as follows:

- imposes lower compliance costs on regulated companies;
- is less costly for regulators to implement;
- reduces the scope for regulatory error to distort production and investment, given that there is less reliance on a regulator correctly prescribing prices and other conditions of commercial transactions;
- reduces regulatory risk, since a company's financial performance is less dependent on how a regulator precisely implements particular rules;
- makes businesses more responsive to changing market developments and more likely to innovate, because they are less constrained by the prescriptions of regulators;
- reduces opportunities for regulatory gaming and lobbying, since there is greater emphasis on commercial negotiations, rather than prescriptive rules on prices and other conditions of commercial transactions;
- enables users to negotiate terms and conditions that meet their unique circumstances, rather than be limited to those approved by a regulator; and
- provides for the phasing-in of deregulation as a market becomes increasingly competitive.[4]

[4] Productivity Commission (2004), PC Inquiry Report: Review of the Gas Access Regime, Report No. 31, p334

The Productivity Commission explicitly considered the implications of increasing regulatory prescription as part of its 2013 review of the National Access Regime. It concluded that negotiated outcomes resolving the terms and conditions of access are preferable to regulated outcomes because the parties to a dispute will know more about their claims and the costs and benefits of gaining or providing access than a regulator could. Negotiation can thus limit the potential for regulatory error.[5]

The risk of regulatory error is a recurring concern in relation to the introduction of prescriptive regulation. As the Hilmer report recognised:[6]

> Regulated solutions can never be as dynamic as market competition, and poorly designed or overly intrusive approaches can reduce incentives for investment and efforts to improve productivity.

As stated by Gary Banks, former Chairman of the Productivity Commission:[7]

> Moreover, 'errors' in the balance of regulated prices are unavoidable. Being arms-length from the business, regulators can never know as much as their 'clients'. They will also be vulnerable to regulated businesses withholding information, or presenting it in ways favourable to their interests.

In its 2005 review of the performance of Australia's export infrastructure, the Exports and Infrastructure Taskforce concluded that the adoption of prescriptive regulatory mechanisms was a clear hindrance to the efficient investment in regulated infrastructure.[8]

> The greatest impediment to the development of infrastructure necessary for Australia to realise its export potential is the way in which the current economic regulatory framework is structured and administered. It is adversarial, cumbersome, complicated, time consuming, inefficient and subject to gaming by participants.

and

> In our view, there should be a presumption that issues associated with export oriented infrastructure will be resolved by commercial negotiation between the infrastructure provider and users. We accept that this will often be imperfect, at times

[5] Productivity Commission (2013); PC Inquiry Report - National Access Regime; p115

[6] Hilmer, Professor F (1993); National Competition Policy, Commonwealth of Australia, p. 271

[7] Banks, G. (2012); Competition policy's regulatory innovations: quo vadis?, p.14

[8] Exports and Infrastructure Taskforce (2005). Australia's Export Infrastructure, Report to the Prime Minister by the Exports and Infrastructure Taskforce; p2-3

> significantly so, but it is still likely to be preferable to the intrusive regulation that has become widespread.

Most relevantly, a key comparison made by the taskforce was the poor performance of the prescriptively regulated east coast coal supply chains in achieving efficient investment, as compared to the iron ore supply chains in WA where regulation, to the extent applied, was in a light handed form. The 'chilling effect' of prescriptive regulation on investment in regulated infrastructure is now widely recognised.

In order to minimise the scope, and therefore the costs, of regulatory error, the starting point for third party access regulation should be commercial negotiation of the terms and conditions of access, with regulation and arbitration reserved as a last resort.

2.1.2 Previous consideration in relation to WA Rail Access Regime

The option of prescriptive price regulation in place of negotiated prices has been repeatedly considered in the context of access regulation for different industries and in different jurisdictions throughout Australia. Indeed, this was a major consideration of the WA Government at the time the WA rail access regime was first implemented. In making a decision to introduce the negotiate-arbitrate model, the Government was clearly concerned about the downsides of an overly-prescriptive framework of regulation, stating:

> … there can be no question that a system of charging which does not have the flexibility to allow negotiations will not deliver what both the Government and the industry want; namely, the maximum volume of freight to rail.[9]

More specifically:

> The issue of posted prices was considered by a working group of the Western Australian Rail Advisory Council comprising government and industry representatives - Co-operative Bulk Handling Ltd (CBH), Alcoa of Australia Ltd, Toll Rail, Anaconda Nickel Ltd - and there was general agreement that industry does not want posted prices. Access prices reflect the combination of many factors, including commodity type, length of train, weight, speed, priority for access, the particular section of track in question and the number of other track users. Duration of contract is also an important factor. An operator negotiating a 20-year contract would receive a different rate from someone wishing to haul something for the next six months.

[9] Criddle, M; Minister for Transport (1998). "Government Railways (Access) Bill- Committee". Parliamentary Debates (Hansard). Western Australia: Legislative Council. p. 2634/1

> Posted prices are inflexible and could result in some freight business being lost to road transport because the track owner was unable to negotiate lower charges.[10]

The circumstances highlighted by the Rail Advisory Council remain unchanged in the current environment. In particular, given the mixed nature of the commodities that operate on Brookfield Rail's network, and the wide variety of service characteristics evident, the concerns around how to effectively retain the flexibility to efficiently respond to these variations remain paramount.[11]

2.2 Introducing additional prescription into a negotiate-arbitrate regime

The negotiate-arbitrate model established under the Code has two key elements. First, it provides for entities to negotiate, on a commercial basis, an access price and a set of terms and conditions that is reflective of the nature of the access being sought. If and when negotiations fail, the Code relies on arbitration to provide an independent determination of the terms and conditions of the access, including price. The use of arbitration is not required when parties are able to agree on a set of terms and conditions through negotiation.

While in an unconstrained negotiation, there is clearly concern about whether a monopoly infrastructure provider, such as a railway owner, can extract surpluses through inappropriately high prices, the existence of ceiling prices set by the regulator and the ability to refer the matter to arbitration will alter this incentive. With the threat of arbitration, the natural incentive changes so that both parties will want to settle the access price and terms and conditions through negotiation in order to avoid the risk of an adverse outcome (in either direction) when the decision is made by a third-party arbitrator.

Prescriptive regulation can be introduced within this negotiate-arbitrate framework by providing detail of the outcome that an arbitrator will determine in the event that a dispute is referred to it. In effect, these prescriptive outcomes become the 'fall-back' position in the event that negotiations do not succeed. Reference tariffs are an example of how this prescription can be introduced. The role of reference tariffs in this model is to provide a condensed set of tariffs that improves the transparency of pricing and potentially streamline the negotiation process.

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[10] Ibid.

[11] Commodities hauled include: grain, iron ore, coal, alumina, bauxite and interstate freight.

The reference tariffs need to be set with a specific set of assumptions in mind that guide the quantum of pricing. For example, there are reference tariffs for coal-carrying services on the Central Queensland Coal Network, owned by Aurizon Network. These reference tariffs are based on the concept of a reference train service, which is defined by a range of parameters including commodity hauled, route used, operational characteristics of the train, assumed conditions of access and scheduling parameters. Any departure from this set of parameters triggers an adjustment, by negotiation, of the tariff to reflect the differences that are apparent in the proposed service.

Importantly however, by providing this guidance as to the outcomes of arbitration, the incentives for the parties to explore a range of alternate options through the negotiation is curtailed. Neither party will be willing to depart from these prescribed outcomes if it expects that such departure may expose it to additional costs or uncompensated risks. Therefore, the extent to which the nominated 'reference train service' and the related 'reference tariff' reflects an efficient solution is paramount in assessing whether this approach assists in meeting the object of the Act.

There is also a question of what services reference tariffs should be developed for. In a network dominated by a single commodity (such as the Central Queensland Coal Network) and with a relatively standard train operation, the selection of service can be quite straightforward. Similarly, ARTC's interstate network is dominated by interstate intermodal freight with well defined service characteristics – hence ARTC has developed regulator endorsed reference tariffs for the 'super freight' service on identified interstate routes. While ARTC has also established published tariffs for other services (including grain, heavy freight and express passenger), these tariffs have not been reviewed and endorsed by the regulator.

However, once there is a departure from a relatively homogenous traffic load, the effort required to determine reference tariffs can become very onerous. For example, Network Rail in the UK has a largely diversified traffic mix on its network, the largest traffic being passenger transport with the remainder made up by freight.[12] Network Rail is required to post reference tariffs for all of the traffic that operates on its network. This has led to the situation where, as part of its control period determination in 2015, Network Rail has had the following charges approved:

- Approximately 2550 variable charge freight tariffs that differentiate traffic by vehicle type and commodity type (allowing for price discrimination based cost differentials); and

[12] For example, on the West Coast Main Line, the business mixed traffic line in the UK, there is approximately 13% traffic attributable to freight by train-km or 41% based on GTKs.

- Approximately 250 variable charge passenger tariffs that differentiate traffic by vehicle type.

2.2.1 Benefits of including prescriptive guidance in the Code

The key benefit of incorporating prescriptive guidance into the Code is the potential that, by limiting the range of matters that need to be considered in the negotiation, this guidance can reduce the time, complexity and extent of contention associated with developing an access agreement – that is, it can reduce the transaction costs associated with negotiating access.

This is particularly the case where there is a high likelihood that the issues will not be able to be resolved via commercial negotiation. For example, a vertically integrated access provider may have no incentive to negotiate in good faith for access, if providing access will damage its commercial interests in downstream markets.

An additional potential benefit of such prescriptive guidance is the enhancement of consistency in the treatment of competing operators. Clear specification of the outcomes that all parties can expect to achieve in an access agreement will provide a high degree of confidence to operators that, when they receive that outcome in an access agreement, this will be consistent with the outcome that a competing operator will receive. This confidence in non-discriminatory treatment may engender increased confidence for new operators to enter the market.

Importantly though, it would be inappropriate to ascribe the removal of monopoly pricing power from the infrastructure provider as a benefit of prescriptive price regulation – this power has already been removed from the infrastructure provider by virtue of the requirement that prices be established in between a cost based floor and ceiling, and the right of the access seeker to refer a negotiation dispute to arbitration.

2.2.2 Costs of including prescriptive guidance in the Code

Offsetting these benefits are a number of costs that will be incurred through increasing the level of prescription under the Code. These are discussed below.

Reduced flexibility to address unique circumstances

As noted above, the introduction of reference tariffs will reduce the incentives for the parties to explore a range of alternate options through negotiation. Neither party will be willing to depart from the prescribed outcomes if it expects that such departure may expose it to additional costs or uncompensated risks.

This conclusion is consistent with the Productivity Commissions findings (discussed above), that regulatory frameworks that promote negotiated outcomes enable users to negotiate terms and conditions that meet their unique circumstances and makes businesses more responsive to changing market developments and more likely to innovate. Allocative efficiency is achieved when an agreement addresses all of the parties' material needs – some of which may well be idiosyncratic. The only environment in which these needs can be ascertained and addressed is in a multi faceted negotiation. Regulatory outcomes cannot possibly deal with the nuances of the needs of individual parties – the very process of setting reference tariffs will ossify the negotiation process.

Increased risk of regulatory error

The concerns about the increased occurrence of regulatory error through the introduction of prescriptive price regulation are discussed above. The likely implications of regulatory error in the context of price regulation in the WA rail sector need to be considered in the context of the nature of services that operate.

For Brookfield Rail, access is provided to a range of commodities which exhibit significant variation in required service standards. Many of these services pay access charges that are below the ceiling price – and in some cases well below the ceiling price - in recognition that the capacity of those services to pay access charges is constrained, either through the existence of alternate transport modes or through commercial pressures in downstream markets.

In this environment, efficiency is maximised through setting prices in such a way that encourages services to use the rail network (provided that they can at least cover their incremental cost) and which allows the rail infrastructure owner to, in aggregate, recover its fixed costs. This objective underpins the principle of constrained market based pricing which is a feature of Australian rail access frameworks.

Given this context, the implications of regulatory error in setting prescriptive reference tariffs for Brookfield Rail's network are that, either:

- regulated tariffs may be set too high – in this case, the likely outcome is a reduction in demand for the service as the cost of access will be too high to justify use. The consequence of this will be a reduction in the use of the service, a reduction in the infrastructure owner's ability to recover the overall cost of providing the rail infrastructure, and investments in downstream markets may be inefficiently delayed; or
- regulated tariffs may be set too low – in this case, the consequence will be a reduction in the infrastructure owner's ability to recover the overall cost of

> providing the rail infrastructure, investments in the rail infrastructure may be inefficiently delayed and there may be too much investment in downstream markets.

While setting access charges that do not allow the railway owner to fully recover the costs of providing access may provide short term benefits to users by way of reduced prices, it is unclear that this will in fact promote efficiency as required under the Act. As noted by the ACCC in relation to ARTC:

> … in circumstances where ARTC is constrained by market forces to pricing below the levels necessary to recover the full economic cost of providing services, the Commission has concerns regarding the sustainability of the network infrastructure. If ARTC is not able to generate sufficient cash flow to replace assets as becomes necessary, the longer term viability of the industry is compromised. The Commission notes that in these circumstances, a degree of price discrimination, even between different users operating the same type of service, may be a desirable practice.[13]

In a multi-commodity network such as Brookfield Rail, a further potential down-side is that any error in setting the reference tariffs may distort the incentives for use of rail by different commodity groups and hence cause capacity to be inefficiently allocated to certain industries. In the long run, this also has an impact on the provision of rail infrastructure as renewal and expansion capital will be focused on services that provide the most traffic/revenue which, if distorted by incorrect pricing, will bring focus to the wrong parts of the system.

Increased transaction costs in regulatory determinations

Although the development of prescriptive reference tariffs may streamline the process of negotiating an access agreement, the transaction costs associated with the reference tariff setting process itself will inevitably be high. As highlighted by Gary Banks, former Chairman of the Productivity Commission:[14]

> … for the most part, high transactions costs are an unavoidable consequence of the decision to regulate. The complexity of the issues, and for access regulation the abrogation of property rights involved, mean that the need for thorough analysis is a given. This also suggests that efforts to streamline processes in the cause of reducing transactions costs carry the risk of introducing costs of their own.

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[13] Australian Competition and Consumer Commission (ACCC) 2001b, Draft decision. Australian Rail Track Corporation Access Undertaking November

[14] Banks, G. (2012) p 15.

An indication of the potential time and resources that may be incurred in establishing reference tariffs on Brookfield Rail's network can be provided by looking at the processes for setting reference tariffs on other rail networks. For example, Aurizon Network establishes reference tariffs for a single commodity using four routes on its Central Queensland Coal Network. While the tariffs established in the last regulatory determination expired in June 2013, the regulatory process for determining new tariffs for the 2013-2017 regulatory period is still underway and the tariffs remain unresolved. The process has taken over three years to date, and now appears unlikely to be finalised before the end of this calendar year. Similarly, Queensland Rail's proposed reference tariff for a single commodity on a single route remains unresolved two years after its initial submission, and is unlikely to be finalised before the end of 2015.

2.2.3 When do the benefits of reference tariffs outweigh the costs?

In Synergies view, there are only a limited range of circumstances where the benefits of developing reference tariffs may potentially justify the costs involved. These are:

- where the negotiation costs avoided through the existence of reference tariffs are likely to substantially exceed the transaction costs incurred through a single, upfront regulatory determination on price. This is most likely to be the case where there are likely to be a significant number of access negotiations in relation to a particular service type (in terms of commodity and service characteristics), and the likelihood of these negotiations failing and requiring arbitration is high;
- where there is no natural incentive for the infrastructure provider to negotiate for access to its rail network, for example due to its vertical integration into competing downstream markets;
- where the characteristics of the services using the rail infrastructure are highly homogenous, and there is limited requirement for commercial tradeoffs to meet the unique circumstances of a particular access seeker, so that the costs of reduced flexibility are minimised; and
- where the reference tariffs are set at the ceiling price, meaning that their introduction does not materially increase the risk of regulatory error compared to the current Code provisions. For those services where access charges are set below the ceiling price, the difficulty of determining a price that will maximise the opportunity for the infrastructure owner to recover its efficient costs while not diminishing the incentive for the access seeker to operate services significantly compounds the risk of regulatory error. Setting an efficient price in these circumstances requires a robust understanding of not only the costs to the railway owner of providing access, but also of the value of that access to the access seeker

and how it can be increased by enhancing aspects of the service offering. Information on the value of access to an access seeker will be tightly held by the access seeker and difficult – if not impossible - for a regulator to reliably ascertain, particularly outside the context of a specific access negotiation.

2.3 Application to Brookfield Rail's network

In Synergies' view, the characteristics of Brookfield Rail's network do not accord with the circumstances where reference tariffs have the potential to promote efficiency. This view is based on the following factors.

High heterogeneity of services

There is a large range of services that operate on Brookfield Rail's network, in terms of commodities, routes, train characteristics, scheduling requirements and required service standards. Even within a particular commodity type, there are differences in route costs, scheduling arrangements, service standards, contract term and value of service to the customer. Given the need for efficient price discrimination to enable Brookfield Rail to recover the full efficient costs of providing the rail network, there is necessarily substantial variation in the prices applied to these services.

The vastly different characteristics of the different routes and train services means that an appropriate tariff would need to be individually assessed for each of these services. If reference tariffs were to be developed for all services, this would require a hugely complex assessment of costs, value and potential cost/value tradeoffs applicable to all of these services. The potential for regulatory error in such an exercise is inevitably high.

Reference tariffs are not likely to reduce overall transaction costs

There are a small number of customers for each of these types of services. For example, CBH is the only customer for all grain services on Brookfield Rail's network. This means that the only transaction costs that would be avoided by developing reference tariffs for grain services would be those transaction costs associated with negotiating a single access agreement. Further, the only time that there will be a demand for this reference tariff will be at the time that access agreement is being negotiated – while the term of an access agreement with CBH is uncertain, it is quite possible that this may only be required once every 10 years.

In relation to the scope of issues that need to be addressed in a negotiation, a key concern raised in relation to the floor-ceiling approach embodied in the Code is the breadth of the allowable price range. However, it needs to be recognised that a reference tariff approach will not in itself reduce the economically efficient range within which prices

may be set, or the issues that need to be considered in determining where within this range prices should be established. It simply transfers consideration of this issue from a negotiation (with recourse to arbitration) between the two parties to the transaction to an upfront regulatory determination by a third party who has less information about the costs and value of access and who bears no commercial consequence if the assessed reference tariff is set too high or too low. The transaction costs associated with the regulator's assessment of the reference tariff, including the process of trying to reliably ascertain the costs of the infrastructure provider in providing that service, and the value of that service to the customer, are highly unlikely to be lower than the costs of negotiation, even if recourse to arbitration is required.

Beyond this, the extent of negotiation that will be avoided by the introduction of reference tariffs (and hence the extent to which reference tariffs will actually reduce the transaction costs associated with the negotiation) is unclear. There is a strong demand for the service characteristics to be tailored to the specific needs of an access seeker – as can be seen by the high degree of variability in service characteristics across the network. Further, the costs associated with different service characteristics can be substantial – for example, in relation to the grain routes, the costs of providing access will vary substantially depending on the term for which access is required and the standard of train to be operated. The development of a reference tariff for a pre-determined standard train type is unlikely to avoid the need for negotiation around service characteristics. In fact, the separation of the reference tariff determination from the negotiation around service characteristics may increase the overall transaction costs associated with the access agreement and increase the risk of regulatory error.

Brookfield Rail has strong incentive to reach commercial agreement

It is important to recognise that Brookfield Rail has a strong natural incentive to reach agreement with users on the terms and conditions of access. Brookfield Rail is not vertically integrated into downstream markets and has no incentive to withhold access. On the contrary, Brookfield Rail's commercial viability is solely dependent upon its ability to attract and retain train services on its network.

Recognising this strong incentive for Brookfield Rail to reach commercially agreed arrangements for access, the significance of the transaction costs, in the absence of reference tariffs, does not appear to be high. In the course of nearly fifteen years, there has been only one instance – that of CBH - where an access application in relation to Brookfield Rail's network has resulted in dispute. All other access agreements have been resolved via commercial negotiation.

Implications for efficiency

Given these circumstances, it is likely that the costs associated with introducing reference tariffs for services on Brookfield Rail's network, including both the direct costs of developing the reference tariffs, the restrictions on dynamic efficiency resulting from greater regulatory prescription and the risk of regulatory error, will exceed the likely benefits of those reference tariffs which are, in essence, limited to the reduction in negotiation costs for a small number of individual agreements. As a result, introducing greater prescription into the Code, by way of reference tariffs, would not be expected to promote increased efficiency, as required under the Act.

To the extent that amendment to the Code is considered in order to further promote economic efficiency, these should be focused on supporting an effective process for commercial negotiation, rather than supplanting commercial negotiation with prescribed outcomes.

3 Asset valuation methodology

The ERA has noted that the Code prescribers that ceiling prices should be established using a Gross Replacement Value (GRV) asset valuation methodology. The ERA has sought stakeholder comments on whether alternate approaches to asset valuation would better promote efficiency.

While the ERA has not been prescriptive in terms of what alternate asset valuation approaches could be considered, other stakeholder submissions have raised the options of using a depreciated optimised replacement cost (DORC) methodology and/or adopting a 'line in the sand' approach to valuation. Therefore, in considering whether alternate asset valuation approaches would better promote efficiency, Synergies has focussed on these two options.

3.1 Purpose of asset valuation under the Code

Prior to considering the merits of alternate asset valuation methodologies, it is useful to first review the purpose of the asset valuation. Importantly, the rationale for regulation of prices for natural monopoly infrastructure is to replicate the outcomes that would occur in a competitive market.

Baumol and Willig have described this as follows:[15]

> …it is held that final product price should not be permitted to exceed the amount at which an efficient entrant-rival could afford to supply the product in a competitive market in which inputs are available on competitive terms. This price ceiling is called the "stand-alone cost" of the final product. A price constrained not to exceed stand-alone cost ensures that purchasers will pay no more for this item than they would have if it were sold in an effectively competitive (contestable) market.

If prices were to be set above stand alone cost, this would provide an incentive for firms to bypass the natural monopoly infrastructure, which would undermine the efficiency objective.

A further standard principle of access regulation is that prices must not fall below the incremental of providing access. To do so will undermine efficiency as it will encourage the use of access services where the value of that service to the customer is less than the cost of providing it.

15 Baumol, W. and Willig, R. (1999). "Competitive Rail Regulation Rates: Should Price Ceilings Constrain Final Products or Inputs". Journal of Transport Economics and Policy, 33(1): 43-54, pp.43-44.

Provided that prices are constrained within these floor and ceiling limits, efficiency will be maximised if the infrastructure owner is able to differentially set prices so as to encourage utilisation of the infrastructure while enabling the infrastructure owner to fully recover its fixed costs, including its investment costs.

Therefore, the rationale for the floor and ceiling prices, as embodied in the Code, reflects the objective of the WA rail access regime towards increased efficiency.

3.2 Asset valuation methodology

3.2.1 Valuation methodologies

Gross Replacement Value

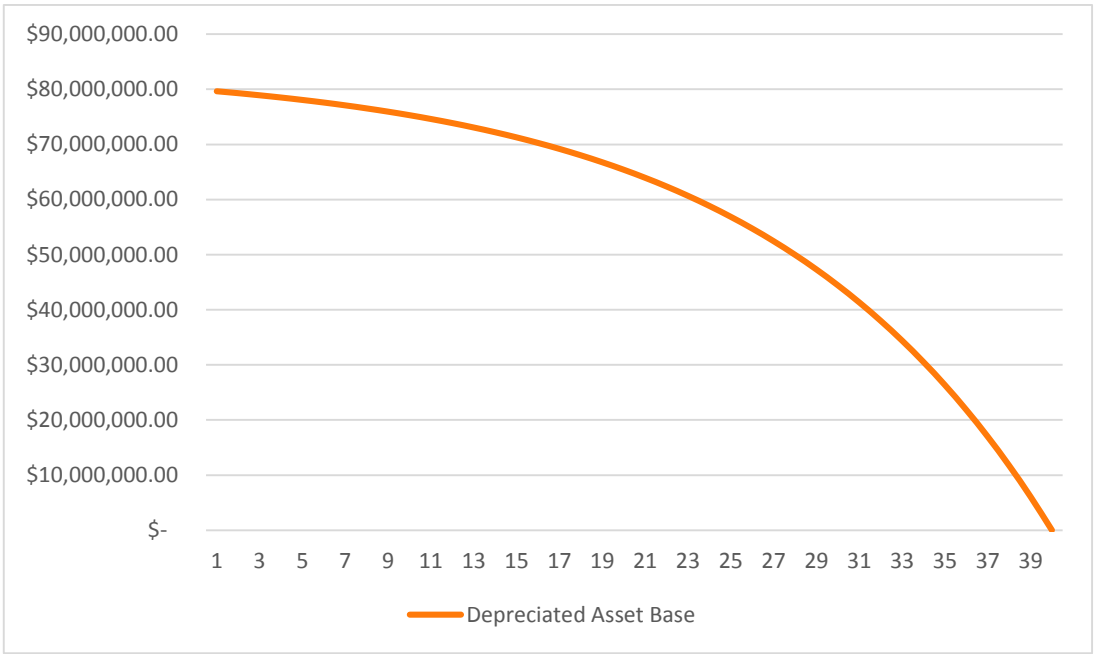
GRV is defined in the WA Railways (Access) Code as:

> … the gross replacement value of the railway infrastructure, calculated as the lowest current cost to replace existing assets with assets that have the capacity to provide the level of service that meets the actual and reasonably projected demand and are, if appropriate, modern equivalent assets.

Under the GRV approach, capital charges are derived as a standard annuity where the principal capital costs is annuitized over its economic life, with equal payments each year that are made up of both principal repayments and interest payments (return on capital). It is analogous to a repayment on any type of loan.

While the GRV approach does not explicitly provide for depreciation of the assets, the principal repayment component of the capital charge addresses the same issue – that is return of the original capital cost. As a result, the GRV methodology can be viewed as providing for return of (depreciation) and return on capital, based on a specific depreciation profile, as shown in Figure 1 below:

Figure 1. Value of Depreciated Asset base of $80m investment over 40 years at 7.8% GRV (real)



Data source: Synergies Calculations

Depreciated Optimised Replacement Cost

DORC can be defined as:

> …the replacement cost of an 'optimised' system, less accumulated depreciation. An optimised system is a reconfigured system using modern technology designed to serve the current load with current technology, with some allowances for growth. This method excludes any unused or under utilised assets and allows for potential cost savings that may have resulted from technological improvement.[16]

A DORC valuation is typically used as part of the building block methodology of calculating allowed revenues, where the capital charge is determined as the sum of the return on capital (the depreciation charge) and a return of capital (determined by WACC applied to the depreciated value of the asset base).

Where the DORC valuation methodology is being applied to existing assets, this is usually done by assessing the optimised replacement cost (ORC) of the asset, and then assessing the extent to which depreciation should be applied. In order to assess

[16] IPART, Aspects of the NSW Rail Access Regime, Final Report, April 1999, p. 34

depreciation, it is necessary to assess the proportion of the asset's service potential that has been consumed.

The DORC valuation methodology does not prescribe the particular approach that should be applied to assess depreciation. The methodology most typically used by regulators is straight line depreciation over the estimated life of the asset. However, the DORC valuation methodology provides flexibility for alternate approaches to be adopted, and there are a range of examples where this has occurred.

Comparison of DORC and GRV income streams

As noted above, under the GRV methodology, the capital charge income stream is determined as a simple annuity over the life of the asset (using WACC as the 'interest rate'), whereas under the DORC methodology, the capital charge is determined as the sum of depreciation plus WACC on the depreciated value of the asset.

Over the full life of an asset, both the DORC and the GRV income streams will return an equivalent value – that is, they will both fully recover the capital value of the asset, plus the WACC return. Therefore, either method provides a reasonable way of assessing the price at which a hypothetical entrant would be incentivised to enter the market – that is, to assess the ceiling price.

However, material differences in the timing of income can arise, depending on the depreciation methodology being applied under the DORC methodology.

Under the typical regulatory assumption of straight line depreciation, an equivalent portion of the asset value (in real terms) is consumed each year, with the WACC then calculated on the declining value of the asset. This gives an income stream that is higher when the asset is new, and which declines as the asset ages. This contrasts with the GRV annuity assumption of a constant (in real terms) capital charge. However, to the extent that a different depreciation methodology is adopted for the DORC methodology, the difference in the timing of cashflows will vary.

3.2.2 Implications of asset valuation methodology for efficiency

The implications of the asset valuation methodology in terms of efficiency depend upon the purpose for which the asset values are being used. Where the asset value is being used purely as a mechanism for assessing whether the access charges remain within the economic concepts of stand alone and incremental cost, then a simple, forward looking asset valuation approach will be most efficient. In this regard, GRV has a strong advantage over DORC in that it is relatively simple to assess and to update with current cost information. DORC requires an assessment to be made of the appropriate extent of

depreciation, which can be both information intensive and contentious. As a result, GRV will achieve the required outcome of assessing the appropriate ceiling price for the service, with lower compliance costs than DORC. The lower transaction costs associated with GRV mean that this will better promote efficiency in these circumstances.

However, where the asset valuation methodology is being used for the purpose of developing prescriptive regulated tariffs, and the purpose of the asset valuation is to ensure that the regulated firm achieves recovery of its efficient investment in the infrastructure plus a reasonable return, but no more (which is the principle of financial capital maintenance, discussed below), then the DORC methodology has an advantage in that it can provide greater flexibility in how capital charges are established for the purposes of calculating that prescriptive tariff. This can, for example:

- allow charges to be 'profiled' over time to better match demand – for example, this can be used to avoid a calculation of very high charges in the early years of a project's life as volumes are ramping up to full production;
- assist in the management of asset stranding risk by allowing a greater degree of cost recovery in the early years of a project's life, when usage is more certain.

3.2.3 Applicability to Brookfield Rail

As discussed in the previous section, Synergies considers that the introduction of prescriptive reference tariffs for Brookfield Rail's network will detract from, rather than enhance economic efficiency. Therefore, the purpose of the asset valuation – at least in relation to Brookfield Rail's network – should remain as being the assessment of the appropriate price boundaries in order to ensure that prices for rail access do not exceed what would apply in a competitive market. In this context, the efficiency implications of the GRV or DORC methodologies in relation to Brookfield Rail's network are discussed below.

Existing assets

Over the life of the assets, both valuation methodologies will appropriately compensate the investor for its investment in the asset and a reasonable economic return. As a result, both methodologies provide reasonable means of assessing the ceiling price and the investor and users should arguably be indifferent to which methodology is used, provided that same methodology is used over the entire life of the asset.

However, moving from one methodology to the other part way through an asset's life has potential to cause material windfall gains or losses, with the direction and size of these windfall gains and losses depending on the age of the assets. Allowing such

windfall gains or losses to occur within the regulatory framework will undermine stakeholder's confidence in the regulatory framework and will significantly increase investors' perception of regulatory risk.

From an economic efficiency perspective, it is critical that the asset valuation method contained in the regulatory framework does not undermine the incentives for future investment. This is essential in order to promote allocative and dynamic efficiency and to maximise the gains to the overall economy from a competitive haulage market.

Any change to the regulatory framework that causes a windfall loss to the railway owner in relation to past investment (that is, the valuation of the existing assets) will inevitably create a major disincentive to future investment, which in turn will undermine the efficiency objective.

Further, the existing rail network was privatised by the WA Government on the basis of the GRV forming a fundamental tenet of the access pricing policy. To change such a fundamental element of the access pricing framework subsequent to that transaction will similarly increase investors' view of regulatory risk within the WA rail access regime and cause disincentives to future investment.

This, together with the lower transaction costs associated with GRV suggests that economic efficiency will be maximised by retaining the GRV asset valuation methodology for existing assets.

Major new investment

In the circumstances of greenfields investment, and potentially in the circumstances of major investments in brownfields assets which substantially change the standard of service provided by those assets, it may be necessary to implement the financial capital maintenance approach (discussed below) in order to reduce the regulatory risk to investment returns and therefore provide adequate incentives for investment in the infrastructure. Financial capital maintenance requires that an assessment of net depreciation of the regulatory asset values be made, which in turn requires the adoption of a DORC methodology.

3.3 Financial capital maintenance

Financial capital maintenance, together with a 'line in the sand' asset valuation approach, is often used by regulators when prescriptive price regulation is introduced, particularly where prices are set at the ceiling price. This approach is based on the view that the owners of a regulated firm can expect to recover the opportunity cost of their capital as well as the nominal value of their investment over time.

Therefore, not only should prices be efficient in the sense that they are between the floor and ceiling limits, but should also be set so that, in aggregate, they allow the regulated firm to earn an economically efficient return on their investment. This is also referred to as the 'regulatory bargain', in that regulators will allow investors to earn this return but no more, as it reflects an economically efficient return for the risk associated with the investment.

In this section, we first explore the philosophy underpinning financial capital maintenance and the use of the 'line in the sand' asset valuation approach, and then assess the applicability of this model to Brookfield Rail.

3.3.1 Financial capital maintenance

Provided that:

- the regulated asset value starts at zero before any investment is sunk and finishes at zero when the firm ceases to exist;
- depreciation is defined as the change in the regulated asset value each period; and
- the regulator sets the allowed rate of return equal to the firm's true cost of capital;

then an asset owner will always be sufficiently recompensed for its capital investment over the long run.[17] More importantly, this fair return holds true regardless of the regulatory scheme that was in place and was also independent of the valuation technique that was used. Therefore, this is the basis of the financial capital maintenance approach used by many Australian regulators.

Financial capital maintenance is typically implemented through the development of a Regulatory Asset Base (RAB) which explicitly recognises the regulatory depreciation of the assets. Where regulation is being applied to existing assets, it is necessary to determine an appropriate depreciated asset value, with DORC being the most commonly applied approach. New assets are incorporated into the RAB at their investment value.

The change in the value of assets in the RAB is usually assessed on an economic deprecation approach, which takes into account asset consumption (depreciation) offset by the expected increase in the current cost of replacing the asset (asset appreciation).

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17 Greenwald, Bruce C (1984); 'Rate Base Selection and the Structure of Regulation', The RAND Journal of Economics Vol. 15, No. 1 (Spring, 1984), pp. 85-95

When setting regulated prices for a firm, most Australian regulators use a standard nominal dollar building block approach. This involves setting a maximum allowable revenue stream for the regulatory control period, sufficient to recover:

- forecast efficient operating expenditure over the period; and
- allowable recovery of forecast capital costs based on the forecast economic depreciation of the assets (as reflected in the RAB value) and allowable return.

The regulated prices are then set at a level that is expected to fully recover this maximum allowable revenue over the regulatory period. In a sense, this approach provides for the firm's allowable return to be recovered through a combination of income (via the regulated tariff) and increased capital value (that is, the forecast appreciation of the RAB).

In setting regulated prices for a regulatory control period based on the building block methodology, regulators typically assume that asset replacement costs will remain constant in real terms – that is, asset appreciation is usually forecast to be equal to CPI.

If at the end of that regulatory control period, a regulator was to subsequently recognise asset appreciation during that period as being higher than CPI, then this would effectively mean that the sum of the income and increased capital value would be higher than the allowable regulatory return. Similarly, if the regulator were to recognise asset appreciation as lower than CPI during that regulatory period, this would result in the sum of the income and increased capital value being lower than the allowable regulatory return.

For this reason, the RAB value of assets is maintained based on a 'line in the sand' approach, where the assets are valued at the time that they enter the RAB, and then rolled forward based on a mechanistic determination of asset appreciation (reflecting CPI) and depreciation, regardless of the real change in asset replacement costs over time.

Financial capital maintenance is important in order to support an investor's incentive to invest in assets subject to prescriptive regulatory pricing frameworks, as it provides confidence to investors that the regulator will continue to reflect the full cost of its investment in future prices.

3.3.2 Applicability of financial capital maintenance to Brookfield Rail

As discussed above, the philosophy of financial capital maintenance is a means of ensuring that the asset owner will always be sufficiently recompensed for its capital investment, as reflected in its RAB value, over the long run.

Where regulated prices are set to fully recover the forecast change in the RAB value of assets and earn the allowable regulatory return on that RAB value, then allowing revaluation of those assets to reflect actual current construction costs will cause the infrastructure owner to be either over or under compensated for its investment and allowable return.

There are limited circumstances where financial capital maintenance has been applied to assets where regulated income is below this maximum allowable revenue. In these circumstances, the shortfall between regulated income and the maximum allowable revenue is treated as an 'economic loss' and capitalised into the RAB value to allow it to be recovered by the regulated business in a future period. ARTC's Hunter Valley access undertaking provides an example of this, where loss capitalisation is applied in relation to the reference tariffs set for 'Zone 3' mines. In this case, the RAB value includes both the 'locked in' value of the rail infrastructure assets, as well as the capitalised value of losses incurred to date.

Importantly, however, this approach was adopted on the expectation that traffic volumes were to increase over time, and that within a reasonably foreseeable period, traffic volumes would be sufficient to enable ARTC to set prices that would fully recover the RAB value, including the capitalised value of prior losses.

However, none of these circumstance apply to Brookfield Rail. Brookfield Rail's access charges are typically set below the ceiling price and do not provide for a return on the full value of the assets. Further, there is no expectation that, within a reasonably foreseeable timeframe, circumstances will change so substantially that Brookfield Rail will be able to set prices to provide a full return on this value of assets.

In light of this, it is difficult to see how financial capital maintenance could be implemented for Brookfield Rail's existing rail network, as satisfaction of the financial capital maintenance framework assumes the present value of future regulated returns, calculated on the basis of an appropriate discount rate (i.e. the allowable regulatory return), is equal to the value of the regulatory asset base (RAB).

However, there may be merit for financial capital maintenance to be applied on a selective basis in relation to greenfield investments or where major capital investment is being undertaken to increase the service standard of a route, and where as a result, access charges are likely to be set at or near the price ceiling. In these circumstances, investors may require increased confidence in how the ERA will assess ceiling prices before they are willing to invest in the rail infrastructure.

As discussed above, where it is desirable for financial capital maintenance to be applied, it is necessary for the RAB to be set using a depreciated value of assets. This means that

GRV will not be appropriate for this purpose. In these circumstances, DORC is the most commonly applied approach.

3.3.3 Asset valuation in the absence of financial capital maintenance

In the absence of concern that the regulated firm is, in aggregate, earning greater than a reasonable return on the value of its assets, there is no theoretical rationale for implementing a 'line in the sand' valuation approach. Rather, the asset valuation methodology used for assessing the ceiling price should simply reflect the purpose for which the ceiling price is being determined, which is to replicate the outcome which would occur in a competitive market as described above.

A 'line in the sand' value is not particularly relevant for the purpose of assessing the price that would induce entry by a rival firm. Rather, in order to properly reflect the maximum price that could apply in a competitive market, the ceiling price should be based on the current cost associated with replicating the service potential provided by the infrastructure. This is the approach currently embodied in the Code.