

WESTNET RAIL SECTION 9 DETERMINATIONS FLOOR/CEILING CALCULATIONS ARTC SUBMISSION

The Acting WA Independent Rail Access Regulator (“Regulator”) has requested WestNet Rail (WNR) to submit proposed floor and ceiling prices on the following routes:

- ❖ Forrestfield to Kalgoorlie
- ❖ Kwinana – Bunbury Inner Harbour
- ❖ Leonora – Kalgoorlie
- ❖ Kalgoorlie – Esperance

in order for the regulator to determine floor and ceiling prices for these routes in accordance with Clause 9, Schedule 4 of the Railways (Access) Code 2000 (“Code”), and has requested submissions based on the information provided by WNR.

ARTC notes that the Regulator has approved, on 23 Dec 2002, the Costing Principles submitted to it by WNR dated 19 Dec 2002. The Costing Principles were approved following changes made by WNR to originally proposed Costing Principles to the Regulator’s satisfaction. The Regulator issued a determination regarding the originally proposed principles in September 2002 following a public consultation process, in which ARTC was a participant. Whilst the approved Costing Principles do not entirely reflect ARTC’s views during the public consultation process, ARTC will make its submission regarding the proposed floor/ceilings based on the approved Costing Principles.

A key issue for ARTC with respect to the WNR’s proposed floor/ceilings is that they cover activities occurring on the WA rail network and associated infrastructure currently leased from the WA Government by WNR, which includes part of the interstate rail network between West Kalgoorlie and Perth. Floor and ceiling pricing would be applicable for interstate operators, or access seekers, of services between the eastern states and Western Australia, as well as under floor and ceiling provisions in ARTC Access Undertaking (accepted by the Australian Competition and Consumer Council (ACCC) in May 2002) for any movement east of Kalgoorlie. A copy of ARTC’s Access Undertaking can be located at the ACCC’s website www.accc.gov.au.

Under ARTC’s Access Undertaking, access pricing must be such that revenue collected from all users on a segment on ARTC’s network must fall between floor

and ceiling limits, being the incremental cost and full economic cost associated with the segment respectively. Incremental costs are the costs that would be avoided if that segment were to be closed, and does not include a capital component. Full economic cost includes all direct operating costs, an allocation of indirect maintenance, train control and system overheads, as well as depreciation and a return based on the DORC valuation of the segment and ARTC's WACC. Within these limits, ARTC offers indicative access pricing between the limits for all users with indicative services. ARTC has an annual option to escalate access pricing by up to the greater of 2/3rds CPI and CPI-2%.

Any pricing differential around indicative pricing will consider the characteristics of the non-indicative service, commercial and logistical impacts on ARTC, and the cost of any additional capital requirements. ARTC will not differentiate between like services operating in the same end market.

The Access Undertaking does not provide for floor and ceiling pricing with respect to a particular user or access seeker beyond indicative pricing and ARTC's ability to differentiate. This was not considered necessary given ARTC's open and equitable approach to pricing.

Major Period Maintenance is included in ARTC's ongoing cost structure. With respect to most of its assets, ARTC considers that this expenditure is designed to maintain asset life in perpetuity and, as such, does not incorporate depreciation in the cost base applicable to ceiling revenue limits. Depreciation is only included with respect to assets which have a limited life regardless of maintenance for market or technological reasons.

In accordance with an Inter-Governmental Agreement made in 1997 which brought about the incorporation of ARTC as the track manager of the interstate rail network, ARTC developed and executed with the Western Australian Government Railways Commission (Westrail) which was the owner of that part of the interstate rail network in WA, a wholesale agreement providing ARTC with the exclusive right to sell access for interstate train operations to that network. The agreement was developed in accordance with the principles for access now incorporated in ARTC's Access Undertaking. The agreement provides for the purchaser of the Westrail rail freight network (Australian Railroad Group) to assume Westrail's role following the sale. As such, ARTC's main interest in the floor and ceiling limits proposed to the Regulator is to ensure reasonable consistency between the assumptions made by WNR, and those underpinning ARTC's limits, notwithstanding the underlying differences between the approved Costing Principles and those approved under ARTC's Access Undertaking. ARTC seeks the Regulator's consideration of the issue of

consistency of conditions of access to the interstate rail network for interstate users in its deliberations.

ARTC has previously made submissions¹ to the Regulator in relation to the Costing Principles, among other things. ARTC indicated that, in the main, it supported the Regulator's position with respect to WNR's proposed Costing Principles.

For the remainder of the submission, ARTC will endeavour to cover specific aspects of the WNR's floor and ceiling calculations, particularly as they are applied to the Forrestfield – Kalgoorlie route, approximately in the order of these issues being covered in the Costing Principles.

Determination of Capital Costs

In most regulatory circumstances, and particularly in the case of rail, capital costs tend to form by far the most significant component of the revenue ceiling. In ARTC's case, capital costs form, on average, 65% of ARTC revenue ceiling. As such, the accuracy of the asset valuation and rate of return applicable to the infrastructure owner is a key driver of the eventual magnitude of the ceiling revenue limit for a route.

On ARTC's network, utilization over most segments is such that, when ARTC indicative and other pricing is applied to the volume on the network, revenue falls well short of the ceiling revenue limit. On ARTC's network, revenue recovers only 40% of the full economic cost of the network. This situation is not uncommon on the interstate and rural branchline networks in Australia, where volumes and competition from other modes constrain the extent of revenue that can be derived. Revenue at, or close to, ceiling levels are generally only achievable on the much more highly utilized coal networks in the Hunter Valley in Queensland.

Even though volumes on the Forrestfield – Kalgoorlie route are higher than on many parts of the ARTC network (due to significant grain and mining throughput), ARTC would expect that revenue extracted from this route would similarly fall well short of the applicable ceiling. Nevertheless, the ceiling revenue limit would still be relevant to the determination of a ceiling price applicable to a new access seeker.

¹ Westnet Submissions to the Acting Rail Access Regulator, ARTC Submission, 24 Jan 2002. WestNet Rail Draft of the Determination on Principles, ARTC Submission, 31 July 2002.

Gross Replacement Value

The Code requires the use of the Gross Replacement Value methodology for asset valuation purposes. This approach is unique in rail regulation in Australia, and possibly in regulation generally. As did many other participants, ARTC expressed some concern regarding the use of GRV during the NCC certification process with respect to the WA Rail Access Regime. ARTC was concerned that the use of the GRV approach, ignored the existing depreciated state of the asset, whether in an economic or engineering condition sense, and as such would tend to give a higher valuation and ceiling limit over time than the DORC approach. The regulator goes to some length in a previous paper² to demonstrate that the two approaches result in similar present value ceiling outcomes over economic life. Whilst ARTC does not contest the examples provided which were based on the whole of the assets economic life, a practical application over a five year regime (say using ARTC ORC as a proxy for GRV) would have increased the return on assets component of ARTC ceiling by nearly 80%.

Nevertheless, ARTC comments are premised upon the application of the GRV approach as required under the Code.

ARTC considers that the asset valuation with respect to the Forrestfield – Kalgoorlie section to be excessive when compared to other contemporary track valuation for regulatory purposes.

As part of its application to the ACCC, ARTC commissioned Booz Allen Hamilton (BAH) to undertake a DORC valuation of the relevant parts of its network. The results are available on the ACCC (or ARTC's) website. ARTC network valuation for regulatory purposes is as follows.

	Track Length (km)	Track	Earthworks	Structures	Signals & Train Control	Comms	Total
Network ORC	3611	1742	319	268	155	30	2515
Network DORC	3611	1010	171	132	83	11	1407
Deprecation		42%	46%	51%	46%	63%	44%

For the purposes of benchmarking WNR's valuation it could be assumed that ORC was a reasonable proxy for GRV using MEA, and it could be assumed that the ARTC network in total were a reasonable approximation the characteristics

² 'A Brief Comparison of the WA Rail Access Code approach to calculating ceiling cost with a conventional DORC methodology', 18 July 2002.

of the Forrestfield – Kalgoorlie route. The information provided by WNR shows the following GRVs for this route.

	Track Length	Track	Bridges	Culverts	Signalling	Comms	Total
Route GRV	759	815	16	36	81	22	970

An ORC v GRV comparison of track replacement cost per km shows the average on the ARTC network to be around \$480,000/km and \$1,070,000/km on the Forrestfield – Kalgoorlie route. The difference is wide even allowing for the difference in methodologies and assumptions associated with the ORC v GRV (MEA) approaches.

A review of the BAH report reveals a unit rate for track replacement (for the type of track assumed for an optimized ARTC network being 50-53kg rail on concrete sleepers) to be \$455,000/km after the application of location factors assumed for ARTC’s network.

BAH also carried out a DORC asset valuation with respect to the Hunter Valley network in NSW for the Independent Pricing and Regulation Tribunal of NSW (IPART) as part of an assessment of the NSW Access Regime. The report³ can be found on the Rail Infrastructure Corporation website www.ric.nsw.gov.au. The report included a comparison of track construction costs per km for the Hunter Valley against previous valuation of rail infrastructure assets. The comparison showed a valuation of Hunter Valley Class 1XC track at \$564,000 against a range of costs between \$449,000/km and \$623,000/km depending on the type of track. The upper end of the range related to a heavy haul railway situation (68kgHH suitable for 40t axle load).

The BAH assessment with respect to ARTC’s network was independently reviewed by Currie and Brown on behalf of the ACCC. A copy of this report⁴ is available on the ACCC website. Currie and Brown concluded that the use of 50-53kg rail with concrete sleepers on the ARTC network was reasonable, and that the BAH rate used was marginally low and could be increased to \$480,000/km.

The conclusion is that the valuation with respect to the Forrestfield – Kalgoorlie route is excessive when compared to contemporary valuations of similar assets.

Some of the reasons for this that ARTC has noted from the information provided to the Regulator by WNR are:

³ ‘Valuation of Certain Assets of the Rail Access Corporation – Final Report’, May 2001

⁴ ‘Report on Review of ARTC’s Access Undertaking Submission to ACCC’, late 2001.

- ❖ The valuation report⁵ provided to the Regulator shows that the consultant used the following track specification with respect to the Forrestfield – Kalgoorlie route, at WNR’s request.

Rail weight	60kg/ m
Ballast depth below sleeper	300mm
Concrete sleeper spacing	1500/km

The specification used in the BAH assessment of ARTC’s network, considered reasonable by Currie and Brown, and accepted by the ACCC was:

Rail weight	50kg/ m
Ballast depth below sleeper	200mm
Concrete sleeper spacing	1460/km

BAH assumed similar specifications to that specified by WNR, including 60kg/ m rail, with respect to the Hunter Valley network carrying in excess of 100mGT pa, with coal train having an axle load of 30T.

Given the above, ARTC considers that the proposed track valuation represents an over-engineered asset given the types of service and volumes expected on the Forrestfield – Kalgoorlie route in the foreseeable future, which is not entirely different to that on the ARTC network. This would have resulted in a much higher track construction cost and asset valuation. With regard to the heavier axle load iron ore traffic on this route, WNR has specified 50kg rail on the Kalgoorlie – Esperance route that is also utilized by this traffic.

- ❖ Another parameter that could have a significant impact on the asset valuation with respect to this route is the remoteness (or location) factor. The BAH valuation of ARTC’s network assumed location factors ranging from 1.00 (0 uplift) for segments in metropolitan and surround areas to 1.08 (8% uplift) with respect to a remote segment such as Tarcoola – Parkeston. ARTC would consider that materials transport and additional labour and associated costs on such a remote segment are likely to be higher than that which might be applicable on the Forrestfield – Kalgoorlie route. It should be mentioned that ARTC’s factors apply to infrastructure asset construction generally rather than to specific assets.

⁵ Pricing of Track Infrastructure

Other rail infrastructure valuations with respect to the Hunter Valley and Queensland coal networks assumed no allowance for remoteness of these assets.

ARTC notes from the information provided to the Regulator that remoteness factors with respect to the construction and/or installation of bridges culverts and level Xings on the Forrestfield – Kalgoorlie route range from 1.0 (0 uplift) at the Perth end of the route to 1.4 – 1.5 at the Kalgoorlie end of the route. It is not clear from the information provided as to whether any factors were applied with respect to the more expensive rail, sleeper and ballast assets, but it would appear that separate transport costs for these materials were determined and used in the valuation. The pricing report provides an example with regard to the transport costs associated with ballast stating ‘... in sub-sections of track midway along the Forrestfield – Kalgoorlie line, the cost of ballast per km of track has been computed as \$107,000, nearly double the supply cost in Perth’.

ARTC expects that either the unit labour rates used in the WNR evaluation already incorporate an allowance for remote activity (or an adjustment is made during calculations). In any event, it appears that higher allowances for remoteness may have been made in the WNR valuation than might have been used in ARTC’s case, and this may have further contributed to a higher overall evaluation. Any such allowances need to be more transparent with regard to higher value track assets so a reasonable benchmarking assessment can be made.

Economic Life

Another key driver of the capital costs forming part of a ceiling limit is the economic life assumed for assets. ARTC notes that the Regulator has now approved the economic life assumptions proposed by WNR with respect to specific assets in the approved Costing Principles.

As stated earlier, ARTC has assumed that the extent of MPM incurred will maintain most track assets in perpetuity. As such no depreciation is allowed in ARTC’s ceiling revenue limits, except for signals and communications assets that have a life constrained more so by technical obsolescence than maintenance. Correspondingly, ARTC has incorporated long term average MPM in its operating cost base included in ceiling limits.

From an accounting perspective, ARTC reports an economic life of rail of 109 years (based on ARTC’s level of MPM, volumes and type of rail used). In its valuation of ARTC’s network, BAH estimated rail life (with management) of

around 600MGT for 47kg/m rail and 750MGT for 53kg/m rail. At an average utilization of around 7mGT pa on the ARTC network, an economic life of around 100 years is reasonable.

BAH also estimates rail life (with management) of around 900MGT for 60kg/m (standard carbon) rail as is specified for the Forrestfield – Kalgoorlie route. ARTC estimates usage of the route to average around 13mGT pa. On this basis, an economic life for 60kg/m tangential rail of around 70 years would be implied. This compares with 65 years as proposed by WNR (assuming the figures relate to 60kg/m rail).

Determination of Operating Costs

Efficient Costs

In its access undertaking, ARTC has stated that a large majority of its cost structure is maintenance expenditure that is outsourced and managed under maintenance contracts entered into on commercial terms as a result of a competitive tender process. ARTC has adopted this practice with a view to ensuring that ARTC's cost structure will reflect efficient industry practice. The ACCC has endorsed this approach. Currie and Brown further stated that it is difficult to benchmark costs, but that ARTC's unit costs could be considered to be low. As such, ARTC has stated that its supports WNR's unit maintenance rates as being efficient if predicated upon competitively tendered contracts.

By way of comparison, in its application to the ACCC, ARTC provided benchmarking analysis comparing its own cost structure to estimated national averages and world's best practice. ARTC's 2001/02 infrastructure maintenance unit cost is estimated at around \$1.45/000GTK (2000/01), which equates to around \$11,500 average per km, on the ARTC network compared to historical national average of around \$4.88/000GTK (1993/94). ARTC's estimate includes routine maintenance, MPM and incident costs.

ARTC estimates utilization of the Forrestfield – Kalgoorlie route to be around 10b GTK pa. WNR has submitted maintenance expenditure of \$15.7m (excluding MPM) with respect to the Forrestfield – Kalgoorlie route. This implies a unit maintenance cost of around \$1.57/000GTK (or around \$20,000/km). If MPM were to be included, WNR unit maintenance costs would be even higher. Notwithstanding topographical differences (although the Forrestfield – Kalgoorlie route could be considered as similar to the average ARTC network in total), and the higher volumes on this route, it would still appear that WNR unit maintenance costs are in excess of ARTC's. Given that

both cost structures are predicated upon unit rates incurred through a competitive tender process, and are presumably comparable, it would appear that the scope and frequency of activity on the Forrestfield – Kalgoorlie route is generally higher than that on the ARTC network on average.

With respect to operations costs (roughly train control and planning), ARTC estimated a unit cost of around \$417/000 train kms (compared to 1993/94 national average of \$714/000 train kms and \$481/000kms world's best practice (exc. Planning)). WNR submitted an operating cost of \$4.6m with respect to the Forrestfield – Kalgoorlie segment. ARTC estimates around 5m train kms on this route, implying a unit cost of around \$918/000 train kms. Notwithstanding different operating practices and signalling/communications on the WNR network, this cost would appear high even though WNR's costs are based on centralized train control.

Definition of Operating Costs

The approved Costing Principles, considered in the context of a GRV (using MEA) valuation approach, specifically excludes MPM, defined as major programmed activities associated with partial asset renewal and which occur at intervals greater than one year, from inclusion in WNR's operating cost base for ceiling determination. This is so that the cost of such activities is not double counted in both operating costs and depreciation. MPM includes such activities as re-railing, rail grinding, re-surfacing and ballast cleaning.

The Costing Principles further differentiate between cyclic maintenance (as maintenance tasks undertaken at regular intervals in order to achieve expected average asset life) and MPM (activities to extend asset life into perpetuity). In line with the GRV (using MEA) approach, the Costing Principles permit cyclic maintenance activities to be included in the operating cost base.

ARTC notes, in the Regulator's determination on the Costing Principles, that the Regulator identifies that certain activities such as rail grinding and re-surfacing can be considered as either targeted at achieving asset life or extending asset life, the former being included in operating costs for ceiling calculation. As such costs can be significant, it is important that the Regulator satisfies himself that the allocation of the costs of these activities into those included in, and excluded from, the ceiling calculation is reasonable. Allocations should be independently assessed.

In Summary

ARTC has considered WNR's floor and ceiling calculations in the context of WNR's Costing Principles approved in December 2002, and has focused exclusively on the Forrestfield - Kalgoorlie route. ARTC's primary concern is with the degree of consistency in pricing principles and application to be applied to interstate services using the Forrestfield - Kalgoorlie route and those applicable, under ARTC's Access Undertaking, on the interstate network east of Kalgoorlie.

ARTC considers that WNR's asset valuation, notwithstanding the different approach in the WA access regime to be too high, when compared to similar valuation on the ARTC network. ARTC considers a primary cause of this to be the different specification of track infrastructure applied on the interstate network in WA, for valuation purposes. In particular, the use of 60kg/m rail in the valuation, compared to 50 kg/m rail on ARTC's network would appear to be more than necessary, even though the utilization of the interstate network in WA is slightly higher.

ARTC supports the use of unit rates derived from competitive tendering in WNR's operating costs as a de-facto for efficient costs. ARTC has provided some benchmarking for maintenance and operations unit costs with comparable rates on its own network, which suggest WNR's cost structure is higher. ARTC has assumed that this might be because the scope and frequency of maintenance activities on the Forrestfield - Kalgoorlie route could be significantly higher than on ARTC territory; more than the differences in topography, utilization and operating practices might justify.